



Northampton Community College

COLLEGE CATALOG 2018-2019

View our searchable online College Catalog at:
<http://catalog.northampton.edu>

Table of Contents

Accreditations	2
Admissions Policy	3
Residency Policy	9
Placement Policy	12
Transferring	14
Program Information	18
Tuition Schedule.....	20
Financial Aid.....	26
Policies: College/Academic	30
Degree Information	55
Academic Programs	72
Course Descriptions	238
Additional Resources	352

Accreditations

Northampton Community College is accredited by the Middle States Commission on Higher Education. The association can be contacted at 267.284.5000 or at 3624 Market Street, Philadelphia, PA 19104. The College is also approved and registered by the Pennsylvania Department of Education. The College is authorized to award the associate in arts, associate in science, and associate in applied science degrees.

- **Accounting, Business Administration, Business Management, and Marketing:** The Accounting, Business Administration, Business Management, and Marketing programs are fully accredited by the Accreditation Council for Business Schools and Programs (ACBSP). The Council can be contacted at 913.339.9356 or at 11520 West 119th Street, Overland Park, KS 66213 (www.acbsp.org). For assessment data for the programs click here (PDF).
- **Dental Hygiene:** The program in dental hygiene is accredited by the Commission on Dental Accreditation. The Commission is a specialized accrediting body recognized by the United States Department of Education. The Commission on Dental Accreditation can be contacted at 312.440.4653 or at 211 East Chicago Avenue, Chicago, IL 60611-2678 www.ada.org.
- **Diagnostic Medical Sonography:** The Diagnostic Medical Sonography program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) in collaboration with the Joint Review Committee on Education in Diagnostic Medical Sonography. The JRC-DMS can be contacted at 443.973.3251 or 6021 University Blvd., Suite 500 Ellicott City, MD 21043, www.jrcdms.org.
- **Early Childhood Education:** The Early Childhood Associate Degree, including its online program, is accredited by the National Association for the Education of Young Children (NAEYC). The Association can be contacted at 1313 L St. N.W. Suite 500, Washington DC 20005 202.232.8777 or www.naeyc.org.
- **Funeral Service Education:** The Funeral Service Education program at Northampton Community College is accredited by the American Board of Funeral Service Education (ABFSE), 3414 Ashland Avenue, Suite G, St. Joseph, Missouri 64506 816.233.3747. Web: www.abfse.org.
- **Hospitality:** The Hospitality program at Northampton Community College is accredited by the Accreditation Commission for Programs in Hospitality (ACPHA).
- **Nursing:** The Practical and Associate Degree Nursing programs are accredited by the Accreditation Commission for Education in Nursing, Inc. (ACEN). ACEN can be contacted at 3343 Peachtree Road NE, Suite 850, Atlanta, GA. 30326, 404.975.5000 or <http://www.acenursing.org>. The Associate Degree Nursing Program has full approval and the Practical Nursing Program has full approval from the Pennsylvania State Board of Nursing.
- **Paralegal:** The Paralegal program has been approved by the American Bar Association. Information on ABA approval can be obtained from the American Bar Association, Standing Committee on Paralegals, 321 N. Clark Street, 19th Floor, Chicago, IL 60654 or at <http://www.abaparalegals.org>
- **Radiography:** The Radiography program is fully accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT) 20 North Wacker Drive, Suite 2850, Chicago, Illinois 60606-3182, www.jrcert.org. 312.704.5300
- **Solar Photovoltaic:** The Solar Photovoltaic Systems courses are accredited by the Interstate Renewable Energy Council (IREC) Institute for Sustainable Power Quality (ISPQ). IREQ can be contacted at P.O. Box 1156, Latham, NY, 12110-1156, 518.458.6059, www.irecusa.org
- **Veterinary Technology:** The Veterinary Technician program is accredited by the American Veterinary Medical Association (AVMA) and the Committee on Veterinary Technician Education and Activities (CVTEA) since 1999. The AVMA / CVTEA can be contacted at 847.925.8070 or at 1931 North Meacham Road, Suite 100, Schaumburg, IL 60173.

Admissions Policy

The College will admit all applicants who are high school graduates (from a regionally-accredited or state Department of Education recognized school), General Educational Development (GED) recipients, or home schooled students who have completed senior level curriculum.

In addition, adults who are not high school graduates will be admitted if they are 18 years of age or older or if they give evidence of being able to benefit from courses offered by the College. Students not meeting any of the previous criteria may be considered for admission on an individual basis.

Acceptance to the College does not ensure admission into all academic programs. Students who do not meet the College's academic standards or those who do not meet special admissions requirements will not be accepted into selective programs. Satisfying minimum special program requirements for selective admission programs does not guarantee admission into special programs.

Note: State and federal regulations prohibit students who have not earned a high school diploma (from a regionally-accredited or state Department of Education recognized school) or GED from receiving any form of federal or state financial aid.

How to start . . .

Below are the items that must be completed if you intend to earn a degree, certificate or specialized diploma on a full- or part-time basis.

1. Submit a completed application form or apply online at www.northampton.edu and include a \$25 non-refundable application fee in the form of a check or money order made payable to NCC; or VISA, MasterCard, American Express or Discover card.
2. Official high school, GED, home school record, and college transcripts (if applicable) are required if you are applying for a selective program and/or if you are applying for financial aid.
3. To receive transfer credits, an official college transcript must be submitted. Credits for which a student received a grade of C or better, and which apply to a student's program, will be accepted as transfer credits. Only credits from institutions that have regional accreditation or are recognized by the American Council on Education (ACE) are acceptable. Starting in Spring 2015, NCC will review transfer credits from non-regionally accredited colleges on a case-by-case basis per student request.
4. Special requirements for certain programs are listed within this catalog, or under "Selective Admissions Programs" on the Admissions page of the NCC Web site.
5. Students who wish to audit a course must submit a completed application form.

New Student College Success Policy

All new students are required to enroll in COLS 101 College Success.

New students enrolling full-time are required to take COLS 101 in their first semester.

New part-time students are required to take COLS 101 before completing 15 credits.

Students exempt from taking COLS 101 include:

- 1) Students entering NCC with a post-secondary associate degree or bachelor's degree.
- 2) Students entering NCC who have successfully completed, with a grade C or better, an equivalent college success or freshmen seminar course at another college.
- 3) Students who have completed COLS 150 - Skills for Academic Success.
- 4) Students enrolling in these NCC specialized diplomas:
 - Child Development Associate – 9
 - Emergency Medical Technician – 6
 - Infant-toddler Development – 9
 - Leadership for Early Childhood Program Directors – 9
 - Multimedia – 9
 - School-Age Child Care – 9
 - Publishing for Writers – 6
 - Special Education – 9

Mandatory Orientation

New Student Orientation

All students new to college who wish to enroll in degree, certificate, or specialized diploma programs must complete an orientation program prior to registration.

Tuition Deposit

Students accepted into a selective admission or limited enrollment program (i.e. Allied Health and Culinary Arts) must pay a \$200 tuition deposit (which will be applied to tuition and fees) by the date indicated in their acceptance notification to reserve his/her acceptance into the chosen program. Failure to pay this deposit or arrange an alternate agreement with the Admissions Office may result in cancellation of acceptance. The deposit is refundable if requested in writing before July 1 for the fall semester or December 15 for the spring semester. Deposits paid after these deadlines are non-refundable.

Concurrent and Dual Enrollment for High School and Home School Students

Dual enrollment students from participating high schools may enroll in College courses as specified by each high school. Enrollment eligibility requirements vary by school district and are available in each high school guidance office and NCC's Admissions Office.

Concurrent enrollment students may enroll in one or two classes at NCC if they are seniors in high school or in the last year of a home school curriculum and have demonstrated the academic ability to benefit from course offerings at the College. All students must have approval of their school districts. Final decision to admit a concurrent enrollment student rests with the College.

Students who are in academic difficulty or have been expelled or dropped out of high school are not eligible for concurrent enrollment. Such students will fall under the regular College admissions policy, which requires students to be 18 years of age and give evidence of being able to benefit from courses offered by the College. All requests for concurrent and dual enrollment are processed through the NCC Admissions Office.

International Students

Any student who is or intends to be in the United States on a student (F1) visa is considered an international student. Before acceptance to NCC can be granted or the I-20 visa form can be issued, the following must be submitted to the Admissions Office:

1. NCC application with \$25 application fee
2. All official transcripts in English from high school and/or college
3. Certification of Finance (obtained from Admissions) along with a bank statement verifying that \$23,466 (if room and board is needed by the student) is available for educational purposes.

Preferred deadline to apply for Fall - July 1st, and for Spring - November 15th

For more information or to request an international student packet, contact the Admissions Office. The application is available online at www.northampton.edu.

Special Admission Requirements

More complete information is mailed to all applicants in these programs.

Computer Forensic Analyst: Hero, Special Diploma

Admission to NCC's Computer Forensic Analyst: HERO (Human Exploitation Rescue Operation) program is restricted to individuals who are enrolled in the current Department of Homeland Security/Immigration and Customs Enforcement (DHS/ICE) HERO program cohort.

Dental Hygiene

(preferred deadline Feb. 1 - Fall start only)

Before Admission

- High school Chemistry and Biology with lab, with B or better, overall grade point average of 3.0. (college courses may be substituted for missing high school requirements) For those with more than 12 college credits - college level

Chemistry and Biology courses can be a B - or better, minimum 2.7 overall and program science specific grade point average

- Career Assessment Form

After Admission

- Medical form
- CPR certification: BLS for Healthcare Providers
- Health Insurance
- First Aid Certification
- State and Federal Criminal Background Checks
- PA Child & Elder Abuse History
- Felony Disclosure Form

Diagnostic Medical Sonography

(Associate in Applied Science - AAS; preferred deadline February 1 - Fall start only)

Before Admission

- High school Algebra I and II with "Cs" or better, high school Biology with lab with a "B" or better (college courses may be substituted), at least 3.0 GPA, submission of Career Assessment Form, interview by invitation

After Admission

- Medical Form
- Health Insurance
- Drug Screen
- State and Federal Criminal Background Checks
- Child Abuse History Clearance
- CPR Certification for the Health Care Provider
- Written verification that the Essential Functions/Technical Standards can be met (form provided after admission)
- Signed Student Release of Information Form for Allied Health Clinical Sites

Funeral Service Education

Acceptance into the Funeral Service Education program is competitive and you will need to meet certain prerequisites to be considered for admission.

These admission criteria include:

Before Admission

- High school graduates and non-traditional student applicants: will need to have completed high school Biology and Chemistry (with labs) with a grade of C or better AND have an overall high school G.P.A. of 2.5 or better.
- Transfer student applicants: Grades of C or better in each course being transferred in; achieved minimum G.P.A. of 2.5 for any college-level work completed.

After Admission

- Complete Student Trainee License Application and pay \$25 fee
- Complete TIMMS application and send official transcripts to Department of Education

Funeral Service Education core courses (courses with the prefix FUNS) may only be taken by those students who have completed the 60 hours of general education requirement. See prerequisites for grade requirements.

Massage Therapy

(Certificate program; preferred deadline February 1 for Fall; possible Spring start, depending on demand, with September 15 preferred deadline)

Before Admission

- High school diploma or GED
- At least 18 years of age before beginning program
- High school Biology (or NCC BIOS 107 or 115) with a grade of C or better
- Eligible to enroll in English 101
- Overall high school or college GPA of at least 2.5 (most recent GPA)

After Admission

- Criminal History Record Information (CHRI)
- Child and Elder Abuse History Clearance
- State and FBI Clearance
- Certification in Basic Life Support for Health Care Providers
- Felony Disclosure Form

Medical Assistant

(Diploma Program; preferred deadline February 1 - Fall start only)

Before Admission

- High school diploma or GED, high school biology with a lab with a C or better, high school Algebra I with a C or better (college courses can be substituted for missing high school requirements), placement into college level English

After Admission

- State and Federal Criminal Background Checks
- Physical examination forms
- Immunization history
- Documentation of recent hepatitis B vaccination or relevant titer
- Child and Elder Abuse Clearance forms
- Health Insurance
- Felony Disclosure Form
- Certificate in Basic Life Support for healthcare providers

Nursing

(preferred deadline Feb. 1 for Fall start and Sept. 15 for Spring start)

Before Admission

- RN - completion of high school diploma or equivalent, high school Chemistry and Biology with lab with B or better, two years of Algebra with a C or better (college courses can be substituted for missing high school requirements), placement test into college level English and Math, overall college grade point average of 3.0 or higher, proficient rating on TEAS assessment with Adjusted Individual scores in Reading, Math, Science and English at or above the national mean
- Advanced Placement RN - RN requirements grade point average above 3.0 in college level courses applicable to the program, completed specified RN general education core with C or better, current LPN license, passed the required Excelsior exams, proficient rating on TEAS assessment with Adjusted Individual scores in Reading, Math, Science and English at or above the national mean
- LPN (Fall start only) - completion of high school diploma or equivalent, high school Algebra I and Biology with C or better (college courses can be substituted for missing high school requirements), overall college grade point average of 2.5 or higher and Basic rating on TEAS assessment

After Admission

- CPR certification
- State and Federal Criminal Background Checks
- Health insurance
- Child Abuse Background Check
- Medical forms and Immunization records
- Felony Disclosure Form
- Drug screen
- Student Release of Information Form for Allied Health Clinical Sites
- Hospital Orientation and Paperwork Seminar

Radiography

(preferred deadline Feb. 1 - Fall start only)

Before Admission

- Completion of high school diploma or equivalent
- High school biology with lab with "C" or better (Or BIOS 115 with "C" or better) and two units of Algebra (Or MATH

- 022 and MATH 026,
- Or MATH 028) with "C" or better
- Minimum overall GPA of 2.5
- Complete Career Assessment Form (CAF) after virtual shadowing in radiography
- Information session and interview for competitive applicants

After Admission

- Medical forms
- Documentation of relevant immunizations and/or titers
- State and Federal Criminal Background Checks
- Child Abuse Background Check
- Health insurance
- CPR certification for Health Care Provider
- Written verification that the Essential Functions Technical Support Standards can be met
- Signed Student Release of Information Form for Allied Health Clinical Sites
- Drug screen

Sports Medicine and Rehabilitation Sciences

(preferred deadline Feb. 1 - Fall start only)

Before Admission

- Completion of high school diploma or equivalent
- High school Chemistry with lab with "B" or better (or CHEM 135 with "B" or better), high school Biology with lab with "C" or better (or BIOS 115 with "C" or better), one year of high school Algebra with a "C" or better (or MATH 022 with a "C" or better), and eligibility to take English I.

After Admission

- State and Federal Criminal Background Checks
- Medical forms and vaccinations

Veterinary Technician

(preferred deadline Feb. 1 - Fall start only)

Before Admission

- Completion of high school diploma or equivalent
- High school Biology with lab with B or better, Algebra I and II with C or better (college courses can be substituted for missing high school requirements)
- Minimum GPA of 2.5
- Placement into college level English and math
- Interview (qualified applicants will be notified of date)
- Career Exploration Form and completion of 20 hours of observation in a veterinary facility within the past year

After Admission

- Medical form
- Health Insurance

Other Requirements

Before Admission

- Culinary Arts - Placement into English I by testing or transfer course
- Theatre - Audition during first semester

After Admission

- Applied Psychology - State and Federal Criminal Background Checks, Child Abuse History Clearance
- Automotive - Auto dealership sponsorship, valid driver's license, meeting with program director
- Culinary Arts - Medical form and Immunization Records
- Early Childhood Education - Medical form, State and Federal Criminal Background Checks, Child Abuse History Clearance, 2 letters of reference
- Middle Level Education - State and Federal Criminal Background Checks, Child Abuse History Clearance

- Secondary Education - State and Federal Criminal Background Checks, Child Abuse History Clearance
- Secondary Education Math/Science - State and Federal Criminal Background Checks, Child Abuse History Clearance
- Special Education - State and Federal Criminal Background Checks, Child Abuse History Clearance

Residency Policy

Tuition and fees at Northampton Community College are based on a student's permanent place of residence. Students who have a permanent place of residence and meet all of the requirements as defined in the Northampton County or Monroe County Residency Policies are eligible to receive the applicable residency tuition and fee rate. Residency is determined by the Admissions Office during the Admissions Application process and communicated to the student in the student's Letter of Acceptance. Changes in a student's residency which occur after a student is accepted to NCC are processed by the Registrar's Office.

Residency

To receive the in-district tuition rate, a student **21 years of age or older** must meet all of the following requirements:

1. Be a U.S. citizen, permanent resident, H visa holder, or refugee.
2. Maintain a legal residence* in one of the eight sponsoring school districts** for at least 90 consecutive days prior to start of the semester for which they are applying.
 - *A legal residence is a student's permanent place of residence and one they have moved into for reasons other than attending college. Students living with in-district relatives do not qualify as legal residents.
 - **Bangor, Bethlehem, Easton, Nazareth, Northampton, Pen Argyl, Saucon Valley, or Wilson
3. Provide two proofs of residency dated 90 days before a semester begins from the list below:
 - A PA driver's license with current address
 - per capita (school district) tax receipt for the current year
 - valid PA Department of Transportation ID card
 - lease (per capita tax bill or receipt or a utility bill needs to be the 2nd proof)
 - utility bill (is accepted as 2nd form of proof for lease only)
 - deed - home ownership is exempt from the 90 day rule

A student **under the age of 21** retains the residency of his/her parents.

Families moving into a sponsoring school district (see ** above) must submit a Change of Information form and show proof of parents' residence with the required documents listed above to the Admissions Office (for new students) or the Records Office (for returning students).

A student **under 21 not living with parents** may be eligible for in-district rates if he/she proves independence. He/she must submit documentation proving independent status.

The definition of an independent student is one who is:

1. a veteran
2. married
3. an orphan or ward of the court
4. has legal dependents for whom he/she provides at least 50% of the support
5. a full time, permanent, benefits eligible employee who pays local or per capita tax in-district.

If proof of one of the above cannot be given, the student maintains parents' residence.

Important Notes

1. Students must document their residency before the first day of the semester in order to receive in-district rates for that semester. Students who qualify for residency after the beginning of a semester will be granted the appropriate tuition rates for the following semester. The college will not make retroactive changes to residency status.
2. Veterans retain the residency they had at the time they entered the military. They can qualify for in-district tuition as stated above.
3. If a student can not provide any of the documents listed above, please contact Admissions or Records for further guidance.
4. The documents will be reviewed and decided upon by the Residence Committee. Appeals of committee decisions will be reviewed by the Vice President of Student Affairs.
5. The College reserves the right to request additional information when appropriate. Until this residency documentation is received, student tuition will be assessed at the out-of-district or out-of-state rate. Falsification of records will result in immediate and retroactive residence change to out-of-county or out-of-state, and could result in disciplinary action.
6. NCC's decision to approve in-district residency may be challenged by the school district if their records do not reflect proper residency status. Out-of-county (those not residing within the eight sponsoring school districts) and out-of-state students will be charged non-resident fees.

Northampton Sponsoring School Districts

- Bangor Area

- Bethlehem Area
- Easton Area
- Nazareth Area
- Northampton Area
- Pen Argyl Area
- Saucon Valley
- Wilson Area

Residency - Monroe County

To receive the Monroe County tuition rate, a student **21 years of age or older** must meet all of the following requirements:

Be a U.S. citizen, permanent resident, H visa holder, or refugee.

Maintain a legal residence* in Monroe County for at least 90 consecutive days prior to start of the semester for which they are applying.

*A legal residence is a student's permanent place of residence and one they have moved into for reasons other than attending college. Students living with Monroe County relatives (other than parents/legal guardians) do not qualify as legal residents.

Provide **two** proofs of residency dated 90 days before a semester begins from the list below:

- a PA driver's license or valid PA Dept. of Transportation ID card showing current address
- apartment lease in your name
- local real estate tax bill for the current year
- item mailed to your residence - only bank statement; pay stub; bills from utilities, credit card or phone
- deed - home ownership is exempt from the 90 day rule

A student **under the age of 21** retains the residency of their parents.

Families moving into Monroe County must submit a Change of Information form and show proof of parents' residence with the required documents listed above to the Enrollment Office.

A student **under 21 not living with parents** may be eligible for Monroe residency rates if he/she proves independence. He/she must submit documentation proving independent status.

The definition of an independent student is one who is:

1. a veteran
2. married
3. an orphan or ward of the court
4. has legal dependents for whom he/she provides at least 50% of the support
5. a full time, permanent, benefits eligible employee who pays local or per capita tax in Monroe County.

If proof of one of the above cannot be given, the student maintains parents' residence.

Important Notes

1. Students must document their residency before the first day of the semester in order to receive in-district rates for that semester. Students who qualify for residency after the beginning of a semester will be granted the appropriate tuition rates for the following semester. The college will not make retroactive changes to residency status.
2. Veterans retain the residency they had at the time they entered the military. They can qualify for in-district tuition as stated above.
3. If a student can not provide any of the documents listed above, please contact Admissions or Records for further guidance.
4. The documents will be reviewed and decided upon by the Residence Committee. Appeals of committee decisions will be reviewed by the Vice President of Student Affairs and Enrollment.
5. The College reserves the right to request additional information when appropriate. Until this residency documentation is received, student tuition will be assessed at the out-of-district or out-of-state rate. Falsification of records will result in immediate and retroactive residence change to out-of-county or out-of-state, and could result in disciplinary action.
6. NCC's decision to approve in-district residency may be challenged by the school district if their records do not reflect proper residency status. Out-of-county (those not residing within the eight sponsoring school districts) and out-of-state students will be charged non-resident fees.

Veteran and Military Personnel

As required by PA Act 11 of 2015, Veterans and Military Personnel, their spouses and/or dependent children, may be eligible for reduced tuition rates as outlined below.

1. **Veterans, their spouses and/or dependent children**, who reside in the Commonwealth of PA will be granted a

tuition rate equivalent to local sponsorship rate. For purposes of this policy, a veteran student is defined as an individual who: (a) Served in the United States Armed Forces, including a reserve component and National Guard and was discharged/released from service under conditions other than dishonorable; or one who is an active duty service member; and (b) Resides in Pennsylvania while enrolled at Northampton Community College.

2. **Active military personnel, their spouses and/or dependent children**, who are enrolled in online (distance) classes, and who reside outside of the Commonwealth, will be granted a tuition rate equivalent to Commonwealth of PA rate.
3. **Any individual who receives VA education benefits under chapters 1606, 1607, 30, 31, and 33**, and who resides outside of the Commonwealth, will be granted a tuition rate equivalent to Commonwealth of PA rate.
4. **Civilian personnel who work at a Department of Defense facility in the Commonwealth of PA, their spouses and/or dependent children**, will be granted a tuition rate equivalent to local sponsorship rate.

Those who qualify for reduced rates, as outlined above, are exempt from the 90 day residency waiting period, but must provide both proof of service and proof of residency prior to the start of the semester for which reduced rates are to be granted.

Proof of service must be documented with a DD214, current military ID, and/or VA Certificate of Eligibility.

Proof of residency, showing the local/PA address, can be documented with any of the following: PA Driver's License/PA Dept. of Transportation ID card, per capita (school district) tax receipt, local EIT or Pennsylvania tax return, lease, utility bill, deed, bank statement, pay stub, credit card bill, or phone bill.

Important note: Students who qualify for residency after the beginning of a semester will be granted the appropriate tuition rates for the following semester. The college will not make retroactive changes to residency status

Placement Policy

The college uses multiple measures to determine student placement in English and Mathematics classes. Student placement will be determined by:

1. High School GPA and/or specific course grades in English or Mathematics (completed within 5 years prior to enrolling in first semester at NCC)
2. Performance on testing including PSSA (11th grade), ACT or SAT (PSSA scores are only valid for 5 years)
3. Previous college degrees or courses in English or Mathematics
4. Advanced Placement test scores
5. NCC Mathematics or English Placement test results

If students do not submit evidence from which the college can determine placement, students will be directed to take college placement tests.

Based upon review of transcripts or other evidence, students may be placed into developmental pre-college courses. Students wishing to challenge such decisions may take college placement tests to earn scores for higher-level course placement. Students who place into developmental pre-college courses can retest once before starting those courses. Students may not take the test while enrolled in a developmental pre-college course.

If students need developmental pre-college work, they must begin that work in their first semester and continue until the requirements are complete. Developmental pre-college course work does not count towards graduation requirements. Degree-seeking students must have placement determined before registering for courses.

Students pursuing a Specialized Diploma or Certificate should seek guidance from an advisor regarding placement. Guest/Visiting/non matriculated students are exempt from placement; however, must still meet individual course prerequisites.

Based on evidence of course work and/or testing, students may be referred to the ESL department for additional testing and placement.

Based on evidence of testing, students may be referred to non-credit options for developing reading and writing skills before entering credit courses.

Requests for accommodated testing must be submitted through the Office of Disability Services.

Placement Guidelines: English, Academic Learning Skills, College Success

English I (ENGL101):

- Must be a graduate from an accredited high school (*within 5 years prior to enrolling in first semester at NCC*) with a GPA of 3.00 or higher (on a 4.0 scale or its equivalent) in a college preparatory curriculum
- Score of 500 or higher on both the SAT Writing and Critical Reading exams (2005 to March 2016)
- Score of 560 or higher on the new SAT Evidenced-Based Reading and Writing exam (March 2016 and beyond)
- Combined Reading and Writing 11th grade PSSA score of at least 2650; with neither Reading nor Writing score below 1200. (*PSSA scores are only valid for 5 years*)
- Evidence of a score of 21 or higher on the ACT English Exam
- Completion of required developmental courses
- Competence as determined by the English placement test

Writing Skills Workshop (ENGL027) Linked to English I (ENGL101):

- Placement into Writing Skills Workshop and English I only as determined by the English placement test or with faculty recommendation after completion of ACLS050, ACLS025 and ACLS026.

Introduction to Academic Literacy (ACLS050):

- Placement as determined by the English placement test
- Must also register for COLS150 College Seminar: Applied Strategies for Academic Success in the same semester.

Academic Reading and Writing Skills I (ACLS025):

- Placement as determined by the English placement test

Academic Reading and Writing Skills II (ACLS026):

- Placement as determined by the English placement test
- Must also register for COLS150 College Seminar: Applied Strategies for Academic Success in the same semester.

English as a Second Language:

- English language competence as determined by ESL department

Placement Guidelines: Mathematics**Foundations of Mathematics I (MATH118), Foundations of Mathematics II (MATH119), The Nature of Mathematics (MATH120), College Algebra (MATH140), Introductory Statistics (MATH150):**

- High school transcript review for those who graduated from an accredited high school (*within 5 years prior to enrolling in first semester at NCC*) with a GPA of 3.00 or higher (on a 4.0 scale or its equivalent) in a college preparatory curriculum
- Score of 500 or higher on the SAT mathematics exam (prior to March 2016)
- Score of 530 or high on the new SAT mathematics exam (March 2016 and beyond)
- 11th grade PSSA math score of 1300 or higher (*PSSA scores are only valid for 5 years*)
- Competence as determined by the mathematics placement test
- Completion of required developmental courses with a C or better

Elementary Algebra (MATH022), Intermediate Algebra (MATH026), Elementary and Intermediate Algebra Combined (MATH028):

- Competence as determined by the mathematics placement test
- Completion of required developmental courses with a C or better
- Review of high school mathematics course work

Prealgebra (MATH020), Applications in Math (MATH103):

- Open enrollment; no placement or pre-requisites needed

Trigonometry (MATH145), Pre-calculus (MATH160), Applied Calculus (MATH165), Calculus I with Review (MATH175), MATH 180 Calculus I (MATH180):

- High school transcript review for those who graduated from an accredited high school (*within 5 years prior to enrolling in first semester at NCC*) with a GPA of 3.00 or higher (on a 4.0 scale or its equivalent)
- Completion of required prerequisite course work as listed in each course description
- Competence as determined by the Mathematics Placement Test

For all other MATH classes, refer to course prerequisites in each course description.

Transferring

Transferring In

Northampton Community College will accept credits when transferring from another institution when the following criteria are met:

1. Credits earned from:
 - U.S. colleges and universities that are regionally accredited. (Coursework from other institutions not regionally accredited will be reviewed on a case by case basis).
 - foreign institutions that are evaluated by a member of a recognized evaluation agency like World Education Services Inc. or Educational Credential Evaluators Inc. and a copy of the evaluation sent directly to NCC. (For more information concerning an evaluation service provider, please contact the NCC Admissions Office).
 - the military provided to the College on the official DD295 form, AARTS, or Joint Services transcript.
2. The course grade is C or better. Courses taken on a pass/fail basis may be accepted only if the official transcript states that a "pass" grade is equivalent to a C or above.
3. The course content is equivalent to a Northampton course.
4. The course is applicable to the student's Northampton program.
5. Official transcripts are mailed or sent electronically to the Admissions Office directly from the student's previous college, university, or other post-secondary educational institution.

A minimum of 25% of credits required for any degree, certificate or specialized diploma must be earned through NCC course work. Remaining credits may be awarded through transfer or as outlined in the Advanced Placement Policy. Admissions determines transferability of credits for new students and change of majors into the allied health majors; the Registrar determines all other transferability of credits.

Transferred credits are recorded at the top of the NCC transcript as "Transfer Work". Grades do not transfer; transfer credits have no effect on the Northampton Community College grade point average (GPA).

Transfer with a Bachelor's degree

A student possessing a baccalaureate degree from a regionally accredited college or university and enrolling at Northampton in an Associate's degree or Certificate program shall be considered to have completed the general education core requirements except for required courses identified by the program faculty. Check with Admissions Office for approved list of general education courses transferrable into each program. A student possessing a baccalaureate degree from an institution not regionally accredited will have the credential reviewed on a case by case basis.

Transfer Out to Other Institutions

More than half of the students at Northampton are enrolled in transfer programs. The College will recommend for transfer those students whose personal qualities and academic achievement indicate that they will succeed at other institutions. Although a C average is usually considered minimal for transfer, the specific average required varies with the selective admissions policy established by each individual institution.

The transfer of specific courses normally depends upon appropriateness of completed work to the intended transfer program. Generally, courses completed with a grade of C or better receive transfer credit. The maximum amount of transfer credit varies by college, but normally 60 to 70 credit hours of applicable course work can be transferred. The final decision regarding admission and the acceptability of transfer credit hours rests with the receiving institution.

A course-by-course reference guide is available for your use in the Northampton Advising and Transfer Office. The guide indicates how individual NCC courses transfer to many of the four-year institutions in eastern Pennsylvania. Some course guides are on the advising and transfer services web page.

The fact that freshman and sophomore requirements vary considerably among senior colleges suggests that students should discuss their transfer plans with both a faculty advisor and an advising specialist, who will help plan a program as near as possible to the requirements of the intended transfer program.

Unless there is no doubt that the student will transfer to a particular college, it is generally advisable to take courses at the College which are as close as possible to those offered at those colleges which might be considered for transfer.

Articulation Agreements

NCC has over 100 articulation agreements with more than 30 colleges and universities. Articulation agreements are signed by two institutions to make the transfer process easier for students. There are several types of articulation agreements that NCC has with various institutions. Most offer the greatest benefit to students who earn an associate degree then

transfer to complete a baccalaureate degree. The most common types of agreements are explained below.

Dual Admissions

Dual Admissions agreements allow students to apply to both NCC and the partner four-year institution. Typically, students are provisionally accepted to the four-year institution provided they meet the admissions criteria outlined in the agreement. Admissions criteria usually require a student to earn an associate degree with a minimum grade point average. Dual admissions agreements are good for students who know before coming to NCC the four-year institution they want to attend.

Cooperative Agreements

AAS in Medical Laboratory Technician program will begin in Fall 2019, you can attend the November 17 Bethlehem campus open house for more information, application dates are spring 2019.

See the suggested courses as prerequisites in the program description in the following document:

- AAS Medical Laboratory Technician (PDF)

AAS in Respiratory Care Program (Respiratory Therapist) will begin in Fall 2019, you can attend the November 17 Bethlehem campus open house for more information, application dates are spring 2019.

See the suggested courses as prerequisites in the program description in the following document:

- AAS Respiratory Care Program (PDF)

Core-to Core

Core-to Core agreements guarantee that credit earned by students who complete an A.A. or A.S. degree at NCC will be accepted towards the core requirements at the four-year institution. Core requirements are the general education portion of a baccalaureate degree. General education requirements vary among institutions. Students benefit from core-to-core agreements because all of the credit earned from the associate degree is applied to the four-year program without evaluating individual courses. Typically, there are also admissions criteria for transfer students outlined in the agreement.

Program-to-Program

Program-to-Program agreements are designed to map out the curriculum necessary for students to earn an associate degree at NCC and meet the requirements for a corresponding baccalaureate degree at a four-year institution. The agreements stipulate the exact major courses, general education courses, and electives students should take to make a seamless transfer.

Take your Credits with You

Take your Credits with You Pennsylvania has an innovative statewide transfer system that allows up to 30 foundation credits to be transferred from one participating college or university to another, anywhere in the state. pacollegetransfer.com offers all the information you need to make full use of this transfer system.

List of Institutions with Agreements

- Albright College
- Bloomsburg University of PA
- Cabrini College
- Capella University
- Cedar Crest College
- Centenary College
- Central Pennsylvania College
- Champlain College
- College Misericordia
- DeSales University
- Dickinson College
- Drexel University
- East Stroudsburg University of PA
- Eastern Kentucky

- Fairleigh Dickinson University
- Franklin University
- Immaculata University
- Kaplan College
- Keystone College
- King's College
- Kutztown University of PA
- Lafayette College
- Lehigh University
- Marlboro College
- Marywood University
- Misericordia University
- Moore College of Art and Design
- Moravian College
- Nova Southeastern University
- Old Dominion University
- Peirce College
- Pennsylvania College of Technology
- PSU Lehigh Valley
- St. Joseph's College of Maine
- SUNY College of Environmental Science and Forestry
- Temple University
- Thomas Jefferson University
- University of Delaware
- University of Illinois at Springfield
- University of Pittsburgh
- University of the Arts
- Upper Iowa University
- West Virginia University

Bachelor Degree Completions at NCC

Business Administration, East Stroudsburg University

Beginning Fall 2016, East Stroudsburg University will offer a Bachelor of Science (BS) degree in Business Management at the NCC Bethlehem Campus. This accelerated three-year program is geared for NCC's traditional students after completing their associates degree, with a choice of either a Marketing or Management concentration.

Registered Nursing, East Stroudsburg University

Graduates of the NCC registered nursing (RN) program can transfer seamlessly to the East Stroudsburg University RN to BS in Nursing completion program offered on the NCC Bethlehem campus. The program features an evening class schedule of courses delivered in a blended format with rotating in-class and on-line meetings. An ESU advisor is on site during the academic year to provide guidance.

Technical Leadership, Bloomsburg University

Bloomsburg University (BU) offers a Bachelor of Applied Science (BAS) in Technical Leadership on the NCC Bethlehem Campus. Students who earn an Associate in Applied (AAS) degree in a technical program at NCC may stay at NCC to complete additional NCC courses that will count towards general education requirements for the BAS. The remaining BU requirements for the BAS will be offered as a mix of evening on-campus courses at NCC and online courses. For more information on these opportunities, please contact your advisor.

Academic Passport

Academic Passport is an agreement between Pennsylvania Community Colleges and the State System of Higher Education (SSHE). It allows community college students who earn an A.A. or A.S. degree with a GPA of 2.0 or higher to be accepted to a SSHE university. It also guarantees the acceptance of up to 60 credits to be applied towards a Baccalaureate degree entitling a student to junior status. The first 45 credits will be used as general education requirements with the additional 15 credits applied to major requirements or electives. Although this agreement allows students to be accepted at the 14 SSHE universities it does not guarantee acceptance to selective admission or enrollment capped programs. Other criteria will be used for these programs.

Programs eligible for Academic Passport at NCC are: Biology, Business Administration, Chemistry, Communication Studies, Computer Science, Computer Information Systems, Education, Engineering, Fine Art, General Studies, Individual Transfer Studies, Journalism, Liberal Arts, Math/Physics, Social Work, Sport Management, and Theatre.

Universities in the PA State System of Higher Education are:

- Bloomsburg University of PA
- California University of PA
- Cheyney University of PA
- Clarion University of PA
- East Stroudsburg University of PA
- Edinboro University of PA
- Indiana University of PA
- Kutztown University of PA
- Lock Haven University of PA
- Mansfield University of PA
- Millersville University of PA
- Shippensburg University of PA
- Slippery Rock University of PA
- West Chester University of PA

Individualized Transfer Studies Program

The Individualized Transfer Studies program at Northampton is designed for students who have a clear intention to transfer to a specific baccalaureate college. The program is unique in that each student works with the four-year institution and designs a curriculum to meet the specific requirements for the major at the baccalaureate institution. The program consists of a three-part curriculum which includes:

- The current general education core for the associate in arts (A.A.) programs;
- The addition of one Humanities and one Social Science to the general electives;
- The remaining credit hours will align with the requirements at the transfer institution.

The Individualized Transfer Program ensures that students take only those courses at NCC which are required by the four-year institution to which they intend to transfer. This option is intended for students who have identified their baccalaureate institution of choice. The student must meet with an advisor at the four-year institution to pre-plan a program of transferable courses. These Northampton courses will fulfill the general distribution requirements and other courses that are required at the four-year institution. This enables students to get a head start on their baccalaureate degree with an associate's degree from Northampton.

Program Information

All the academic programs within the College are designed to help you meet your goals. Northampton offers programs that will transfer to four-year colleges and universities, as well as those that prepare you to step right into today's competitive work force.

At Northampton, all curricula have a general education component that serves as a solid base for your education. In addition, in each academic program, you will find that the majority of courses give you specific skills and training designed to prepare you to meet your transfer or career objectives.

The College's faculty are specialists who make teaching their first priority. You'll gain knowledge in your chosen subject area from a combination of classroom lectures, group projects, and hands-on laboratory work. You will also benefit from the expertise of members of our advisory committees, composed of successful individuals from the region who advise the College about particular changes in the workplace.

General Education Core Curriculum

The General Education Core Curriculum is an essential component of all degree programs. Courses in the Core fall into two broad categories: Knowledge of Arts, Cultures and the Natural World, and Intellectual and Practical Skills. Students are exposed to a broad range of academic disciplines and fields of study in order to provide a strong foundation of content knowledge and intellectual skills. Certificate programs usually require six credits of general education courses.

Transfer Education

Many of Northampton's courses are designed to transfer to four-year institutions; that is, they contain roughly the same material as similar courses at those institutions. Students who intend to continue their education after Northampton should take as many transferable courses as possible within A.A. or A.S. degree programs. The receiving institution ultimately determines the transferability of courses. It is advisable that students consult early with the Admissions Office of the institution to which they plan to transfer.

Technical Education

Technical education or career education describes a category of courses designed to develop highly skilled graduates prepared for entry-level positions in a particular occupation or group of occupations. Northampton's career education programs, which prepare students for employment immediately upon graduation, usually contain a strong complement of technical education courses. These courses carry credit toward the associate in applied science and associate in general education degrees. They are not designed for transfer.

Developmental Education

Developmental education helps students learn the skills needed for success in college-level courses. These skills include the essentials of reading, writing, and mathematics, and proven strategies for achieving their academic goals. Developmental education services are provided through these means:

- Placement testing in math, reading, and English determines the eligibility of students for developmental courses.
- Some courses numbered below 100 (0XX) are designed to allow students to remedy specific deficiencies in mathematics, reading, and writing. Among them are PreAlgebra, Elementary Algebra, Intermediate Algebra, Reading Fundamentals, Critical Reading, Basic English, and Chemical Calculations. NOTE: While courses below 100 each carry credit for determining student load and for financial aid, those credits may not be applied to any degree or certificate granted by the College.
- The Learning Center provides tutoring, workshops, and study skills support to promote the academic success of developmental students. Tutoring options include study groups, classroom tutors, Supplemental Instruction, individual appointments, walk-in hours, and online hours.

English as a Second Language

The College supports English language learners by offering courses for college credit through the English as a Second Language (ESL) Department. Students work toward proficiency in reading, writing, and speaking skills. Course work ranges from the beginner level through the advanced level and prepares students to succeed in other college courses or in communities of their choice. Students are supported with tutoring services, a computerized language lab, and academic advising, all with a special attention to the needs of English language learners. Higher levels of ESL can be taken at the same time as other college courses upon the recommendation of an ESL advisor. Students take an ESL placement

test to assist with proper placement into classes.

Special Studies and Special Topics Courses

In some semesters the College offers special studies courses, of one to four credits, that are designed to give variety to the present curriculum and reflect current interests. Special studies courses are offered by almost all of the College's academic departments. The specific topic to be covered is announced at the time a special studies course is scheduled, along with any applicable enrollment requirements or prerequisites. Up to 12 credits of special studies courses may be applied to a student's program, insofar as they fit into the program requirements. (A special studies course may be repeated if a different specific topic is offered.) Special studies courses that are later approved as on-going courses in substantially the same form will not be counted toward the 12-credit limit.

Tuition Schedule

Tuition and fees for full-time students registered for 12 to 18 credit hours are charged at a flat rate. Tuition and fees for part-time students registered for less than 12 credit hours are charged at a per-credit hour rate. Additional credit hours over 18 are charged at a per-credit hour rate.

Part-Time: Students registered in less than 12 credit hours; additional credit hours over 18

Tuition and Fees	Northampton County PA*	Other PA County	Monroe County PA	Out of State/Country
Tuition	\$104	\$208	\$168	\$312
<i>Institutional Fees:</i>				
Comprehensive Fee	\$20	\$20	\$20	\$20
Technology Fee	\$22	\$22	\$22	\$22
Capital Outlay Fee	\$0	\$69	\$28	\$116
TOTAL per Credit	\$146	\$319	\$238	\$470

Full-Time: Students registered in a minimum of 12 credits hours up to 18 credit hours

Tuition and Fees	Northampton County PA*	Other PA County	Monroe County PA	Out of State/Country
Tuition	\$1560	\$3120	\$2520	\$4680
<i>Institutional Fees:</i>				
Comprehensive Fee	\$300	\$300	\$300	\$300
Technology Fee	\$330	\$330	\$330	\$330
Capital Outlay Fee	\$0	\$1035	\$420	\$1740
TOTAL Flat Rate	\$2190	\$4785	\$3570	\$7050

*Northampton County PA includes residents in the following sponsoring school districts only: Bangor, Bethlehem, Easton, Nazareth, Northampton, Pen Argyl, Saucon Valley, and Wilson.

Online Learning - Early Childhood and Library Technical Assistant

Effective Fall 2018 through Summer II 2019:

EARL and LIBT distance tuition is discounted to \$180 per Credit Hour, full-time students are subject to their full-time resident flat rate less the discount. Bright Horizons, Goddard and Hildebrandt employees, who are approved through proper procedure, will be charged \$180 per credit hour Part-time, \$2700 Full-Time flat for all coursework.

Dual Enrollment

High School Student enrolled in the Dual Enrollment Program pay the below tuition rates:
Effective Summer 2018 through Spring 2019

- Northampton County Residents - \$100 per credit
- Other PA County Residents - \$150 per credit
- Monroe County Residents - \$150 Per credit
- Out of State/Country Residents - \$150 per credit

Schedule of Fees

1. Application Fee (non-refundable) \$25
2. Transcript of Academic Record Fee

Official Transcripts

- Electronic submission (if receiving college subscribes) or three day service if U.S. mail service used - \$6
- Same day service - standard U.S. mail service used or picked up by student. 24 hour turnaround - \$8
- Overnight delivery - \$33

3. College Challenge Examination:
50 percent of the in-county tuition per credit hour for each credit hour attempted and awarded - 50 percent of this fee will be refunded if examination is not passed.
4. The College may charge each student in a course an academic fee to cover the real cost of materials and services used. The fee must be approved by the President and is published in the course schedule so that students may be aware of the fees to be assessed when they register. In addition to academic course fees and ordinary materials, supplies, and textbooks, certain courses and programs require additional out-of-pocket purchases of special materials, supplies or other items due to their specialized coursework. A list of these estimated out-of-pocket expenses is published on the college tuition and fees webpage.
5. Returned Check Fee - \$25
6. Academic Fees: (See Next Page)

ARCH265	\$64
ARTA151	\$20
ARTA161	\$40
ARTA162	\$30
ARTA261	\$60
ARTA282	\$50
AUTC101/ASEP101/AUTC103/ASEP103/AUTC104/ASEP104/AUTC105/ASEP105/AUTC121/ASEP121/ AUTC125/ASEP125/AUTC221/ASEP211/AUTC221/ASEP221/AUTC224/ASEP224/AUTC225/ASEP225/AUTC226/ASEP226	\$10
AUTO all courses except 203	\$10
CMTH120/CMTH170/CMTH180/CMTH182/CMTH240/CMTH245/CMTH246/CMTH251/CMTH252	\$50
CULA145	\$62
CULA150	\$115
DENH103	\$606
DENH109	\$20
DENH150	\$65
DENH206	\$70
DENH210	\$277
DENH250	\$30
DMSG103	\$170
EARL106/EARL217/EARL244 Online CDA Only	\$135
ELEC101/ELEC126/ELEC151/ELEC207/ELEC208/ELEC232	\$25
ELEC155	\$75
ELEC177	\$50
ELTC107/ELTC109	\$20
ELTC222/ELTC265	\$30
EMEC101/EMEC220/EMEC225	\$20
EMEC105	\$25
EMEC110/EMEC118	\$10
EMEC135	\$30
EMEC240/EMEC245	\$80
EMGS115/EMGS255	\$13
ENGG100/ENGG261	\$20
ENGG115	\$15
ENGG205/ENGG220/ENGG230/ENGG262	\$40
FUNS212/FUNS222/FUNS241/FUNS242	\$45
FUNS255	\$85
HOSP223/HOSP224	\$50
HOTL207	\$60
HVAC101	\$70
HVAC102	\$50

HVAC104	\$30
HVAC110/HVAC150	\$35
HVAC124	\$40
HVAC140/HVAC142	\$20
MASG101	\$50
NURS205	\$37
PHED117/PHED217	\$40
RADT107/RADT207	\$75
RADT111/RADT210	\$15
VETC101/VETC120/VETC125/VETC220/VETC228	\$15
VETC210	\$15
VETC225	\$15
WELD105	\$300
WELD110/WELD125/WELD205/WELD224/WELD230	\$150
WELD123	\$200
WELD135	\$50
WELD235/WELD245/WELD255G	\$70

7. Malpractice Liability Insurance Fee

DENH103	\$13
EARL126/EARL128/EARL208/EARL216/EARL218/EARL263G	\$13
FUNS212/FUNS222/FUNS241/FUNS242	\$30
MASG101	\$13
MDAS101	\$13
NURS101	\$13
RADT107/RADT207	\$15
SMAT285	\$13
VETC210/VETC230	\$70
VETC225	\$35

8. Nursing Assessment Testing Fees

- \$140 to \$425 per session

9. Payment Plan Fees

Enrollment fee: \$35

Late payment fee: \$25

10. Reinstatement Fee

Total fee: \$50 per incident

Waiver of Fees

The College's \$25 application fee may be waived for those applicants who are unable to pay. Students should contact the Admissions Office regarding the waiver policy.

Senior Citizens Northampton County residents who are 65 years of age or older qualify for a tuition and fee waiver for credit courses (noncredit does not qualify for a waiver). The waiver must be requested by the student at the time of

registration. A valid PA Photo ID or PA Driver's License is also required.

Note: Waiver is provided for tuition, comprehensive fee, technology fee and capital fee only. Academic course fees, textbooks and other expenses that may be required for course completion are not included and are the responsibility of the student. Tuition and Fee Waiver plus other forms of financial aid awards and/or third-party payments received on behalf of the student cannot exceed tuition and eligible fee charges and if so, will reduce the Tuition and Fee Waiver accordingly. Students in CULA 145 & 150 who are on the dining service meal plan may have their meal plan fee waived.

Course Drop, Withdrawal, Refunds, Class Changes, and Adjustments

Students who wish to drop or withdraw from either a course or the College must receive official authorization from the Records Office. Failure to drop or withdraw officially may result in the recording of an F grade. A student who is asked to leave the College for misconduct or delinquent attendance will receive no refund of tuition or fees.

Students who drop with the approval of the Records office prior to the date specified in the College Calendar, will be entitled to a 100 percent refund (or adjustment) of tuition and fees charged, less the non-refundable admissions deposit and any amounts owed to the College for fines, returned checks and other charges and fees.

In addition, a student who drops during the following specified periods will be entitled to the applicable refund (or adjustment) of tuition and fees, less the admissions deposit, student fees, and any amounts owed to the College per the schedule below. Specified dates for each semester are listed in the College Calendar.

All refund payments will be made payable to the student except for a) contractual third party payments - refund payable to the third party named, and b) excess parents plus loan funds - refund payable to the parent named

Room and Board

A separate refund schedule applies to housing and meal plan charges. This schedule is published in the Residence Life Handbook and made available to students in the Office of Student Activities and Housing.

Please note that a drop or withdrawal does not absolve a student's financial responsibility for his/her educational expenses. The student is responsible for payment of charges outstanding after the drop or withdrawal is processed and charges are adjusted.

Special Note to Financial Aid Recipients

In accordance with federal and state guidelines, a drop or withdrawal may reduce a student's financial aid award. As a result, the student may owe a balance to the College. Any amounts owed after adjustment of the financial aid award is billed to the student.

In the event of serious injury or illness which is certified by a physician, the student will be granted a full tuition credit, if that documentation is received at the time the student withdraws from the College. Such credit may be applied toward tuition costs only upon his or her return to the College. This credit will be cancelled if it is not used within a one-year period after the student has taken leave from the institution. Tuition credit will not be granted if a student received academic credit from courses in which he or she is enrolled.

Students called to involuntary active military duty may be eligible for a full tuition credit or full tuition refund upon receipt of the appropriate application and supporting documentation as specified at the time of withdrawal. Tuition refunds are subject to financial aid regulations.

Financial Obligation

Payment for tuition and fees is due, in full, by the semester tuition due date published in the academic calendar. Financial aid must be pending on the student account to be deducted from the balance due on the tuition and fees bill. Expected financial aid that is not pending by the tuition due date may not be deducted.

In order to receive a refund or adjustment of charges, a student must complete an official course drop during the stated refund periods. Failure to formally drop your classes during the refund period may cause you to be financially responsible for 100% of all charges. Nonattendance does not relieve you of your financial obligation.

The college reserves the right to cancel a student's registration if payment is not received by the tuition due date, however, this action is not guaranteed and students who are not dropped retain their registration status and remain 100% responsible for payment as charged. Students must complete a course drop by the refund deadline to ensure they are not held responsible for payment of tuition and fees. Students who are cancelled from registration will be charged a non-refundable reinstatement fee of \$50.00, payable in full before re-registration can occur. The fee will be imposed each time student is cancelled from classes for non-payment. The fee is non-refundable and financial aid cannot be used to pay for this fee.

Students with outstanding financial obligations to Northampton Community College (NCC) including but not limited to tuition, fees, room and board, library materials, fines, loaned equipment, will have a hold on their account and may not be permitted to register for a subsequent semester, receive transcripts or grades, or participate in graduation until the hold

is cleared.

NCC makes every attempt to contact each student to arrange satisfactory payment of the outstanding amount. If we have exhausted all efforts available to us and the debt is still outstanding, the unpaid account is referred to a private collection agency and reported to the national credit bureau systems.

After an account has been referred to private collection, the student is responsible for payment of all collection costs and attorney fees in addition to the original debt owed to NCC. Payment arrangements for amounts in collection must be made directly with the appropriate collection agency.

Tuition Payment Plan

NCC offers a tuition payment plan option that spreads payment for tuition, fees, room and board throughout the semester. Enrollment in the payment plan is due as follows:

- Fall - July 15
- Spring - December 15
- Summer I - April 15
- Summer II - April 15

* Late enrollment with additional down payment is available.

Re-enrollment must be repeated each semester. Contact the bursar's office for additional information.

Financial Aid

Since its founding, Northampton Community College has been committed to offering excellence in education at a moderate cost. While NCC adheres to the principle that students and their families have the primary responsibility to pay for college costs as their means permit, financial assistance programs represent a bridge between a family's ability to pay and the cost of higher education. Last year, the College awarded over \$46 million in financial assistance to approximately 7,220 full and part-time students. The NCC Financial Aid Office administers many types of financial assistance including federal, state, private and institutional financial aid programs to help students meet their educational costs. Most financial aid awards are made on the basis of financial need. A student's financial need is determined by deducting the student's expected family contribution (EFC) from the cost of education. To qualify for financial aid, you must demonstrate financial need while maintaining academic progress. Financial aid awards must be applied to educational expenses such as tuition, fees, books, room, board, supplies, transportation or other educational costs. Financial aid awards may consist of grants and/or scholarships (funds which do not have to be repaid), loans (low interest loans which require little or no payment while a student is attending college on at least a half-time basis), employment (money which a student earns through work either on or off-campus) or a combination of these sources.

Foundation Scholarships

To encourage and assist students, NCC also offers scholarships from over 200 different scholarship funds for students who meet the awards' requirements. Funds for scholarship assistance are provided through the efforts of the Northampton Community College Foundation and the generosity of alumni, community leaders, local employers and friends of the College.

The NCC Foundation, established in 1969 as a private, non-profit corporation to support educational programs and activities that cannot be funded through the College's regular income sources, enables NCC to provide more private scholarship support than any other community college in Pennsylvania.

Students must complete the financial aid application process to be considered for scholarship support

How to Apply for Financial Aid

To apply for financial aid at Northampton Community College a student must:

- Complete and submit a Free Application for Federal Student Aid (FAFSA) via the Web at www.fafsa.gov. A student and parent can create an FSA ID to electronically sign the FAFSA.
- NCC's Federal Code for the FAFSA is **007191**

New students should not wait to be admitted to NCC before applying for financial aid. Returning students must annually reapply for financial aid for each academic year a student wants to be considered for financial aid.

The Northampton Community College financial aid priority application deadline is March 31st. Students who complete their financial aid application by the priority deadline will be notified of their eligibility for aid before tuition is due for the following Fall semester. The priority application deadline for the Spring semester is October 1st of the previous year. While financial aid applications are accepted throughout the year, it is important to meet the priority application deadlines if a student expects financial aid to help pay his/her semester tuition and fee charges by the tuition due date.

Eligibility

To receive aid, a student must meet the following eligibility requirements:

1. Be a United States citizen or eligible non-citizen with a valid social security number;
2. Be enrolled in an eligible academic program;
3. A high school graduate or have a recognized General Equivalency Diploma (GED);
4. Be an undergraduate student who has not previously earned a bachelor's degree (for most types of aid);
5. Not be in default on any previous student loan nor owe a repayment on an adjusted federal grant;
6. If male and age 18-25, be registered for Selective Service
7. Comply with Northampton Community College's Academic Progress Policy requirements.

Student Employment

NCC offers on and off-campus jobs to students who have financial need through the Federal Work Study Program. A student's earnings under this program are not credited to the student's account, but are paid to the student every two weeks. Students are responsible for securing their job by interviewing with the job's supervisor.

A list of available positions can be found on the Work Study link on the Financial Aid page of the NCC Web site. Students

who are interested in community service positions should contact the Work Study Coordinator in the Financial Aid Office.

Veteran's Benefits

We are proud to be a Veterans Administration (VA) approved Institution of Higher Learning (IHL).

All associate degree, specialized diploma, and certificate programs listed in the NCC College Catalog are deemed approved by the VA for receipt of education benefits. Our Student Veterans Services Office offers assistance as a resource for VA, military funding for education,

EAP, FTA, MYCAA and handles certification of enrollment to the VA for Montgomery GI Bill, Post 9/11 GI Bill, and other VA education benefit programs.

It is the student's responsibility to notify the Student Veterans Services of enrollment, changes in enrollment, termination of student status or changes of address and phone number. Failure to do this could delay or jeopardize current or future benefits. A *Military Veterans and Service Members Student Checklist and Veteran's Benefits Request Form* (VBRF) are available online at www.northampton.edu/academics/veterans.htm. Questions may be directed to the Student Veterans Services Office at 610.861.5508.

PA Act 11 – Discounts for Veterans, Military Personnel and their Dependents

As required by PA Act 11 of 2015, Veterans and Military Personnel, their spouses and/or dependent children may be eligible for reduced tuition and fees rates as outlined below.

1. Veterans, their spouses and/or dependent children, who reside in the Commonwealth of PA will be granted a tuition rate equivalent to local sponsorship rate. For purposes of this policy, a veteran student is defined as an individual who: (a) Served in the United States Armed Forces, including a reserve component or National Guard and was discharged/released from service under conditions other than dishonorable; or one who is an active duty service member; and (b) Resides in Pennsylvania while enrolled at Northampton Community College.
2. Active military personnel, their spouses and/or dependent children, who are enrolled in online (distance) classes, and who reside outside of the Commonwealth, will be granted a tuition rate equivalent to our Commonwealth of PA rate.
3. Any individual who receives VA education benefits under chapters 30,31,33,35, or 1606, and who resides outside of the Commonwealth, will be granted a tuition rate equivalent to our Commonwealth of PA rate.
4. Civilian personnel who work at a Department of Defense facility in the Commonwealth of PA, their spouses and or dependent children, will be granted a tuition rate equivalent to the local sponsorship rate.

Those who qualify for reduced rates, as outlined above, are exempt from the 90 day residency waiting period, but must provide both proof of service and proof of residency prior to the start of the semester for which reduced rates are to be granted.

Proof of Service must be documented with a DD214, current military ID, and/or VA Certificate of Eligibility. Spouses and dependents must also provide either military ID, VA certificate of Eligibility, or other proof of connection to the veteran or military personnel with a Birth Certificate or recent IRS 1040.

Once the current semester has ended, the reduction cannot be applied for an adjustment. Future terms only will benefit from the reduction to student accounts.

Federal Financial Aid Academic Progress Policy

All students must be making satisfactory academic progress toward a degree, certificate or specialized diploma in order to establish or renew eligibility for participation in any of the Federal or State financial aid programs. The Higher Education Act requires institutions to establish academic progress standards that contain qualitative and quantitative measurements of progress. The act also requires a maximum time frame for completion of the program.

The provisions included in Northampton's academic progress policy are based on federal requirements and are applicable to all students applying for federal aid including the Federal Parent Loan (PLUS). Copies of the policy and the appeal procedure are available at the Financial Aid Office and are distributed to all financial aid recipients with their financial aid award letter.

This policy applies to any student entering or returning to NCC. A student's entire academic record is reviewed even when a student was not a financial aid recipient during prior enrollment. College approved academic restarts are not considered when computing financial aid satisfactory academic progress. The following requirements must be met for eligibility for federal financial aid (grants, loans, and work-study).

Only courses required for your current major are eligible for financial aid consideration.

I. Completion Rate

A student must successfully complete sixty-seven percent (67%) of all credits attempted at NCC.

Financial aid can be applied only once to repeat any course where the student received a passing grade, including a "D".

Although students may receive financial aid for repeated courses, credit for a course is given only once.

II. Grade Point Average

A student must maintain a minimum cumulative grade point average based on the total number of credits attempted including transfer credits. Total credits attempted include courses in which a student receives a passing grade or F, W, WP, WF, N, or I.

Total Credits Attempted Including Transfer Credits	Minimum Cumulative GPA Required
9-25	1.50
26-40	1.75
41+	2.00

III. Maximum Time Frame

For federal financial aid eligibility students must complete their program within a maximum time frame not to exceed 150% of the length of the educational program. This includes all semesters of enrollment even if no aid was received. Once a student attempts more than 150% of the credits that it normally takes to complete his/her program of study, he/she is no longer eligible for financial aid.

Example:	Length of Program	Maximum Time Frame
	60-credit program	90 credits attempted
	30-credit program	45 credits attempted

Questions about this policy should be directed to the Financial Aid Office (610.861.5510).

Appeal Process

Students who do not meet the **Satisfactory Academic Progress** requirements have the right to appeal. All appeals must be in writing and must be submitted within **45 days** of the date of the notice of denial. Appeal forms should be submitted to the Financial Aid Office at Northampton Community College, 3835 Green Pond Road, Bethlehem, PA 18020.

An appeal should include an explanation of the extenuating circumstances which resulted in the student's inability to meet the requirements. Information about the student's plan to make up any deficiencies should also be included.

Note: State grant eligibility is based on standards set by the Pennsylvania Higher Education Assistance Agency (PHEAA). Institutional appeals do not cover State grants. Loss of State grant eligibility may be appealed directly to PHEAA in cases of illness or death in the family.

Evaluation

An evaluation of academic progress will be done after the end of the Spring semester or when students reapply for financial aid. Students who do not meet the requirements will be notified within ten days of the completion of the evaluation.

Note: An evaluation will be done at the halfway point of the program for students enrolled in one-year programs.

Federal Financial Aid Recipients Who Withdraw

The 1998 Reauthorization of the Higher Education Act requires the College to calculate a return of federal student aid funds for students who withdraw (officially or unofficially) from all classes on or before the 60 percent attendance point of the semester. Using the Federal formula, the percentage of the semester attended is used to calculate the amount of the student's earned versus unearned federal student aid funds. The number of calendar days spent attending classes is divided by the number of calendar days in the semester. The unearned portion of federal student aid funds will be returned to the appropriate aid program. Funds are returned in the following order:

- Unsubsidized Direct Loan
- Subsidized Direct Loan
- Perkins Loan
- Parent Loan for Undergraduate Students (PLUS)
- Pell Grant Program
- Supplemental Educational Opportunity Grant (SEOG)

Students receiving financial aid who withdraw from all of their classes may not receive further financial aid

disbursements, may lose some or all of the aid that has already been disbursed to their account and are responsible for payment of any balance due after the required return of unearned federal student aid funds. Students who stop attending all classes without officially withdrawing will be subject to the return of federal funds at the end of the semester based on the 50 percent point of the semester.

Notification of Award

Students who have their financial aid applications completed by the priority application deadline will be notified of their eligibility for aid by the tuition due date. They will receive a financial aid award letter. Included with the award letter are instructions, conditions governing awards and disbursement information about how and when students will receive financial aid funds.

Financial Aid Information

Financial aid forms and information are available from the NCC Financial Aid Office in the Student Enrollment Center at the Main Campus, the Enrollment Office at the Monroe Campus, the Fowler Family South Side Center, and on the Financial Aid page of the NCC Web site at <http://www.northampton.edu/admissions/tuition--financial-aid-scholarships/financial-aid.htm>. You can call the NCC Financial Aid Office at 610.861.5510.

Policies: College/Academic

Academic Honesty - Policy and Appeal Procedure

Northampton Community College considers honesty to be essential to the learning experience. Academic honesty is one of the values that we expect members of the NCC community will apply in their work on this campus and take into their lives beyond NCC.

Violations of academic honesty harm the learning experience and violate the expectations and values that the NCC community embraces. We expect all members of the NCC academic community to conduct themselves and their work ethically and honestly.

Student Responsibilities

- Students are solely responsible for their work and for making sure that their work represents their own honest efforts to meet the goals of the course.
- They are responsible for showing that the work they present is theirs in whatever ways are deemed appropriate by the faculty for the course.
- They are responsible for learning and following the policies and expectations of the college and for understanding the consequences of actions that violate the policy on academic honesty.

Faculty responsibilities

- Faculty members are responsible for demonstrating academic honesty in their work.
- They are responsible for making their expectations related to academic honesty clear to their classes including which activities and resources are allowed and the consequences for violations in their courses.
- They are responsible for communicating violations of the academic honesty policy to students and their division Dean and to the Assistant Dean of Students (Bethlehem) or the Associate Dean of Students (Monroe).

Academic Honesty Violations

Violations of the academic honesty policy include any actions that attempt to gain academic credit for work that does not represent the student's own efforts and knowledge. They include, but are not limited to the following situations and examples:

- **Cheating on examinations and quizzes -**
 - Using notes, materials, and/or mechanical, electronic or technological devices not authorized by the instructor during examinations or quizzes.
 - Providing or receiving help on an examination or test in a manner not authorized by the instructor.
 - Buying, selling, improperly obtaining, or using any tests or examinations.
 - Taking an exam or quiz for another student and/or allowing another student to take an exam or quiz in one's place.
 - Altering or adding answers on exercises, exams, or quizzes after the work has been graded.
- **Plagiarizing –**
 - Using the ideas or words of others without appropriate quotation and documentation that acknowledges the source or sources -- in other words, presenting someone else's work as one's own.
 - Copying, exact words, phrases or sentences without quoting and giving credit to the source.
 - Using a paraphrased version of the opinions, work, or ideas of others without giving credit.
 - The wrongful appropriation of all or part of someone else's literary, artistic, musical, mechanical, or computer-based work.
 - Copying all or part of an assignment, (a research paper, lab report, or workbook) from another person or resource and presenting it as one's own work.
 - Purchasing an assignment and submitting it as one's own work.
 - Falsifying or inventing information, data or research material. Altering or forging records or submitting false records as part of course work or making false statements, excuses, or claims to gain academic credit or influence grading.
 - Listing sources that were never consulted.
 - Gaining unauthorized access to another person's or the College's computer system or tampering with or copying programs, files, data or access codes associated with coursework.
 - Tampering with or damaging the work of others or preventing others from completing their own assignments.
 - Self-plagiarizing: the practice of submitting one's own previously-submitted work as new; or of submitting the same work to different classes that one is enrolled in. Reworking a previously-submitted work, or submitting similar work to different classes may be an option only with the explicit permission of the current professor(s).

Penalties

When a faculty member believes that a student has committed acts that violate the academic honesty policy, he or she will advise the student of the offense and the penalty imposed.

A faculty member may apply one of the following penalties:

1. A written warning with the requirement that the assignment be redone within the instructor's specified time. Faculty members are encouraged to report the incident and action to their division Dean and to the Assistant Dean of Students (Bethlehem) or the Associate Dean of Students (Monroe) using online Academic Honesty Violation Form.
2. A failing grade for the assignment or test. Faculty members are encouraged to report the incident and action to their division Dean and to the Assistant Dean of Students (Bethlehem) or the Associate Dean of Students (Monroe) using the online Academic Honesty Violation Form.
3. An "F" grade for the course.
 - If a faculty member issues an "F" grade in the course as a penalty for academic dishonesty, he or she must send a written report of the instance of cheating or plagiarism and the action taken to the division Dean and the Assistant Dean of Students (Bethlehem) or the Associate Dean of Students (Monroe) using the online Academic Honesty Violation Form.
 - If the faculty member has given an "F" grade for the course as a penalty for a violation of academic honesty, a student may not withdraw from the course while the matter is under appeal or if it is resolved that the "F" grade stands.

Appeal procedure-charges of academic dishonesty

If a student wishes to appeal a charge of academic dishonesty or the penalty imposed, the student should follow these steps:

Step 1

- If the student wishes to respond to the accusation, he/she must make an appointment and meet with the faculty member at a formal meeting within ten working days of the notification.
- If the student and faculty member accept a specific resolution offered by either of them, the matter shall be considered closed.
- If such a resolution cannot be reached, the student may formally appeal the action of the faculty member within three working days after the meeting with the faculty member. Appeal of Charges of Academic Honesty Violation Forms and procedures will be available in the Office of the Vice President for Academic Affairs.
- While an appeal is in process, the student may not withdraw from the course.

Note: working day is defined as any day when a full schedule of classes are in session (this excludes Saturdays and Sundays).

Step 2

- Within three working days of the meeting with the faculty member, the student may request in writing that the appropriate dean call a meeting to include the student, faculty member, and program director, if any, within five working days.
- After this meeting, the dean will send all parties involved a written recommendation within three working days.
- Students who do not agree with the recommendation in Step 2 may appeal to the Academic Appeals Committee within three working days. This appeal must be submitted, in writing, to the Vice President for Academic Affairs.

Step 3

- Students initiate appeals to the Academic Appeals Committee (within three days of notification of outcome of Step 2) by requesting a hearing through the Office of the Vice President for Academic Affairs. A hearing will be scheduled as quickly as possible and all parties to the appeal will be informed of the date, time, and place of the meeting. The faculty member will delay recording the grade for the work in question until the appeal is decided.
- The Academic Appeals Committee will decide whether evidence sustains or does not sustain such charges of academic dishonesty and whether the penalty is consistent with the stated policies. A decision will be recommended to the Vice President for Academic Affairs, whose decision is final unless different from the recommendation of the committee. In such cases, the student may appeal to the President whose decision is final.
- If evidence does not sustain such charges in the opinion of the committee and the Vice President for Academic Affairs, all records in the student's file related to this charge will be expunged. If evidence does sustain the charges and the appeal relates to the penalty, the committee may recommend the following actions:
 - a. The assigned penalty will be supported.
 - b. The faculty member may be asked to reconsider the penalty in question.

- The Vice President for Academic Affairs will communicate in writing a decision to the student, faculty member, and Dean of Students no later than three working days after the hearing.

Recurring violations of Academic Dishonesty

If the student is reported to have violated the Academic Honesty Policy repeatedly, the Assistant Dean of Students (Bethlehem) or the Associate Dean of Students (Monroe) shall request the Discipline Committee to consider the student's dismissal from the college.

Academic Probation Policy

Northampton Community College is committed to the academic success of its students. Students who do not achieve a cumulative grade point average in accordance with the following standards will be placed on academic probation:

Cumulative Attempted Credits	Cumulative GPA
9-25	1.50
26-40	1.75
41+	2.00

Students placed on academic probation are subject to the following conditions:

- Students must meet with an academic probation counselor and develop a plan for improved academic performance.
- Students on probation for a first semester will be limited to maximum enrollment of 13 credits. Additionally, students may have some restrictions placed on them regarding the types of courses they take. The academic probation counselor will recommend action based on the meeting with the student and after review of the academic record. This action may include requiring students to take specific courses.
- Any student who has been placed on academic probation for two consecutive major semesters may be academically suspended for up to one academic year. If a student is academically suspended, he/she may appeal the suspension. A committee comprised of an Advising staff member, the appropriate Academic Dean, one faculty member from each academic division and the Vice President, Enrollment & Student Affairs or his/her designee will review the appeal and make a recommendation to the Vice President for Academic Affairs whose decision is final. Appeals must be made at least 6 weeks prior to the start of a fall semester, or 5 college days prior to the spring semester.
- Students who are academically suspended more than once and who do not make academic progress upon return to NCC will be dismissed from the institution for a minimum of three years.

Academic Recognition

Dean's List

Students who complete a minimum of six credit hours per semester, and who earn a semester grade point average of 3.50 or higher, will be recognized on the Dean's Honor List for academic achievement.

Graduation Honors

Students who complete a minimum of 30 credits hours of coursework in the graduation major at Northampton, and have a graduation grade point average of 3.50 or higher in any degree, certificate or specialized diploma will be graduated with honors. The graduation grade point average includes only those courses used toward the graduation major.

Academic Restart Policy

The Academic Restart policy is intended for students who attended NCC in the past and compiled an unsatisfactory academic record. This one-time-only option allows students to redirect their academic goals and permits students to reset the NCC Grade Point Average and the Cumulative Credits earned.

Eligibility is determined by:

- The student has not enrolled at NCC for at least three (3) consecutive academic years and has not earned an NCC degree.
- The student has a previous cumulative grade point average below 2.0.
- The student has not been granted the Academic Restart previously.
- The student has earned a grade point average of 2.0 or higher in a minimum of 12 credits since returning to NCC.

The previous record will remain on the transcript; however, it will not be used in the computation of the new grade point

average. Students may use non-developmental level courses they completed with a grade of C or better prior to Academic Restart toward completion of graduation requirements, but grades for these courses will not affect grade point average calculation.

Interested students must complete an application and meet with a member of the Advising Office. A student's request for academic restart will be voided if 12 credits are not earned after four (4) semesters.

Academic Restart will be recorded on the student's transcript upon certification by the Advising Office.

Note: Given federal and state student aid regulations, the student is not relieved of academic progress requirements for financial aid eligibility, even if restart approval is granted. Some colleges will not accept courses prior to Academic Restart.

Advanced Placement Policy

All students may earn credit through the following options:

1. College Level Examination Program (CLEP) or Excelsior College Examination Program
2. NCC Departmental Challenge Exams
3. Advanced Placement Exams taken through the College Board
4. Military and non-traditional training, as recommended by the American Council on Education (ACE)
5. Portfolio Assessment of Prior Learning
6. Industry-recognized Credential

A student must be enrolled in NCC courses to have such credits applied to the NCC transcript. All external examinations, ACE approved courses, credit for portfolio assessment, and industry-recognized credentials will be equated to NCC courses by appropriate department faculty. Criteria will be reviewed on a periodic basis to insure currency with existing course requirements. Students wishing more information on any of the above, except CLEP and the NCC challenge examination, should contact the Admissions Office. CLEP is administered through the Library and challenge examinations through the Records Office.

Eligibility

All new applicants and currently enrolled students are eligible to apply for credit using any of the above-mentioned options. Any form of advanced placement credit earned is added to the student's transcript upon final verification of enrollment (after the refund period of a student's first semester).

Credit Limits

A minimum of 25% of credits required for any degree, certificate or specialized diploma must be earned through NCC course work. Remaining credits may be awarded through transfer or as outlined in this policy.

Record of Credits

Advanced placement credit earned will be entered on the student's transcript with specific reference to the test or method used for granting credits.

Equating Credits

All methods of advanced placement will be equated to NCC courses or general electives as approved by department faculty. The Admissions and Records Offices will maintain a list of approved equivalencies. Students who have successfully completed any of these advanced placement methods prior to or while attending NCC may request an evaluation of credits earned.

Grades

Only credits will be recorded on the transcript for any advanced placement credit awarded; no grade will be given*. Students who earn credit through this policy and later take the equivalent course at NCC will be given credit and grade earned only for the NCC course. *Exceptions may be approved by the academic dean or designee in the case of developmental math modular units.

Credit may be awarded through:

1) College Level Examination Program (CLEP) or Excelsior College Examinations

Students may take the CLEP examinations at either NCC Library or a national testing center. Excelsior examinations may be taken at any Sylvan Learning Center after test registration has been completed through Excelsior College. Credit for

CLEP tests and Excelsior exams will be awarded for scores recommended by the American Council on Education (ACE) for the former and Excelsior College for the latter, unless a Northampton department performs its own research and determines a more appropriate cut-off score.

2) Departmental Challenge Exams

NCC departmental challenge exams are available for certain designated courses. Subject to faculty approval, students may challenge a course only one time and may not challenge a course in which they have been enrolled beyond the first three weeks of the semester, or the equivalent time in a shorter course. Courses must be challenged in sequence. If a course has a prerequisite, that prerequisite must be fulfilled through course work or credit by examination acceptable to the College before a challenge examination may be taken. Internships and courses numbered oXX will not be available for challenge*. Credit for NCC challenge examinations will be awarded for scores determined by faculty to be at a passing level. For information about the availability of departmental challenge examinations, students should contact the Records Office. *Exceptions may be approved by the academic dean or designee in the case of developmental math modular units.

3) Advanced Placement exams taken through the College Board

The College awards credit to students who successfully completed Advanced Placement (AP) courses and submit official exam scores that meet required score levels. Department faculty will determine courses to be accepted, credit to be awarded, and equivalency of each course to NCC courses. The Admissions Office will maintain a list of Advanced Placement courses, and their required scores, as approved by faculty.

4) Military and Non-Traditional Training

Credit will be awarded based on recommendations by the American Council on Education (ACE), unless a Northampton department performs its own research and determines a more appropriate recommendation.

5) Portfolio Assessment of Prior Learning

Criteria for each course will be developed (if appropriate) by the academic department to establish the proof of knowledge/learning gained by experiences outside the classroom. Credit will be awarded upon faculty evaluation of presented portfolio. The Admissions Office will have a list of portfolio criteria needed for assessment.

6) Industry-recognized Credentials

Department faculty will determine NCC course equivalency for certain industry-recognized credentials. The Admissions Office will maintain a list of the approved credentials.

ADA Policy and Complaint Procedure

Background

Northampton Community College (NCC) welcomes qualified students with disabilities and endorses the principles of nondiscrimination and reasonable accommodation as described in Section 504 of the Rehabilitation Act of 1973 (504), the Americans with Disabilities Act and the Americans with Disabilities Amendments Act of 2009 (ADAA). The College prohibits discrimination against a person on the basis of disability or who has a history or record of such impairment or is regarded as having such impairment as well as persons who are associated with a disabled person. This procedure applies to complaints alleging disability discrimination carried out by students, faculty and staff, and third-party vendors. The College's Section 504 Coordinator handles complaints and appeals of accommodation decisions and allegations of discrimination on account of disability. The Section 504/ADA Coordinator is Brett Last, Executive Director of Human Resources. He may be reached at 610.861.5460 or blast@northampton.edu.

Procedures for Complaints of Discrimination Based Upon a Disability

If a student feels that he/she has been discriminated against based upon a disability by another student, faculty or staff or a third party, a complaint should be filed with the ADA/Section 504 Coordinator who will conduct an investigation of the allegations in the complaint. If the report alleges misconduct by the ADA/Section 504 Coordinator, then the report should be made to the President. Within fifteen (15) days the ADA/Section 504 Coordinator will initiate an impartial, adequate, and reliable investigation. In determining whether the alleged conduct constitutes discrimination, the totality of the circumstances, the nature of the conduct and the context in which the alleged conduct occurred will be investigated. The individual accused of discrimination will be advised of the allegations, the source of the complaint, and then given the opportunity to respond to the allegations. Parties are allowed to present witnesses and other evidence during the investigation. Within 60 days from the date that the complaint was received, the ADA/Section 504 Coordinator, or

designee, will prepare a written report, unless additional time to complete the investigation is required. The report will include findings with respect to whether discrimination occurred. If an investigation cannot be concluded within 60 days, the appropriate parties will be advised and a projected conclusion day will be announced. Should cause be found to support the allegations, the ADA/Section 504 Coordinator will identify appropriate remedial actions which may include disciplinary action up to and including termination, and he/she will report those recommendations to the person responsible for the division/department in which the alleged discrimination/harassment occurred. The College will also take steps to prevent the reoccurrence of any discrimination/harassment and to correct its discriminatory effects on the complainant and others if appropriate. Within 15 days from the date that the report is prepared, the ADA/Section 504 Coordinator will provide notice to both parties of the findings, including the findings with respect to wrongdoing, and the outcome resulting from the complaint, including the final remedial actions and the basis for the decision. The notice provided will include the procedure to appeal.

Appeals of Results of Complaints of Discrimination Based Upon a Disability

Both parties may file an appeal if there is a disagreement with the findings and/or remedies of the complaint. An appeal must be made in writing. All appeals must be filed with the President or his/her designee within 10 working days of the receipt of the Coordinator's decision. The appeal must state why the appellant believes the result and conclusion is unsatisfactory. The President or his/her designee shall review the record and investigate further if deemed necessary. Within 30 working days of the date of the filing of the appeal, all parties will receive notice of the President's or his/her designee's decision in writing. The President's or his/her designee's decision will be final and binding on all parties.

Confidentiality

All actions taken to investigate and resolve complaints through this procedure shall be conducted with as much privacy, discretion and confidentiality as possible without compromising the thoroughness and fairness of the investigation. All persons involved are to treat the situation with respect. To conduct a thorough investigation, the investigator(s) may discuss the complaint with witnesses and those persons involved in or affected by the complaint, and those persons necessary to assist in the investigation or to implement appropriate disciplinary actions.

No Retaliation for Filing a Complaint

Retaliation against any individual for making a complaint of disability discrimination, or for assisting in the investigation of such a complaint is a violation of this policy and will not be tolerated. Any acts of retaliation will be subject to appropriate disciplinary action, such as but not limited to reprimand, change in work assignment, loss of privileges, mandatory training or suspension and/or immediate termination.

Appeals

Academic Appeals

Appeals of grades, appeals of penalties for academic dishonesty, and appeals of actions related to the policy on Professional Conduct, will begin informally through discussion between the student and the faculty member involved and will proceed, if continued, through a series of formal steps culminating in a hearing before an Academic Appeals Committee, which will present its findings and recommendations for a decision to the Vice President for Academic Affairs. No final recommendation can be made without a quorum. The decision of the Vice President for Academic Affairs will be final, unless it differs from that of the committee; in such cases, the student may appeal to the President, whose decision is final.

The appeals procedure is a student-motivated one; the responsibility to keep the action in progress rests primarily with the student.

Academic Appeals Committee

The Academic Appeals Committee reviews matters related to appeals of grades, appeals of penalties for academic dishonesty, appeals of actions related to the policy on professional conduct, and waivers of graduation requirements. The Academic Appeals Committee shall be composed of the following: 5 full-time faculty members (at least two shall teach at the Monroe campus) elected to a two year term at large from Academic Affairs, one Student Services faculty member elected by that cluster, and four students (at least 2 shall attend classes at the Monroe campus) appointed for a one year term by the Student Senate and/or Monroe Student Governance.

A quorum shall consist of the following: 7 persons - including 3 faculty members, 2 students, one student services faculty member and a dean (appointed by the President to hear the case). The Registrar may be asked to attend as an ex-officio member.

Appeals Not Covered Under Other Policies

Students may appeal a decision made by an administrator responsible for a department or division to the Vice President for Academic Affairs or Vice President, Enrollment & Student Affairs. The Vice President's decision will be final unless stated otherwise in specific College policy.

Attendance Policy

Class attendance and engagement in the learning process are critical factors in determining students' success in their courses. NCC students are expected to attend all class sessions of courses in which they are enrolled, and are responsible for all material presented in class sessions of these courses.

However, a student who misses class more than twice the number of weekly meetings of the class* (or the equivalent in short term courses) may be withdrawn from the course by the instructor.

Students who are withdrawn for poor attendance will receive a grade of W. Faculty may issue a withdrawal through the first 90% of the semester (14th week or equivalent in short term classes*). After the 90% period, a student may not withdraw or be withdrawn.

In an internet-based online learning course, a student is considered to have missed the equivalent of more than twice the number of weekly meetings of a traditional classroom course in a consecutive two-week period if there has been no participation by the student in the class through submission of assignments, participation in discussion forums or contact with the professor in any way during the period.

Students who are withdrawn from the class for lack of attendance may appeal the enforced withdrawal to the instructor. If the Instructor agrees to reinstate the student, he/she will be required to complete a reinstatement form and return it directly to the Records Office. If the appeal is denied, the student may speak with the appropriate academic dean and/or the Vice President, Enrollment & Student Affairs. Further discussion may take place with the faculty member, but the final decision on the withdrawal rests with the faculty member.

* Clinical and lab courses may have a different application of this attendance policy and it will be so noted on each syllabus.

Audit Policy

A student may apply to audit a course. Auditing students are not required to take examinations and do not receive grades or earn credits for the class.

Enrollment for the purpose of auditing shall be on a space available basis. Priority in class enrollment shall be given to students desiring to take courses for credit; therefore enrollment for audit purposes will only be permitted during the first week of the semester. Auditors must be eligible for admission to the College. A student can only audit a course one time.

Auditors pay standard tuition and fees. The student should identify himself to the instructor as an auditing student and discuss parameters of participating in classroom discussions. If a student wants to change from audit to credit, all prerequisites must be met. The change must be made by the end of the refund period for that course with the consent of the instructor. Instructors may request of the Vice President, Enrollment & Student Affairs that an auditor be officially withdrawn from the course if the auditor is interfering with the learning process.

Class Load

A minimum full-time class load is 12 credit hours. Students registering for 12 or more credit hours in either the fall or spring semester or for 8 or more in any summer session must have approval from an academic advisor. Students will not be allowed to take more than 19 credit hours for either the fall or spring semester or more than 13 credit hours in the summer unless required by their academic program. Exceptions may be granted for students who have a G.P.A of at least 2.75, advisor or Dean recommendation.

Completing an Associate's Degree in Two Years

The number of credit hours that a student must carry in order to complete a program within a two-year period will vary depending upon his or her academic program. Consult the Catalog program description for the variation in credits required by each program. Students who elect to pursue a minimum full-time load (12 credits) each semester cannot graduate in two years unless they complete a significant number of credits during summer sessions. If students must take developmental courses, it will take more than two years to complete a degree. Students are encouraged to review all this information with their academic advisor and to discuss the option that presents the strongest opportunity for academic success.

Classification of Students

Students attending the College will be classified as follows:

- **Freshman:** Successfully completed fewer than 24 credit hours
- **Sophomore:** Successfully completed 24 or more credit hours

Course Credit Policy

Each course that offers academic credit is assigned a credit value based on the number of scheduled student contact hours and the type of teaching modality used to deliver the course. The college defines a semester credit hour as a unit of coursework equivalent to either 1) 50 minutes of lecture instruction and student engagement per week for 15 weeks or 2) a laboratory comprised of 2-3 hours weekly of structured laboratory learning involving the faculty and the student for 15 weeks, or 3) up to 75 hours of internship or fieldwork for 15 weeks. For courses offered on a schedule different from the 15 week schedule, the associated instructional time (typically 2250 minutes for a three credit course) is distributed evenly over the scheduled weeks of the course. The credit value for each course is displayed as a number ratio following the course title and credit assignment. The first digit indicates the weekly lecture hours; the second digit indicates the weekly laboratory hours; the third digit (where appropriate) indicates the number of weekly experiential learning hours (clinical, internship, practicum, etc.) Courses are designed such that students should expect to study a minimum of two hours outside of class for every hour of classroom or direct faculty instruction.

Discrimination, Harassment, and Sexual Misconduct Policy

Policy Statement

Members of the NCC community, guests and visitors have the right to be free from sexual discrimination, harassment and misconduct. All members of the campus community are expected to conduct themselves in a manner that does not infringe upon the rights of others. When an allegation of misconduct is brought to an appropriate administrator's attention, and a respondent is found to have violated this policy, serious sanctions will be used to reasonably ensure that such actions are never repeated. This policy has been developed to reaffirm these principles and to provide recourse for those individuals whose rights have been violated. This policy is intended to define community expectations and to establish a mechanism for determining when those expectations have been violated.

Northampton Community College is committed to providing a learning, working and living environment that promotes personal integrity, civility and mutual respect in a place free of discrimination on the basis of sex; which includes all forms of sexual misconduct. Sex discrimination violates an individual's fundamental rights and personal dignity. Northampton Community College considers sex discrimination in all its forms to be a serious offense. This policy refers to all forms of sex discrimination, including but not limited to: sexual harassment, sexual assault, sexual misconduct, sexual violence, domestic violence, dating violence and stalking by employees, students, or third parties.

Title IX of the Education Amendments of 1972 prohibits discrimination based on sex in educational programs and activities that receive federal financial assistance. To ensure compliance with Title IX and other federal and state civil rights laws, the College has developed policies and procedures that prohibit sex discrimination in all of its forms.

Northampton Community College does not discriminate on the basis of race, color, age, gender, gender identity, sexual orientation, sexual identity, religion, national origin, veteran status, disability, genetic information or any other basis of prohibited discrimination in its programs and activities. This policy extends to employment, programs and admission to the College.

This policy applies to all faculty, staff, students, and visitors. It also governs student-on-student sexual discrimination, including sexual assault, both on and off-campus.

Persons who experience discrimination, harassment, or sexual misconduct may respond to the experience in many different ways, including feeling confused, vulnerable, out of control, embarrassed, angry, or depressed. The College provides a variety of resources to assist individuals who have experienced discrimination, harassment, or sexual misconduct to address the effects of the incident and to help them determine whether and how to make a formal complaint about the incident. Additional resource-related information can be found in Section VIII.

All reports of discrimination, harassment, and/or retaliation shall be promptly made to the Title IX Officer (or one of the designated Deputy Coordinators). The Executive Director of Human Resources serves as the ADA/504 Coordinator and interim Title IX Officer. He oversees implementation of the College's Affirmative Action office and the College's Policy on Discrimination, Harassment, and Sexual Misconduct. The designated Title IX Deputy Coordinators are the Assistant Dean of Students, the Associate Dean of Students at the Monroe Campus, the Director of Housing, and the Associate Director of Human Resources. Reporting responsibilities are described in Section III below for those individuals who become aware of incidents involving discrimination, harassment, or sexual misconduct. Additionally, a complainant's options for reporting are addressed more specifically in Section IV below.

I. Prohibited Conduct

1. Discrimination

Northampton Community College adheres to all federal and state civil rights laws banning discrimination in public institutions of higher education. The College prohibits discrimination against any employee, applicant for employment, student or applicant for admission on the basis of any protected class. Protected classes include: age, color, creed, disability, ethnicity, gender identity, genetic information, marital status, national origin, political affiliation, pregnancy, race, religion, sex, sexual orientation, veteran or military status, or any other protected category under applicable federal, state, or local law, including protections for those opposing discrimination or participating in any complaint process on campus or with other human rights agencies.

This policy covers discrimination in employment and in access to educational opportunities. Discrimination is defined as adverse treatment of an individual based on that individual's membership in one or more of the protected groups listed above. Therefore, any member of the campus community, guest, or visitor who acts to deny, deprive, or limit the educational, employment, housing and/or social access, benefits, and/or opportunities of any member of the campus community on the basis of their actual or perceived membership in the protected classes listed above is in violation of the College policy on discrimination. **All College employees shall report all suspected incidents of discrimination or harassment (see Section III. Reporting Responsibilities (p. 40)).** When brought to the attention of the College, any such discrimination will be appropriately remedied according to the procedures outlined in this policy.

2. Harassment

NCC prohibits harassment against any employee, student, visitor, or guest on the basis of any class protected by College policy or law as identified in Section I.A. above. This policy is not meant to inhibit or prohibit educational content or discussions inside or outside of the classroom that include germane but controversial or sensitive subject matters. The sections below describe the specific forms of prohibited harassment under College policy.

1. Bias-Related Harassment

This policy prohibits any form of harassment on the basis of actual or perceived membership in a protected class, by any member or group of the campus community, which unreasonably interferes with an individual's work or academic environment.

This environment may be created by verbal, written, graphic, threatening and/or physical conduct that is sufficiently severe, persistent, or pervasive so as to interfere with, limit, or deny the ability of an individual to participate in or benefit from educational programs or activities or employment access, benefits, or opportunities. Merely offensive conduct and/or harassment of a generic nature not on the basis of membership in a protected class may not result in a violation of this policy but may be addressed through education and/or other resolution methods.

2. Sexual Harassment

This policy prohibits any form of sexual harassment. Sexual harassment is unwelcome sexual- or gender-based verbal, written, online, and/or physical conduct. Anyone experiencing sexual harassment in any College program is encouraged to report it online (www.northampton.edu/reportit), to NCC's Title IX Officer or a Deputy Coordinator, or by methods identified in the Complaint Resolution Process Section (IV.A. Confidentiality and Reporting of Offenses (p. 42)). Sexual harassment creates a hostile environment and offenders may be disciplined when it is sufficiently severe, pervasive, persistent, or objectively offensive that it:

- has the effect of unreasonably interfering with, denying, or limiting employment opportunities or the ability to participate in or benefit from the College's educational, social, and/or residential program, or
- is based on power differentials (*quid pro quo*), the creation of a hostile environment, or retaliation.

Some examples of possible sexual harassment include:

- A professor insists that a student have sex with him/her in exchange for a good grade. This is harassment regardless of whether the student complies with the request.
- A student repeatedly sends sexually oriented jokes on an e-mail list the student created, even when asked to stop, causing one recipient to avoid the sender on campus and in the residence hall in which they both live.
- Two supervisors frequently rate several employees' bodies and sex appeal, commenting suggestively about their clothing and appearance.

Consensual Relationships. There are inherent risks in any romantic or sexual relationship between individuals in unequal positions (such as faculty and student, supervisor and employee). These relationships may be less consensual than perceived by the individual whose position confers power. The relationship also may be viewed in different ways by each of the parties, particularly in retrospect. Furthermore, circumstances may change, and conduct that was previously welcome may become unwelcome. Even when both parties have consented at the outset to a romantic or sexual involvement, this past consent may not remove grounds for a later charge of a violation of applicable sections of the faculty/staff handbooks. For the personal protection of members of this community, relationships in which power differentials are inherent (faculty-student, staff-student, administrator-student) are generally discouraged. Consensual romantic or sexual relationships in which one party maintains a

direct supervisory or evaluative role over the other party are unethical. Therefore, persons with direct supervisory or evaluative responsibilities who are involved in such relationships must bring those relationships to the timely attention of their supervisor, and will likely result in the necessity to remove the employee from the supervisory or evaluative responsibilities, or shift the student out of being supervised or evaluated by someone with whom they have established a consensual relationship. This includes CAs and mentors and students over whom they have direct responsibility. While no relationships are prohibited by this policy, failure to self-report such relationships to a supervisor as required can result in disciplinary action for an employee.

3. Sexual Misconduct

This policy prohibits any form of sexual misconduct. Acts of sexual misconduct may be committed by any person upon any other person, regardless of the sex, gender, sexual orientation, and/or gender identity of those involved. The definition of consent below will be used in the interpretation and application of this policy:

Consent. Consent is knowing, voluntary, and clear permission by word or action to engage in mutually agreed upon sexual activity. Since individuals may experience the same interaction in different ways, it is the responsibility of each party to make certain that the other has consented before engaging in the activity. For consent to be valid, there must be a clear expression in words or actions that the other individual consented to that specific sexual conduct. Consent to a specific sexual contact (such as kissing or fondling) cannot be presumed to be consent for another specific sexual activity (such as intercourse). A current or previous dating relationship is not sufficient to constitute consent. Silence or the absence of resistance alone is not consent. The existence of consent is based on the totality of the circumstances, including the context in which the alleged incident occurred. Individuals can withdraw consent at any time during sexual activity by expressing in words or actions that they no longer want the act to continue, and, if that happens, the other person must stop immediately.

A person cannot consent if he or she is incapacitated. Under this policy, a person is incapacitated if he or she is disabled or deprived of ability to act or reason for one's self, is unable to understand what is happening, or is disoriented, helpless, asleep, or unconscious for any reason, including due to alcohol or other drugs. Incapacitation is defined as a state where someone cannot make rational, reasonable decisions because they lack the capacity to give knowing consent (e.g., to understand the "who, what, when, where, why, or how" of their sexual interaction). This policy also covers a person whose incapacity results from mental disability, involuntary physical restraint, and/or from taking of an incapacitating substance. A person is incapacitated if the person is temporarily incapable of apprising or controlling the person's own conduct due to the influence of a narcotic, anesthetic, or intoxicating substance; if a person is unable to communicate an unwillingness to act because the person is unconscious, asleep, or is otherwise physically limited; or if the person has a bodily impairment or handicap that substantially limits the person's ability to resist or flee.

An individual who engages in sexual activity when the individual knows, or should know, that the other person is physically or mentally incapacitated has violated this policy. It is not an excuse that the respondent to a claim of sexual misconduct was intoxicated and, therefore, did not realize the other person's incapacity.

The following are types of prohibited sexual misconduct under this policy:

a. Sexual Harassment (defined above)

b. Non-Consensual Sexual Intercourse

Defined as any sexual penetration or intercourse (anal, oral, or vaginal) however slight with any object by a person upon another person that is without consent and/or by force.

Sexual penetration includes vaginal or anal penetration by a penis, tongue, finger, or object, or oral copulation by mouth-to-genital contact or genital-to-mouth contact.

c. Non-Consensual Sexual Contact

Defined as any intentional sexual touching however slight with any object by a person upon another person that is without consent and/or by force.

Sexual touching includes any bodily contact with the breasts, groin, genitals, mouth, or other bodily orifice of another individual or any other bodily contact in a sexual manner.

d. Sexual Exploitation

Defined as taking non-consensual or abusive sexual advantage of another; and the conduct does not fall within the definitions of sexual harassment, non-consensual sexual intercourse, or non-consensual sexual contact. Examples of sexual exploitation include, but are not limited to:

- sexual voyeurism (such as watching a person undressing, using the bathroom, or engaging in sexual acts without the consent of the person observed)
- taking photographs, video recording, or audio recording of another in a sexual act or in any other private activity without the consent of all persons involved in the activity
- exceeding the boundaries of consent (such as allowing another person to hide in a closet and observe sexual activity or disseminating sexual pictures without the photographed person's consent)
- engaging in sexual activity with another person while knowingly infected with human immunodeficiency virus (HIV) or other sexually transmitted disease (STD) without informing the other person of the infection
- administering alcohol or drugs (such as "date rape" drugs) to another person without the person's knowledge or consent

e. Relationship Violence

Defined as violence between those in an intimate relationship (this includes romantic, dating, or domestic relationships). Examples include, but are not limited to:

- physical assault between two people in a current or prior intimate relationship who do not live together (Dating Violence)
- physical assault between two people in an intimate relationship who live together (Domestic Violence)

f. Stalking

- Defined as a course of conduct directed at a specific person that is unwelcome and would cause a reasonable person to feel fear or suffer substantial emotional distress. Examples include, but are not limited to: sending multiple unwanted text messages, phone calls, or electronic communications
- following, watching, photographing, or otherwise tracking an individual without his or her permission
- sending unwelcome gifts, notes, or other items to another person

3. Retaliation

The College seeks to create an environment where its students and employees are free, without fear of reprisal, to use its procedures to determine if there has been a violation of their civil rights. Any act of retaliation will result in appropriate disciplinary action.

Retaliation is defined as any adverse action taken against a person participating in a protected activity because of their participation in that protected activity. Retaliation against an individual for alleging a violation of their civil rights, supporting a complainant, or for assisting in providing information relevant to a claim, is a serious violation of this policy. Acts of alleged retaliation should be reported immediately to the Title IX Officer or Deputy Coordinators.

4. Other Offenses

This policy prohibits other offenses of a discriminatory, harassing, and/or retaliatory nature not included in the previous sections as follows:

- Intimidation, defined under this policy as implied threats or acts that cause a reasonable fear of harm in another on the basis of actual or perceived membership in a protected class
- Hazing, defined under this policy as acts likely to cause physical or psychological harm or social ostracism to any person within the College community when related to the admission, initiation, joining, or any other group-affiliation activity on the basis of actual or perceived membership in a protected class.
- Bullying, defined under this policy as repeated and/or severe aggressive behavior likely to intimidate or intentionally hurt, control or diminish another person, physically or mentally on the basis of actual or perceived membership in a protected class.
- Violation of any other College rule, when it is motivated by sex or gender or the actual or perceived membership of the victim in a protected class, may be pursued using this policy and process.

II. Scope/Jurisdiction/Application

This policy applies to allegations of discrimination, harassment, and retaliation that take place on NCC property or at College-sponsored events, regardless of their location. This policy may also apply to allegations of discrimination, harassment, and retaliation that occur off-campus or to actions online when the Title IX Officer or Deputy Coordinator determines that the off-campus or online conduct could have an on-campus impact or impact on the educational mission of the College. Such impact includes:

- Any action that constitutes a criminal offense as defined by federal, state, or local law;
- Any situation where it appears that the respondent may present a danger or threat to the health or safety of self or others;
- Any situation that significantly impinges upon the rights, property, or achievements of others or significantly breaches the peace and/or causes social disorder; and/or
- Any situation that is detrimental to the educational interests of the College.

III. Reporting Responsibilities

All College employees who are aware of or witness discrimination, harassment, sexual misconduct, or retaliation are required to promptly report to the Title IX Officer or a Title IX Deputy Coordinator. Any student who is aware of or who witnesses discrimination, harassment, sexual misconduct, or retaliation is encouraged to promptly report to the Title IX Officer or a Title IX Deputy Coordinator. All initial contacts will be treated with the maximum possible privacy: specific information on any complaint received by any party will be reported to the Title IX Officer, but, subject to the College's obligation to investigate and redress violations, every reasonable effort will be made to maintain the privacy of those initiating a report of a complaint. In all cases, the College will give consideration to the complainant with respect to how the complaint is pursued but reserves the right, when necessary to protect the community, to investigate and pursue a

resolution when an alleged victim chooses not to initiate or participate in a formal complaint. Please note: This section addresses reporting obligations for members of our campus community who are made aware of potential violations of this policy. Methods for filing a complaint and the Complaint Resolution Process are detailed in Section IV. Additional resource-related information can be found in Section VIII.

1. Title IX Officer and Deputy Coordinators

Brett Last, Executive Director of Human Resources serves as the EEO Officer, ADA Coordinator and interim Title IX Coordinator for the College. Mr. Last is available to anyone seeking additional information or wishing to file a complaint. Mr. Last may be reached at 610.861.5460 or blast@northampton.edu. In addition, the following people have been designated to handle inquiries regarding these policies:

Title IX Interim Coordinator

Brett I. Last, Executive Director, Human Resources
BLast@northampton.edu
610.861.5460

Title IX Deputy Coordinator

Belinda A. Austin, Associate Dean, Student & College Services
Keystone 131 Monroe
BAustin@northampton.edu
570.369.1872

Title IX Deputy Coordinator

Janelle L. Howey, Director, Residence Life
College Center 200
JHowey@northampton.edu
610.861.5324

Title IX Deputy Coordinator

Amy Porter, Assistant Director, Housing & Residence Life
College Center 200
APorter@northampton.edu
610.332.6171

Title IX Deputy Coordinator

Brian J. Shegina, Associate Director, Human Resources
4th Floor, College Center
BShegina@northampton.edu
610.332.6394

2. Role of the Title IX Officer and Deputy Coordinators

The Title IX Officer and Deputy Coordinators are charged with coordinating the College response to reports of misconduct under this policy. The Title IX Officer and Deputy Coordinators do not serve as advocates for either the complainant or the respondent. The Title IX Officer or Deputy Coordinators will explain to both parties the informal and formal processes outlined below and the provisions for confidentiality. Where appropriate, the Title IX Officer or Deputy Coordinators will provide to both parties information on options for obtaining advocacy, medical and counseling services, and making criminal reports, and will assist with providing information on other resources. The Title IX Officer and Deputy Coordinators will coordinate with other campus officials to take appropriate interim actions such as no contact orders, academic accommodations, and rearrangement of housing and work assignments.

3. Police Reporting

In addition to required campus reporting, reports may also be made to the police and/or campus security, especially if a crime is or may be involved, by calling the following numbers:

- Emergency - 911
- Bethlehem Township Police (non-emergency number)- 610.759.2200
- Pocono Township Police (non-emergency number)- 570.629.7323
- Bethlehem City Police (non-emergency number)- 610.865.7187

- Campus Security
 - Bethlehem Campus (24hrs): 610.861.5588
 - Monroe Campus: 570.369.1911
 - Fowler: 484.390.3240

4. Federal Timely Warning Obligations

Victims of sexual misconduct should be aware that College administrators must issue crime alerts for incidents reported to them that represent a serious or continuing threat to students or employees. The College will withhold a victim's name and other identifying information while providing enough information for community members to make safety decisions in light of the potential danger.

IV. Complaint Resolution Process

The College will respond to any alleged violation of this policy received by the Title IX Officer or Deputy Coordinators. This section outlines ways in which offenses can be reported by individuals choosing to pursue complaint options. Additional resource-related information can be found in Section VIII.

1. Confidentiality and Reporting of Offenses

Northampton Community College will make every effort to safeguard the identities of individuals who seek help and/or report discrimination, harassment, and/or retaliation. While steps are taken to protect the privacy of victims, College's ability to respond may be limited in the event of a request for confidentiality. The College may need to investigate an incident and take action once an allegation is known, whether or not the reporting individual chooses to pursue a complaint.

When a report is made, personally identifiable information (name of victim, name of respondent, etc.) may be initially withheld in cases where the victim is hesitant to come forward. Subsequently, campus officials may need additional information. The College Title IX Officer or Deputy Coordinator will conduct an initial inquiry, looking for any sign of pattern, predation, violence, or threat. When such exists, institutional action may be required in an effort to ensure campus safety.

No employee should ever promise absolute confidentiality except those as described below in Section IV.A.2. Reports may be private, but not confidential, as described below in Section IV.A.3. Reports to police and/or Title IX officials do not obligate the complainant to file any criminal or College conduct charges.

The College will not pursue disciplinary action for improper use of alcohol or other drugs against an alleged victim of sexual misconduct or against another student who shares information as either a witness to or as a reporter of sexual misconduct as long as the report is made in good faith. See "Good Samaritan Provision," Appendix 4 (p. 47)

Deliberately false and/or malicious accusations of discrimination, harassment, or retaliation, as opposed to complaints which, even if erroneous, are made in good faith, are just as serious an offense as discrimination, harassment, or retaliation and will be subject to appropriate disciplinary action.

Complaints and reports should be made as soon as possible after an incident.

If the incident is an assault:

Report the incident:

- Local Police - Emergency - 911
- Bethlehem Township Police (non-emergency number)- 610.759.2200
- Pocono Township Police (non-emergency number)- 570.629.7323
- Bethlehem City Police (non-emergency number)- 610.865.7187
- Campus Security
 - Bethlehem Campus (24hrs): 610.861.5588
 - Monroe Campus: 570.369.1911
 - Fowler: 484.390.3240

Seek immediate **medical attention**. Do not change clothing, shower, bathe, brush teeth or douche. Delay the above and going to the bathroom (if possible) until you are examined as this preserves evidence of the assault. Medical attention should be accessed at a local hospital.

- Easton Hospital: 610.250.4000
- Muhlenberg Hospital/LVH: 610.861.2200
- St. Luke's Hospital: 610.954.4000
- Pocono Medical Center: 570.476.3351

Seek **emotional support**. It is important that you talk about this issue and that you tell someone you trust.

On-campus you may contact:

- Counseling staff 610.861.5342
- Health and Wellness Center staff - 610.861.5365
- Residence Life staff - 610.861.5324 or 610.861.4115

Off-campus you may contact:

- Crime Victims Council/Sexual Assault 24-hour hotline (Bethlehem)– 610.437.6611
- Women's Resources Hotline (Monroe)– 570.421.4200
- North Penn Legal Services - 610.317.5317

Options for filing a report include:

1. **Anonymous and Third Party Reporting**

The Title IX Officer and Deputy Coordinators accept anonymous and third-party reports of conduct alleged to violate this policy and will follow up on such reports. The individual making the report is encouraged to provide as much detailed information as possible to allow the Title IX Officer or Deputy Coordinators to investigate and respond as appropriate. The College may be limited in its ability to investigate an anonymous or third party report unless sufficient information is provided. (See www.northampton.edu/reportit)

2. **Confidential Reporting**

If a reporting party would like the details of an incident to be kept confidential, the reporting party may speak with counselors, health service providers, victim services advocates, domestic violence resources, local or state assistance agencies, or members of the clergy who are permitted by law to maintain confidentiality (except in extreme cases of immediacy of threat or danger or abuse of a minor). These sources may submit anonymous statistical information for timely warning and Clery Act purposes. If a reporting party is unsure of a resource's ability to maintain confidentiality, the reporting party is advised to ask them before talking to them. **NCC counselors** for students and/or the **Employee Assistance Program** for employees are available to help free of charge and can be seen on an emergency basis.

3. **Private Reporting**

Reports to College employees who are not confidential resources listed above in **Section IV.A.2.** should be treated with the maximum possible privacy. If a reporting party is unsure of a resource's ability to maintain privacy, the reporting party is advised to ask them before talking to them. The resource will be able to explain the resource's reporting obligations and help a reporting party make decisions about who is in the best position to help. If personally identifiable information is shared, it will be shared with as few people as possible under the circumstances and efforts will be made to protect privacy to the greatest extent reasonably possible.

4. **Formal Reporting**

Complainants are encouraged to speak to College officials, such as the Title IX Officer or Deputy Coordinators or NCC Security, to make formal reports. Complainants have the right, and can expect, to have complaints taken seriously by the College when formally reported and to have those incidents investigated and properly resolved through these procedures. Formal reporting still affords privacy to the reporter and only a small group of officials who need to know will be told. Information will be shared as necessary with investigator(s), witnesses, the respondent, and a hearing board if deemed appropriate. The number of people with this knowledge will be kept as few as reasonably possible to preserve a complainant's rights and privacy.

5. **Criminal Reporting**

If someone is in immediate danger or is a victim of a crime, call 9-1-1. Some acts of discrimination and harassment may also be crimes, such as sexual assault or stalking. Allegations of criminal conduct should be reported to law enforcement even when it is not clear whether the conduct rises to the level of a crime. Regardless, law enforcement can assist with obtaining medical care, getting immediate law enforcement response and protection, connecting with victim advocate services and counseling support, initiating a criminal investigation as appropriate and answering questions about the criminal process.

2. **Informal Resolution Process**

Informal resolution is an alternative to the formal complaint resolution process. The Title IX Officer will determine if informal resolution is appropriate, based on the willingness of the parties and the nature of the alleged conduct. Sanctions are generally not pursued as the result of an informal resolution process, though the parties may agree to appropriate remedies. The Title IX Officer will keep records of any resolution that is reached. The College reserves the right to cancel informal resolution if sufficient evidence suggests a formal investigation or other sanctions or remedies may be necessary and appropriate.

It is not necessary to pursue informal resolution first in order to make a formal complaint, and anyone participating in informal resolution can stop that process at any time and request to continue through the formal process. Except in cases involving criminal activity and/or sexual assault, an employee or student alleging discrimination, harassment and/or retaliation against an employee under this policy is encouraged to consider an informal resolution. If it is appropriate, an attempt to facilitate an informal resolution of the matter will be made. In the event that an informal

resolution is not reached, is not appropriate, or is not pursued, the student or employee who is alleging the discrimination, harassment, or retaliation may initiate a formal investigation.

3. Formal Resolution Process

1. Filing a Complaint

Any individual who believes that this policy has been violated should contact the Title IX Officer or any Title IX Deputy Coordinator.

a. Complaint Intake

Following receipt of notice or a complaint, the Title IX Officer or Deputy Coordinator will normally, within five college days, make an initial determination as to whether the information has merit to reasonably indicate there may have been a violation of College policy. If it appears a violation may have occurred, an investigation will begin. If the complaint does not appear to allege a policy violation or if conflict resolution is desired by the complainant and appears appropriate given the nature of the alleged behavior, then the complaint does not proceed to investigation. An investigation will be pursued if there is sufficient information to suggest a policy violation, a pattern of misconduct, and/or a perceived threat of further harm to the community or any of its members may exist.

b. Interim Action

The College will implement interim and/or protective actions upon notice of alleged discrimination, harassment, and/or retaliation and will take additional prompt remedial and/or disciplinary action with respect to any member of the community, guest, or visitor who has violated this policy.

Interim actions include but are not limited to: no contact orders, no trespass notices, providing counseling and/or medical services, academic support, living arrangement adjustments, providing a campus escort, academic or work schedule and assignment accommodations, safety planning, and referral to campus and community resources.

The College may suspend, on an interim basis, a student or student organization or place an employee on administrative leave pending the completion of the investigation and procedures. In cases in which an interim suspension or administrative leave is imposed, the student, employee, or student organization will be given the opportunity to meet with an appropriate administrator prior to such action being imposed, or as soon thereafter as reasonably possible, to show cause why the action should not be implemented. Violation of interim provisions will be grounds for disciplinary action.

During an interim suspension or administrative leave, a student or employee may be denied access to College housing and/or the College campus, facilities, or events, either entirely or with specific application. As determined by the appropriate administrative officer, this restriction includes classes and/or all other College activities or privileges for which the individual might otherwise be eligible. At the discretion of the appropriate administrative officer, alternative coursework options may be pursued to ensure as minimal an impact as possible on the respondent student. At the discretion of the appropriate administrative officer, alternative employment/work options may be pursued to ensure as minimal an impact as possible on the respondent employee.

2. Notice of Charges

Once an investigator has been assigned, written notice of the allegations will be provided to the parties involved. If the respondent is an employee, the written notice will be copied to the employee's department head/director, dean, vice president, and president.

3. Investigation

If a complainant wishes to pursue a formal complaint or if the College determines an investigation is necessary, the Title IX Officer will assign an investigator, usually within five college days of determining that a complaint should proceed. Investigations will be thorough and impartial and will entail interviews with relevant parties and witnesses, and obtaining available evidence. Conflict of interest (real or perceived) by the investigator will not be allowed. The College aims to complete investigations within 60 days, which can be extended as necessary for appropriate cause by the Title IX Officer with notice to the parties. Investigation may take longer when initial complaints fail to provide direct first-hand information. The College may undertake a short delay (usually 3-10 days, to allow evidence collection) when criminal charges are being investigated. Complainants will be informed, at regular intervals, of the status of the investigation. College action will continue regardless of the status of civil or criminal charges involving the same incident. A complainant may proceed with both a criminal charge and a request for a College resolution simultaneously.

a. Student Withdrawal While Charges Pending

Should a responding student decide to withdraw from the College and/or not participate in the investigation and/or hearing, the process will nonetheless proceed in the student's absence to a reasonable resolution and that student will not be permitted to return to the College unless any and all sanctions have been satisfied. The Title IX Officer will continue to act to promptly and effectively remedy the effects of the conduct upon the victim and the community.

b. Employee Resignation While Charges Pending

Should a responding employee resign while charges are pending, the records of the Title IX Officer will reflect that status, as will College responses to any future inquiries regarding employment references for that individual. Should

an employee decide to leave and not participate in the investigation and/or hearing, the process will nonetheless proceed in the employee's absence to a reasonable resolution and that employee will not be permitted to return to the College unless any and all sanctions have been satisfied. The Title IX Officer will continue to act to promptly and effectively remedy the effects of the conduct upon the victim and the community.

4. Investigation Findings

a. For Students

Upon receipt of the investigative report, the Title IX Officer will forward it to the Vice President for Enrollment and Student Services or designee for an appropriate hearing per the Student Code of Conduct procedures. During a hearing:

- Both the complainant and the respondent will receive equivalent notice of the process.
- The complainant will have the opportunity to be present throughout the entire Hearing.
- The complainant will be entitled to the same opportunity to have others present during a Hearing as is provided to the respondent, including residence hall staff and/or a College Support Person;
- Both the complainant and the respondent will have the opportunity to present witnesses with information pertinent to the alleged sexual harassment, sexual misconduct or sexual assault, and any relevant information to the Hearing panel during the conduct process;
- The complainant will be provided options for reasonable alternative arrangements if he or she does not want to be present in the same room as the respondent during the Hearing;
- Testimony regarding any party's past sexual conduct will ordinarily not be permitted, except in those instances where there was a prior sexual relationship between the parties and the testimony may be relevant to the issue of consent. If the respondent is found responsible for the conduct alleged in the complaint, his or her past sexual misconduct, if any, may be considered in determining the appropriate outcome.
- The College will document the proceedings.

Following the hearing, the decision of whether a policy violation has occurred will be determined by using a preponderance of the evidence standard. A finding of a policy violation by a preponderance of the evidence means that it is more likely than not that the policy violation occurred. If, following the hearing, the decision is that no policy violation has occurred the process will end. Regardless of the outcome, the complainant, the respondent, and the Title IX Officer will be notified of the finding in writing.

If, following a hearing, the student is found to have violated College policy, appropriate disciplinary sanctions will be determined after consultation with the Title IX Officer. The Vice President for Enrollment and Student Affairs (or designee) will notify the respondent, the complainant, and the Title IX Officer in writing of the Vice President's decision. This written decision must be issued within fifteen college days of the date of receipt of the investigative report from the Title IX Officer.

b. For Employees

Investigations will be thorough and impartial and will entail interviews with relevant parties and witnesses, and obtaining available evidence. Both the complainant and the respondent will have the opportunity to present witnesses with information pertinent to the alleged sexual harassment, sexual misconduct or sexual assault, and any relevant information. The investigator will document the proceedings.

Upon receipt of the investigative report, the Title IX Officer will determine if this policy has been violated by using a preponderance of the evidence standard. A finding of a policy violation by a preponderance of the evidence means that it is more likely than not that the policy violation occurred. If the Title IX Officer decides that no policy violation has occurred, then the process will end. Regardless of the outcome, the complainant and the respondent will be notified of the finding in writing. The respondent's department head/director, Dean, Vice President, and the President will also be notified of the finding.

In the event that the employee violated College policy, the Vice President of the respondent will determine appropriate disciplinary sanctions based on the recommendation from the Title IX Officer. Regardless of the outcome, the complainant, the respondent, and the Title IX Officer will be notified in writing of the outcome within twenty college days of the date of the notice from the Title IX Officer. If the Vice President serves as a party or witness in the investigation, the Title IX Officer's recommendation will be sent to the President for determination of disciplinary sanctions.

5. Sanctions

Sanctions will be recommended by the Title IX Officer and forwarded to the decision-making authority as noted above in **Section IV.C.4**. Factors considered when determining a sanction may include:

- The nature of, severity of, and circumstances surrounding the violation
- The respondent's disciplinary history
- Previously founded complaints or allegations against the respondent involving similar conduct
- Any other information deemed relevant by the Title IX Officer
- The need to bring an end to the discrimination, harassment, and/or retaliation
- The need to prevent the future recurrence of discrimination, harassment, and/or retaliation
- The need to remedy the effects of the discrimination, harassment, and/or retaliation on the victim and the

community

i. **Student Sanctions**

For examples of the range of potential disciplinary sanctions against students, see the section of the Student Handbook entitled Disciplinary Actions.

ii. **Employee Sanctions**

Sanctions for an employee who has violated this policy may include, but are not limited to, verbal or written warning, required counseling, training, demotion, reassignment, suspension, and termination.

6. Appeals

Appeals of the decision of the Vice President for Enrollment and Student Affairs (for students) or the Vice President/President (for employees) may be filed by the complainant, the respondent or both. All requests for appeal considerations must be submitted in writing to the Title IX Officer within five college days of the date of the final written notice.

Appeals are limited to allegations of the following:

- A procedural error or omission occurred that significantly impacted the outcome.
- There is new evidence, unknown or unavailable during the investigation, that could substantially impact the finding or sanction. A summary of this new evidence and its potential impact upon the investigation must be included in the appeal.
- The sanctions imposed are substantially disproportionate to the severity of the violation.

The original finding and sanction/responsive actions will stand if the appeal is not timely or is not based on the grounds listed above, and such a finding and sanction/responsive action(s) are final. When a party requests an appeal, the other party (parties) will be notified and given an opportunity to respond.

For students: In cases involving student conduct, a person designated by the Vice President for Enrollment and Student Affairs will review the appeal request(s).

For employees: In cases involving employee conduct, a person designated by the President will review the appeal request(s).

Where the designee finds that at least one of the grounds is met, and proceeds with the appeal, additional principles governing the hearing of appeals include the following:

- The original decision will only be changed when there is a compelling justification to do so.
- Appeals are not intended to be full re-hearings of the complaint. Appeals are confined to a review of the written documentation or record of the original hearing and pertinent documentation regarding the grounds for appeal.
- Sanctions will not be imposed pending the outcome of the appeal. Interim and/or protective actions may be imposed and/or continued as appropriate.
- The designee will render a decision within ten college days to the Title IX Officer who will normally provide written notice of the appeal to all parties within three college days from the date of the appeal review.
- All parties will be informed of whether the grounds for an appeal are accepted and the results of the appeal decision.
- Once an appeal is decided, the outcome is final: further appeals are not permitted under this policy.

7. Failure to Complete Sanctions

All respondents are expected to comply with conduct sanctions within the time frame specified in their written notice. Failure to follow through on conduct sanctions by the date specified, whether by refusal, neglect, or any other reason, may result in additional sanctions and/or suspension, expulsion, and/or termination from the College. For students, failure to comply may result in transcript notation and/or a hold to prevent future registration.

V. Remedial Actions

In addition to the interim actions outlined in **Section IV.C.1.b**, the Title IX Officer (or designee) may provide remedial actions intended to address the short or long-term effects of harassment, discrimination, and/or retaliation. That is, remedial actions may be taken at the conclusion of the process in addition to any actions that may have been taken on an interim basis, in order to redress harm to the complainant and the community and to prevent further harassment or violations. Remedial actions may also be used when, in the judgment of the Title IX Officer (or designee), the safety or well-being of any member(s) of the campus community may be jeopardized by the presence on campus of the respondent or the ongoing activity of a student organization whose behavior is in question.

These remedies may include referral to counseling and health services or to the Employee Assistance Program, altering the housing situation of a respondent student, (or the alleged complainant, if desired), altering work arrangements, providing campus escorts, implementing contact limitations between the parties, or offering adjustments to academic deadlines and/or course schedules.

VI. Statement of Rights for Complainants and Respondents

Both complainants and respondents will be afforded the following rights under this policy:

- To be treated with respect by College officials
- To take advantage of campus support resources (such as Counseling Services and College Health Services for students, or EAP services for employees)
- To experience a safe educational and work environment
- To have an advisor (students) or representative (employees) during this process
- To refuse to have an allegation resolved through informal procedures
- To be free from retaliation
- To have complaints heard in substantial accordance with these procedures
- To reasonable and necessary participation in the process

VII. Records

In implementing this policy, records of all complaints, resolutions, and hearings will be kept by the Title IX Officer indefinitely.

Appendix

Good Samaritan

The welfare of students in our community is of paramount importance. At times, students on and off-campus may need assistance. The College encourages students to offer help and assistance to others in need. Sometimes, students are hesitant to offer assistance to others, for fear that they may get themselves in trouble (for example, as student who has been drinking underage might hesitate to help take a victim of sexual misconduct to the Campus security). The College pursues a policy of limited immunity for students who offer help to others in need. While policy violations cannot be overlooked, the College will provide educational options, rather than punishment, to those who offer their assistance to others in need.

Risk Reduction Tips

Risk reduction tips can often take a victim-blaming tone, even unintentionally. With no intention to victim-blame, and with recognition that only those who commit sexual violence are responsible for those actions, these suggestions may nevertheless help you to reduce your risk experiencing a non-consensual sexual act. Below, suggestions to avoid committing a non-consensual sexual act are also offered:

- Know your sexual intentions and limits. You have the right to say "NO" to any unwanted sexual contact. If you are uncertain of what you want, ask your partner to respect your feelings.
- Communicate your limits firmly and directly. If you say "No," say it like you mean it. Avoid giving mixed messages. Back up your words with a firm voice and clear body language. Do not assume that someone will automatically know how you feel or will eventually "get the message" without you having to say anything.
- Remember that some people think that drinking, dressing provocatively, or going to your or your date's room is saying you are willing to have sex. Be clear up front about your limits in such situations.
- Listen to your gut feelings. If you feel uncomfortable or think you might be at risk, leave the situation immediately and go to a safe place.
- Don't be afraid to "make waves" if you feel threatened. If you feel you are being pressured or coerced into sexual activity, don't hesitate to state your feelings and leave the situation.
- Attend large parties with friends you trust. Agree to "look out" for one another. Leave with the group, not alone. Avoid leaving with people that you don't know very well.
- Take care of your friends and ask that they take care of you. A real friend will challenge you if you are about to make a mistake. Respect them when they do.

If you find yourself in the position of being the initiator of sexual behavior, you owe sexual respect to your potential partner. These suggestions may help you to reduce your risk for being accused of sexual misconduct:

- Clearly communicate your intentions to your sexual partner and give them a chance to clearly relate their intentions to you.
- Understand and respect personal boundaries.
- DON'T MAKE ASSUMPTIONS about consent; about someone's sexual availability; about whether they are attracted to you; about how far you can go or about whether they are physically and/or mentally able to consent. If there are any questions or ambiguity then you DO NOT have consent.
- Mixed messages from your partner are a clear indication that you should stop, defuse any sexual tension and communicate better. You may be misreading them. They may not have figured out how far they want to go with you yet. You must respect the timeline for sexual behaviors with which they are comfortable.
- Don't take advantage of someone's drunkenness or drugged state, even if they did it to themselves.
- Realize that your potential partner could be intimidated by you, or fearful. You may have a power advantage simply because of your gender or size. Don't abuse that power.

- Understand that consent to some form of sexual behavior does not automatically imply consent to any other forms of sexual behavior.
- Silence and passivity cannot be interpreted as an indication of consent. Read your potential partner carefully, paying attention to verbal and non-verbal communication and body language.

Sexual Offense Educational Programming

Because Northampton Community College recognizes sex discrimination in all its forms as important issues, the College offers annual educational programming to a variety of groups such as: staff, security, Residence Life, Faculty, incoming students, resident and off-campus students and, members of student organizations. Visit www.Notalone.gov for more information and resources on avoiding and preventing sexual assault.

Sex Discrimination educational programming may address matters such as: a definition of what constitutes sex discrimination, the causes of sex discrimination, myths involved with sex discrimination, prevention, the relationship between sex discrimination and alcohol use, what to do if you are assaulted, the nature of a rape examination, an explanation of the College sex discrimination policy, how to file charges within the College, its conduct system, and/or with the local police department, men's issues and sexual assault, and campus community resources to assist both the survivor and the accused.

Federal Enforcer

The U.S. Department of Education, Office for Civil Rights (OCR) is the federal agency charged with enforcing compliance with Title IX. Individuals with complaints of this nature always have the right to file a formal complaint with the United States Department Education:

Office for Civil Rights (OCR)

400 Maryland Avenue, SW
Washington, DC 20202-1100

Customer Service Hotline #: 800.421.3481

Facsimile: 202.453.6012

TDD#: 877.521.2172

Email: OCR@ed.gov

Web: <http://www.ed.gov/ocr>

Establishment and Approval of Special Studies Courses

Policy and Procedure for Special Studies Courses

- Special Studies courses may be established for 1, 2, 3 or 4 credits and will have a course designation of 19X or 29X.
- The courses are entitled "Special Studies in (Departmental Name)". On the schedule and the transcript, the name of the specific topic would be included after the course title, e.g. Special Studies in Economics - Econometrics.
- Students may not apply more than 12 credit hours of Special Studies toward a degree. Special Studies topics which are later approved as separate courses in substantially the same form shall not be counted toward this limit.
- A Special Studies course may be offered once, or upon the approval of the dean, twice. A Special Studies course may not compete with an existing college course or another Special Studies course.
- In departments that do not already have Special Studies courses, the provision for such courses may be established within each department by means of a Curriculum Committee proposal submitted through normal channels.
- To propose a specific Special Studies course, follow the procedures listed below: **The steps must be completed before the publication deadline for the schedule for the semester in which the course is to be offered.**
 - A faculty member wishing to offer a Special Studies course must submit a completed course outline to the dean of the division.
 - After approval by the dean, the course outline is considered by the appropriate cluster.
 - The Cluster will decide the appropriateness of the offering and recommend to the Dean the semester of offering.
 - The recommendations of the cluster are forwarded by the division dean to the curriculum committee for approval.

Final Examinations

Final Examination Policy

All courses will end with some "culminating experience," a final examination, project-based assessment or portfolio that integrates the learning of the whole semester. Each course will be assigned a time during the final exam period, at which time a final exam may be given.

Final papers and projects may be due on the "Project due date" on the first day of finals. Performance-, production-, and critique-based "culminating experiences," which may run the course of days or several weeks, may begin before the final

exam period.

No tests of any kind, except for short (less than 15 minutes) quizzes or science lab practicals, may be given during the last week of instruction.

Culminating Experiences other than seated final exams

Final papers and projects may be due on the "Project due date" on the first day of finals. Performance-, production-, and critique-based "culminating experiences," which may run the course of days or several weeks, may begin before the final exam period.

[View Final Exam Schedule](#)

Grading/Grade Changes/Grade Appeal

Grading System

A plus/minus grading system is used at the College. Using the plus/minus system is an option for faculty, not a requirement.

Grades will be available online at MyNCC at the end of each regular semester. At the end of the seventh week of classes, faculty will submit to the Records Office the names of all students whose performance in a particular course to date puts them at risk of failing the course. The Records Office will communicate this information to those students by the end of the eighth week of the semester. (See Grading chart on Following page)

Grade	Evaluation	Points/Credit Hour
A	Superior	4.0
A-		3.7
B+		3.3
B	Above Average	3.0
B-		2.7
C+		2.3
C	Average	2.0
C-		1.7
D+		1.3
D	Below Average	1.0
F	Fail	0.0
P	Pass	
I ¹	Incomplete	
N	Not released	
R	Released	
X	No grade submitted	
IP	In progress	
L	Audited	
T	Transfer Credits	
Z	Successful completion of course challenge process	
AZ ⁴	Successful completion of course challenge process	4.0
BZ ⁴	Successful completion of course challenge process	3.0
CZ ⁴	Successful completion of course challenge process	2.0
TZ	Credits accepted through articulation agreement	
W ²	Withdrawal	
WP ³	Withdrawal, Passing	
WF ³	Withdrawal, Failing	
Grade*	Course repeated - this grade IS NOT included in GPA	
Grade**	Course repeated - this grade IS included in GPA	

1. An incomplete grade (I) is given only when the student had obtained, in advance, the permission of the instructor to postpone completion of specific course work for a valid reason. (Refer to Incomplete policy (p. 52).)
2. A student may withdraw, or be withdraw administratively, from a class in which he or she is enrolled through the 90% point in the instructional period.
3. Through summer 2007, students who withdrew from a course through the first 2/3 of the instructional period received a grade of W. After that point, and through the end of the semester, student received a grade of WP or WF. The grade of WF counted as a grade of F in the student's grade point average.
4. Grade value for completion of developmental math modular units awarded through course challenge process; beginning Fall 2014.

Grade Changes

Any grade changes by a faculty member must be made within five months of the end of the semester in which the original grade was issued. Withdrawal from a course is a final action. No change to the final grade is permitted in the case

of a Withdrawal.

Grade Appeal

Grades are assigned by the course instructor. Students may appeal a final grade only in the cases where they are alleging a serious computational error in the grade or in cases where they allege unfair treatment in the application of a course policy or procedure.

When a student wishes to appeal a grade, final or part of a semester's work, he or she must follow the appeal procedures for grades, and those involved in the appeal may recommend only the following actions:

- The assigned grade may be supported.
- The faculty member may be asked to reconsider the grade in question.

Appeal procedure-grades

Step 1

- If a student wishes to appeal a grade, he or she must make an appointment and meet with the faculty member within ten working days. To appeal final grades or grades assigned in the last week of the semester, the student must make an appointment and meet with the faculty member at a formal meeting during the first week of the next regular semester unless arrangements can be made to meet prior to that time.
- If no agreement can be reached, the student may file an appeal in the Office of the Vice President for Academic Affairs and proceed to Step 2.

Note: working day is defined as any day when a full schedule of classes are in session (this excludes Saturdays and Sundays).

Step 2

- Within three working days of the meeting with the faculty member, the student may request in writing that the appropriate dean should call the meeting within five working days to include the student, faculty member, and program director, if any.
- After this meeting, the dean will send all parties involved a written recommendation within three working days.
- Students who do not agree with the recommendation in Step 2 may appeal to the Academic Appeals Committee within three working days. This appeal must be submitted, in writing, to the Vice President for Academic Affairs.

Step 3

- Students initiate appeals to the Academic Appeals Committee (within three days of notification of outcome of Step 2) by requesting a hearing through the Office of the Vice President for Academic Affairs. A hearing will be scheduled as quickly as possible, and all parties to the appeal will be informed of the date, time, and place of the meeting. It is the responsibility of the student and the person(s) whose decision(s) is (are) being appealed to provide the committee with evidence, documentary or otherwise. The appellant may be accompanied by a college friend.
- Having heard the cases of appellant and objects of appeal, the committee will deliberate in private and recommend a decision to the Vice President for Academic Affairs, whose decision will be final unless different from the recommendation of the committee; in such cases the student may appeal to the President, whose decision is final.
- The Vice President for Academic Affairs will communicate in writing a decision on the appeal no later than three working days after the hearing.

Graduation

Eligibility

To be eligible for graduation, a student must meet the minimum number of credits for a degree, certificate, or specialized diploma and must earn a graduation GPA of 2.00 (only courses for the credential are calculated in the graduation GPA). Developmental coursework does not count toward graduation requirements. These specific requirements cannot be waived.

Waiver of Graduation Requirements Policy and Procedure

Substitution or Waiver of Graduation Requirements

A student may request to alter graduation requirements by substituting a course or other earned credit (earned by completed NCC course or awarded per the Transfer Policy or Advanced Placement Policy) for a specified program/major requirement, General Education Elective, or Free Elective, or by requesting to follow program requirements as published in a different catalog year. A student may request to waive the Writing-Intensive requirement by presenting a graded

writing sample that demonstrates mastery of writing competencies. To make this request, the student must complete and submit to the Records Office the 'Graduation Substitution/Waiver Request' form along with appropriate justification and supporting documentation. The Records Office will facilitate review by program faculty and academic dean(s). If reviewing parties do not reach a consensus decision, then the request will be referred to the Vice President for Academic Affairs.

Waiver of Graduation Requirements Procedure

To petition to waive graduation requirements, a student must complete the Graduation Waiver request form which can be obtained in the Records Office, Monroe Enrollment Office or online at www.northampton.edu/register. The completed form must be submitted to the Records Office. It will be reviewed by the program dean, the instructor, and the dean responsible for the course(s) for which waiver is sought. If the reviewing parties do not reach a consensus decision, then the request will be referred by the Records Office to the Academic Appeals Committee for disposition. That body will recommend approval or disapproval of the petition. Decision of the Academic Appeals Committee will be final. Student will be notified by Records of final decision.

Honors at Graduation

See Academic Recognition

Incomplete Policy

An incomplete grade of I is issued after a student requests it and a faculty member agrees to allow completion of specific course work the student did not complete due to valid, unforeseen circumstances. These circumstances may include: serious illness of the student, serious illness or death in the student's immediate family, etc. The request must be made for the Incomplete grade before the last class meeting of the semester. The faculty member may approve or deny the request. If the request is approved, the faculty member will outline, on the Assignment of Incomplete Grade form, the work the student must complete. The faculty member will send the Assignment of Incomplete Grade form to the Records Office who will then communicate with the student.

The deadline for completing the course requirements is no more than five months - or sooner as designated by the faculty member - after the date grades were due in the semester in which the I grade was issued. The faculty member will designate that the incomplete grade become a specific letter grade if the work is not completed. This grade may not be a withdrawal (W). An Incomplete grade in a prerequisite course may make a student ineligible to take the subsequent course.

Placement Policy

For detailed information, see Placement Policy (p. **Error! Bookmark not defined.**).

Prerequisite/Co-Requisite Policy

A prerequisite is a skill requirement or a course that must be successfully completed before registering for a specific course. (For example: ENGL101 English I is a prerequisite and must be taken before registering for ENGL151 English II).

A corequisite is a skill requirement or course that must be satisfied at the same time as a specific course. (For example: DENH103 Pre-clinical Preventative Oral Health Service and DENH104 Foundations of Preventative Oral Health Services are corequisites and must be taken in the same semester).

A pre- or corequisite is a skill requirement or course that may be successfully completed before registering for a specific course or may be taken at the same time as a specific course. (For example: PARL101 Introduction to Paralegal Studies is a pre- or corequisite for PARL151 Family Law).

Students should consult the course description when choosing courses to ensure that all prerequisite and corequisite requirements are fulfilled.

Students are required to fulfill the prerequisites and/or corequisites for each course. If a student enrolls in a course without having fulfilled the prerequisites and/or corequisites, the instructor or the Registrar may take action to remove the student from the course. Exceptions to pre and corequisites are rare and addressed on a case by case basis by the

instructor of the course, or the dean in the absence of the instructor.

Course Numbering System

4.03.6 Course Numbering

Course numbers at Northampton Community College designate the level of appropriate expectations and the academic rigor of each course. All course numbers, both credit and non-credit, are assigned by the Registrar. It is the responsibility of the appropriate Division to identify the level of the course (i.e. 100, 200).

Courses below 100 (OXX) Level

1. Courses numbered below 100 (OXX) are designed to allow students to develop academic skills and prepare them for work in college level courses (for example MATH 022 Elementary Algebra, ACLS 050 Introduction to Academic Literacy).
2. While courses below 100 each carry credit for determining student class load and for financial aid, those credits may not be applied to any degree, certificate, or diploma granted by the College.

100 (1XX) Level Courses

1. Courses at the 100 level prepare students for academic success by developing foundational knowledge and skills.
2. Students typically take 100 level courses in the first year of their program.
3. Most 100 level courses require a high school-level background or equivalent for the student to receive maximum benefit and have a reasonable chance of succeeding in the course.
4. 100 level courses will have no more than one semester of prerequisites (excluding OXX courses).

200 (2XX) Level Courses

1. Courses at the 200 level typically build upon the skills and concepts presented in the 100 level courses. 200 level courses include increased complexity and opportunities to develop advanced skills.
2. Students typically take 200 level courses in the second year of their program.
3. Most 200 level courses require a foundational background in the discipline and/or related skill areas in order to receive maximum benefit and have a reasonable chance of succeeding in the course.
4. 200 level courses may have more than one semester of prerequisites (excluding OXX courses).

Repeated Courses

The College allows a student to repeat any course once for any reason*. This is subject to availability in limited enrollment courses (see special policy for readmission, reentry into limited enrollment courses).

A student, who fails to earn credit or to satisfy a grade prerequisite after enrolling in a course for the second time may not take the course for one academic year after the last attempt.

Grades for all repeated courses will appear on the student transcript. The credit hours for the course may be counted only once unless the course description states otherwise. Only the highest grade earned will be used in calculation of the cumulative grade point average.

Appeals to this policy may be made to the Director of Advising & Transfer Services who, in consultation with the appropriate faculty, will make a decision. Further appeals can be made to the Vice President for Academic Affairs and that decision shall be final.

*Except for Allied Health Students (refer to Academic Dismissal from Allied Health Programs Policy)

Re-Admission, Re-Entry into Limited Enrollment Courses

Any student who does not successfully complete a major course* in a program which has limited enrollment may retake that course only if space is available. Priority will be given to students entering the program for the first time and to those students who have successfully completed the core courses and have maintained continuous enrollment.

* A major course is a course which carries the prefix of the student's program.

Withdrawals

Schedule Change/Withdrawal

A change of class from one class section to another is accomplished only with approval of the Records Office. Failure to seek official approval may result in the recording of an "F" grade.

No courses may be added to a class schedule after the first week of a semester or equivalent time in short-term classes. Students may withdraw from classes in which they are enrolled through the 90% point of the semester (the end of the 14th week in a 15 week semester, or equivalent in courses that run on a non-standard schedule) and an instructor may issue a withdrawal for poor attendance through the same period. Any student who officially withdraws, or is withdrawn by the instructor during this period will receive a grade of W for the course.

Academic Dismissal from Allied Health Programs

(Nursing, Dental Hygiene, Medical Assistant, Radiography, Diagnostic Medical Sonography, Funeral Service, Licensed Massage Therapy, and Veterinary Technician)

Any student who does not successfully complete* two (2) courses (either two different courses or the same course twice), that carry the prefix of the student's Allied Health program, regardless of when in the program curriculum the unsuccessful attempt occurs, will be dismissed from his/her Allied Health program. An unsuccessful course completion for the purposes of this policy is defined as a final course grade of an "F," or "W".

Student Right to Know and Campus Security Act

Graduation rates, transfer out rates, and campus crime data required by the Student Right to Know and Campus Security Act are available upon request from the Records Office, 610.861.5494, the Office of the Vice President for Student Affairs, 610.861.4558, or Campus Security. 2014 Annual Crime Report (PDF)

Student Rights and Responsibilities

A student has the right to pursue an education in an environment that is conducive to the free flow of information and ideas. At Northampton Community College, a student is encouraged to express him or herself through speech and actions and to actively participate in decisions affecting the educational process of the College. With rights come responsibilities. A student has the responsibility to realize that his or her actions must not interfere with the College's function as an educational institution and with the rights of others. The current student handbook contains the full student's rights and responsibilities document.

Policy on Student Professional Conduct

Documented evidence of a student's failure to conduct herself/himself in accordance with professional codes of conduct (i.e. Departmental and Host Facilities Code of Ethics, Policies on Clinical Procedures, Departmental Policies and Procedures, etc.) could result in serious academic penalties, up to and including failure in the course or dismissal from the academic program. If a student wishes to appeal any action taken under this policy, he/she should follow the procedures for appeal of grades.

Transfer Recommendation Policy

To receive an unconditional recommendation for transfer from the Office of the Vice President for Student Affairs, a student must have a cumulative grade point average of 2.00 and no prior disciplinary record at NCC. Students who do not satisfy the two aforementioned requirements may receive a conditional transfer recommendation.

Policies Found in Student Handbook

Visit www.northampton.edu/StudentHandbook

Required Student Medical Examinations Policy, Student Handbook page 15

Information Technology Acceptable Use Policy, Student Handbook page 36

Confidentiality, Student Handbook page 47

Student Code of Conduct, Student Handbook page 55

Smoking/Tobacco Policy, Student Handbook page 77

Drug and Alcohol Use, Student Handbook page 78

Degree Information

Northampton Community College confers the following in designated programs of study:

Degrees:

- Associate in Arts degree (A.A.)
- Associate in Science degree (A.S.)
- Associate in Applied Science degree (A.A.S.)

Certificates

Specialized Diplomas

Details of the curriculum framework for degrees are shown at the end of the Degree Information section of this catalog.

Degree and Graduation Requirements

The following requirements apply to all degree, certificate, and specialized diploma programs:

- Students must have a cumulative grade point average of 2.00 (C or higher) for all work applied toward the program at Northampton.
- Students must successfully complete the specific program requirements as outlined elsewhere in this catalog.
- If a student breaks matriculation for two consecutive major semesters, the program requirements in effect during the semester of re-entry shall be the student's graduation requirements.
- A student may graduate under the requirements in effect during the year of entry into the program, those in effect during the year of re-entry (as described above), or those in effect during the year of graduation.
- Formal application for graduation must be made by submitting the designated form to the Records Office prior to the date stipulated on the College calendar. A student must apply for each Specialized Diploma, Certificate and/or degree that he or she wishes to earn.
- Students are ultimately responsible for ensuring that they have met all graduation requirements
- Students seeking a second major or second degree must complete requirement for the second program with at least 15 different credits.

Additional requirements for specialized diplomas:

- The specialized diploma program will have no less than 6 credits and typically no more than 30 credits.
- At least one-fourth of the credits or a minimum of nine credits, whichever is greater, must be earned at Northampton.

Additional requirements for certificates:

- The certificate program includes a minimum of 30 credits, and must include six credits outside the particular field, taken from the general education core.
- At least one-fourth of the credits or a minimum of nine credits, whichever is greater, must be earned at Northampton.

Additional requirements for all degrees:

- The degree program includes a minimum of 60 semester hours of credit.
- At least one-fourth of the credits or a minimum of fifteen credits, whichever is greater, must be earned at Northampton.

A.A. and A.S. Degrees

An A.A. degree is defined as requiring 12 credit hours of humanities, 12 credit hours of social science and 9 credit hours of mathematics and science.

The following programs lead to the associate in arts degree:

- Business Administration
- Communication Studies
- Middle Level Education: Grades 4 - 8
- Secondary Education
- Fine Art
- General Studies
- Individualized Transfer Studies
- Journalism

- Liberal Arts
- Social Work
- Sport Management
- Theatre

An A.S. degree is defined as requiring 12 credit hours of humanities, 6 credit hours of social science and 24 credit hours of mathematics and science.

The following programs lead to the associate in science degree:

- Biological Science
- Chemistry
- Computer Science
- Computer Information Systems
- Secondary Education: Mathematics and Science
- Engineering
- Math/Physics
- Sports Medicine: Athletic Training

In addition to the specific requirements for the A.A. and A.S. degrees, there is a General Education Core for both the A.A. and A.S. degree with the minimum requirements listed on the following page.

Curriculum framework for degrees

An associate in arts degree should contain:

- A minimum of 50 percent common or general knowledge (humanities and social science preliminary courses, and at least one science or math course);
- A minimum of 25 percent contextual knowledge (science, mathematics, and pre-specialization courses in humanities or social sciences).

An associate in science degree should contain:

- A minimum of 33 percent common or general knowledge (humanities and social science preliminary courses);
- A maximum of 67 percent scientific and technically related courses (mathematics and science; within technical A.S. degrees like engineering, mathematics and science should roughly equal technical courses in number of credits).

Frequency of offerings

Courses listed in this catalog are generally offered at least yearly, unless otherwise noted in course descriptions.

General Education Core Curriculum Requirements: A.A. Degree, A.S. Degree

Associate in Arts (A.A.) Degree

Associate in Science (A.S.) Degree

1. Communication - 9 credits

ENGL101	English I	3
ENGL151L	English II OR	3
ENGL151R	English II OR	3
ENGL151T	English II	3
CMTH102	Introduction to Communication	3

In addition:

Writing Intensive (WI). Communication skills in writing are further reinforced and assessed in two required writing intensive courses (G suffix on course number). One of the General Education courses must be writing intensive. A second writing intensive course may be a General Education course, or a course in the major.

2. Quantitative Literacy (QL) - 3-4 credits

One QL designated course or substitution acceptable to the mathematics department.

3. Computer Literacy (C)

Incorporated in all programs in a manner acceptable to the computer/information science department. Any CISC course or verification of computer literacy outcomes imbedded in courses in certain programs.

4. Arts and Humanities (AH) - 3 credits

One AH designated course

5. Social Science - 6 credits

One Societies and Institutions Over Time (SIT) designated course.
One Scientific Study of Human Behavior (SSHB) designated course.

6. Science (SCI) - 3/4 credits

One SCI designated course

7. Diversity and Global Awareness (D)

One Diversity and Global Awareness (D) designated course.
The Electives section of this catalog lists the 100- and 200-level electives which are applicable to the A.A. and A.S. degrees, unless otherwise specified in program requirements. Since the A.A and A.S. degrees are intended for transfer, any courses not in that section are not applicable to the A.A. and A.S. degrees.
All degree programs other than those listed above for A.A. and A.S. degrees lead to the A.A.S. Degree.

A.A.S. Degree**Curriculum framework for degrees: A.A.S. Degree****An associate in applied science degree program should contain:**

- A minimum of 33 percent common knowledge (humanities and social sciences courses and one math or science course);
- A minimum of 50 percent and a maximum of 67 percent technical and technically related courses. Mathematics and science are essentially technically related, contextual courses in all curricula, but they are critical to the effectiveness of most A.A.S. degrees; they may appear as "purer" contextual courses in the technically related category and as applied courses in the technical category.

General Education Core Curriculum Requirements: A.A.S. Degree**Associate in Applied Science (A.A.S.) Degree****1. Communication - 9 credits**

ENGL101	English I	3
ENGL151L	English II	3
	OR	
ENGL151R	English II	3
	OR	
ENGL151T	English II	3
CMTH102	Introduction to Communication	3

In addition:

Writing Intensive (WI). Communication skills in writing are further reinforced and assessed in one required writing intensive course (G suffix on course number). A program course to be taken in a writing intensive section. A general education course may be taken if no program course is possible.

2. Quantitative Literacy (QL) or Science (SCI) - 3/4 credits

One QL designated course or substitution acceptable to the mathematics department, or one SCI designated course.

3. Knowledge of Arts and Cultures - 9 credits

Three courses in at least two of the fields below. Science or Quantitative Literacy substituted for the third course in certain programs:

- Arts & Humanities (AH)
- Social Science, one Societies and Institutions Over Time (SIT) designated course.
- Social Science, one Scientific Study of Human Behavior (SSHB) designated course.

4. Undesignated free elective (open to student choice) - 3 credits.

5. Computer Literacy (C)

Incorporated in all programs in a manner acceptable to the computer/information science department. Any CISC course or verification of computer literacy outcomes imbedded in courses in certain programs.

6. Diversity and Global Awareness (D)

One Diversity and Global Awareness (D) designated course.

General Education Core Curriculum (GE)

What is General Education at Northampton Community College?

An undergraduate degree is comprised of three parts: courses in the major, elective courses, and courses in the General Education Core Curriculum. *Major courses* define the program of study. Students choose *electives* that fit their individual interests. The General Education Core Curriculum is the part of the academic experience that all students have in *common*.

The GE Core defines an important set of knowledge and skills that will help our graduates to continue learning, adapt to change, and become citizens who can make wise choices and contribute to their community.

The General Education Core Curriculum is designed to go hand in hand with the major courses to develop skills that will serve students in their academic study, careers, and in their lives. Though in some designated GE Core courses the focus will be on particular outcomes, we expect that the knowledge and skills that are part of the GE Core Curriculum will be reinforced throughout the other major courses and electives

Courses satisfying various General Education Core requirements are listed below by category; such requirements must be satisfied by selecting courses from among the listings below. Unless otherwise specified, they are applicable to all degrees (A.A./A.S./A.A.S.).

General Education Core Goals and Learning Outcomes

I. Knowledge of Arts, Cultures and the Natural World

ARTS & HUMANITIES

Goal: Students should understand both the creative process and how works of human imagination and thought from diverse cultures, places, and times express varieties of human experience.

Learning Outcomes:

- Students will discuss, analyze and interpret works that confront, express, and examine human experience.
- Students will describe and explain the ways that language, literature, philosophy, or the visual and performing arts challenge or reinforce specific cultural or historic values and conditions.

SOCIAL SCIENCE

Goal: Students will demonstrate knowledge of Societies and Institutions Over Time (SIT) and the Scientific Study of Human Behavior (SSHB).

Learning Outcomes:

- Students will identify and apply social science theories and concepts to behavioral or societal issues. (SIT & SSHB)
- Students will explain how a social science discipline describes and analyzes social change or human behavior.
- Students will describe how people's experiences and perspectives are shaped by sex, gender, ethnicity, class, age, race, culture and other factors.

Note: Social science courses must address the first outcome and one of the two remaining outcomes.

SCIENCE

Goal: Students will demonstrate a working knowledge of scientific principles and concepts and be able to apply them to

daily situations.

Learning Outcomes:

- Students will explain the scientific method, recognizing the potential for uncertainty in the scientific inquiry.
- Students will apply basic field and laboratory skills used for collecting and analyzing data according to the particular discipline.

DIVERSITY AND GLOBAL AWARENESS

Goal: Students will demonstrate an understanding of human diversity and an awareness of global issues through analysis of arts, histories, cultures, geographies, economics, medicine, scientific data and/or institutions.

Learning Outcomes:

- Students will discuss and explain how the diverse range of human differences influences the historical and current formation of artistic, economic, social, scientific, cultural or political institutions.
- Students will examine how the range of human differences influences each individual's experience of equality and inequality within a society, its institutions, or its cultures.
- Students will analyze how individuals and institutions have addressed persistent global challenges.

Note: to carry a diversity designation, the course needs to address at least one of the three outcomes.

II. Intellectual and Practical Skills

COMMUNICATION

Goal: Students will present and support ideas in an organized and coherent manner consistent with the intended audience and purpose in both speaking and writing.

Learning Outcomes:

- Students will identify, analyze, and choose supporting materials in written and spoken communication.
- Students will organize information with a central idea or thesis.
- Students will differentiate among various audience needs in word choice, level of explanation, and method of presentation.

COMPUTER LITERACY

Goal: Students will use computer technology as a tool for communication and productivity both professionally and personally.

Learning Outcomes:

- Students will demonstrate knowledge of computer concepts and terminology.
- Students will create, store, retrieve, and print formatted documents.
- Students will evaluate ethical uses of technology.

QUANTITATIVE LITERACY

Goal: Students will interpret and analyze quantitative data to solve problems.

Learning Outcomes

- Students will interpret, analyze, and draw conclusions about data presented as words, abstract symbols, tables or graphs.
- Students will use mathematics to model events and solve problems.
- Students will communicate using mathematical language, symbols, data, and graphs.

INFORMATION LITERACY

Goal: Students will demonstrate research skills in gathering, evaluating, and using information.

Learning Outcomes

- Students will locate and identify information
- Students will evaluate source information and incorporate it into their work.
- Students will use source information in an ethical and legal fashion.

CRITICAL THINKING AND PROBLEM SOLVING

Goal: Students will think critically and propose solutions to open-ended problems.

Learning Outcomes:

- Students will analyze and evaluate information, ideas and arguments in order to form conclusions.
- Students will design and evaluate a plan that addresses an open-ended problem.

Note: to carry a critical thinking designation, the course must address at least one of the two outcomes.

Arts and Humanities (AH) (See Following Page)

ARCH100	Architectural History I - Antiquity to 1870	3
ARTA100	Art & Visual Thinking	3
ARTA101	Art History Survey	3
CMTH110	Introduction to the Theatre	3
CMTH111	Acting I	3
CMTH115	Technical Theatre and Design	3
CMTH117	Stagecraft	3
CMTH126	The Communication Arts	3
CMTH189	Stage Voice and Movement	1
CMTH190	Stage Production	1
CMTH206	Directing	3
CMTH211G	Plays: Classical to Contemporary	3
CMTH212	Acting II	3
CMTH218	Theatre Portfolio	1
CMTH220	Introduction to Film	3
DANC101	Dance History	3
DANC110	Ballet I	1
DANC120	Modern Dance I	1
DANC130	Jazz I	1
DANC210	Ballet II	2
DANC220	Modern Dance II	2
DANC230	Jazz II	2
ENGL201G	British Literature I	3
ENGL203G	Shakespeare	3
ENGL205G	American Literature I	3
ENGL211G	Plays: Classical to Contemporary	3
ENGL215G	Multicultural Adolescent Literature	3
ENGL250G	Latin American Literature	3
ENGL251G	British Literature II	3
ENGL253	Creative Writing	3
ENGL255G	American Literature II	3
ENGL256G	Modern Poetry	3
ENGL257G	20th Century Literature by Women	3
ENGL258	Fiction Writing	3
ENGL260G	Contemporary Literature	3
ENGL264G	Irish Literature	3
ENGL265G	African-American Literature	3
ENGL267	Poetry Writing	3
HUMA121	American Work Experience	3
HUMA140	Introduction to Women and Gender Studies	3
HUMA150	Nature of the Environment	3
HUMA210	Creativity and the Origin of Ideas	3
JOUR101	Journalism and Society	3
MDLA102	Elementary French I	3
MDLA103	Elementary Spanish I	3
MDLA105	Elementary Chinese I	3
MDLA107	Elementary Arabic I	3
MDLA112	Elementary French II	3
MDLA113	Elementary Spanish II	3
MDLA115	Elementary Chinese II	3
MDLA117	Elementary Arabic II	3
MDLA122	Intermediate French I	3
MDLA123	Intermediate Spanish I	3
MDLA125	Intermediate Chinese I	3

MDLA133	Intermediate Spanish II	3
MDLA135	Intermediate Chinese II	3
MUSC101	Introduction to Music	3
PHIL111	On Death and Dying	3
PHIL121	World Religions	3
PHIL201	Introduction to Philosophy	3
PHIL202	Ethics & Moral Problems	3
PHIL204	Asian Philosophies	3
PHIL211	Ancient Philosophy	3
PHIL215	Modern Philosophy	3
PHIL220	Existentialism	3
PHIL225	What is Freedom?	3

ARCH100: Architecture only

Critical Thinking (CT)

CJST111	American Legal System	3
CJST115	Criminal Law	3
CJST121G	Criminology	3
CJST250	Contemporary Issues Criminal Justice	3
ENGL255G	American Literature II	3
ENGL260G	Contemporary Literature	3
HIST173	Modern European History - 1815-Present	3
GEOG210	Weather and Climate	4
PHIL111	On Death and Dying	3
POLS101	Introduction to Political Science	3
POLS105G	American Constitutional Law	3
POLS202	International Relations	3
POLS251	State and Local Government	3
SOCA102	Cultural Anthropology	3
SOCA103	Principles of Sociology	3
SOCA150	Deviance	3

Social Science: Societies and Institutions over Time (SIT)

ARCH155	Architectural History II - 1870 to Present	3
CMTH221	History of Broadcasting	3
GEOG101	World Geography	3
GEOG151	Geography of the United States and Canada	3
GLBL130	Introduction to Global Studies	3
GLBL160	Field Experience and Academic Research in Global Studies	3
GLBL230	Global Studies Capstone	3
HIST103	Ancient and Medieval History	3
HIST113	American History I	3
HIST121	The Black Experience	3
HIST123	African Civilizations	3
HIST140	Modern Chinese History	3
HIST153	Foundations of Modern European History - 1300-1815	3
HIST163	American History II	3
HIST165	The American Experience of Warfare	3
HIST166	Civil War and Reconstruction	3

HIST168	History of the Middle East	3
HIST173	Modern European History - 1815-Present	3
HIST210	History of Modern Science	3
HIST211	History of Pennsylvania	3
INTS201	Implementing Sustainable Energy Systems in Developing Communities (Study Abroad)	3
INTS202	Architecture of the City: Classic to Contemporary	3
POLS101	Introduction to Political Science	3
POLS105G	American Constitutional Law	3
POLS110	American National Government	3
POLS150	Peace Studies & Conflict Resolution (Study Abroad)	3
POLS170	Politics of Modern Turkey (Study Abroad)	3
POLS202	International Relations	3
POLS205	Women and Politics	3
POLS251	State and Local Government	3
SOCA102	Cultural Anthropology	3
SOCA105	American Ethnicity	3
SOCA160	Issues in Contemporary Genocide and Mass Violence	3

ARCH155: A.A.S. only

Social Science: Scientific Study of Human Behavior (SSHB)

ECON201	Macroeconomics	3
GEOG121	Environmental Sustainability	3
GEOG140	Investigating Climate Change	3
GEOG271	Introduction to Geographic Information Systems	4
HUMA250G	Research Methods in the Social Sciences	3
INTS250	Study Abroad	3
PSYC103	Introduction to Psychology	3
PSYC230	Introduction to Health Psychology	3
PSYC235	Developmental Child Psychopathology	3
PSYC245	Cognitive Psychology	3
PSYC255	Abnormal Psychology	3
PSYC258	Developmental Psychology	3
PSYC265	Psychology of Sex & Gender	3
SOCA103	Principles of Sociology	3
SOCA125	Sociology of Families	3
SOCA210	Sociology of Gender	3

Quantitative Literacy (QL)

MATH103	Applications in Mathematics	3
MATH118	Foundations of Mathematics I	3
MATH119	Foundations of Mathematics II	3
MATH120	Nature of Mathematics	3
MATH140	College Algebra	3
MATH145	Trigonometry	3
MATH150	Introductory Statistics	3
MATH160	Pre-Calculus	4
MATH165	Applied Calculus	3
MATH175	Calculus I with Review (Part 1)	4

MATH176	Calculus I with Review (Part 2)	4
MATH180	Calculus I	4
MATH181	Calculus II	4
MATH210	Calculus III	4
MATH211	Differential Equations	4

MATH103: A.A.S. only

MATH118: Middle Level Education, Early Childhood Education & Special Education only

MATH119: Middle Level Education & Early Childhood Education only

Science (SCI)

BIOS104	Field Ecology	4
BIOS105	Contemporary Biology	4
BIOS107	Biology I	4
BIOS110	In Your Genes	4
BIOS115	Essentials of Biology	4
BIOS126	Environmental Science	4
BIOS130	Basics of Human Anatomy and Physiology	4
BIOS150	Biology II	4
BIOS160	Human Biology	4
BIOS202	Microbiology for Allied Health	4
BIOS204	Human Anatomy & Physiology I	4
BIOS206	General Ecology	4
CHEM105	Chemistry in Contemporary Society	4
CHEM120	General Chemistry I	4
CHEM135	Chemistry of Life	4
GEOG150	Astronomy	4
GEOG210	Weather and Climate	4
GEOL201	Physical Geology	4
PHYS101	Physics I	4
PHYS151	Physics II	4
PHYS152	Physical Science II	3
PHYS215	Physics for Science & Engineering I	5
PHYS225	Physics for Science & Engineering II	5

BIOS130: Healthcare Office AAS Only

Diversity and Global Awareness (D) (See Following Page)

BIOS126	Environmental Science	4
BIOS210	Environmental Biology	4
BUSA115	Introduction to International Business	3
CJST250	Contemporary Issues Criminal Justice	3
CMTH126	The Communication Arts	3
CMTH211G	Plays: Classical to Contemporary	3
CMTH215	Intercultural Communication	3
CULA130	Basic Entrees and Vegetables	3
DANC101	Dance History	3
ENGL151L	English II	3
ENGL205G	American Literature I	3
ENGL211G	Plays: Classical to Contemporary	3
ENGL215G	Multicultural Adolescent Literature	3
ENGL250G	Latin American Literature	3
ENGL251G	British Literature II	3
ENGL253	Creative Writing	3

ENGL255G	American Literature II	3
ENGL256G	Modern Poetry	3
ENGL257G	20th Century Literature by Women	3
ENGL260G	Contemporary Literature	3
ENGL264G	Irish Literature	3
ENGL265G	African-American Literature	3
ENGL267	Poetry Writing	3
GEOG101	World Geography	3
GEOG121	Environmental Sustainability	3
GEOG151	Geography of the United States and Canada	3
GEOG210	Weather and Climate	4
GLBL130	Introduction to Global Studies	3
GLBL160	Field Experience and Academic Research in Global Studies	3
GLBL230	Global Studies Capstone	3
HIST113	American History I	3
HIST121	The Black Experience	3
HIST140	Modern Chinese History	3
HIST165	The American Experience of Warfare	3
HIST166	Civil War and Reconstruction	3
HIST168	History of the Middle East	3
HIST173	Modern European History - 1815-Present	3
HUMA121	American Work Experience	3
HUMA140	Introduction to Women and Gender Studies	3
HUMA150	Nature of the Environment	3
HUMA210	Creativity and the Origin of Ideas	3
HOSP201	Strategic Leadership in Hospitality	3
INTS201	Implementing Sustainable Energy Systems in Developing Communities (Study Abroad)	3
MDLA102	Elementary French I	3
MDLA103	Elementary Spanish I	3
MDLA105	Elementary Chinese I	3
MDLA107	Elementary Arabic I	3
MDLA112	Elementary French II	3
MDLA113	Elementary Spanish II	3
MDLA115	Elementary Chinese II	3
MDLA117	Elementary Arabic II	3
MDLA122	Intermediate French I	3
MDLA123	Intermediate Spanish I	3
MDLA125	Intermediate Chinese I	3
MDLA133	Intermediate Spanish II	3
MDLA135	Intermediate Chinese II	3
PHIL111	On Death and Dying	3
PHIL121	World Religions	3
PHIL204	Asian Philosophies	3
POLS101	Introduction to Political Science	3
POLS105G	American Constitutional Law	3
POLS150	Peace Studies & Conflict Resolution (Study Abroad)	3
POLS170	Politics of Modern Turkey (Study Abroad)	3
POLS202	International Relations	3
POLS205	Women and Politics	3
POLS251	State and Local Government	3
PSYC230	Introduction to Health Psychology	3
PSYC258	Developmental Psychology	3
PUBH103	Social & Cultural Perspectives of Health	3
PUBH201	Introduction to Global Health	3
SOCA102	Cultural Anthropology	3

SOCA103	Principles of Sociology	3
SOCA105	American Ethnicity	3
SOCA125	Sociology of Families	3
SOCA150	Deviance	3
SOCA160	Issues in Contemporary Genocide and Mass Violence	3
SOCA204	Social Problems	3
CJST250: Criminal Justice program only		
CULA130: Culinary Program Only		
ENGL151L: Literature		
HOSP201: Hospitality Programs only		
PUBH103, PUBH201: Public Health Program Only		

Information Literacy

ENGL101	English I	3
ENGL151L	English II OR	3
ENGL151R	English II OR	3
ENGL151T	English II	3
CMTH102	Introduction to Communication	3

All courses listed as Communication: Writing Intensive General Education Courses (WI)

All courses listed as Communication: Writing Intensive Program Courses (WI)

Communication: Writing Intensive General Education Courses (WI)

BIOS105G	Contemporary Biology	4
CMTH211G	Plays: Classical to Contemporary	3
ENGL201G	British Literature I	3
ENGL203G	Shakespeare	3
ENGL205G	American Literature I	3
ENGL211G	Plays: Classical to Contemporary	3
ENGL215G	Multicultural Adolescent Literature	3
ENGL250G	Latin American Literature	3
ENGL251G	British Literature II	3
ENGL255G	American Literature II	3
ENGL256G	Modern Poetry	3
ENGL257G	20th Century Literature by Women	3
ENGL260G	Contemporary Literature	3
ENGL264G	Irish Literature	3
ENGL265G	African-American Literature	3
GEOG121G	Environmental Sustainability	3
GEOG151G	Geography of the United States and Canada	3
HIST113G	American History I	3
HIST121G	The Black Experience	3
HIST153G	Foundations of Modern European History - 1300-1815	3
HIST165G	The American Experience of Warfare	3
HIST166G	Civil War and Reconstruction	3
HIST168G	History of the Middle East	3
HIST173G	Modern European History - 1815-Present	3
HUMA121G	American Work Experience	3
HUMA140G	Introduction to Women and Gender Studies	3

HUMA250G	Research Methods in the Social Sciences	3
PHIL111G	On Death and Dying	3
PHIL202G	Ethics & Moral Problems	3
POLS105G	American Constitutional Law	3
POLS110G	American National Government	3
POLS205G	Women and Politics	3
POLS251G	State and Local Government	3
PSYC103G	Introduction to Psychology	3
PSYC258G	Developmental Psychology	3
SOCA102G	Cultural Anthropology	3
SOCA103G	Principles of Sociology	3
SOCA125G	Sociology of Families	3

Communication: Writing Intensive Program Courses (WI)

AUTO203G	Automotive Shop Management Practices	3
BUSA221G	Business Communications	3
CHEM201G	Organic Chemistry I	4
CJST121G	Criminology	3
CMTH225G	Scriptwriting	3
CMTH230G	Introduction to Communication Theory	3
DENH251G	Preventative Oral Health Services III	2
DMSG215G	Small Parts and Special Topics	2
EARL263G	Internship-Early Childhood	3
ECON251G	Microeconomics	3
EDUC260G	Adolescent Development & Cognition	3
ELEC272G	Computer Electronics Practicum II	3
ELTC260G	Electrical Construction Practicum	2
EMEC260G	Electromechanical Technology Practicum	2
HOSP221G	Hospitality Management Practicum	3
HVAC260G	HVAC/R Technology Practicum	2
JOUR201G	Feature Writing	3
JOUR203G	Writing for Public Relations	3
PARL210G	Legal Writing	3
PSYC251G	Child Psychology	3
QUAL221G	Applied Quality Practicum	3
SMAT245G	Acute Care of Illness and Injury	3
SPED205G	Special Education Paraeducator Internship	3
SPRT152G	Sports In Society	3
VETC215G	Animal Disease	3

Electives

Electives shown below satisfy requirements for electives in various programs, unless otherwise specified in program requirements. Note that only 100- and 200-level courses apply to degrees, and that those applying to A.A. and A.S. degrees must be chosen from the lists of courses applicable to those degrees.

While courses at the 0XX level carry credit for determining student load, those credits may not be applied to any degree, certificate, or diploma granted by the College.

The elective type of special studies courses is designated at the time of offering.

Business Electives

A.A. and A.S. degrees:

Accounting –

ACCT100	Accounting for Non-Accountants	3
ACCT101	Financial Accounting I	3

ACCT151	Financial Accounting II	3
ACCT201	Intermediate Accounting I	4
ACCT202	Managerial Accounting	3
ACCT251	Intermediate Accounting II	3

Business Administration –

BUSA101	Introduction to Business	3
BUSA131	Principles of Marketing	3
BUSA152	Business Law I	3
BUSA201	Business Statistics I	4
BUSA202	Business Law II	3
BUSA205	Management Fundamentals	3

Computer/Information Science –

CISC101	Introduction to Computers	3
CISC115	Computer Science I	4
CISC125	Computer Science II	4

Economics –

ECON201	Macroeconomics	3
ECON251G	Microeconomics	3

A.A.S. degrees:**Accounting – ACCT all courses****Business Administration – all BUSA except 252****Economics –**

ECON201	Macroeconomics	3
ECON251G	Microeconomics	3

Humanities Electives**All degrees:****Art –only**

ARTA101	Art History Survey	3
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Communications – all CMTH except 120, 122, 170, 185, 240, 251, 252**Dance – all DANC****English – all ENGL****Humanities – all HUMA****Modern Language – all MDLA****Music –only**

MUSC101	Introduction to Music	3
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Philosophy – all PHIL

Note: ARCH100 may serve as a humanities elective for Architecture A.A.S. students only.

Literature Electives**All degrees:**

English – all ENGL numbered 200 level except ENGL211G, 215G, 253, 258 and 267

Mathematics Electives**A.A. and A.S. degrees:****Mathematics – only**

MATH120	Nature of Mathematics	3
MATH140	College Algebra	3
MATH145	Trigonometry	3
MATH150	Introductory Statistics	3
MATH160	Pre-Calculus	4
MATH165	Applied Calculus	3
MATH175	Calculus I with Review (Part 1)	4

MATH176	Calculus I with Review (Part 2)	4
MATH180	Calculus I	4
MATH181	Calculus II	4
MATH191	Special Studies in Mathematics	1
MATH192	Special Studies in Mathematics	2
MATH193	Special Studies in Mathematics	3
MATH194	Special Studies in Mathematics	4
MATH202	Discrete Math	3
MATH210	Calculus III	4
MATH211	Differential Equations	4

Middle Level Education, Early Childhood Education and Special Education only

MATH118	Foundations of Mathematics I	3
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Middle Level Education and Early Childhood Education only

MATH119	Foundations of Mathematics II	3
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A.A.S. degrees:

Mathematics - those listed above for A.A. and A.S. degrees plus

MATH103	Applications in Mathematics	3
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Physical Education Electives**All degrees:****Dance –**

DANC110	Ballet I	1
DANC120	Modern Dance I	1
DANC130	Jazz I	1
DANC210	Ballet II	2
DANC220	Modern Dance II	2
DANC230	Jazz II	2

Physical Education – all PHED**Science Electives****All degrees:****Biological Science – all BIOS except 281, 282, 283****Chemistry – only**

CHEM105	Chemistry in Contemporary Society	4
CHEM120	General Chemistry I	4
CHEM135	Chemistry of Life	4
CHEM220	General Chemistry II	4
CHEM225	Quantitative Analysis	4
CHEM251	Organic Chemistry II	4
CHEM291	Special Studies in Chemistry	1
CHEM292	Special Studies in Chemistry	2
CHEM293	Special Studies in Chemistry	3
CHEM294	Special Studies in Chemistry	4

Geography –only

GEOG150	Astronomy	4
GEOG210	Weather and Climate	4

Geology – all GEOL**Physics – all PHYS****Social Science Electives****All degrees:****Counseling – only**

COUN100		
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(but not applicable to Liberal Arts)

CISC125	Computer Science II	4
CISC225	Computer Organization	4
CISC230	Data Structures & Algorithm Analysis	4
CISC270	Database Systems	4
Counseling – only		
COUN100		
COUN291	Special Studies in Counseling	1
COUN292	Special Studies in Counseling	2
COUN293	Special Studies in Counseling	3
College Success –		
COLS101	College Success	1
COLS120	Career Planning I	1
Dance – all DANC		
Economics –		
ECON201	Macroeconomics	3
ECON251G	Microeconomics	3
Education – all EDUC except 105		
Engineering – only		
ENGG100	Engineering Graphics	3
ENGG191	Special Studies in Engineering	1
ENGG192	Special Studies in Engineering	2
ENGG193	Special Studies in Engineering	3
ENGG194	Special Studies in Engineering	4
ENGG201	Statics	3
ENGG251	Strength of Materials	3
ENGG252	Dynamics	3
English – all ENGL		
Geography – all GEOG		
Global Studies –		
GLBL130	Introduction to Global Studies	3
GLBL160	Field Experience and Academic Research in Global Studies	3
GLBL230	Global Studies Capstone	3
Health – only		
HEAL150	Contemporary Health	3
History – all HIST		
Hospitality – only		
HOSP101	Introduction to the Hospitality Industry	3
Humanities – all HUMA		
Interdisciplinary Studies –		
INTS101	Critical Thinking	3
INTS202	Architecture of the City: Classic to Contemporary	3
INTS250	Study Abroad	3
Journalism – only		
JOUR103	Newswriting	3
Mathematics – only		
MATH120	Nature of Mathematics	3
MATH140	College Algebra	3
MATH145	Trigonometry	3
MATH150	Introductory Statistics	3
MATH160	Pre-Calculus	4
MATH165	Applied Calculus	3
MATH175	Calculus I with Review (Part 1)	4

MATH176	Calculus I with Review (Part 2)	4
MATH180	Calculus I	4
MATH181	Calculus II	4
MATH191	Special Studies in Mathematics	1
MATH192	Special Studies in Mathematics	2
MATH193	Special Studies in Mathematics	3
MATH194	Special Studies in Mathematics	4
MATH202	Discrete Math	3
MATH210	Calculus III	4
MATH211	Differential Equations	4

Modern Language – all MDLA**Music – all MUSC****Nutrition –**

NUTR105	Introduction to Nutrition	3
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Philosophy – all PHIL**Physical Education – any PHED courses up to a maximum of two credits****Physics – all PHYS****Political Science – all POLS****Psychology – all PSYC except 221****Sociology/Anthropology – all SOCA****Special Education –**

SPED160	Introduction to Special Education	3
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A.A.S. degrees:

All courses except: oXX-level courses; EARL221, 222

Note concerning Art courses:

- ARTA161 is applicable only to the General Studies Program, Fine Art Program and A.A.S. degrees.

Academic Programs

Northampton Community College offers a variety of academic programs designed to prepare you to enter the workforce or to transfer to a four-year college or university. If you have questions regarding a specific program, please feel free to call our Admissions Office at 610/861-5500, and a member of the staff will be happy to talk to you.

The academic programs on the following pages are the responsibility of the academic division indicated under the program title, i.e. the Allied Health and Sciences Division, the Business and Technology Division, the Education and Academic Success Division, the Humanities and Social Sciences Division.

The following abbreviations are used in the curriculum section (following the course title) to identify general education core courses:

AH - Arts and Humanities

CT - Critical Thinking

D - Diversity & Global Awareness

QL - Quantitative Literacy

SCI - Science

SIT - Social Science: Societies and Institutions over Time

SSHB - Social Science: Scientific Study of Human Behavior

WI - Writing Intensive

The College makes every effort to ensure that the information contained in this catalog is complete and accurate.

However, some omissions and errors may be possible. This catalog should not be perceived as a formal/legal contract.

Arts, Humanities, & Social Sciences

Communication Design, Associate in Applied Science

Overview

Narrative

Communication design is a dynamic and growing profession in the media marketplace. Development in new Internet technology and capabilities, as well as the proliferation of PDAs, require people with interactive design skills and knowledge to create content for these new communication networks. The Communication Design program will assist you in developing the creative, conceptual and technical skills necessary to meet the challenge of digital, print, and social media marketplaces and will offer the opportunity to gain employment in the field, or to transfer to a four-year institution. You'll be prepared to work within the social networking world of Twitter and Facebook; you'll know how to launch ideas and apps through smart phones and tablets.

The program offers students an opportunity to select a 'specialized track' in their second year of studies - either Print/Web or New Media.

Hands-On Learning

Northampton's Communication Design program offers you a well-balanced education through classroom and computer lab learning experiences under the supervision of talented and experienced instructors, in the College's state-of-the-art facilities. This education will be critical when you enter the workforce or transfer to baccalaureate degree programs.

Who should apply for this program?

- High school graduates.
- College students.
- Individuals presently employed in the communications field seeking an opportunity to upgrade current skills and knowledge.
- Individuals considering a career change.

Job Opportunities

As a graduate of the Communication Design program you can expect to find employment as a graphic designer, computer graphics artist, free-lance designer, web designer, or new media designer with such employers as advertising agencies, graphic design studios, newspapers, publication companies, in-house corporate communication departments, to name a few.

Requirements

Applicants to the program should contact the Admissions Office at 610-861-5500 for general information on applying to the College. You can visit the Art Department web site for specific details on the Communication Design program and to view examples of student work. The URL is <http://art.northampton.edu>.

**Program course of studies offered only in the day.*

Career Potential: Assistant Art Director, Computer Graphic Artist, Newspaper/Magazine layout, Package Design, Pre-Press Technician, Illustrator, Web Designer, Corporate Communications Designer

NCC Communication Design graduates have transferred to:

- Cedar Crest College
- Kutztown University
- Moravian College
- School of Visual (NYC)
- Pratt Institute (NYC)
- Tyler School of Art at Temple University (Philadelphia)
- University of the Arts (Philadelphia)
- Savannah College of Art and Design (Savannah, Georgia)
- Ringling College of Art and Design (Sarasota, Florida)
- Academy of Art University (San Francisco, CA)
- Rochester Institute of Technology (Rochester, NY)

Outcomes

Graduates of the program will:

- Recognize and use technical and aesthetic terminology of communication design.
- Create work that exhibits proficiency in both design and technical aspects of new media including print, web, motion design, and video game design.
- Demonstrate an understanding of the design industries' best-practices and theories that reflect current and historical cultural trends.
- Understand basic principles and practices of marketing and advertising.
- Create a professional design portfolio (hard copy and web) and professional identity kit.
- Be prepared for an entry-level position in communication design.

Courses

Communication Design - New Media Option

First Semester

COLS101	College Success	1
ARTA101	Art History Survey	3
ARTA107	Drawing I	3
ARTA111	Principles of 2-D Design & Color	3
ARTA170	Computer Graphics	4
ENGL101	English I	3
Subtotal: 17		

Second Semester

ARTA110	Principles of 3-D Design	3
ARTA124	Drawing II	3
ARTA130	Intro to Web Site Design	3
ARTA180	Digital Design & Typography I	3
ENGL151L	English II	3
Subtotal: 15		

Third Semester

ARTA131	Intro to 3-D Computer Animation	3
ARTA132	Web Animation	3
ARTA281	Digital Design & Typography II	3
ARTA230	New Media Theory and Practice	3
CMTH102	Introduction to Communication	3
	Elective +	3
Subtotal: 18		

Fourth Semester

ARTA233	Advanced 3-D Computer Animation	3
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ARTA236	Interactive Design	3
ARTA231	New Media Production	3
ARTA285	Portfolio Workshop	3
	Social Science: Societies and Institutions over Time Elective (SIT)	3
	Social Science: Scientific Study of Human Behavior Elective (SSHB)	3

Subtotal: 18**Total Credits: 68**

+ Suggested Elective: ARTA240, ARTA282.

- One course should be designated as Diversity and Global Awareness (D)
- Students must take one Social Science Elective (SIT or SSHB) in a Writing Intensive (WI) section.
- Computer competencies and mathematics outcomes are included in various courses in this program. Thus, completing the program automatically satisfies the computing and mathematics requirements for this program.

NOTE: This program requires attendance of day classes and can not be completed taking only evening classes.**Communication Design - Print/Web Option****First Semester**

COLS101	College Success	1
ARTA101	Art History Survey	3
ARTA107	Drawing I	3
ARTA111	Principles of 2-D Design & Color	3
ARTA170	Computer Graphics	4
ENGL101	English I	3

Subtotal: 17**Second Semester**

ARTA110	Principles of 3-D Design	3
ARTA124	Drawing II	3
ARTA130	Intro to Web Site Design	3
ARTA180	Digital Design & Typography I	3
ENGL151L	English II	3

Subtotal: 15**Third Semester**

ARTA132	Web Animation	3
ARTA281	Digital Design & Typography II	3
ARTA190	Creative Designs	3
ARTA240	Advanced Web Site Design	3
ARTA282	Digital Photography	3

Subtotal: 15**Fourth Semester**

ARTA210	Package Design	3
	OR	
CISC128	Client-side Scripting	4
	OR	
ARTA208	Mobile Development	4
ARTA285	Portfolio Workshop	3
CMTH102	Introduction to Communication	3
	Social Science: Societies and Institutions over Time Elective (SIT)	3
	Social Science: Scientific Study of Human Behavior Elective (SSHB)	3
	Elective +	3

Subtotal: 18-19**Total Credits: 65-66**

+ Suggested Elective: ARTA131, ARTA136, ARTA164 or ARTA256.

- One course should be designated as Diversity and Global Awareness (D).
- Students must take one Social Science Elective (SIT or SSHB) in a Writing Intensive (WI) section.
- Computer competencies and mathematics outcomes are included in various courses in this program. Thus, completing the program automatically satisfies the computing and mathematics requirements for this program.

NOTE: *This program requires attendance of day classes and can not be completed taking only evening classes.*

Communication Studies, Associate in Arts

Overview

Narrative

Advertising, politics, journalism, public relations - a career in any of these diverse fields can be exciting and fulfilling. And it can start with a degree in Communications Studies from Northampton.

Northampton's Communications Studies program offers courses that are commonly taken during the first two years of a bachelor's degree in the field. Working closely with your advisor, you can plan a schedule that will prepare you for entry to a four-year college.

With a BA, you can look forward to employment opportunities in a wide range of areas, including health care, the performing arts, education, the media, radio and TV broadcasting and more. Even if you don't plan to go into a specific communications-related field, a communications degree will help you be more versatile and flexible in your work. You may also find that you can change career paths with ease.

Our program is available at NCC's Bethlehem and Monroe campuses. Courses are primarily offered in the daytime.

Features

Our program provides a well-rounded background in communication and general education that will prepare you to transfer to a four-year university. In addition to the general education core requirements, the program requires 12 hours of communication studies courses. To suit your future plans, a variety of electives in the communications field allow you to customize your studies in key areas such as mass communications, **technology**, business, and the performing arts.

Finally, the program requires you to take specific courses in fields that have impacted communication studies, such as sociology and psychology.

Career Potential: Media, Advertising, Performing Arts Health Care, Politics Radio-TV/Broadcasting, Public Relations, Business/Marketing, Social/Human Services, Education, Journalism

Outcomes

Graduates of the program will:

- Transfer to a four-year college or university.
- Demonstrate a clear understanding of, and ability to think critically about, communication in theory and practice.
- Demonstrate effective use of communication skills and experience to be an effective group member and/or leader.
- Adapt communication skills to a variety of audiences and contexts.
- Communicate effectively within a culturally diverse society.

Courses

First Semester

COLS101	College Success	1
CMTH102	Introduction to Communication	3
ENGL101	English I	3
PSYC103	Introduction to Psychology	3
MATH150	Introductory Statistics	3
	Elective +	3

Subtotal: 16

Second Semester

CMTH214	Interpersonal Communication	3
ENGL151L	English II	3
SOCA103G	Principles of Sociology	3
	Science Elective (SCI)	4
	Elective +	3

Subtotal: 16**Third Semester**

CMTH215	Intercultural Communication	3
CMTH231	Small Group Communication	3
	General Education Elective (SIT)	3
	Mathematics (QL) or Science (SCI) Elective	3/4
	Communications Elective	3

Subtotal: 15-16**Fourth Semester**

CMTH230G	Introduction to Communication Theory	3
	General Education Elective (SIT)	3
	General Education Elective (AH)	3
	Elective +	3
	Elective +	3

Subtotal: 15

- The Communication Elective in the 3rd semester **must** be selected from the following list: CMTH104, CMTH205, CMTH180, JOUR101.

+Electives must be selected from those courses which are AA eligible or those below:**Mass Communication**

CMTH104	Mass Media and Society	3
CMTH126	The Communication Arts	3
CMTH220	Introduction to Film	3
CMTH225G	Scriptwriting	3
JOUR101	Journalism and Society	3
JOUR102	News Editing	3
JOUR103	Newswriting	3

Business

BUSA101	Introduction to Business	3
BUSA115	Introduction to International Business	3
BUSA131	Principles of Marketing	3
BUSA137	Principles of Selling	3
BUSA152	Business Law I	3

Performing Arts

CMTH205	Public Speaking	3
CMTH110	Introduction to the Theatre	3
CMTH111	Acting I	3
CMTH212	Acting II	3
CMTH211G	Plays: Classical to Contemporary	3
ENGL211G	Plays: Classical to Contemporary	3
CMTH206	Directing	3
CMTH189	Stage Voice and Movement	1

Communication Technology

ARTA130	Intro to Web Site Design	3
ARTA170	Computer Graphics	4
ARTA171	Desktop Publishing	4
CMTH115	Technical Theatre and Design	3
CMTH117	Stagecraft	3
CMTH180	Multimedia Production	3
CMTH182	Multimedia Graphics & Animation	3

Subtotal: 62-63

Fine Art, Associate in Arts

Overview

Narrative

Northampton's Fine Art Program is a transfer degree meant to parallel the first two years of a bachelor's degree. The program provides students with a thorough introduction to the basic areas of study in the visual arts. We help you develop a strong set of foundation skills for future artistic growth.

Upon successful completion of our program, you will have a clear understanding of the core technical, conceptual and aesthetic issues involved in creating successful works of art. You also will have prepared a portfolio, drawn from examples of your course work, for transfer to a four-year baccalaureate program (B.A. or B.F.A.) at a college, university or art school.

In NCC's well-equipped studio facilities you will have the opportunity to explore the arts in small classes with close student-instructor interaction. In your fourth semester, studio time will increase greatly to allow you to hone your talents while working on art projects for credit. Also during this semester, you will have the chance to consult one-to-one with a professional artist from a gallery in New York City, who will examine and critique your work. Courses in this program are offered primarily during the day.

Features

First year art offerings include Drawing I, Drawing II, Principles of 2-D Design & Color, and Principles of 3-D Design. These courses emphasize essential skills for studying all of the visual arts. You will also take introductory courses in Art History, Computer Graphics, and Painting. Advanced Drawing and Painting follow, along with additional choices in 2-D and 3-D media such as Photography, Printmaking, Sculpture, and Ceramics. In the final semester, Media Art features a synthesis of traditional art techniques and experimental digital technology.

During the final capstone course, Individual Studio/Professional Practices, you have the opportunity and personal challenge of synthesizing your accumulated experience and knowledge into a highly individualized series of artworks for a final group exhibition. You may also maintain an extensive sketchbook/journal and use this resource for writing assignments and studio work. The program also expands your knowledge of the professional fine art world through visits to museums, galleries, and art centers in New York City, Philadelphia, and the Lehigh Valley. There, you will speak with artists, curators, gallery directors, and art museum personnel who will share their wealth of experience.

Requirements

Contact the Admissions Office at 610.861.5500 for further information.

Career Potential: Transfer program for artists, art educators, and visual art related careers

NCC FINE ART students have transferred to: Kutztown University, East Stroudsburg University, Millersville University, Moravian College, Cedar Crest College, University of the Arts (UArts), Tyler School of Art/Temple University, School of Visual Arts (SVA), Pennsylvania Academy of the Fine Art (Pafa), School of Visual Arts (SVA), The Cooper Union for the Advancement of Science and Art, Pratt Institute, Parsons The New School for Design, Fashion Institute of Technology (FIT), Maryland Institute College of Fine Art (MICA), Savannah College of Art and Design (SCAD), Herron School of Art and Design - Indiana University, Massachusetts College of Art, Rhode Island School of Design (RISD), School of the Art Institute of Chicago (SAIC).

Outcomes

Graduates of the program will:

- Create artworks using basic art media, demonstrating core techniques, with proficient craftsmanship.
- Utilize *design*, i.e. the elements of art and principles of organization, in the creation of successful artworks.
- Demonstrate *creativity*, by synthesizing knowledge and imagination in form, style, and content.
- Recognize and use the technical and aesthetic terminology of the fine arts.
- Develop and use *critical thinking* skills to analyze artworks, both in speaking and writing.
- Have prepared a comprehensive portfolio of high quality artworks for transfer to four-year colleges, universities, or art school.

Courses

First Semester

ARTA101	Art History Survey	3
ARTA107	Drawing I	3
ARTA111	Principles of 2-D Design & Color	3
ARTA170	Computer Graphics	4

ENGL101	English I	3
		Subtotal: 16
Second Semester		
ARTA110	Principles of 3-D Design	3
ARTA124	Drawing II	3
ARTA158	Painting I	3
CMTH102	Introduction to Communication	3
ENGL151L	English II	3
		Subtotal: 15
Third Semester		
ARTA162	Sculpture	3
		OR
ARTA161	Ceramics	3
		Studio Elective +
		3
		Studio Elective +
		3
		Science Elective (SCI)
		3/4
		Social Science: Societies and Institutions over Time Elective (SIT)
		3
		Subtotal: 15-16
Fourth Semester		
ARTA220	Media Art	3
ARTA260	Individual Studio/ Professional Practices	4
MATH120	Nature of Mathematics	3
		Studio Elective +
		3
		Social Science: Scientific Study of Human Behavior Elective (SSHB)
		3
		Subtotal: 16
<ul style="list-style-type: none"> • The electives specified above must be taken from the list of approved courses in each of the categories. • One course should be designated as Diversity and Global Awareness (D). • Students must take two General Education Electives (SIT, SSHB or SCI) in Writing Intensive (WI) sections. WI course sections are identified with a "G" following the course number. • Computer competencies are included in various courses in this program, specifically ARTA111, ARTA170, and ARTA220. Thus, completing the program automatically satisfies the computing requirement. 		
+ Complete a total of three (3) Studio Electives from among: ARTA164 Printmaking; ARTA204 Drawing III; ARTA226 Painting II; ARTA151 Black & White Photography; ARTA282 Digital Photography		
		Subtotal: 62-63

Global Studies, Associate in Arts

Overview

Narrative

To meet the need for graduates who are able to function effectively in an interconnected society, the Global Studies program offers a liberal arts education, focused on international relations, area studies, and/or the environment, with a choice of cultural experiences and languages. The program will serve students who wish to transfer to a four-year institution as well as students who wish to work in local businesses with a global reach, or government agencies and non-profit organizations serving diverse populations from other countries.

Graduates of the program will be exposed to a wide diversity of knowledge, be asked to do practical thinking and problem-solving, and offered opportunities to explore global challenges and changes through international trips and exchanges.

Features

Foundational courses in communication, statistics, science, and political science will be complemented with courses in cultural anthropology and world geography. Contextual courses will help the student begin to build competency in the environment, or political science, or area studies, and their elective and language choices will allow them to further

specialize in a region or culture. Study Abroad spring break courses, while not explicitly included in the course of study, are an advantageous complement to the core and directed studies.

Transfer Possibilities

Lehigh University - Global Studies
 Temple University - Global Studies
 Drexel University - Global Studies
 Penn State University - Global Studies
 Cedar Crest College - Global Studies
 Muhlenberg College - International Studies
 Albright College - International Relations
 Dickinson College - International Studies
 Kutztown University - International Studies Minor
 East Stroudsburg University - International Relations w/in Political Science

Outcomes

Graduates of the program will

- Model the characteristics of an active, ethically aware and connected citizen.
- Articulate how the diverse range of human differences influence the historical and current formation of artistic, economic, social, scientific, cultural or political institutions.
- Articulate how the range of human differences influence each individual's experience of equality and inequality within a society, its institutions, or its cultures.
- Analyze how individuals and institutions have addressed persistent global challenges.
- Assess and evaluate plans to address open-ended and diverse global problems.

Courses

First Semester

CMTH102	Introduction to Communication	3
ENGL101	English I	3
GLBL130	Introduction to Global Studies	3
PHIL121	World Religions OR	3
ARTA101	Art History Survey	3
SOCA103	Principles of Sociology	3

Subtotal: 15

Second Semester

ENGL151L	English II	3
GEOG101	World Geography	3
MATH150	Introductory Statistics	3
MDLA	Modern Language +	3
SOCA102G	Cultural Anthropology	3

Subtotal: 15

Summer Semester

Summer Study Abroad or
 Field Experience & Academic Research in Global Studies ++

Subtotal: 3

Third Semester

BIOS126	Environmental Science OR	4
GEOG210	Weather and Climate	4
CISC101	Introduction to Computers	3
CMTH215	Intercultural Communication	3
MDLA	Modern Language +	3

Directed Elective +++	3
Subtotal: 16	

Fourth Semester

GLBL230	Global Studies Capstone	3
	Directed Elective +++	3
	Directed Elective +++	3
GEOG	Directed GEOG Elective +++	3

Subtotal: 12-13

- One course must be designated Diversity and Global Awareness (D).
- One Directed Elective must be completed in a Writing Intensive (WI) section.
- Two out of four Directed Electives must be at the 200-level.

+ The student is recommended to take a language elective before the summer semester abroad. 6 credits of the same language are required.

++ Not all study abroad courses may run every summer. Options include: INTS200 (for a total of 3 cr), INTS201, INTS202, INTS250, POLS150, POLS170, GLBL160, SOCA268.

+++See "Electives" tab for Directed Elective options.

Subtotal: 61-62**Electives**

+++ Directed Electives include the following choices in political science, environmental studies, and area studies:

BUSA115	Introduction to International Business	3
ECON201	Macroeconomics	3
ECON251G	Microeconomics	3
ENGL215G	Multicultural Adolescent Literature	3
ENGL250G	Latin American Literature	3
ENGL260G	Contemporary Literature	3
ENGL264G	Irish Literature	3
ENGL265G	African-American Literature	3
GEOG121	Environmental Sustainability	3
GEOG140	Investigating Climate Change	3
GEOG271	Introduction to Geographic Information Systems	4
HIST123	African Civilizations	3
HIST140	Modern Chinese History	3
HIST168	History of the Middle East	3
HIST173	Modern European History - 1815-Present	3
HUMA140G	Introduction to Women and Gender Studies	3
HUMA150	Nature of the Environment	3
HUMA250G	Research Methods in the Social Sciences	3
PHIL204	Asian Philosophies	3
POLS101	Introduction to Political Science	3
POLS202	International Relations	3
POLS205	Women and Politics	3
SOCA160	Issues in Contemporary Genocide and Mass Violence	3

Interior Design, Associate in Applied Science**Overview****Narrative**

Do you think in color and pattern? Are you sensitive to how people's surroundings can affect their mood, productivity, even their likelihood to make purchases in stores? Interior Design might be for you. Interior Design is the application of the visual principles of color, form, and space to the planning of interior environments. It is the exacting science and vibrant art that creates the places in which we all live and work. It is also a highly skilled profession that challenges you to take into account the structure and utilities of a building, client needs, and budgetary considerations in addition to

aesthetics.

Our Interior Design program has been carefully organized to meet the demand for professionally trained interior designers in both residential and contract design. With our associate's degree, you may gain employment upon graduation or consider pursuing a four-year degree.

No special system of accreditation exists for pre-professional interior design programs. Senior schools consider applicants from Northampton on an individual basis and may grant full or partial credit depending on the ability of the student and his or her own transfer requirements. You will need to meet frequently with your faculty advisor in order to structure your course options effectively.

Courses are available for students who want to attend full-time, part-time, during the day or in the evening.

Features

First semester courses provide foundational skills and knowledge in drafting, architecture history and interior and architectural design. Second semester courses build upon these foundational skills with the addition of a digital design studio and History II.

The second year major courses all have some prerequisites from the first year and this allows students to extend their learning into more advanced skill areas. You'll also learn more about building technology in the interior structures and materials course.

Computer technology is woven thru the curriculum utilizing ArchiCAD software as a design tool in the studios and AutoCAD in our digital production drawing course. The program includes a four-course design studio sequence where each semester you will develop and execute your own design projects, working in professional design stations. You will use computers equipped with state of the art design and production software.

We also encourage you to get involved with the faculty-advised student chapter of the American Institute of Architects (AIA) which provides opportunities to enrich your education with field studies and related extracurricular activities, including annual trips to major cities.

Our faculty brings current knowledge into your classroom direct from the professional interior design industry faculty are actively pursuing their own careers in interior design, architecture, product design, and related fields. Faculty are members of the American Institute of Architects and American Society of Interior Designers.

Contact the Admissions Office at 610.861.5500 for further information.

Courses

First Semester

COLS101	College Success	1
ARCH100	Architectural History I - Antiquity to 1870	3
ARCH101	Architectural Graphics I	3
ARCH110	Architecture Design Studio I	3
ENGL101	English I	3
INDS105	Introduction to Interior Design	3
		Subtotal: 16

Second Semester

ARCH150	Architecture Design Studio II (Digital)	3
ARCH155	Architectural History II - 1870 to Present	3
ENGL151L	English II OR	3
ENGL151R	English II OR	3
ENGL151T	English II	3
INDS121	Graphics and Presentation Techniques for Interior Designers	3
INDS130	Interior Materials & Structure	3
		Subtotal: 15

Third Semester

CMTH102	Introduction to Communication	3
INDS100	History of Interior Design & Furniture	3
INDS165	Kitchen and Lighting Design	3
INDS225	Residential Interior Design Studio	3
	Elective	3

Subtotal: 15**Fourth Semester**

ARCH265	Digital Production Drawing	3
INDS160	Bath and Lighting Design	3
INDS255	Commercial Interior Design Studio	3
	Social Science: Scientific Study of Human Behavior Elective (SSHB)	3
	Mathematics (QL) or Science (SCI) Elective	3

Subtotal: 15**NOTE:**

ENGL151: Students have a choice of ENGL151L (Literature option), ENGL151R (Report Writing) or ENGL151T (Technical Writing). Contact your advisor for guidance.

- The Diversity and Global Awareness (D) requirement is satisfied by the completion of ENGL151L. If a different English II class is completed, select an elective to fulfill the (D) requirement.
- The program-related writing intensive competency is satisfied by a combination of INDS225 and INDS255.
- Computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the computing requirements for this program.

Subtotal: 61

Interior Design, Specialized Diploma

Overview

Narrative

This program is designed for both full-time and part-time students. We've designed this program for those who already have a college degree or need an accelerated alternative career path in the Interior Design profession. Returning students with previously earned bachelor's degrees find this program especially appealing. By adding your general education credits previously earned to the 24 credit diploma, you're only a few part-time semesters to an AAS degree.

Along with a broad introduction to the field of Interior Design, you will learn the fundamental principles of design and gain both hand and computer graphic skills in our design studio and graphics courses. The program also offers a focus on the popular specialty area of kitchen and bath design. Your learning experience is capped with an upper level interior design studio where you will complete projects under the guidance of professional architects and designers.

Features

Full-time students can complete the program in two twelve-credit semesters offered during the day and in the evening. Part-time students can complete the program in four six-credit semesters all offered at night. It is important for students to become familiar with which courses are Fall offerings and which are Spring offerings so they may complete the program as scheduled.

You can apply all of your specialized diploma courses toward Northampton's AAS in Interior Design. An attractive option many students choose is to complete the Interior Design diploma either full-time or part-time while employed and then enter the associate's degree program during the evening on a part-time basis.

View Gainful Employment information on the Interior Design specialized diploma. (Full Time)

View Gainful Employment information on the Interior Design specialized diploma. (Part Time)

Courses

1-Year Sequence

ARCH101	Architectural Graphics I	3
ARCH110	Architecture Design Studio I	3
INDS105	Introduction to Interior Design	3
INDS165	Kitchen and Lighting Design	3
ARCH265	Digital Production Drawing	3
INDS121	Graphics and Presentation Techniques for Interior Designers	3
INDS130	Interior Materials & Structure	3
INDS255	Commercial Interior Design Studio	3

Subtotal: 24

Note: Students can complete the program on a Full-time or Part-time basis.

2-Year Sequence**Fall Semester**

ARCH101	Architectural Graphics I	3
ARCH110	Architecture Design Studio I	3

Subtotal: 6**Spring Semester**

INDS130	Interior Materials & Structure	3
INDS121	Graphics and Presentation Techniques for Interior Designers	3

Subtotal: 6**Fall Semester**

INDS105	Introduction to Interior Design	3
INDS165	Kitchen and Lighting Design	3

Subtotal: 6**Spring Semester**

ARCH265	Digital Production Drawing	3
INDS255	Commercial Interior Design Studio	3

Subtotal: 6**Subtotal: 24**

Interior Design: Kitchen and Bath Design, Specialized Diploma

Overview

Narrative

This program offers students a focused learning experience in the design of kitchens and bathrooms. The program is shorter than the broader Interior Design specialized diploma. It provides an excellent opportunity for the part-time student who wishes to advance quickly in an exciting area of the field. If you decide to continue your education after earning the diploma, you can apply all of your courses toward the longer specialized diploma or to our AAS degree in Interior Design.

Features

At the introduction to the program, students will gain a broad knowledge of the field of interior design, followed by individual courses focused on kitchen and bathroom design, including lighting design as it relates to the kitchen and bath environment. Capping the program, students will learn how to produce a set of production drawings. You'll use our state of the art professional studio equipped with the most up-to-date computer design software.

View Gainful Employment information on the Kitchen and Bath Design specialized diploma

Career Potential: Interior Designer, Furniture Representative, Furniture Sales, Fabric Design

NCC students have transferred to: Arcadia University, Moore School of Art, New York School of Interior Design

Outcomes

Graduates of the program will be able to:

1. Demonstrate a fundamental understanding of general principles, values and conventions of the Interior Design esthetic.
2. Use abstract design ideas to interpret design information while investigating alternative outcomes based on research and analysis.
3. Use a diverse range of media to think about and convey interior design ideas including writing, speaking, drawing and model making (both hand and digital media).
4. Employ color presentation graphics and material selection boards to communicate Interior Design solutions.
5. Identify parallel and divergent ideas and traditions of architecture and urban design influenced by the social, cultural, historical and philosophical determinants of a global society.
6. Examine and comprehend history and precedent and make informed choices regarding the incorporation of same into kitchen, bath, residential and commercial design projects.

7. Comprehend the technical aspects of design, systems, materials and fundamental principles of building structure and be able to apply that comprehension to interior spatial solutions.
8. Employ principles and standards of accessibility, safety, lighting, building systems, and acoustic control to advanced spatial design projects.

Courses

Fall Semester

ARCH101	Architectural Graphics I	3
INDS105	Introduction to Interior Design	3
		Subtotal: 6

Spring Semester

ARCH265	Digital Production Drawing	3
INDS121	Graphics and Presentation Techniques for Interior Designers	3
		Subtotal: 6

Fall Semester

INDS160	Bath and Lighting Design	3
INDS165	Kitchen and Lighting Design	3
		Subtotal: 6

INDS200 Interior Design Professional Internship (3 cr. optional elective) offered Fall, Spring, Summer 1 and Summer 2 semesters. Please see advisor.

Subtotal: 18

Journalism, Media and Professional Writing, Associate in Arts

Overview

Narrative

Northampton's Journalism, Media & Professional Writing Program provides the foundation for a career in the dynamic, digital world of the news media and professional communications in the 21st century. The major prepares students to transfer into a four-year degree program. The program emphasizes practical skills in reporting and writing for print and the web for students with no experience and provides those with some experience an opportunity to enhance their skills. Students taking the journalism concentration in this major focus on reporting news of interest, relevance and usefulness to the college community, especially its students. This approach stresses "learning by doing," which means students will work in the field covering issues, trends and events at the school, as well as those outside the school that affect the NCC community.

Students taking the business writing concentration will focus on news reporting and writing for publication, but with additional emphasis on skills specific to business communication in a multicultural society.

Graduates with reporting and writing skills and a baccalaureate degree can expect to begin their careers at regional newspapers, web publications or other news outlets, as well as public relations firms, corporate communications offices, or other employers who rely on communications specialists.

Features

Students in the journalism concentration are required to participate in the flagship of the program, The Commuter, the student news operation published online and in print. Students in the business writing concentration are welcome to participate on The Commuter.

Students report on the community, both at the College and in the surrounding area. This practical hands-on approach gives students exposure to situations similar to those that professional journalists encounter every day.

Courses in this program are offered primarily during the day. Contact the Admissions Office at 610.861.5500 for more information.

Outcomes

Graduates of the program will:

Journalism concentration:

- Be critically aware of the roles, legal rights and ethical responsibilities of journalists in a multicultural society.

- Demonstrate responsible news judgment that serves the needs of a multicultural audience.
- Demonstrate ability to edit copy for appropriate, correct English and Associated Press (AP) style.
- Demonstrate ability to write interesting headlines and captions fitting an article or photograph.
- Demonstrate ability to gather material and create news content for print and the web.
- Be able to use various narrative techniques in creating news content for print and the web.
- Demonstrate understanding of the basic operation of desktop and web publishing tools.
- Be able to use social media, search engine optimization and content aggregation to reach and build an intended audience.

Business Writing concentration:

- Demonstrate ability to use journalistic style to plan and produce copy for a public relations campaign.
- Be critically aware of the roles, legal rights and ethical responsibilities of journalists in a multicultural society.
- Demonstrate responsible news judgment that serves the needs of a multicultural audience.
- Demonstrate ability to edit copy for appropriate, correct English and Associated Press (AP) style.
- Demonstrate ability to write interesting headlines and captions fitting an article or photograph.
- Demonstrate ability to gather material and create news content for print and the web.
- Be able to use various narrative techniques in creating news content for print and the web.
- Demonstrate understanding of the basic operation of desktop and web publishing tools.
- Be able to use social media, search engine optimization and content aggregation to reach and build an intended audience.

Courses

Journalism, Media and Professional Writing: Journalism Concentration

First Semester

CMTH102	Introduction to Communication	3
ENGL101	English I	3
JOUR101	Journalism and Society	3
JOUR102	News Editing	3
JOUR104	Media Publication	4
Subtotal: 16		

Second Semester

CMTH104	Mass Media and Society	3
ENGL151L	English II	3
HIST163	American History II	3
JOUR103	Newswriting	3
JOUR110	Journalism Practicum	1
POLS251	State and Local Government	3
Subtotal: 16		

Third Semester

JOUR110	Journalism Practicum	1
JOUR201G	Feature Writing	3
SOCA103G	Principles of Sociology	3
MATH	Mathematics Elective (QL)	3
	Arts and Humanities Elective (AH)	3
	Mathematics (QL) or Science (SCI) Elective	3/4
Subtotal: 16-17		

Fourth Semester

CMTH180	Multimedia Production	3
GEOG101	World Geography	3
JOUR110	Journalism Practicum	1
JOUR202	Social Media for Writers	3
	Science Elective (SCI)	4
Subtotal: 14		

Total Credit Hours: 62-63

- Computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the computing requirement for this program.

Journalism, Media and Professional Writing: Business Writing Concentration**First Semester**

BUSA101	Introduction to Business	3
CMTH102	Introduction to Communication	3
ENGL101	English I	3
JOUR102	News Editing	3
JOUR104	Media Publication	4

Subtotal: 16**Second Semester**

CMTH104	Mass Media and Society	3
ENGL151R	English II	3
	OR	
ENGL151T	English II	3
JOUR103	Newswriting	3
POLS251	State and Local Government	3
PSYC103	Introduction to Psychology	3

Subtotal: 15**Third Semester**

BUSA221G	Business Communications	3
ECON201	Macroeconomics	3
MATH150	Introductory Statistics	3
	Arts and Humanities Elective (AH)	3
	Mathematics (QL) or Science (SCI) Elective	3/4

Subtotal: 15-16**Fourth Semester**

CMTH180	Multimedia Production	3
GEOG101	World Geography	3
JOUR202	Social Media for Writers	3
JOUR203G	Writing for Public Relations	3
	Science Elective (SCI)	4

Subtotal: 16

- Computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the computing requirement for this program.

Subtotal: 62-63

Liberal Arts, Associate in Arts

Overview

Narrative

The Liberal Arts program offers students planning to complete a bachelor's degree a strong foundation in both general education and a selected field of concentration. The curriculum has been designed to meet the requirements for the first two years of BA programs at many of the schools to which Northampton students commonly transfer. Northampton has also negotiated a number of Liberal Arts transfer agreements, including dual admissions agreements, with many regional colleges and universities.

Liberal Arts majors often go on to careers in communications, management, public relations, marketing, and the arts. Their generalist background makes them readily employable at many levels in a wide range of career choices.

Features

The program is both solid and flexible and provides an excellent, tailored preparation for transfer. Students who are undecided about their future major can explore different options by taking elective courses in various departments. Or electives can be chosen to concentrate in English, History, Philosophy, Political Science, Psychology, Sociology, or Women's and Gender Studies, in order to prepare to major in these disciplines at a transfer institution. Students are encouraged to start taking classes in the chosen concentration in the first semester.

Freedom of choice in this major extends to scheduling as well: courses are available both day and evening, on campus or online.

Concentrations

English Concentration

Students may begin their path to a BA in English or a related field by using the elective credits in the Liberal Arts program toward a concentration in English. To complete the concentration students may select four courses from any of the 200 level English courses.

In English courses students learn how to read and analyze pieces of writing and to respond critically in their own words. A major in English is widely applicable to future careers in journalism, publishing, teaching, business and government.

Environmental Studies Concentration

Students may begin their path to a B. A. in Environmental Studies, or toward career pathways in non-governmental organizations and public service, by selecting 12 credits of course work in Environmental Studies. The Environmental Studies concentration allows a student in the humanities who has an interest in the environment, environmental philosophy, and sustainability to focus his or her coursework in this area.

History Concentration

Students may begin their path to a BA in History by using the elective credits in the Liberal Arts program toward a concentration in History. Students may select 12 credits from any of the history courses.

History is a way of studying the past in order to understand the present. It focuses on how societies, cultures, institutions, and even ideas change over time. The richness of a concentration in this field might include learning Ancient, Modern, European, Eastern, and various aspects of American history. Intellectually, historians subject evidence, such as documents and secondary sources, to critical analysis. The reading, thinking, and writing required in the history concentration provide an excellent foundation to a wide range of majors and occupations that value these skills.

Philosophy Concentration

Students may prepare for a BA in Philosophy, or begin a pathway to a variety of degrees and careers including law, teaching, and public service, by using the elective credits in the Liberal Arts program toward a concentration in Philosophy. Students need to complete Introduction to Philosophy, and select three additional courses from the following: On Death and Dying, World Religions, Ethics and Moral Problems, Asian Philosophies, Ancient Philosophy, Modern Philosophy or Existentialism.

Philosophy makes life more intellectually interesting, deeply meaningful, and ultimately rewarding. Training includes analysis, argument, interpretation, judgment, creative and critical thinking. Students learn reading, reasoning, speaking, and writing at advanced levels - all transferable skills, for further academics and employment.

Political Science Concentration

Students may begin their path to a BA in Political Science by using the elective credits in the Liberal Arts program toward a concentration in Political Science. Students must take Introduction to Political Science, and may select the remaining three courses from any of the political science courses.

The study of political science provides a way of understanding political processes, governmental systems, and political behavior of individuals or groups in settings ranging from the global to the local. Students learn to analyze political events both in the US and in countries and regions around the world using the key skills of observation, critical thinking, and writing.

Psychology Concentration

Students may begin their path to a BA or BS in Psychology by using the elective credits in the Liberal Arts program toward a concentration in Psychology. Students must take Introduction to Psychology, and may select the remaining three courses from Abnormal Psychology, Psychology of Sex and Gender, Developmental Child Psychopathology, Introduction to Health Psychology, and either Developmental Psychology or Child Psychology (both may not be used for credit). The study of psychology provides a solid understanding of human behavior and development, critical for careers in education, psychology, and therapy in a variety of settings. Students learn and apply critical thinking skills and the scientific method in order to better understand the human individual.

Sociology Concentration

Students may begin their path to a BA in Sociology or a related field by using the elective credits in the Liberal Arts program toward a concentration in Sociology. Students must take Cultural Anthropology and Principles of Sociology, and

may select the remaining two courses from American Ethnicity, Sociology of Families, Issues in Genocide & Mass Violence, Deviance, Sociology of Gender, and Social Problems.

Sociology allows students to study the society they live in by examining various groups within societies, cultural traditions, and social problems. Students learn the skills of observation, critical thinking, and writing.

Women's and Gender Studies Concentration

Students may begin their interdisciplinary work in Women's and Gender Studies by applying the elective credits in the Liberal Arts program toward this concentration. To complete the concentration, students may take any four of the following: 20th Century Literature by Women, Psychology of Sex and Gender, Sociology of Gender, Introduction to Women and Gender Studies, and Women and Politics.

Courses in Women's and Gender Studies allow students to understand and develop an awareness of the impact of gender on the human condition as reflected in the sciences and arts as well as in day-to-day life. Students will be able to communicate and use critical thinking skills in evaluating gender theory as they apply it to disciplines including psychology, sociology, literature, political science and others. Given that gender is a universal human condition, a concentration in Women's and Gender Studies is appropriate for students on virtually any educational path, but is especially valuable for those interested in pursuing a career in the social sciences.

Contact the Admissions Office at 610.861.5500 for further information.

Transfer to majors in: English History, Philosophy, Political Science, Psychology, Sociology

NCC students have transferred to: East Stroudsburg University, Kutztown University, West Chester University, Moravian College, DeSales University, Albright College, Cedar Crest College, Penn State, Temple University

Outcomes

Graduates of the program will:

- Understand the historical and cultural contexts of contemporary civilization.
- Evaluate and discuss diverse points of view.
- Communicate ideas effectively.
- Speak and understand a modern language other than English.
- Retrieve, evaluate, and apply information from a range of sources.
- Develop strategies for solving both abstract and practical problems.

Courses

First Semester

ENGL101	English I	3
CMTH102	Introduction to Communication	3
PHIL201	Introduction to Philosophy	3
HIST	History Elective ++	3
	Concentration Elective*	3
	OR	
	Elective ++	3
	Subtotal: 15	

Second Semester

ENGL151L	English II	3
PSYC103	Introduction to Psychology	3
MATH	Mathematics Elective (QL)++	3
SOCA103	Principles of Sociology	3
	OR	
SOCA102	Cultural Anthropology	3
	Concentration Elective*	3
	OR	
	Elective ++	3
	Subtotal: 15	

Third Semester

CMTH110	Introduction to the Theatre	3
	OR	

MUSC101	Introduction to Music	3
	OR	
ARTA101	Art History Survey	3
	OR	
DANC101	Dance History	3
ENGL	Literature Elective ++	3
MDLA	Modern Language +	3
	Science Elective (SCI) ++	3/4
	Concentration Elective*	3
	OR	
	Elective ++	3
	Subtotal: 15-16	
Fourth Semester		
MDLA	Modern Language +	3
POLS	Political Science Elective ++	3
	Mathematics (QL) or Science (SCI) Elective ++	3/4
	Concentration Elective*	6
	OR	
	Electives ++	6
	Subtotal: 15-16	

- For the Electives, students must select one course from the list of approved courses in the category of Social Science: Societies and Institutions over Time (SIT).
- The Mathematics (QL) and Science (SCI) electives must be selected from the list of approved general education courses in each of those categories.
- One course should be designated as Diversity and Global Awareness (D).
- One General Education course must be taken in a Writing Intensive (WI) section. In addition, students must select a second Writing Intensive course.

***See "Concentration" tab.**

+ Six credits of the same modern language are required for graduation.

++ Electives for Liberal Arts:

Biological Science: any BIOS *except not both* BIOS105 and BIOS107

Chemistry: any CHEM *except* CHEM011, CHEM121, CHEM135

Communications: any CMTH *except* CMTH180, CMTH182, CMTH185, CMTH240, CMTH252

Computer Information Science: CISC101, CISC115

Economics: ECON201

English: ENGL201G, ENGL203G, ENGL205G, ENGL250G, ENGL251G, ENGL255G, ENGL256G, ENGL257G, ENGL260G,

ENGL264G, ENGL265G

*ENGL211G, ENGL215G, ENGL253, ENGL258, and ENGL267 are not applicable literature electives, but may be used as other electives.

Geography: any GEOG

Geology: GEOL201

History: any HIST

Humanities: any HUMA

Journalism: JOUR101, JOUR103

Mathematics: any MATH *except* MATH020, MATH022, MATH026, MATH028, MATH103, MATH118, MATH119

Modern Languages: any MDLA

Music: any MUSC

Philosophy: any PHIL
 Physical Education: any PHED to a maximum of 2 credits
 Physics: any PHYS except PHYS215, PHYS225
 Political Science: any POLS
 Psychology: any PSYC
 Sociology/Anthropology: any SOCA

Subtotal: 60-62

***For a Concentration Elective in:**

NOTE: Regarding majors in liberal arts - A student following one of the concentrations in liberal arts listed below or a student planning to major in another field will find it necessary to begin taking courses in that major field early in the program during the first year, and move the free elective to the second year.

English

Literature Elective and 3 other courses from the following:

ENGL201G	British Literature I	3
ENGL203G	Shakespeare	3
ENGL205G	American Literature I	3
ENGL211G	Plays: Classical to Contemporary	3
ENGL215G	Multicultural Adolescent Literature	3
ENGL250G	Latin American Literature	3
ENGL251G	British Literature II	3
ENGL253	Creative Writing	3
ENGL255G	American Literature II	3
ENGL256G	Modern Poetry	3
ENGL257G	20th Century Literature by Women	3
ENGL258	Fiction Writing	3
ENGL260G	Contemporary Literature	3
ENGL264G	Irish Literature	3
ENGL265G	African-American Literature	3
ENGL267	Poetry Writing	3

Environmental Studies

Select 4 courses from the following:

BIOS104	Field Ecology	4
GEOG121	Environmental Sustainability	3
GEOG140	Investigating Climate Change	3
GEOG271	Introduction to Geographic Information Systems	4
HUMA150	Nature of the Environment	3

BIOS104: if this course is used as a Science elective, it cannot also be counted toward the concentration elective.
 GEOG121: this course cannot also be used as a Science elective.

History

History Elective and 3 other courses from the following:

HIST103	Ancient and Medieval History	3
HIST113	American History I	3
HIST121	The Black Experience	3
HIST123	African Civilizations	3
HIST140	Modern Chinese History	3
HIST153	Foundations of Modern European History - 1300-1815	3
HIST163	American History II	3

HIST165	The American Experience of Warfare	3
HIST166	Civil War and Reconstruction	3
HIST168	History of the Middle East	3
HIST173	Modern European History - 1815-Present	3
HIST210	History of Modern Science	3
HIST211	History of Pennsylvania	3

Philosophy

PHIL201 and 3 other courses from the following:

PHIL111	On Death and Dying	3
PHIL121	World Religions	3
PHIL202	Ethics & Moral Problems	3
PHIL204	Asian Philosophies	3
PHIL211	Ancient Philosophy	3
PHIL215	Modern Philosophy	3
PHIL220	Existentialism	3
PHIL225	What is Freedom?	3

Political Science

POLS101 and 3 other courses from the following:

POLS105G	American Constitutional Law	3
POLS110	American National Government	3
POLS150	Peace Studies & Conflict Resolution (Study Abroad)	3
POLS170	Politics of Modern Turkey (Study Abroad)	3
POLS202	International Relations	3
POLS205	Women and Politics	3
POLS251	State and Local Government	3

Psychology

PSYC103 and 3 courses from the following:

PSYC230	Introduction to Health Psychology	3
PSYC235	Developmental Child Psychopathology	3
PSYC245	Cognitive Psychology	3
PSYC255	Abnormal Psychology	3
PSYC265	Psychology of Sex & Gender	3
PSYC251	Child Psychology	3
	OR	
PSYC258	Developmental Psychology	3

Sociology

SOCA102, SOCA103, and 2 courses from the following:

SOCA105	American Ethnicity	3
SOCA125	Sociology of Families	3
SOCA150	Deviance	3
SOCA160	Issues in Contemporary Genocide and Mass Violence	3
SOCA204	Social Problems	3
SOCA210	Sociology of Gender	3

Women's and Gender Studies

Select 4 courses from the following (and/or Special Studies in various disciplines):

ENGL257G	20th Century Literature by Women	3
HUMA140G	Introduction to Women and Gender Studies	3
POLS205	Women and Politics	3
PSYC265	Psychology of Sex & Gender	3

Library Technical Assistant, Specialized Diploma

Overview

Narrative

Today's libraries aren't simply repositories of books and journals, they are technologically-advanced media centers, managing large amounts of information in digital, print and multimedia formats. Library patrons need help navigating this new world, and libraries need trained staff who are able to organize diverse forms of information. The Library Technical Assistant program at Northampton prepares you to enter the workforce as a paraprofessional capable of working in a variety of libraries and information centers.

Northampton's convenient online program focuses particularly on information resources, services for children, and management of small public libraries. Courses address technical skills in such vital areas as acquisitions, electronic formats and cataloging of all types of materials.

Features

Members of Northampton Community College's admissions staff can assist you in planning your program of study. Although this program is offered only online, you will be required to visit libraries to investigate print resources and explore types of library services, in addition to reading assigned textbooks and performing online research. The specialized diploma is a 15-credit program, although courses also can be taken on an as-needed basis to improve skills in specific areas. The specialized diploma is also a good way to start your library science education if you are interested in pursuing a degree.

Professionals in Northampton's Career Services and counseling offices, as well as instructors within the program, can help you meet your employment and career goals.

Career Potential: Library Technical Assistant

Courses

Specialized Diploma:

This diploma is offered via the College Online Learning program.

LIBT101	Introduction to Library Service	3
LIBT209	Computers in Libraries	3
LIBT	LIBT Elective Courses*	9
		Subtotal: 15

*LIBT Elective Course Options:

LIBT115	Reference Resources & Services	3
LIBT203	Technical Services	3
LIBT207	Library Management	3
LIBT253	Literature for Children and Young Adults	3

Students must take LIBT101 Introduction to Library Service; it is strongly urged that they begin the program with this course.

Students must take LIBT209 Computers in Libraries.

To receive the Specialized Diploma, student can select three of the four elective courses to complete the 15 credit program.

Media Production, Associate in Applied Science

Outcomes

Graduates of the program will:

- Be skilled in the basic operation of the audio, video and multimedia equipment used to produce media presentations.
- Know and be able to use the technical terms and "language" of media production.

- Formulate and plan audio, video and multimedia productions and to explain their plans both orally and in writing.
- Collaborate with and direct others in the creation of audio, video and multimedia projects.
- Develop their creative intelligence and capacity for creative expression in the form of media arts.
- Use various media technologies to communicate information, ideas and feelings to an audience.
- Combine or edit basic sound and image elements to generate more complex forms of communication messages.
- Critically evaluate media, including their own work and the work of others.
- Demonstrate an understanding of the business and operating procedures of radio, television and other electronic media and be able to work effectively in various positions in media companies, in companies with media departments or in entrepreneurial situations.
- Analyze the effects of media on individuals, society and culture.
- Understand and be able to describe the evolution of media technologies and industries and the forces that shaped them.
- Demonstrate knowledge of the laws applying to media and be able to apply them to real situations.

Courses

First Semester

COLS101	College Success	1
CMTH102	Introduction to Communication	3
CMTH103	Mass Communication	3
CMTH120	Audio Production	3
ENGL101	English I	3
	Social Science: Scientific Study of Human Behavior Elective (SSHB)	3

Subtotal: 16

Second Semester

CMTH126	The Communication Arts	3
CMTH170	Television Production	3
CMTH225G	Scriptwriting	3
ENGL151L	English II	3
	OR	
ENGL151R	English II	3
	OR	
ENGL151T	English II	3
	Mathematics (QL) or Science (SCI) Elective	3/4

Subtotal: 15-16

Third Semester

CMTH221	History of Broadcasting	3
CMTH	Media Elective +	3
CMTH	Media Elective +	3
JOUR101	Journalism and Society	3
	OR	
JOUR102	News Editing	3
	OR	
JOUR103	Newswriting	3
	Elective	3

Subtotal: 15

Fourth Semester

CMTH	Media Elective +	3
CMTH	Media Elective +	3
	Elective	3
	Elective	3

Subtotal: 15

ENGL151: Students have a choice of ENGL151L (Literature option), ENGL151R (Report Writing) or ENGL151T (Technical

Writing). Contact your advisor for guidance.

+ Media Electives must be taken from the following group:

CMTH122	Radio Workshop	1
CMTH130	Digital Music Production	3
CMTH180	Multimedia Production	3
CMTH182	Multimedia Graphics & Animation	3
CMTH185	Multimedia Video	3
CMTH240	Portable Video Techniques	3
CMTH245	Audio Recording & Mixdown	3
CMTH246	Advanced Audio Production	3
CMTH251	Advanced Television Production	3
CMTH252	Video Editing & Post Production	3

CMTH122: must be taken 3X to fulfill requirement of media elective

- The Mathematics (QL) or Science (SCI) Elective must be selected from the list of approved courses for those categories.
- Completion of CMTH225G satisfies the Writing Intensive (WI) requirement.
- Computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the computing requirement for this program.
- Elective credits may be selected from the following groups or from any courses which meet the transfer or career goals of the students.

Subtotal: 61-62

Multimedia, Specialized Diploma

Overview

Narrative

Multimedia content creation involves the creation of audio, video, digital photography, graphics and animation for social media and web based application. Northampton's specialized diploma in Multimedia is a nine-credit course of study designed for those with previous experience in media, computers or marketing who wish to broaden and update their skills by becoming proficient in multimedia production and social media content creation. The diploma program consists of three courses taught in the College's state-of-the-art multimedia lab. You'll have extensive opportunities for hands-on instruction using the latest hardware and software. Because multimedia production is both a technical and an artistic process, we stress aesthetics, creativity, and design in addition to the practical understanding of computer technology. Contact the Admissions Office at 610.861.5500 for further information.

Features

Northampton's program includes technical and aesthetic aspects of Multimedia content creation. Curriculum includes courses in photography, video, graphics and animation utilizing the following resources:

- Audio and Video Post Production Lab for Final Cut, Premiere, After Effects, and Logic
- Nikon digital cameras
- Portable digital audio recorders

Career Potential: Multimedia Producer, Social Media content creator

Outcomes

Graduates of the program will:

- be skilled in the basic operation of multimedia computers and related audio and video equipment
- be able to formulate and plan multimedia and internet productions.
- develop their creative intelligence and capacity for creative expression in the form of multimedia and internet applications.
- be able to use various multimedia and Web technologies to communicate information, ideas and feelings to an audience.
- be able to design and use text, graphics, audio and video clips for use in multimedia and the Internet.

Courses

Required Courses

CMTH180	Multimedia Production	3
CMTH182	Multimedia Graphics & Animation	3
CMTH185	Multimedia Video	3
Subtotal:		9

Publishing for Writers, Specialized Diploma

Outcomes

Overview

Courses

Required Courses

PUBL101	Pathways to Publication for the Aspiring Author	3
PUBL102	Self-Publishing	3
Subtotal:		6
Subtotal:		6

Theatre, Associate in Arts

Overview

Narrative

The curriculum is designed to parallel the courses and experiences found in the first two years of a B.A. Theatre degree while providing the students opportunities to explore the various concentrations available in theatre arts. Northampton graduates have transferred to a wide range of four-year institutions, including Temple University, DeSales University, Cedar Crest College, Albright College, Brooklyn College, University of Iowa, University of Missouri at Kansas City, and University of Connecticut.

Features

NCC Theatre produces four major productions each season in both the newly renovated 350-seat Lipkin Theatre and the 100-seat Norman R. Roberts Lab Theatre. In addition, there is a variety of ensemble, experimental, touring, and special occasion productions mounted during the year. All NCC students are welcome to participate in productions. The Theatre Department Faculty have diverse backgrounds and professional experience in acting, directing, technical theatre, design, performance studies, speech communications, oral interpretation, education outreach and children's theatre. The full-time faculty is augmented with a professional costumer, various guest directors, and adjunct faculty. The program offers field trips to professional theatres in New York, New Jersey and the Philadelphia area, along with specialized workshops by visiting artists, and individual coaching of student auditions and presentations. All graduating students participate in a capstone showcase during their last semester. Graduates in good standing with a GPA of 3.0 or higher may be eligible to receive the Norman R. Roberts Theatre scholarship which is applied to their first semester at a transfer institution.

Requirements

Before admission to the program, students must successfully complete a departmental interview and audition or presentation. Contact the admissions office at 610.861.5500 for further information. Non-program students are welcome to enroll in any theatre class with the exception of Theatre Portfolio, CMTH218.

Career Potential: Transfer program for actors, technicians, designers, directors, and educators. Preparation for entry level employment in Theatre Arts. Skills and Experience to qualify for internships leading to further training and future employment.

Outcomes

Graduates of the program will:

- Demonstrate an understanding of theatre arts as a creative expression that reflects the diversity of human

- experiences.
- Demonstrate an understanding of the theatrical conventions and cultural/historical backgrounds behind a cross-section of plays and productions.
- Demonstrate theatre practitioners' methods and skills in the collaborative and creative process.
- Begin a lifelong participation in theatre as both audience and artist.

Courses

First Semester

CMTH110	Introduction to the Theatre	3
CMTH111	Acting I	3
CMTH102	Introduction to Communication	3
ENGL101	English I	3
MATH	Mathematics Elective (QL)	3
		Subtotal: 15

Second Semester

ARTA101	Art History Survey	3
CMTH115	Technical Theatre and Design	3
CMTH189	Stage Voice and Movement OR	1
CMTH190	Stage Production OR	1
MUSC130	Chorus OR	1
DANC	1 any 1 credit DANC course	1
CMTH205	Public Speaking	3
ENGL151L	English II	3
PSYC103	Introduction to Psychology	3
		Subtotal: 16

Third Semester

CMTH211G	Plays: Classical to Contemporary	3
CMTH212	Acting II OR	3
CMTH117	Stagecraft	3
CMTH189	Stage Voice and Movement OR	1
CMTH190	Stage Production OR	1
MUSC130	Chorus OR	1
DANC	1 any 1 credit DANC course	1
	Science Elective (SCI) ++	4
	Social Science: Societies and Institutions over Time Elective (SIT)	3
		Subtotal: 14

Fourth Semester

CMTH206	Directing	3
CMTH218	Theatre Portfolio	1
ENGL2__G	Literature Elective (WI) +	3
MUSC101	Introduction to Music	3
CMTH	Television/Film Elective +++	3
	Transfer Elective	3

Subtotal: 16

+ Literature Elective options: ENGL203 (Shakespeare) is recommended; but any ENGL 2xxG, Writing Intensive, literature course is acceptable.

++Science Elective options: BIOS105 (Contemporary Biology) or BIOS160 (Human Biology) is recommended; but any four-credit lab science course may be taken.

+++ Television/Film Elective options: CMTH170 (Television Production), CMTH180 (Multimedia Production), or CMTH240 (Portable Video Techniques) are recommended; but CMTH104 (Mass Media & Society), CMTH126 (The Communication Arts), and CMTH220 (Introduction to Film) may be taken.

- Computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the computing requirement for this program.

Subtotal: 61

Web Site Design, Specialized Diploma

Overview

Narrative

This specialized diploma 16-credit program provides hands-on training and experience in designing compelling and functional web sites. The program is taught in NCC's state-of-the-art Apple computer labs, with 24/7 high speed Internet connection. Students will work with top line professional graphic design and web design software and tools.

The Web Site Design program provides an introduction to the cycle of creative web site design and development as is commonly found in the industry today. Students will develop original design concepts created in Adobe Photoshop and Illustrator software, and build layouts using Adobe Dreamweaver, hand-coded HTML & CSS, Javascript, and Flash elements.

You will learn the basics of Photoshop, Illustrator, and graphic design concepts in Computer Graphics. In *Introduction to Web Design*, students are exposed to modern design and usability concepts, as well as instruction on technical implementation of web layouts in HTML & CSS. The *Advanced Web Site Design* course focuses on concepts related to dynamic, interactive layouts, advanced CSS concepts, javascript galleries and content-manipulation scripts, PHP scripts, and Wordpress layouts. In the *Web Animation and Interactive Design* classes, students learn topics related to animation, interactivity, and basic video game design.

Upon completion of the specialized diploma program, students will publish a portfolio of websites and interactive designs online on the personal webspace provided by the college.

Features

Course work provides hands-on instruction in basic HTML coding and the use and understanding of current web authoring applications. The majority of work in this program will use web-authoring applications, and will not focus on the use of HTML.

Your web design skills will be developed using Macintosh computers, as well as current scanning, printing and photography hardware in Northampton's well-equipped digital lab. Your assignments will give you practical experience in solving design problems for the Web. You'll also benefit from close student-teacher instruction, as well as interaction with professional Web designers.

View Gainful Employment information on the Website Design specialized diploma.

Career Potential: Graduates of the Web Site Design Specialized Diploma program will possess a basic understanding of web site design concepts and applications. Due to the complex and rapidly changing nature of this profession, students are encouraged to seek additional and continual advanced training in order to pursue a career in web site design and development.

Outcomes

Graduates of the program will:

- Understand the basic concepts and use of HTML scripting language.
- Know how to use current Web design authoring software.
- Know how to optimize graphic files for the Web.
- Know how to use a basic digital camera to capture content for the Web.
- Understand copyright laws as they apply to Web design.
- Understand the history and development of the World Wide Web and the Internet.
- Know how to place a Web site on line using FTP software.
- Know how to test and monitor Web sites that are on line.
- Know how to "tweak" Web sites for viewing on current Web browsers.

Courses

ARTA130	Intro to Web Site Design	3
ARTA132	Web Animation	3
ARTA170	Computer Graphics	4
ARTA240	Advanced Web Site Design	3

Subtotal: 16

Business & Professional Services Accounting

Narrative

Accountants are essential team members within large and small corporations, and at non-profits and educational institutions. With a degree in accounting, you'll also have the knowledge you need to manage your own business. Northampton's Accounting program, which is accredited by the Accreditation Council for Business Schools and Programs (ACBSP), provides a solid foundation of specific accounting concepts as well as the skills you'll need to succeed in the field.

Outcomes

Graduates of the program will be able to:

- Make decisions that reflect legal and ethical standards in the profession of accounting.
- Prepare financial reports and statements.
- Interpret financial data and financial information.
- Analyze accounting data and information for decision making.

Career Potential: Accounts Payable/Receivable, Bookkeeper/Payroll, Cost Accountant, Public Accountant, Staff Accountant, Tax Accountant, Account Manager, Account Specialist, Inventory Accountant

Leading to: Auditor, Certified Public Accountant, Comptroller, Treasurer, Trust Officer

Accounting, Associate in Applied Science

Overview

Features

On its own, Northampton's associate's degree will qualify you for a range of employment opportunities, including entry-level accounting, bookkeeping, accounts payable/receivable and more. If your plan is to pursue a career as a Certified Public Accountant (CPA), an associate's degree from Northampton is an affordable way to start down the path toward the required bachelor's degree.

The AAS degree program can be conveniently completed in the day or evening, on a full- or part-time basis. The program can also be completed online.

Courses

First Semester

COLS101	College Success	1
ACCT101	Financial Accounting I	3
BUSA152	Business Law I	3
ENGL101	English I	3
	Mathematics Elective (QL) +	3
	General Education Elective ++	3

Subtotal: 16

Second Semester

ACCT151	Financial Accounting II	3
CISC101	Introduction to Computers	3
CMTH102	Introduction to Communication	3

ENGL151L	English II	3
	Business Elective +++	3
		Subtotal: 15
Third Semester		
ACCT201	Intermediate Accounting I	4
ACCT202	Managerial Accounting	3
ECON201	Macroeconomics	3
CISC104	Microcomputer Applications	4
	General Education Elective ++	3
		Subtotal: 17
Fourth Semester		
ACCT220	Income Tax Accounting	3
BUSA201	Business Statistics I	4
BUSA221G	Business Communications	3
	Accounting Elective ++++	3
	Elective	3
		Subtotal: 16

+ Mathematics Elective options: MATH140, MATH145, MATH160, MATH165, MATH175, MATH176, MATH180, MATH181.
 ++For the General Education Elective, students must take a course from the list of approved courses in two of the following categories: Arts & Humanities (AH); Social Science: Societies and Institutions over Time (SIT) or Social Science: Scientific Study of Human Behavior (SSHB).
 +++ Business Elective options: BUSA101, BUSA115, BUSA131, BUSA137, BUSA202, BUSA205, BUSA226, BUSA235.
 ++++ Accounting Elective options: ACCT160, ACCT205*, ACCT251*, ACCT255* or BUSA211. * Offered only through Online Learning.

- Completion of ENGL151L satisfies the Diversity and Global Awareness (D) requirement.
- BUSA221G satisfies the Writing Intensive (WI) requirement for this program.

NOTE: Students will be required to use spreadsheets in their upper level accounting courses. Thus, it is highly recommended that students complete CISC101 before enrolling in any sophomore accounting courses.

Subtotal: 64

Accounting, Specialized Diploma

Overview

Features

Northampton also offers two specialized diplomas in Accounting: the Accounting Specialized Diploma and the Accounting Assistant Specialized Diploma. Both can be completed in the day or evening. The Accounting Specialized Diploma is intended for students who may already have a college degree but who wish to acquire accounting skills or begin taking steps toward achieving the CPA. To learn more about the requirements of reaching CPA licensure, you can visit PICPA.org.

View Gainful Employment information on the Accounting Certificate
 Contact the Admissions Office at 610.861.5500 for further information.

Courses

First Semester

ACCT101	Financial Accounting I	3
BUSA152	Business Law I	3
		Subtotal: 6

Second Semester

ACCT151	Financial Accounting II	3
ACCT202	Managerial Accounting	3
BUSA202	Business Law II	3
		Subtotal: 9

Third Semester

ACCT201	Intermediate Accounting I	4
ACCT205	Cost Accounting	3
		Subtotal: 7

Fourth Semester

ACCT251	Intermediate Accounting II	3
ACCT220	Income Tax Accounting	3
ACCT255	Principles of Auditing	3
		Subtotal: 9

NOTE: Students will be required to use spreadsheets in their upper level accounting courses. Thus, it is highly recommended that students complete CISC101 before enrolling in any sophomore accounting courses.

Subtotal: 31

Accounting Assistant, Specialized Diploma

Overview

Features

Northampton also offers two specialized diplomas in Accounting: the Accounting Specialized Diploma and the Accounting Assistant Specialized Diploma. Both can be completed in the day or evening. The Accounting Assistant Specialized Diploma is a good choice for students who would like to begin working quickly in support positions in accounting firms or in other related areas of business. The 18-credit diploma includes introductory accounting classes as well as training on computers.

View Gainful Employment information on the Accounting Assistant Certificate

Contact the Admissions Office at 610.861.5500 for further information.

Courses

First Semester

ACCT101	Financial Accounting I	3
CISC101	Introduction to Computers	3
CMTH102	Introduction to Communication	3
		Subtotal: 9

Second Semester

ACCT151	Financial Accounting II	3
ACCT160	Accounting Applications	3
BUSA211	Personal Finance	3
		Subtotal: 9
		Subtotal: 18

Business Administration, Associate in Arts

Overview

Narrative

For practical, business-minded students, Northampton is a great way to save money while getting the first two years of a degree completed. Our Business Administration program prepares you for transfer into a four-year institution in the fields of accounting, business, economics, finance, marketing, and business administration. The program is accredited by the Accreditation Council for Business Schools and Programs (ACBSP).

By working closely with an advisor, you can carefully select your courses and ensure that all of your credits will transfer and be applicable to your ultimate degree goals. We also recommend that you refer often to the catalog of the college or university to which you plan to transfer.

Features

NCC's Business Administration program offers a balanced mix of liberal arts and specialized courses. Classes in

accounting, business law, economics and statistics provide the foundation you'll need as you advance in the business world.

This program can be completed in the day or evening, on a full-time or part-time basis. If you are entering the Business Administration or Business Management degree programs in the evening, you can generally take most required courses during any semester, if you have the prerequisites. A few courses are not offered in the evening every semester so it's important to develop your schedule accordingly to avoid any delay in graduation.

Contact the Admissions Office at 610-861-5500 for further information.

The AS in Business Administration prepares you for these other areas of concentration: Accounting, Marketing, Management, Human Resource Management, Business Communications, Economics, leading to positions in Corporate and Small Business Management.

NCC students have transferred to: Bloomsburg University, DeSales University, East Stroudsburg University, Kutztown University, Moravian College, Pennsylvania State University, Temple University, West Chester University

Outcomes

Graduates of the program will be able to:

- Communicate ideas effectively.
- Explain basic accounting and economic principles.
- Demonstrate an understanding of basic computer applications.
- Identify ethical and legal challenges within the business environment.

Courses

First Semester

COLS101	College Success	1
ACCT100	Accounting for Non-Accountants	3
CISC101	Introduction to Computers	3
CMTH102	Introduction to Communication	3
ENGL101	English I	3
MATH140	College Algebra	3
Subtotal: 16		

Second Semester

ACCT151	Financial Accounting II	3
BUSA131	Principles of Marketing	3
ENGL151L	English II	3
MATH165	Applied Calculus	3
	General Education Elective (AH)	3
Subtotal: 15		

Third Semester

ACCT202	Managerial Accounting	3
BUSA201	Business Statistics I	4
BUSA205	Management Fundamentals	3
ECON201	Macroeconomics	3
	General Education Elective (SIT)	3
Subtotal: 16		

Fourth Semester

BUSA152	Business Law I	3
ECON251G	Microeconomics	3
	Science Elective (SCI)	4
	General Education Elective (SIT or SSHB)	3
	Elective +	3
Subtotal: 16		

- Completion of ECON251G satisfies the program-related Writing Intensive (WI) requirement. In addition, one General Education Elective must be taken in a Writing Intensive (WI) section.
- Completion of ENGL151L satisfies the Diversity and Global Awareness (D) requirement.

Subtotal: 63

Business Management, Associate in Applied Science

Overview

Narrative

If you're ready to get started, Northampton's Business Management program will prepare you for a career in business, government or non-profit organizations. This program is designed for those looking to enter the business world upon graduation rather than transferring to a four-year institution. Our program emphasizes the practical applications of business studies. (For those interested in pursuing a four-year degree, we recommend our Business Administration degree.) The program is accredited by the Accreditation Council for Business Schools and Programs (ACBSP).

Features

The program offers a strong foundation of common core course work on which to build your managerial skills. You'll also complete a capstone experience called the International Business Practice Firm, a virtual business in a state-of-the-art facility. Through this experience, you will perform various business functions (i.e., Accounting, Human Resources, Marketing/Sales, and Purchasing/Inventory Control) as the firm transacts business with students in other simulated companies in the U.S. and in other countries. This hands-on experience gives you marketable employment skills and insight into the global market economy. The International Business Practice Firm also enhances critical thinking, problem solving and communication skills.

Our Business Management associate's degree program is accredited by the Accreditation Council for Business Schools and Programs (ACBSP). As you near graduation, your instructors and the professionals in Northampton's Career Services Office can help you find employment in your area of interest.

Requirements

The Business Management Program contains provisions for three credits of free electives in addition to the General Education electives. This program can be completed in the day or evening, on a full-time or part-time basis. Traditional day students must take Principles of Marketing (BUSA131) and Human Resource Management (BUSA226) in a fall semester; Management Fundamentals (BUSA205) is to be taken in a spring semester.

Contact the Admissions Office at 610-861-5500 for further information.

Career Potential: Self-Employment, Management Trainee, Entry-level Positions, leading to Corporate Management, Sales Management.

Outcomes

Graduates of the program will be able to:

- Demonstrate strong written and verbal communication skills necessary to work effectively with people in the business field.
- Apply general business concepts in the areas of accounting/finance, economics, management, and marketing.
- Demonstrate proficiency in current office information technology.
- Discuss ethical, moral, and legal issues associated with the professional working environment and be able to apply ethical concepts in business-like situations.
- Develop team skills in completing everyday business tasks through participation in a virtual enterprise capstone experience.

Courses

First Semester

COLS101	College Success	1
ACCT101	Financial Accounting I	3
CISC101	Introduction to Computers	3
CMTH102	Introduction to Communication	3
ENGL101	English I	3
MATH140	College Algebra	3
	OR	
MATH150	Introductory Statistics	3
	Subtotal: 16	

Second Semester

BUSA131	Principles of Marketing	3
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BUSA152	Business Law I	3
BUSA205	Management Fundamentals	3
CISC104	Microcomputer Applications	4
ENGL151L	English II	3

Subtotal: 16**Third Semester**

ACCT160	Accounting Applications OR	3
ACCT202	Managerial Accounting	3
BUSA221G	Business Communications	3
BUSA226	Human Resources Management	3
ECON201	Macroeconomics	3
	General Education Elective (AH or SIT)	3

Subtotal: 15**Fourth Semester**

BUSA211	Personal Finance	3
BUSA260	International Business Practice Firm	3
BUSA	Business Elective ++	3
	General Education Elective	3
	Elective	3

Subtotal: 15

++ Business Elective options: BUSA114, BUSA115, BUSA137, BUSA141, BUSA202, BUSA235, BUSA252.

- Completion of BUSA221G satisfies the Writing Intensive (WI) requirement.
- Completion of ENGL151L satisfies the Diversity and Global Awareness (D) requirement.
- Students need to take 9 credits in at least two of the fields listed: AH, SIT, SSHB. ECON201 fulfills 3 credits of this requirement as an SSHB.

Subtotal: 62**Culinary Arts****Narrative**

Since its creation in 1993, Northampton's Culinary Arts program has earned a reputation as one of the finest of its kind. As a graduate of our program, you will be in demand in a wide variety of settings. Nearly all of the leading food service industry employers in our region - from fine dining restaurants to campus dining services - proudly employ our graduates. The program provides a year of intensive full-time study that combines theory and lecture with nearly 1,000 hours of hands-on practical application. Students are trained in all the formal classical methods of preparing food and then put that training into practice. Once the culinary training has been completed, students can complete the additional core courses needed to earn their Associate in Applied Science degree. If you already have a college degree, you may prefer to opt for the program's specialized diploma and forgo the core courses required for the associate's degree. Culinary Arts graduates are trained for careers including chef, banquet chef, executive chef, baker, pastry chef and caterer. Potential work settings include multi-unit chain restaurants, owner operated restaurants, four-star hotels, private country clubs, cruise ships, amusements parks, corporate food service and catering. Whether you would like to own your own restaurant or work for a large employer, you will find rewarding and satisfying career opportunities with a degree from our program.

Features

The program starts with an intensive series of five culinary modules taught over the first semester. This period combines classroom discussion, lecture and demonstration of theories and techniques used in the food service industry, and hands-on skills training. In the next two semesters of the program, you will be part of the student team that runs the College's fine dining restaurant, Hampton Winds, catered events and its new Grab and Go unit located in the Gates Center.

View Gainful Employment information on the Culinary Arts specialized diploma.

Requirements

The Culinary Arts Program is a selective admissions program and there will be more applicants than can be accepted. You are therefore encouraged to apply with all necessary paperwork by the established deadline dates. **A valid ServSafe Management Certificate is required prior to enrollment and submitted through my Record Tracker.**

There are three opportunities during the year to enter the program. The preferred application deadline for fall enrollment (courses beginning in August) is February 1st; the preferred spring (courses beginning in January) deadline is October 1st and the preferred summer (courses beginning in May) deadline is February 1st. A completed application includes the application and fee and official high school and college (if applicable) transcripts.

Prior to acceptance, you are required to take the English Placement Test (EPT) and be able to enroll in English 101 or be able to transfer English 101 or its equivalent. Immunizations for Hepatitis A and Hepatitis B and a urinalysis are required for all Culinary Arts Students.

Contact the Admissions Office at 610.861.5500 for further information.

Outcomes

Graduates of the program will:

- Understand the terminology of the commercial kitchen. This includes terms from several European languages, as well as the accepted terms and titles used in a modern food service establishment.
- Have an understanding of the operation, maintenance and cleaning of the tools and machines used in a modern food service establishment.
- Demonstrate proper sanitation and safety techniques for all aspects of the food service establishment.
- Demonstrate knowledge and application of culinary techniques and methods used in modern food preparation.
- Recognize all of the major food products used in a commercial food service establishment.
- Demonstrate an ability to maintain an organized file of recipes and preparation methods.
- Demonstrate the ability to accurately measure and formulate recipes that result in consistent desired results each and every time, both in quality and cost.
- Demonstrate the ability to organize a food preparation workstation based on menu items to be prepared.

Career Potential: Leading to: Sous Chef, Banquet Chef, Executive Chef, Baker, Pastry Chef, Caterer, Culinary Sales Representative, Personal Chef, Research & Development Chef and many other opportunities

Culinary Arts, Associate in Applied Science

Courses

First Semester

COLS101	College Success	1
CULA104	Culinary Foundations	4
CULA105	Product Identification and Costing	3
CULA110	Baking and Pastry Production	3
CULA112	Culinary Skill Development	3
CULA115	Protein Fabrication and Utilization	3
		Subtotal: 17

Second Semester

CULA135	American Regional Cuisine	3
CULA145	Culinary and Restaurant Operations	12
		Subtotal: 15

Third Semester

CULA230	Global Cuisine	3
CULA250	Advanced Culinary and Restaurant Operations	12
		Subtotal: 15

Fourth Semester

CMTH102	Introduction to Communication	3
ENGL101	English I	3
	Mathematics (QL) or Science (SCI) Elective +	3/4
	General Education Elective (SIT)	3

Subtotal: 12-13**Fifth Semester**

ENGL151R	English II	3
	General Education Elective (SSHB)	3
	General Education Elective	3
	Elective	3

Subtotal: 12

+ The Mathematics (QL) or Science (SCI) Elective must be chosen from the list of approved General Education Quantitative Literacy or Science courses. Recommended courses for Quantitative Literacy (QL) and Science (SCI) Electives: MATH103, MATH120, MATH140; CHEM105, CHEM120.

- For the General Education Electives, students must take three courses from the list of approved courses in at least two of the following categories: Arts & Humanities (AH); Social Science: Societies and Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB). Recommended courses for SIT Electives: GEOG101, GLBL130, HIST113. Recommended courses for SSHB Electives: GEOG121, INTS250, PSYC103, SOCA103.
- Students must pass each CULA course before progressing in the program.
- One course must be designated Diversity and Global Awareness (D).
- One General Education course must be taken in a Writing Intensive (WI) section.

Subtotal: 71-72

Culinary Arts, Specialized Diploma

Courses

First Semester

COLS101	College Success	1
CULA104	Culinary Foundations	4
CULA105	Product Identification and Costing	3
CULA110	Baking and Pastry Production	3
CULA112	Culinary Skill Development	3
CULA115	Protein Fabrication and Utilization	3

Subtotal: 17**Second Semester**

CULA135	American Regional Cuisine	3
CULA145	Culinary and Restaurant Operations	12

Subtotal: 15**Third Semester**

CULA230	Global Cuisine	3
CULA250	Advanced Culinary and Restaurant Operations	12

Subtotal: 15**Subtotal: 47**

Funeral Service Education, Associate in Applied Science

Overview

Narrative

Are you interested in:

- Helping Others?
- The Human Biological Sciences?
- Community Involvement?
- A business environment?

Have you considered a career in Funeral Service?

The funeral service professional:

- Provides support to the bereaved during initial stages of grief.
- Arranges and directs funeral ceremonies.
- Performs the transfer of the deceased from the place of death.
- Prepares the body according to the wishes of the survivors and requirements of the law.
- Sells funeral related services and merchandise.
- Establishes pre-arranged/pre-financed funeral accounts.
- Secures information for legal documents.
- Files death certificates and other legal papers.
- Assists survivors with details for filing claims for death benefits.
- Helps individuals adapt to changes in their lives following a death through post-death counseling and support group activities.

Why should you enter funeral service?

- You are a caregiver who desires to serve others.
- You believe ceremony is an effective way of expressing feelings.
- You are open-minded about ways in which people of different faiths and cultures express their feelings and practice their beliefs.
- You are interested in the technical sciences.
- You exhibit sensitivity and compassion for those with whom you are in contact.
- You are interested in learning all aspects of a business.

Funeral Service Education provides you with a comprehensive understanding of all phases of funeral service necessary to serve the bereaved in a professional and ethical manner. The need for funeral directors and embalmers will escalate over the next twenty years and the earning potential has never been better.

Mission Statement

Our mission as Northampton Community College Funeral Service Education is to educate students in the fundamental skills, knowledge, and practice of funeral service. We strive to create a supportive learning environment which fosters communication, critical thinking, self-discipline, compassion and encourages student and faculty research in the field of funeral service. The program embraces the college's mission, vision and values, and is committed to providing an unexcelled educational experience that is inclusive and diverse.

Accreditation

The Funeral Service Education degree program at Northampton Community College is accredited by the American Board of Funeral Service Education (ABFSE), 992 Mantua Pike, Suite 108, Woodbury Heights, New Jersey 08097 (816) 233-3747. Web: www.abfse.org.

National Board Examination pass rates, graduation rates, (beginning in 2015) and employment rates (beginning in 2015) for this and other ABFSE-accredited programs are available at www.abfse.org or can be obtained here. To request a printed copy of this program's rates, go to the Funeral Service Education Program Director's office, Commonwealth Hall, Office 106 or by e-mail at tmoore@northampton.edu, or by telephone 610-861-5576.

Funeral Service Education Aims and Objectives

The Funeral Service Education Program has as its central aim recognition of the importance of funeral service education personnel as:

- members of a human service profession,
- members of the community in which they serve,
- participants in the relationship between bereaved families and those engaged in the funeral service profession,
- professionals knowledgeable of and compliant with federal, state, and local regulatory guidelines,
- professionals sensitive to the responsibility for public health, safety and welfare in caring for human remains.

Objectives of the Funeral Service Education Program:

To enlarge the background and knowledge of students about the funeral service profession.

- To educate students in every phase of funeral service, and to help enable them to develop the proficiency and skills necessary in the profession, as defined above.
- To educate students concerning the responsibilities of the funeral service profession to the community at large.
- To emphasize high standards of ethical conduct.
- To provide a curriculum at the post-secondary level of instruction.

- To encourage research in the field of funeral service.

Features

Northampton's Funeral Service Education is designed to meet the educational requirements for licensure set forth by the Pennsylvania State Board of Funeral Directors.

Upon graduation you will be awarded an Associate in Applied Science degree and will be eligible to begin your 12-month Resident Internship. Our graduates have experienced a high level of placement within the profession. Students are admitted to the program during the Fall sessions of each year and are encouraged to participate in the social and community service activities of Sigma Phi Sigma- The Funeral Service Education Student Association. Funeral Service Education core courses are offered during the day.

Career Potential: Funeral Director, Embalmer, Pre-Need Funeral Counselor

Admission Requirements

Acceptance into the Funeral Services Education Program is competitive and you will need to **meet certain prerequisites to be considered for admission**. These admission criteria include:

High school graduates and non-traditional student applicants: will need to have completed high school Biology and Chemistry (with labs) with a grade of C or better AND have an overall G.P.A. of 2.5 or better.

Transfer student applicants: Grades of C or better in each course being transferred in; achieved a minimum G.P.A. of 2.5 for any college-level work completed.

Funeral Service Education core courses (courses with the prefix FUNS) may only be taken by those students who have completed the 60 hours of general education requirement. See prerequisites for grade requirements.

A physical examination and completed medical health form are also required for acceptance. Obtain necessary immunizations and/or titers. Have or obtain health insurance.

The application procedure for Funeral Service Education is as follows:

1. Forward completed application with \$25 (non-refundable) fee to the Admissions Office.
2. Have official transcripts from all institutions attended (high school and college, if applicable) to the Admissions Office. Your file will not be reviewed until all transcripts are received.
3. Files completed by February 1st will be given primary consideration for acceptance. Applications received after this date will be reviewed on a space available basis only.

A Funeral Service Education advisor will guide you in selecting the appropriate courses that will prepare you to enter the Funeral Service Education core. When you are ready to pursue the Funeral Service Education core phase (which includes all FUNS courses) you need to submit a Clinical/Core Readiness form to the Admissions Office by February 1st. Priority for core seats will be given to those students with the most general education program courses completed and highest G.P.A.

Contact the Admissions Office at 610.861.5500 for further information.

Outcomes

Graduates of the program will:

- Discuss the history and development of the funeral service profession and practices.
- Demonstrate competence in the knowledge and skills necessary to perform in the role of a funeral service professional.
- Recognize the responsibilities of the funeral service profession to the community at large.
- Demonstrate professionalism and accountability related to the legal, regulatory and ethical issues facing funeral service.
- Communicate effectively in oral and written forms with client families, peers, members of the funeral service community and those in allied professions.
- Assess and attend to the pre-need, at-need, and aftercare needs of client families.
- Employ safe practices, competence and compassion when caring for the deceased.
- Identify application of scholarly research in the field of funeral service.
- Complete satisfactorily a curriculum at the post- secondary level of instruction

Courses

Summer Sessions

COLS101	College Success	1
ENGL101	English I	3
MATH	Mathematics Elective (QL)	3
PSYC103	Introduction to Psychology	3

	Elective	3
	Subtotal: 13	
First Semester (Fall)		
BIOS160	Human Biology	4
CISC101	Introduction to Computers	3
CMTH102	Introduction to Communication	3
ENGL151L	English II	3
BUSA	Business Elective	3
	Subtotal: 16	
Second Semester (Spring)		
ACCT101	Financial Accounting I	3
	OR	
ACCT100	Accounting for Non-Accountants	3
BIOS202	Microbiology for Allied Health	4
BUSA152	Business Law I	3
PHIL111G	On Death and Dying	3
PSYC221	Responding to the Bereaved	3
SOCA103	Principles of Sociology	3
	Subtotal: 19	
Summer Sessions		
CHEM135	Chemistry of Life	4
BUSA221G	Business Communications	3
	General Education Elective (SIT)	3
	Elective	3
	Subtotal: 13	
Third Semester (Fall)		
FUNS101	Principles of Funeral Service	2
FUNS102	Introduction to Funeral Service	4
FUNS201	Funeral Home Operations I	4
FUNS203	Pathology for Funeral Service	3
FUNS210	Embalming Theory I	3
FUNS241	Funeral Services Field Study I	1
	OR	
FUNS212	Funeral Service Clinical I	1
	Subtotal: 17	
Fourth Semester (Spring)		
FUNS105	Funeral Directing	3
FUNS220	Embalming Theory II	3
FUNS231	Funeral Home Operations II	2
FUNS242	Funeral Services Field Study II	1
	OR	
FUNS222	Funeral Service Clinical II	1
FUNS251	United States and Pennsylvania Funeral Law	3
FUNS255	Cosmetology & Restorative Art	3
FUNS280	Funeral Service Education Comprehensive Review	1
	Subtotal: 16	

BIOS160, CISC101, ACCT101, BIOS202, BUSA152, PSYC221, CHEM135, BUSA221G: Students must earn a grade of “C” or better in these courses to begin FUNS Courses

- For their Social Science: Societies and Institutions over Time (SIT) Elective, students must select a course from the list of approved courses in that category.

- One General Education course must be taken in a Writing Intensive (WI) section. In addition, writing intensive work is included in various courses in this program; thus completing the program automatically satisfies the program-related Writing Intensive (WI) requirement.
- Computer competencies are included in various courses in this program as well as in CISC101. Thus, completing the program automatically satisfies the computing requirement.
- For their Mathematics (QL) Elective, students must select a course from the list of approved courses in that category.
- Students must earn a grade of "C" or better in all FUNS courses to progress in the program.

Subtotal: 94

Hospitality Management Restaurant and Hotel Options

View our other Hospitality program options:

- Dining Room Operations (p. 116)
- Meeting and Event Planning (p. 113)
- Resort Management (p. 117)

Narrative

Employment in the Hospitality industry has reached record-breaking levels locally and internationally. As the industry has expanded, consumer expectations about the quality of their experiences at hotels and restaurants have also been raised to new heights. The Hospitality industry offers exciting and rewarding career options. Your education makes a difference in how competitive you will be for high-paying, senior-level positions.

Northampton Community College offers state-of-the-art training facilities, classroom study, and hands-on practical application. Our program prepares you to gain entry-level management positions in restaurants, hotels, and several hundred other hospitality related careers. Your internship course at Northampton will allow you to begin your career in the hospitality field, while gaining the work experience needed to help you climb the ladder of success. Students develop their specialized skills in the area of their choice, and can advance to management positions within 6 months to 1 year. The National Restaurant Association and The American Hotel and Lodging Association offers scholarships to students interested in furthering their career with a formal education.

Northampton Community College's hospitality management program has been recognized by the Accreditation Commission for Programs in Hospitality Administration. The accreditation will enable college graduates to be awarded a certified hospitality graduate designation. ACPHA, a private nonprofit organization, is comprised of hospitality, tourism and business professionals from across the United States. The commission's standards set a national benchmark for the effective instruction of programs nationally.

Hospitality Management Program Mission Statement

Offer professional hospitality with a diverse outlook on the local and global communities via student engagement through innovative live labs and technologies. By providing an accessible and comprehensive learning experience students gain a global leadership perspective on accountability and integrity in the hospitality and related businesses.

Hospitality Management Program Vision Statement

- As one of the leading Hospitality Management Programs in the nation, we will:
- Instill problem solving techniques through formulating innovative critical thinking skills.
- Continuously seek commitment to the sustainability of the industry, the economy and the environment.
- Create a positive and ethical decision-making environment, that leads to effective communication and networking skills.
- Promote innovative program offerings through industry recognized certifications and radical team building approaches.

Hospitality Management: Adventure Course Management, Specialized Diploma

Courses

First Semester

COLS101	College Success	1
HOSP101	Introduction to the Hospitality Industry	3

HOSP105	Enhancing Guest Service	3
ADVT104	Adventure Course Practicum	4
ADVT114	Challenge Course Operations	3
		Subtotal: 14

Second Semester

HOSP201	Strategic Leadership in Hospitality	3
HOSP212	Hospitality Financial Reporting	3
HOSP215	Hospitality Sales & Marketing	3
ADVT104	Adventure Course Practicum	4
ADVT124	Safety and Risk Management	3
		Subtotal: 16
		Subtotal: 30

Hospitality Management: Adventure Course Operations, Specialized Diploma

Courses

First Semester

COLS101	College Success	1
ADVT104	Adventure Course Practicum	4
ADVT114	Challenge Course Operations	3
		Subtotal: 8

Second Semester

ADVT104	Adventure Course Practicum	4
ADVT124	Safety and Risk Management	3
		Subtotal: 7
		Subtotal: 15

Hospitality Management: Restaurant Option, Associate in Applied Science

Overview

Features

For students interested in a career in hospitality food and beverage management, Northampton offers students the opportunity to earn an associate degree in applied science in Restaurant Management. Some of the core classes in the program include food preparation techniques, dining room operations, menu planning and cost controls and the fundamentals of beers, wines and spirits, catering and convention services, dining room operations, and strategic leadership. Students will have hands-on working experience at local outstanding restaurants, in the "Hampton Winds" campus restaurant and at college special events.

The Hospitality Management program fosters teamwork, professionalism, and learning through experience. Students will be prepared for a career in the hospitality industry by classroom learning supplemented with field trips, guest speakers and industry certifications. All students will complete a 225 hour management practicum, where they will complete an internship in their area of interest.

Course credit or advanced placement options may exist for students coming from local high schools and vocational schools. Northampton also has agreements with several colleges and universities for students interested in transferring to a four year school upon completion of the program. Program instructors and college advisors can help determine the education and career path that will lead students to a successful future.

Contact the Admissions Office at 610.861.5500 for further information.

Career Potential: Restaurant Operations Supervisor/Manager/Owner, Conference Services/, Banquet Supervisor/Manager, Contract Food service supervisor/manager, food broker/distributor, several other restaurant related entry-level positions.

NCC students have transferred to: Pennsylvania State University, East Stroudsburg University, University of Delaware, University of Nevada, Las Vegas, Johnson and Wales University

Outcomes

Graduates of the program will:

- Acquire and correctly use general industry information, technical skills, and certifications for employment in the hospitality industry.
- Listen and effectively communicate in a positive, professional, and ethical manner with customers and colleagues of diverse backgrounds.
- Display a professional image, positive attitude, strong work ethic, and recognize your role in the success of the organization where you are employed.
- Read and accurately interpret standard indicators of the organization's financial health.
- Use appropriate technology for written communication, information gathering, and data analysis to facilitate smooth operation of a hospitality organization.
- Demonstrate leadership and supervisory skills, and an appreciation of diversity to support the organization and its goals.
- Use organization and flexibility, as a team, to complete tasks, make decisions, and problem solve in a timely manner.
- Utilize research and problem-solving techniques to employ "out of the box" critical thinking skills in a variety of hospitality situations.

Courses

First Semester

COLS101	College Success	1
CMTH102	Introduction to Communication	3
ENGL101	English I	3
FOOD140	Fundamentals of Beer, Wine, and Spirits	3
HOSP101	Introduction to the Hospitality Industry	3
HOSP105	Enhancing Guest Service	3
Subtotal: 16		

Second Semester

ENGL151R	English II	3
FOOD123	Menu Plan/ Food & Beverage Cost Control	3
HOSP111	Food and Beverage Management	3
HOSP130	Convention Services & Catering	3
	Mathematics (QL) or Science (SCI) Elective	3/4
Subtotal: 15-16		

Third Semester

FOOD110	Food Preparation	4
HOSP210	Human Resources Management for the Hospitality Industry	3
HOSP215	Hospitality Sales & Marketing	3
PSYC103	Introduction to Psychology	3
	General Education Elective (SIT or SSHB)	3
	Elective	3
Subtotal: 19		

Fourth Semester

FOOD250	Dining Room Operations	3
HOSP201	Strategic Leadership in Hospitality	3
HOSP212	Hospitality Financial Reporting	3
HOSP221G	Hospitality Management Practicum	3
	General Education Elective (AH)	3
Subtotal: 16		

- For the General Education Electives, students must select one course from the list of approved Arts & Humanities (AH) courses and one course from the lists of approved courses in Social Science: Societies and Institutions over Time (SIT); or Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness(D).
- Computer competencies are included in various courses in this program. Thus, completion of the program automatically satisfies the computing requirement for the program.

Subtotal: 65-66

Hospitality Management: Hotel Option, Associate in Applied Science

Overview

Features

For students interested in a career in hotel management, Northampton offers students the opportunity to earn an associate degree in applied science in Hospitality Management. Some of the core classes in this program include rooms division management, enhancing guest services, hospitality law, financial reporting, sales and marketing, human resources management, and strategic leadership. Students can supplement their core courses with classes focused on meeting and event planning, casino operations, club management, spa management and resort management. The Hospitality Management program fosters teamwork, professionalism, and learning through experience. Students will be prepared for a career in the hospitality industry by classroom learning supplemented with field trips, guest speakers and industry certifications. All students will complete a 225 hour management practicum, where they will complete an internship in their area of interest.

Course credit or advanced placement options may exist for students coming from local high schools and vocational schools. Northampton also has agreements with several colleges and universities for students interested in transferring to a four year school upon completion of the program. Program instructors and college advisors can help determine the education and career path that will lead students to a successful future.

Contact the Admissions Office at 610.861.5500 for further information.

Career Potential: Hotel Operations Supervisor/ Manager, Guest Services Supervisor/Manager, Junior Event Planner, Food Broker/Distributor, Meeting Planner, Resort Manager, Human Resources Entry-level Manager, Wedding/Social Event Planner, Restaurant operations Supervisor/Manager/Owner, Adventure Course Operator, Adventure Course Manager
NCC students have transferred to: Pennsylvania State University--College Park and Berks campuses, East Stroudsburg University, Keystone College, Temple University, Widener University, York College of Pennsylvania

Outcomes

Graduates of the program will:

- Acquire and correctly use general industry information, technical skills, and certifications for employment in the hospitality industry.
- Listen and effectively communicate in a positive, professional, and ethical manner with customers and colleagues of diverse backgrounds.
- Display a professional image, positive attitude, strong work ethic, and recognize your role in the success of the organization where you are employed.
- Read and accurately interpret standard indicators of the organization's financial health.
- Use appropriate technology for written communication, information gathering, and data analysis to facilitate smooth operation of a hospitality organization.
- Demonstrate leadership and supervisory skills, and an appreciation of diversity to support the organization and its goals.
- Use organization and flexibility, as a team, to complete tasks, make decisions, and problem solve in a timely manner.
- Utilize research and problem-solving techniques to employ "out of the box" critical thinking skills in a variety of hospitality situations.

Courses

First Semester

HOSP101	Introduction to the Hospitality Industry	3
HOSP105	Enhancing Guest Service	3
	General Education Elective (SIT or SSHB)	3
ENGL101	English I	3
CMTH102	Introduction to Communication	3
COLS101	College Success	1
		Subtotal: 16

Second Semester

HOSP111	Food and Beverage Management	3
HOSP130	Convention Services & Catering	3
	Required Program Elective +	3
ENGL151R	English II	3
	General Education Elective (AH)	3
		Subtotal: 15

Third Semester		
HOSP210	Human Resources Management for the Hospitality Industry	3
HOSP215	Hospitality Sales & Marketing	3
HOTL110	Hospitality Law	3
	Required Program Elective +	3
PSYC103	Introduction to Psychology	3
	General Education Elective	3
		Subtotal: 18

Fourth Semester		
HOSP201	Strategic Leadership in Hospitality	3
HOSP212	Hospitality Financial Reporting	3
HOSP221G	Hospitality Management Practicum	3
HOTL207	Rooms Division Management	3
	Mathematics (QL) or Science (SCI) Elective	3/4
		Subtotal: 15-16

+ Students are required to take a minimum of 6 credits from the list of Program Electives: FOOD123, HOTL140, HOTL150, HOTL160, HOTL170, MEPL112, MEPL122.

- For the General Education Electives, students must select one course from the list of approved Arts & Humanities (AH) courses and one course from the lists of approved courses in Social Science: Societies and Institutions over Time (SIT); or Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D).
- Computer competencies are included in various courses in this program. Thus, completion of the program automatically satisfies the computing requirement for the program.

Subtotal: 64-65

Hospitality Management: Meeting and Event Planning, Associate in Applied Science

Overview

View our other Hospitality program options:

- Dining Room Operations (p. 116)
- Hotel Management (p. 112)
- Resort Management (p. 117)
- Restaurant Management (p. 110)

Features

Students earning an associate degree in applied science in Hospitality Management: Meeting and Event Planning will gain solid business knowledge and comprehensive skills designed to help prepare for a career in the event and meeting industries for any of the corporate, association, social, leisure, or hospitality and tourism arenas. Curriculum exposes students to develop and enhance planning and coordination skills, sales techniques, to research locations and activities available, and gain business acumen necessary for success in providing the highest level of guest service and satisfaction. Extensive techniques are examined for increasing organizational skills and the attention to detail necessary to carry out events and meetings of all sizes.

According to the U.S. Bureau of Labor Statistics, employment in this field is expected to grow faster than average for all occupations. Job opportunities will be best for individuals with a bachelor's degree and some experience as a meeting planner, as the work and responsibilities are becoming more complex.

The Hospitality Management program fosters teamwork, professionalism, and learning through experience. Students will be prepared for a career in the hospitality industry by classroom learning supplemented with field trips, guest speakers and industry certifications. All students will complete a 225 hour management practicum, where they will complete an internship in their area of interest.

Course credit or advanced placement options may exist for students coming from local high schools and vocational schools. Northampton also has agreements with several colleges and universities for students interested in transferring to a four year school upon completion of the program. Program instructors and college advisors can help determine the education and career path that will lead students to a successful future.

Contact the Admissions Office at 610.861.5500 for further information.

Career Potential: junior event planner, junior meeting planner, destination management administrative assistant, wedding/social event assistant, conference/convention services administrative assistant, special events/entertainment associate, and festival associate.

Outcomes

Graduates of the program will:

- Acquire and correctly use general industry information, technical skills, and certifications for employment in the hospitality industry.
- Listen and effectively communicate in a positive, professional, and ethical manner with customers and colleagues of diverse backgrounds.
- Display a professional image, positive attitude, strong work ethic, and recognize your role in the success of the organization where you are employed.
- Read and accurately interpret standard indicators of the organization's financial health.
- Use appropriate technology for written communication, information gathering, and data analysis to facilitate smooth operation of a hospitality organization.
- Demonstrate leadership and supervisory skills, and an appreciation of diversity to support the organization and its goals.
- Use organization and flexibility, as a team, to complete tasks, make decisions, and problem solve in a timely manner.
- Utilize research and problem-solving techniques to employ "out of the box" critical thinking skills in a variety of hospitality situations.

Courses

First Semester

COLS101	College Success	1
CMTH102	Introduction to Communication	3
ENGL101	English I	3
HOSP101	Introduction to the Hospitality Industry	3
MEPL112	Meeting and Convention Management	3
HOSP105	Enhancing Guest Service	3
Subtotal: 16		

Second Semester

ENGL151R	English II	3
HOSP130	Convention Services & Catering	3
HOSP111	Food and Beverage Management	3
MEPL122	Special Event Management	3
	Mathematics (QL) or Science (SCI) Elective	3/4
Subtotal: 15-16		

Third Semester

HOSP210	Human Resources Management for the Hospitality Industry	3
HOSP215	Hospitality Sales & Marketing	3
MEPL132	Event Promotion and Sponsorship	3
PSYC103	Introduction to Psychology	3
	General Education Elective (SIT or SSHB)	3
Subtotal: 15		

Fourth Semester

HOSP201	Strategic Leadership in Hospitality	3
HOSP212	Hospitality Financial Reporting	3
HOSP221G	Hospitality Management Practicum	3
MEPL143	Event and Meeting Facilities Management OR	3
MEPL147	Business of Social Events and Wedding Consulting	3
	General Education Elective (AH) Elective	3 3

Subtotal: 18

- For the General Education Electives, students must select one course from the list of approved Arts & Humanities (AH) courses and one course from the list of approved courses in Social Science: Societies and Institutions over Time (SIT) or Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D).
- Computer competencies are included in various courses in this program. Thus, completion of the program automatically satisfies the computing requirement for the program.

Subtotal: 64-65

Hospitality Management: Meeting and Event Planning, Specialized Diploma

Overview

Narrative

Northampton's Meeting and Event Planning diploma prepares you to effectively plan, organize and manage events and meetings on a variety of scale and splendor. Our graduates are employed in positions such as meeting planners, event coordinators, sales coordinators, banquet/convention services manager, or catering supervisor.

Features

The specialized diploma in Meeting and Event Planning prepares the student for employment in event management, meeting planning, convention sales, and positions in hotels and resorts. The curriculum exposes students to the basic tenants of guest service, leadership, communication, teamwork and problem solving. The program teaches students basic meeting, convention and special event management skills needed for success in this highly electrifying and dynamic industry. The diploma program and its content were developed with extensive input from the industry experts.

Career Potential: junior event planner, junior meeting planner, destination management administrative assistant, wedding/social event assistant, conference/convention services administrative assistant, special events/entertainment associate, and festival associate.

Outcomes

Graduates of the program will:

- Acquire and correctly use general industry information, technical skills, and certifications for employment in the hospitality industry.
- Listen and effectively communicate in a positive, professional, and ethical manner with customers and colleagues of diverse backgrounds.
- Display a professional image, positive attitude, strong work ethic, and recognize your role in the success of the organization where you are employed.
- Read and accurately interpret standard indicators of the organization's financial health.
- Use appropriate technology for written communication, information gathering, and data analysis to facilitate smooth operation of a hospitality organization.
- Demonstrate leadership and supervisory skills, and an appreciation of diversity to support the organization and its goals.
- Use organization and flexibility, as a team, to complete tasks, make decisions, and problem solve in a timely manner.
- Utilize research and problem-solving techniques to employ "out of the box" critical thinking skills in a variety of hospitality situations.

Courses

First Semester

HOSP101	Introduction to the Hospitality Industry	3
MEPL112	Meeting and Convention Management	3
		Subtotal: 6

Second Semester

HOSP105	Enhancing Guest Service	3
MEPL122	Special Event Management	3
		Subtotal: 6

Third Semester

HOSP130	Convention Services & Catering	3
HOSP215	Hospitality Sales & Marketing	3
MEPL132	Event Promotion and Sponsorship	3
		Subtotal: 9

Fourth Semester

HOSP201	Strategic Leadership in Hospitality	3
MEPL143	Event and Meeting Facilities Management	3
MEPL147	Business of Social Events and Wedding Consulting	3
		Subtotal: 9
		Subtotal: 30

Hospitality Management: Dining Room Operations, Specialized Diploma

Overview

View our other Hospitality program options:

- Hotel Management (p. 112)
- Meeting & Event Planning (p. 113)
- Resort Management (p. 117)
- Restaurant Management (p. 110)

Narrative

Northampton's Dining Room Operations diploma prepares you to effectively address the guest services and supervisory challenges faced within the various segments of the food and beverage industry. Our graduates are employed in positions such as dining room supervisor, banquet manager, convention services coordinator, catering supervisor or food service manager.

Features

The Dining Room Operations diploma includes broad training in all aspects of restaurant management including front of the house business, supervisory duties and convention services/catering operations. Graduates will be prepared for entry-level management opportunities in fine dining, full service and quick casual restaurants, institutional food service, hotel food service outlets, country clubs, and a variety of other food service establishments.

The program emphasizes the basic tenants of guest service, leadership, communication, teamwork and problem solving. The program teaches students dining room operations, convention services and catering operations, food service safety and sanitation, hospitality management and marketing, guest services, and food and beverage management. We developed our program and its content with extensive input from the hospitality industry.

View Gainful Employment information on the Dining Room Operations specialized diploma.

Career Potential: Food Service Manager Dining Room Supervisor, Catering Supervisor, Convention Services Coordinator, Banquet Manager

Outcomes

Graduates of the program will:

- Acquire and correctly use general industry information, technical skills, and certifications for employment in the hospitality industry.
- Listen and effectively communicate in a positive, professional, and ethical manner with customers and colleagues of diverse backgrounds
- Display a professional image, positive attitude, strong work ethic, and recognize your role in the success of the organization where you are employed.
- Read and accurately interpret standard indicators of the organization's financial health.
- Use appropriate technology for written communication, information gathering, and data analysis to facilitate smooth operation of a hospitality organization.
- Demonstrate leadership and supervisory skills, and an appreciation of diversity to support the organization and its goals.
- Use organization and flexibility, as a team, to complete tasks, make decisions, and problem solve in a timely manner.

- Utilize research and problem-solving techniques to employ "out of the box" critical thinking skills in a variety of hospitality situations.

Courses

First Semester

FOOD110	Food Preparation	4
FOOD140	Fundamentals of Beer, Wine, and Spirits	3
HOSP101	Introduction to the Hospitality Industry	3
HOSP105	Enhancing Guest Service	3
HOSP130	Convention Services & Catering	3
Subtotal: 16		

Second Semester

FOOD123	Menu Plan/ Food & Beverage Cost Control	3
FOOD250	Dining Room Operations	3
HOSP111	Food and Beverage Management	3
HOSP201	Strategic Leadership in Hospitality	3
HOSP212	Hospitality Financial Reporting	3
Subtotal: 15		
Subtotal: 31		

Hospitality Management: Resort Management, Specialized Diploma

Overview

View our other Hospitality program options:

- Dining Room Operations (p. 116)
- Meeting and Event Planning (p. 113)
- Hotel Management (p. 112)
- Restaurant Management (p. 110)

Narrative

Through our Resort Management diploma program, you'll be prepared to tackle any guest services and managerial challenges faced in the resort, club, food and beverage and hotel operations fields. Our graduates are employed in positions such as resort manager, club manager, membership manager, activities manager, recreation manager or lodging manager.

Features

The Resort Management diploma provides you with the managerial, technical, and operational expertise that is essential to pursuing a career in the resort or club segment of the hospitality industry. We emphasize the basic tenants of guest service, leadership, communication, teamwork and problem solving. The program teaches students basic resort, club and lodging operations, resort specialty subjects, hospitality management and marketing, guest services, food and beverage management. Also included in the training are hospitality accounting and finance competencies. Our program and its content were developed with extensive input from the hospitality industry.

View Gainful Employment information on the Resort Management specialized diploma.

Career Potential: Lodging Manager Resort Manager, Recreation Manager, Activities Manager, Membership Manager

Outcomes

Graduates of the program will:

- Acquire and correctly use general industry information, technical skills, and certifications for employment in the hospitality industry.
- Listen and effectively communicate in a positive, professional, and ethical manner with customers and colleagues of diverse backgrounds.
- Display a professional image, positive attitude, strong work ethic, and recognize your role in the success of the organization where you are employed.
- Read and accurately interpret standard indicators of the organization's financial health.
- Use appropriate technology for written communication, information gathering, and data analysis to facilitate smooth operation of a hospitality organization.

- Demonstrate leadership and supervisory skills, and an appreciation of diversity to support the organization and its goals.
- Use organization and flexibility, as a team, to complete tasks, make decisions, and problem solve in a timely manner.
- Utilize research and problem-solving techniques to employ "out of the box" critical thinking skills in a variety of hospitality situations.

Courses

First Semester

HOSP101	Introduction to the Hospitality Industry	3
HOSP105	Enhancing Guest Service	3
HOTL110	Hospitality Law	3
		Subtotal: 9

Second Semester

HOSP111	Food and Beverage Management	3
HOTL150	Resort Management	3
HOTL207	Rooms Division Management	3
		Subtotal: 9

Third Semester

HOSP210	Human Resources Management for the Hospitality Industry	3
HOSP215	Hospitality Sales & Marketing	3
		Subtotal: 6

Fourth Semester

HOSP201	Strategic Leadership in Hospitality	3
HOSP212	Hospitality Financial Reporting	3
		Subtotal: 6
		Subtotal: 30

Marketing, Associate in Applied Science

Overview

Narrative

Are you interested in planning, organizing or developing marketing programs, advertising campaigns or online promotions using social media? Perhaps you are also interested in a career in sales or want to work in media planning or online marketing? Marketing is a creative field that includes numerous career paths. From marketing management to advertising to non-profit institutions, marketing is an essential tool, and marketing professionals find their work exciting and rewarding. The program is accredited by the Accreditation Council for Business Schools and Programs (ACBSP). The Marketing program at Northampton focuses on the practical applications of both business and consumer marketing. This program emphasizes employment (specifically in a marketing or marketing-related position, upon graduation) rather than transfer to a four-year college. The program is designed to provide students with the marketing skills needed to enter into the fields of marketing, advertising, public relations, sales, retail management, media planning, customer service or online marketing upon graduation.

Features

The Marketing A.A.S. Program includes a strong educational core that emphasizes marketing theory and application of marketing knowledge. Students develop necessary skills required to enhance creativity, critical thinking, problem solving, global perspectives and communication. Students participate in a marketing simulation course with a focus on designing and presenting a marketing/advertising campaign for an existing business. Students work in groups to conduct a market analysis related to a specific company, develop a media schedule and advertising campaign, and present the plan to company executives. In addition, students gain valuable experience working with a team on real-world projects. Professionals in Northampton's Career Services Office, as well as instructors within the program, are available to assist students in finding employment in the field.

Requirements

The Business Marketing Program contains provisions for a free elective of three credits in addition to the General Education electives. This program can be completed in the day or evening, on a full-time or part-time basis.

Career Potential: Sales Representative, Advertising/Promotions Specialist, Retail Manager, Marketing Coordinator/Assistant

Outcomes

Graduates of the program will be able to:

- Demonstrate an understanding of general business principles in accounting/finance, management and marketing.
- Apply technological and design skills related to business and marketing promotion.
- Possess strong presentation and communication skills pertinent to business and life.
- Gain an understanding of business ethics and their application in business.
- Work effectively in both individual and team environments.
- Design a cohesive marketing strategy, effectively combining the marketing mix elements of product, price, promotion and place (distribution).

Courses

First Semester

COLS101	College Success	1
ACCT101	Financial Accounting I	3
CISC101	Introduction to Computers	3
CMTH102	Introduction to Communication	3
ENGL101	English I	3
MATH140	College Algebra*	3
	OR	
MATH150	Introductory Statistics	3
	Subtotal: 16	

Second Semester

ENGL151L	English II	3
BUSA131	Principles of Marketing	3
BUSA205	Management Fundamentals	3
ARTA170	Computer Graphics	4
	General Education Elective (AH or SIT)	3
	Subtotal: 16	

Third Semester

BUSA235	Principles of Advertising & Public Relations	3
ACCT160	Accounting Applications	3
	OR	
MATH103	Applications in Mathematics*	3
BUSA221G	Business Communications	3
ARTA130	Intro to Web Site Design	3
ECON201	Macroeconomics	3
	Subtotal: 15	

Fourth Semester

BUSA137	Principles of Selling	3
BUSA152	Business Law I	3
BUSA270	Marketing Simulation	3
	General Education Elective (AH or SIT)	3
	Elective	3
	Subtotal: 15	

+ Mathematics Elective options: MATH140, MATH150, MATH160, MATH165, MATH175, MATH176, MATH180, MATH181.

*Students should take MATH140 if they are considering transfer to a 4-year institution.

**Students may substitute ACCT202 for ACCT160 if they are considering transfer to a 4-year institution.

- For General Education Electives, students need to take 9 credits in at least two of the fields listed: Arts & Humanities

(AH), Social Science: Societies and Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB). Note: ECON201 is fulfills 3 credits of this requirement as an SSHB.

- ENGL151L is designated as the Diversity and Global Awareness (D) requirement.

Subtotal: 62

Paralegal, Associate in Applied Science

Overview

Narrative

The U.S. Department of Labor projects that this profession will continue to grow as fast as the average for all occupations. While paralegals may not provide legal services directly to the public except as permitted by law, the Labor Department's occupational outlook notes that employers are expected to hire more paralegals as they try to reduce costs and increase the efficiency of legal services. Northampton's student-centered learning approach to paralegal education will prepare you to enter this dynamic, high-demand profession.

Northampton's program has been approved by the American Bar Association. **Paralegals may not practice law or provide legal services directly to the public, except as permitted by law.** This prestigious approval places our program in a select group of programs nationwide that are designed and operated to meet the highest standards of paralegal education. For additional information on ABA approval, contact the American Bar Association, Standing Committee on Paralegals, 321 N. Clark Street, 19th Floor, Chicago, IL 60654 or at www.abaparalegals.org.

Features

The program offers numerous legal specialty courses and a required internship at a local legal office. You will learn how a paralegal working under the general supervision of an attorney contributes to the delivery of legal services. You will also learn how to master state-of-the-art computer software and hardware, and become a productive and efficient professional within the ever-changing legal profession. Most of the legal specialty courses are taught by attorneys and include pleadings, forms, and software used in local, state, or federal practice.

Graduates will be ready to accept positions such as paralegals, trust coordinators, title searchers, settlement clerks, or litigation specialists. If your quest for knowledge is not complete after two years of study, it is possible to transfer to four-year institutions to complete your baccalaureate degree.

Please note that classes that are offered only during the fall include: Contract Law, Criminal Law and Procedure, Family Law, and Real Estate Law. Classes offered only during the spring include: Business Organizational Law, Estates and Trusts, Law Office Procedures, and Tort Law.

Contact the Admissions Office at 610.861.5500 for further information.

Career Potential: Paralegal, Legal Assistant, Trust Coordinator, Title Searcher, Settlement Clerk, Litigation Specialist

Outcomes

Graduates of the program will:

- Understand the substantive legal terminology and issues, ethical values, and general office skills needed to function effectively in a legal office environment.
- Demonstrate professional behavior and necessary competencies under the supervision of an attorney in the completion of legal work on behalf of a client.
- Exhibit interpersonal communication skills necessary to work effectively with people in the legal profession.
- Understand the need for and participate in continuing education and professional development opportunities in order to enhance one's value to a legal office.

Courses

First Semester

COLS101	College Success	1
CMTH102	Introduction to Communication	3
ENGL101	English I	3
OFAD101	Keyboarding & Formatting Essentials I	3
PARL101	Introduction to Paralegal Studies	3
PARL153	Real Estate Law	3
		Subtotal: 16

Second Semester

ENGL151L	English II	3
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OFAD163	Law Office Procedures	3
PARL187	Litigation Practice & Procedure	3
PARL205	Legal Research	3
PARL	Paralegal Elective +	3
	General Education Elective	3
		Subtotal: 18

Third Semester

ACCT101	Financial Accounting I	3
OFAD144	Introduction to Outlook	1
OFAD142	Introduction to Excel	1
OFAD130	Introduction to WordPerfect	1
PARL210G	Legal Writing	3
PARL	Paralegal Elective +	3
	Mathematics (QL) or Science (SCI) Elective	3/4
		Subtotal: 15-16

Fourth Semester

PARL250	Internship	3
PARL	Paralegal Elective +	3
	General Education Elective (SIT or SSHB)	3
	General Education Elective (SIT or SSHB)	3
	Elective	3
		Subtotal: 15

+ Paralegal Elective options: PARL151, PARL156, PARL161, PARL162, PARL163, PARL166.

- For the General Education Elective and the Social Science Electives, students must select courses so that at least two of the following categories are represented: Arts & Humanities (AH); Social Science: Societies and Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D).
- Completion of PARL210G satisfies the Writing Intensive (WI) requirement.
- Computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the computing requirement for this program.

Subtotal: 64-65

Sport Management, Associate in Arts

Overview

Narrative

For every professional player or coach you see on the court, the sports industry employs thousands more people behind the scenes. You could be one. Our new, highly competitive Sport Management program will prepare you to be a first-round draft choice for many professional positions in the sports industry or to launch a business of your own. You can earn an associate's degree from Northampton after four semesters of full-time study and enter the workforce at the entry level. To be a competitive job candidate, however, a bachelor's degree in the field is recommended. The Sport Management transfer program combines Northampton's two years of study with two additional years at DeSales University. The bachelor's degree will prepare you for employment in these areas: Intercollegiate Athletics, Professional Sport, Facility Management, Campus Recreation Programs, Community Based Sport, Sport Information, Sport Marketing and Promotion, Sport Law, Fund Raising and Development, Sales, Public Relations, Sport Journalism, Club Management, Corporate Fitness, Physical Fitness, Athletic Training/Sports Medicine, Aquatics Management, Consulting, and Entrepreneurship.

Features

Our curriculum includes a strong background in general academic skills and all the specialty courses you will need to transfer into a four-year program. Courses include marketing, event planning, management fundamentals and more. Our agreement with nearby DeSales University assures you a smooth transfer into their Sport Administration program. Our advisors are ready to coach you in how to get the most out of your NCC experience. You will work closely with professors who want to see you succeed, both academically and in the sports world. Courses in this program are offered primarily during the day.

Contact the Admissions Office at 610.861.5500 for further information.

Career Potential: Management Position in Sport

NCC students have transferred to: East Stroudsburg University, DeSales University, Bloomsburg University, Pennsylvania State University, West Chester University, Kutztown University, Temple University, York College

Outcomes

Graduates of the program will:

- Be prepared to transfer into a Sport Management program at a four-year college or university.
- Be able to apply the principles and functions of management to a sport management related venue.
- Be able to use sport marketing knowledge to construct and implement a comprehensive plan for a collegiate event as a member of a planning group.
- Be able to use both current and historical data in order to make a connection between sport and societal issues.
- Be able to identify a career option within the field of Sport Management.

Courses

First Year

CMTH102	Introduction to Communication	3
ENGL101	English I	3
SPRT101	Introduction to Sport Management	3
CISC	Computer Elective	3
	Physical Education Elective	1
MATH	Mathematics Elective (QL)	3

Subtotal: 16

Second Semester

BUSA205	Management Fundamentals	3
ENGL151R	English II	3
	Arts and Humanities Elective (AH)	3
	Social Science: Societies and Institutions over Time Elective (SIT)	3
	OR	
	Social Science: Scientific Study of Human Behavior Elective (SSHB)	3
	Elective	3

Subtotal: 15

Third Semester

BUSA131	Principles of Marketing	3
PSYC103	Introduction to Psychology	3
SPRT152G	Sports In Society	3
	Mathematics (QL) or Science (SCI) Elective	3/4
	Social Science: Societies and Institutions over Time Elective (SIT)	3
	OR	
	Social Science: Scientific Study of Human Behavior Elective (SSHB)	3

Subtotal: 15-16

Fourth Semester

SPRT162	Facility Management and Event Planning	3
	Physical Education Elective	1
	Social Science: Societies and Institutions over Time Elective (SIT)	3
	Science Elective (SCI)	4
	Elective	3

Subtotal: 14

- For their Arts and Humanities (AH) and Social Science: Societies and Institutions over Time (SIT) or Social Science: Scientific Study of Human Behavior (SSHB) Electives, students must select courses from the list of approved courses in each of those categories.
- The Mathematics Elective (QL) and at least one of the Science (SCI) Electives must be selected from the list of approved general education courses in each of those categories.
- One course should be designated as Diversity and Global Awareness (D).
- Completion of SPRT152G satisfies the Writing Intensive program-related requirement. In addition, students must take one General Education course in a Writing Intensive (WI) section.

Subtotal: 60-61

Computer & Information Technology

Computer Information Systems, Associate in Science

Overview

Narrative

Northampton's associate's degree in Computer Information Systems parallels the first two years of most information systems bachelor's degree programs. By working closely with your advisor, you can earn transferable credits that will allow you to enter a four-year institution with the first two years of course material completed. You'll save thousands of dollars on your education in the process.

Our curriculum includes computer programming, introductory computer architecture, and general education courses. A computer science elective will allow you to expand your knowledge in the area of operating systems or microcomputers.

Features

Depending on your plans and available time, you can complete this program in two years of full-time study with day and evening classes, or in three years of part-time evening study.

Contact the Admissions Office at 610-861-5500 for further information.

Career Potential: Systems Manager

NCC students have transferred to: DeSales University, East Stroudsburg University, Muhlenberg College, Rutgers University, Temple University, Pennsylvania State University, Millersville University

Outcomes

Graduates of the program will:

- Possess a fundamental and comprehensive understanding of the current field of computing upon which future growth within the field can be realized.
- Be equipped with computer competencies necessary to compete in the business world.
- Use critical thinking to evaluate computing problems and explore options for their solution.
- Apply effective approaches for problem solving and data modeling.
- Solve problems related to business computing and implement these solutions.
- Possess an awareness of the ethical concerns of computing professionals.

Courses

First Semester

COLS101	College Success	1
CISC115	Computer Science I	4
MATH	Mathematics Elective (QL) +	3
ENGL101	English I	3
	General Education Elective (SSHB)	3

Subtotal: 14

Second Semester

CISC125	Computer Science II	4
CMTH102	Introduction to Communication	3
MATH165	Applied Calculus	3
	OR	

MATH180	Calculus I	4
ENGL151L	English II	3
	Elective	3
		Subtotal: 16-17
Third Semester		
CISC230	Data Structures & Algorithm Analysis	4
	General Education Elective (AH)	3
	Science Elective (SCI)	4
	Electives	6
		Subtotal: 17
Fourth Semester		
CISC225	Computer Organization	4
CISC280	Law & Ethics of Computer Security	3
	OR	
CISC286	Linux Administration	3
	General Education Elective (SIT)	3
	Electives	6
		Subtotal: 16

+ Mathematics Electives: MATH140, MATH145, MATH160, MATH175, MATH176, MATH181, MATH210, MATH211.

- One course should be designated as Diversity and Global Awareness (D).
- The General Education Electives specified above must be selected from the list of approved courses in each of the categories: Arts and Humanities (AH); Social Science: Society and Institutions over Time (SIT) and Social Science: Scientific Study of Human Behavior (SSHB).
- All Electives must be chosen from the list of courses which are applicable to AA and AS degrees, and should be chosen with transferability in mind.
- Two courses must be taken in Writing Intensive (WI) sections. One must be selected from among the General Education Electives; the second must be selected from: PHIL111G, PHIL202G, or PSYC103G.

Subtotal: 63-64

Computer Information Technology: Administration, Associate in Applied Science

Overview

Narrative

With every aspect of our lives dependent on computers and information technology, there's a continuing demand for the professionals who can set up and manage computers, computer peripherals and local area networks (LAN). Northampton's Computer Administration program helps meet that demand by producing graduates who have the latest knowledge and hands-on skills. Graduates of the program go well beyond industry certification standards (CompTIA, Microsoft, etc.) in their ability to solve computer related problems effectively, minimizing downtime in the organization. Some of the jobs for which you will be prepared include computer technician, LAN technician, computer administrator, network administrator, computer field service technician, computer helpdesk representative, and technical sales consultant.

Features

Courses in circuit analysis and electricity provide the fundamental knowledge of electronic concepts. Courses in computer applications and operating systems improve your familiarity with using the computer and operating systems. Building upon that foundation, students learn the hows and whys of equipment selection, installation techniques, testing, and repair and upgrade methods of the latest computer and network technology. Coursework includes computer troubleshooting and repair, networking, wireless, Windows Server and Linux administration. Industry-experienced instructors teach effective troubleshooting and problem solving. Students carry out lab work, using the latest equipment to keep you current and job-ready. In addition to major courses, our general education courses are an investment in your

growth. These required courses improve your ability to communicate, relate to other people and cultures, and solve fundamental problems. By enrolling in a combination of day and evening courses, full-time students can complete the degree requirements in 2 years. Because the full-time program is accelerated, it is also intensive. Full-time students are advised to prepare to commit the extra time and effort needed to graduate in 24 months. All course-work is provided during the evening for part-time students. Contact the Admissions Office at 610.861.5500 for further information.

Outcomes

Graduates of the program will:

- Describe network topologies and the TCP/IP protocol suite
- Use effective communication and customer service skills
- Apply industry standards to plan technology solutions
- Deploy and support PC operating systems
- Install and configure network operating systems & LAN network components
- Apply critical thinking skills to troubleshooting and repairing hardware and software systems

Courses

First Semester

COLS101	College Success	1
CISC100	Computer Technology I	4
CISC136	PC Support and Troubleshooting	4
CISC137	Introduction to Networking Hardware	2
ELEC101	DC/AC Circuit Analysis I	4
ENGL101	English I	3
		Subtotal: 18

Second Semester

CISC105	Desktop Operating Systems	4
CISC251	Network Administration and Maintenance	3
CISC254	Server I	3
CMTH102	Introduction to Communication	3
ENGL151R	English II	3
		Subtotal: 16

Third Semester

BUSA221G	Business Communications	3
CISC255	Server II	3
MATH	Mathematics Elective (QL)++	3
	General Education Elective	3
	Technical Elective +	3/4
		Subtotal: 15-16

Fourth Semester

CISC286	Linux Administration	3
	General Education Elective	3
	General Education Elective	3
	Elective	3
		Subtotal: 12

+ Technical Elective options: CISC115, CISC128, CISC265, CISC278; ELEC126, ELEC151

++ Mathematics Elective (QL) options: MATH103, MATH120, MATH140, MATH145, MATH150, MATH160, MATH165, MATH175, MATH176, MATH180, MATH181, MATH210, MATH211

- For the General Education Electives, students must choose three courses from at least two of the following areas: Arts & Humanities (AH); Social Science: Society and Institutions over Time (SIT) or Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D).

Subtotal: 61-62

Computer Information Technology: Application Development, Associate in Applied Science

Overview

Northampton's Computer Information Technology program prepares you for employment upon graduation. The first year of the program is designed to provide a strong foundation in basic PC applications, operating systems and client-side scripting. You can then choose from several options for specialization, depending upon your area of interest. The associate's degree in Computer Information Technology may be completed in two years of full-time study with day and evening classes, or in three or four years of part-time study. If you wish, you can also complete multiple specializations. For example a student can complete both the networking and security options. Doing so will add an additional one year of full time study. In this example, a student will finish with two associate's degrees. The program also offers a specialized diploma for those students who may already have college degrees but are now seeking to retrain for the Information Technology workforce.

Narrative

The Application Development option provides the educational foundation you need to build proficiency with computer equipment, operating systems, productivity software, and programming languages, as well as skills necessary for web development such as client-side and server-side scripting and web server administration. The first year of the program is designed to provide a strong foundation in basic PC applications, operating systems and client-side scripting. In the second year you will learn additional languages, server-side scripting, web server administration and database systems. In addition, the second year of study includes object-oriented programming and development of Windows applications. Completion of this program prepares you for entry-level web developer, programmer and database programmer positions. Depending on your plans and available time, you can complete this program in two years of full-time study with day and evening classes, or in three or four years of part-time study.

Career Potential: Entry Level Programmer, Entry Level Database Programmer, Software Developer, Web Developer, Web Administrator

Outcomes

Graduates of the program will:

- Gain fundamental and comprehensive understanding of the current field of computing upon which future growth within the field can be realized.
- Gain computer competencies necessary to compete in the business world.
- Use critical thinking to evaluate computing problems and explore options for their solutions.
- Use effective approaches for problem solving and data modeling.
- Gain experience in solving problems related to business computing and implementing these solutions.
- Develop awareness of the ethical concerns of computing professionals.

Courses

First Semester

COLS101	College Success	1
CISC100	Computer Technology I	4
CMTH102	Introduction to Communication	3
ENGL101	English I	3
MATH	Mathematics Elective (QL) + General Education Elective	3 3

Subtotal: 17

Second Semester

CISC104	Microcomputer Applications	4
CISC105	Desktop Operating Systems	4
CISC128	Client-side Scripting	4
ENGL151L	English II OR	3
ENGL151R	English II OR	3
ENGL151T	English II	3

		Subtotal: 15
ENGL151: *see note		
Third Semester		
BUSA221G	Business Communications	3
CISC257	Server-side Scripting	4
CISC270	Database Systems	4
CISC278	Web Server Administration	4
	General Education Elective	3
		Subtotal: 18
Fourth Semester		
CISC208	Mobile Development	4
CISC150	Object-oriented Programming	4
	General Education Elective	3
	Elective	3
		Subtotal: 14

* Students have a choice of ENGL151L (Literature option), ENGL151R (Report Writing) or ENGL151T (Technical Writing). Contact your advisor for guidance.

+ Mathematics Elective options: MATH140, MATH145, MATH150, MATH160, MATH165, MATH175, MATH176, MATH180, MATH181, MATH202, MATH210, MATH211

- For the General Education Electives, students must take three courses from at least two of the following areas: Arts & Humanities (AH); Social Science: Society and Institutions over Time (SIT) or Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D).
- Completion of BUSA221G satisfies the Writing Intensive (WI) requirement.

Subtotal: 64

Computer Information Technology: Application/Web Programming, Specialized Diploma

Overview

Northampton's Computer Information Technology program prepares you for employment upon graduation. The first year of the program is designed to provide a strong foundation in basic PC applications, operating systems and client-side scripting. You can then choose from several options for specialization, depending upon your area of interest. The associate's degree in Computer Information Technology may be completed in two years of full-time study with day and evening classes, or in three or four years of part-time study. If you wish, you can also complete multiple specializations. For example a student can complete both the networking and security options. Doing so will add an additional one year of full time study. In this example, a student will finish with two associate's degrees. The program also offers a specialized diploma for those students who may already have college degrees but are now seeking to retrain for the Information Technology workforce.

View Gainful Employment information on the Computer Information Technology: Application/Web Programming specialized diploma.

Narrative

A specialized diploma in Application/Web Programming is an excellent option for students interested in obtaining the skills needed for a career in web and application development without completing a full associate's degree. It is an ideal solution for those with a degree wanting to update their skills or change careers. This program presents a broad range of courses which will position the holder for entry level jobs in programming for the PC, the Web, or mobile devices as well as database management. Application/Web Programming Specialized Diploma is intended for part-time study.

Career Potential: Completion of this specialized diploma prepares you for the positions of entry-level programmer and database programmer.

Outcomes

Graduates of the program will:

- Gain fundamental and comprehensive understanding of the current field of computing upon which future growth within the field can be realized.

- Gain computer competencies necessary to compete in the business world.
- Use critical thinking to evaluate computing problems and explore options for their solutions.
- Use effective approaches for problem solving and data modeling.
- Gain experience in solving problems related to business computing and implementing these solutions.
- Develop awareness of the ethical concerns of computing professionals.

Courses

Required Courses

CISC100	Computer Technology I	4
CISC128	Client-side Scripting	4
CISC150	Object-oriented Programming	4
CISC208	Mobile Development	4
CISC270	Database Systems	4

Subtotal: 24

Computer Information Technology: Networking, Associate in Applied Science

Overview

Northampton's Computer Information Technology program prepares you for employment upon graduation. The first year of the program is designed to provide a strong foundation in basic PC applications, operating systems and client-side scripting. You can then choose from several options for specialization, depending upon your area of interest.

The associate's degree in Computer Information Technology may be completed in two years of full-time study with day and evening classes, or in three or four years of part-time study. If you wish, you can also complete multiple specializations. For example a student can complete both the networking and security options. Doing so will add an additional one year of full time study. In this example, a student will finish with two associate's degrees. The program also offers a specialized diploma for those students who may already have college degrees but are now seeking to retrain for the Information Technology workforce.

Narrative

As with the other Computer Information Technology degrees at Northampton, the first year of this program is designed to provide a strong foundation in basic PC applications, operating systems, and considerable microcomputer experience. In the second year of the program, you will focus on networking courses that teach you to repair, maintain, and administer state-of-the-art network hardware and operating systems along with the applications utilized by these systems.

Upon completion of the Computer Information Technology Program-Networking Option, you will be prepared to gain employment as a PC and network systems technician, network technician, or network administrator. Graduates of the program will be prepared to pass the tests required to obtain the Cisco Certified Networking Associate (CCNA), Net+ Certification, NOVELL Certified Netware Administrator (CNA) (if CISC262 is taken), the A+ PC Support Certification, Microsoft MCP and/or MCSA certification, and the security and certification. Depending on your plans and available time, you can complete this program in two years of full-time study with day and evening classes, or in three years of part-time evening study.

Career Potential: PC Technician, Network Systems Technician, Network Administrator

Outcomes

Graduates of the program will:

- Gain fundamental and comprehensive understanding of the current field of computing upon which future growth within the field can be realized.
- Gain computer competencies necessary to compete in the business world.
- Use critical thinking to evaluate computing problems and explore options for their solutions.
- Use effective approaches for problem solving and data modeling.
- Gain experience in solving problems related to business computing and implementing these solutions.
- Develop awareness of the ethical concerns of computing professionals.

Courses

First Semester

COLS101	College Success	1
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CISC100	Computer Technology I	4
CISC131	Data Communications & LANs (CCENT1)	4
CISC136	PC Support and Troubleshooting	4
CISC137	Introduction to Networking Hardware	2
ENGL101	English I	3
Subtotal: 18		
Second Semester		
CISC105	Desktop Operating Systems	4
CISC267	Routing & Switching Essentials CCENT2	4
CMTH102	Introduction to Communication	3
ENGL151T	English II	3
CISC254	Server I	3
Subtotal: 17		
Third Semester		
BUSA221G	Business Communications	3
CISC265	Windows Server Administration	4
CISC271	Intermediate Routing & Switching , Interconnectivity, and Troubleshooting CCNA R&S	4
MATH	Mathematics Elective (QL)++	3
	General Education Elective	3
Subtotal: 17		
Fourth Semester		
CISC272	Building Scalable Internetworks (CCNP- Route)	3
CISC or ELEC	Elective +++	3/4
	General Education Elective	3
	General Education Elective	3
	Elective	3
Subtotal: 15-16		

CISC231, CISC267, CISC271, CISC272: The Cisco Networking Academy Program courses must be taken in sequential order (as indicated).

++ Mathematics Elective options: MATH140, MATH145, MATH150, MATH160, MATH165, MATH175, MATH176, MATH180, MATH181, MATH202, MATH210, MATH211

+++ Any CISC or ELEC elective may be taken, but see an adviser for specific certification goals.

- For the General Education Electives, students must take three courses from at least two of the following areas: Arts & Humanities (AH); Social Science: Society and Institutions over Time (SIT) or Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D).
- Completion of BUSA221G satisfies the Writing Intensive (WI) requirement.

Subtotal: 67-68

Computer Information Technology: Computer Security, Associate in Applied Science

Overview

Northampton's Computer Information Technology program prepares you for employment upon graduation. The first year of the program is designed to provide a strong foundation in basic PC applications, operating systems and client-side scripting. You can then choose from several options for specialization, depending upon your area of interest.

The associate's degree in Computer Information Technology may be completed in two years of full-time study with day and evening classes, or in three or four years of part-time study. If you wish, you can also complete multiple specializations. For example a student can complete both the networking and security options. Doing so will add an additional one year of full time study. In this example, a student will finish with two associate's degrees.

Narrative

As with the other Computer Information Technology programs at Northampton, the first year of the program is designed to provide a strong foundation of basic PC applications, client operating systems, and the basics of computer networking. In the second year you will focus on the core of computer and network security. Topics include the Security+ and Server+ curriculum, Law and Ethics, and a course in which you will build a number of secure systems and have them tested by your peers.

Completion of the Computer Information Technology program - Security Option, prepares you for an entry-level position as an Information Assurance Specialist, Security Administrator, Security Technologist, or similar.

Career Potential: Information Assurance Specialist, Security Administrator, Security Technologist, or similar.

Outcomes

Graduates of the program will:

- Gain fundamental and comprehensive understanding of the current field of computing upon which future growth within the field can be realized.
- Gain computer competencies necessary to compete in the business world.
- Use critical thinking to evaluate computing problems and explore options for their solutions.
- Use effective approaches for problem solving and data modeling.
- Gain experience in solving problems related to business computing and implementing these solutions.
- Develop awareness of the ethical concerns of computing professionals.

Courses

First Semester

COLS101	College Success	1
CISC100	Computer Technology I	4
CISC105	Desktop Operating Systems	4
CISC131	Data Communications & LANs (CCENT1)	4
ENGL101	English I	3
Subtotal: 16		

Second Semester

CISC286	Linux Administration	3
CMTH102	Introduction to Communication	3
MATH	Mathematics Elective (QL) +	3
ENGL151T	English II	3
	General Education Elective (SIT)	3
Subtotal: 15		

Third Semester

BUSA221G	Business Communications	3
CISC180	Introduction to Network Security	4
CISC205	Introduction to Server Operating Systems	4
	Elective	3
	Technical Elective ++	3/4
Subtotal: 17-18		

Fourth Semester

CISC280	Law & Ethics of Computer Security	3
CISC282	Measure/Counter-Measure	4
CISC284	Ethical Hacking	3
	General Education Elective (AH)	3
	General Education Elective (SSHB)	3
Subtotal: 16		

- One course must be designated Diversity and Global Awareness (D).
- The General Education Electives must be selected from the list of approved courses in each of the categories: Arts and Humanities (AH), Social Science: Society and Institutions over Time (SIT), and Social Science: Scientific Study of Human Behavior (SSHB).
- Completion of BUSA221G satisfies the Writing Intensive (WI) requirement.

+ Mathematics Elective options: MATH140, MATH145, MATH150, MATH160, MATH165, MATH175, MATH176, MATH180, MATH181, MATH202, MATH210, MATH211

++ Technical Elective Options: CISC115, CISC128, CISC136, CISC254, CISC267. CISC267 is recommended.

Subtotal: 64-65

Web Development, Associate in Applied Sciences

Overview

Narrative

Websites are indispensable tools for every aspect of business. If you're interested in being a part of this growing field of employment, you will want to secure the right set of skills. Attractive job candidates have the ability to design the look of a website and also to program the technical aspects that provide an interactive feel. We have designed our Web Development program to train students for both the creative and technical sides of the job.

Our program is geared toward gaining employment upon graduation, rather than transferring to a four-year college.

Upon graduation, students will be equipped with the skills to qualify for positions such as web developer, web programmer, web designer, interactive web developer, web application developer, and director of web services.

Features

The Web Development AAS Program offers the student a strong educational core focused on design and programming for the web. Students develop the skills necessary to develop and maintain robust, well-designed, interactive and dynamic web sites. Students study client-side scripting, server-side scripting, object-oriented programming and database systems as a means to develop programming skills. Courses such as Computer Graphics, Introduction to Web Design, Web Animation, and Interactive Programming give students the chance to develop their design skills.

In your final semester, you will develop an Advanced Web Portfolio and create a functional dynamic web site in the capstone course, Advanced Web Technologies. The student portfolio and capstone project will be key tools in your job search.

This program can be completed in two years of full-time study with a combination of day and evening courses.

Career Potential: Web Application Developer, Web Designer, Web Programmer, Web Developer, Webmaster, Internet Developer

Outcomes

Graduates of the program will be able to:

- Develop effective approaches to solving problems related to web site development.
- Analyze user needs to determine technical requirements for web site creation.
- Design, build, and/or maintain aesthetically pleasing web sites using WYSIWYG editors and graphic design tools, with a focus on usability.
- Develop proficiency with programming, scripting languages, and database design techniques needed for interactive dynamic web applications.
- Exhibit proficiency in both design and technical aspects of web design.

Courses

First Semester

COLS101	College Success	1
ARTA170	Computer Graphics	4
CISC100	Computer Technology I	4
CMTH102	Introduction to Communication	3
ENGL101	English I	3
	General Education Elective	3
		Subtotal: 18

Second Semester

ARTA130	Intro to Web Site Design	3
ARTA180	Digital Design & Typography I	3
CISC128	Client-side Scripting	4
ENGL151L	English II	3
	OR	
ENGL151R	English II	3
	OR	
ENGL151T	English II	3

MATH	Mathematics Elective (QL)++	3
		Subtotal: 16
Third Semester		
ARTA132	Web Animation	3
ARTA240	Advanced Web Site Design	3
CISC257	Server-side Scripting	4
CISC270	Database Systems	4
	General Education Elective	3
		Subtotal: 17
Fourth Semester		
CISC208	Mobile Development	4
CISC150	Object-oriented Programming	4
CISC201	Advanced Web Technologies	4
	General Education Elective	3
	Elective +	3
		Subtotal: 18

ENGL151: Students have a choice of ENGL151L (Literature option), ENGL151R (Report Writing) or ENGL151T (Technical Writing). Contact your advisor for guidance.

+ Suggested elective choices: BUSA131, ARTA181.

++ Mathematics Elective options: MATH140, MATH145, MATH150, MATH160, MATH165, MATH175, MATH176, MATH180, MATH181, MATH202, MATH210, MATH211.

- For the General Education Electives, students must take three courses from at least two of the following areas: Arts & Humanities (AH); Social Science: Society and Institutions over Time (SIT) or Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D).
- One course must be Writing Intensive (WI).

Subtotal: 69

Education

Early Childhood Education: Infant to Grade 4

Narrative

Teaching young children is rewarding and inspiring! Our highly qualified faculty prepares students to be effective teachers of children aged infant to nine years. Graduates may transfer seamlessly to four-year institutions or immediately enter the early care and education profession.

Graduates who transfer within Pennsylvania may enter a four-year institution at the junior level where they will earn a baccalaureate degree and Pre-K to Grade 4 Pennsylvania certification required to teach pre-kindergarten to grade four in public and private schools.

Graduates who enter the early care and education profession are qualified to work as lead teachers in child care centers, Head Start programs, nursery schools, and assistant teachers in pre-kindergarten classrooms. With experience and additional education, graduates may be employed as program directors.

Features

NCC's Early Childhood program is accredited by the National Association for the Education of Young Children. The entire program is available both on the Bethlehem and Monroe campuses, and online. English Language Learner (ELL) competencies are introduced in three courses and integrated in other early childhood courses. Knowledge and skills related to cultural, linguistic, ability diversity are also embedded in all courses. Observational and supervised field experiences with children from infancy through age nine occur in accredited campus lab schools, work-site classrooms and/or approved off-campus locations. As part of the field experience, students taking courses online are required to submit video documentation of their teaching. Students need access to digital video and still cameras.

The arts are integrated across all courses as symbol systems used to represent, express and construct meaning and understanding. The program's conceptual framework, *Art as a Way of Learning*®, was developed in partnership with Crayola LLC.

Proof of current health, child abuse, FBI, and criminal record clearances are required prior to enrolling in a course. Two letters of reference are also required.

Outcomes

- **Promoting Child Development and Learning:** Students use evidence based knowledge of child development and learning to understand that each child's learning and development is unique based on cultural, linguistic, and ability diversity as well as other interacting influences to create safe, healthy, respectful and inclusive learning environments that provide responsive, developmentally appropriate arts integrated learning opportunities.
- **Building Family and Community Relationships:** Students use evidence based knowledge to understand complex and diverse characteristics of families and communities using multiple perspectives to support each child's development and learning through collaborative relationships.
- **Observing, Documenting, and Assessing to Support Young Children and Families:** Students use evidence based knowledge about systematic observation and the goals, benefits, and appropriate uses of assessment in partnership with families and other professionals to understand and make decisions about environments, curriculum, and interactions to support each child's development and learning.
- **Using Developmentally Effective Approaches:** Students use evidence based knowledge to understand and build positive relationships and supportive interactions as the foundation for their work with children and families. Students apply arts integrated and developmentally appropriate approaches and Universal Design for Learning to support each child's development and learning.
- **Using Content to Build Meaningful Curriculum:** Students use evidence based knowledge of subject areas, Universal Design for Learning, inquiry tools, and resources to design, implement, and evaluate curriculum and experiences to support each child's development and learning.
- **Becoming a Professional:** Students use evidence based knowledge of ethical guidelines and professional standards. They engage in continuous, collaborative learning and demonstrate knowledgeable, reflective, and critical perspectives to make informed decisions about advocating for sound practices and policies in early education.

Progression

A student must maintain a grade of "C" or better in all Early Childhood Education courses.

Early Childhood Education: Infant to Grade 4, Associate in Applied Science

Overview

Program Narrative

Teaching young children is rewarding and inspiring! Our highly qualified faculty prepares students to be effective teachers of children aged infant to nine years. Graduates may transfer seamlessly to four-year institutions or immediately enter the early care and education profession.

Graduates who transfer within Pennsylvania may enter a four-year institution at the junior level where they will earn a baccalaureate degree and Pre-K to Grade 4 Pennsylvania certification required to teach pre-kindergarten to grade four in public and private schools.

Graduates who enter the early care and education profession are qualified to work as lead teachers in child care centers, Head Start programs, nursery schools, and assistant teachers in pre-kindergarten classrooms. With experience and additional education, graduates may be employed as program directors.

Program Outcomes

- **Promoting Child Development and Learning:** Students use evidence based knowledge of child development and learning to understand that each child's learning and development is unique based on cultural, linguistic, and ability diversity as well as other interacting influences to create safe, healthy, respectful and inclusive learning environments that provide responsive, developmentally appropriate arts integrated learning opportunities.
- **Building Family and Community Relationships:** Students use evidence based knowledge to understand complex and diverse characteristics of families and communities using multiple perspectives to support each child's development and learning through collaborative relationships.
- **Observing, Documenting, and Assessing to Support Young Children and Families:** Students use evidence based knowledge about systematic observation and the goals, benefits, and appropriate uses of assessment in partnership with families and other professionals to understand and make decisions about environments, curriculum, and interactions to support each child's development and learning.
- **Using Developmentally Effective Approaches:** Students use evidence based knowledge to understand and build positive relationships and supportive interactions as the foundation for their work with children and families. Students apply arts integrated and developmentally appropriate approaches and Universal Design for Learning to support each child's development and learning.

- Using Content to Build Meaningful Curriculum: Students use evidence based knowledge of subject areas, Universal Design for Learning, inquiry tools, and resources to design, implement, and evaluate curriculum and experiences to support each child's development and learning.
- Becoming a Professional: Students use evidence based knowledge of ethical guidelines and professional standards. They engage in continuous, collaborative learning and demonstrate knowledgeable, reflective, and critical perspectives to make informed decisions about advocating for sound practices and policies in early education.

Transfer Information

This AAS in Early Childhood Education provides a pathway to transfer to a four-year college or university where students can earn a baccalaureate degree. Transfer options and course guides are found in the links below. Students are strongly encouraged to select a transfer destination as soon as possible. Students should consult with their chosen transfer institution regarding recommended courses that will transfer and be applied to their baccalaureate degree program.

- East Stroudsburg University
- Bloomsburg University
- Lock Haven University
- Moravian College
- DeSales University

Career Information

NCC's accredited associate degree program focuses on hands-on experiences and ongoing field-work, allowing students to get excited about their future from the start. Whether you plan to enter the workforce immediately after graduation or transfer, you will be prepared with the knowledge and skills you need to make a difference. The associate degree transfers smoothly into a baccalaureate level Pre-K to Grade 4 teacher certification program. This program can be completed entirely online.

Career Pathways:

- Preschool Teacher
- Classroom Assistants
- Family Child Care Provider
- Group Supervisor
- Program Director
- Certified Teacher Pre-K to Grade 4

Program Entry Requirements

The Pennsylvania Department of Education requires that all students participating in field experiences must provide the documentation listed below:

- FBI Federal Criminal History Record (Act 114)
- PA State Police Criminal Record Check (Act 34)
- PA Child Abuse History Clearance (Act 151)
- Mandated and Permissive Reporting in PA Online Training (Act 31)
- Arrest/ Conviction Report and Certification Form (Act 24)
- 2 Letters of Reference
- Health Assessment with TB (Mantoux) test

NOTE: Students must obtain all background clearances and other documentation in order to do the field work component of each education course – the field work in schools is integral to success in these courses.

Courses

First Semester

COLS101	College Success	1
MATH118	Foundations of Mathematics I	3
CMTH102	Introduction to Communication	3

ENGL101	English I	3
EARL106	Early Childhood Development & Learning	3
EARL107	Observation & Assessment in Early Childhood	3

Subtotal: 16**Second Semester**

EARL128	Infant-Toddler Development and Learning	3
MATH119	Foundations of Mathematics II	3
SPED160	Introduction to Special Education	3
ENGL151L	English II	3
EARL126	Arts in Early Childhood	3

Subtotal: 15**Third Semester**

SOCA103	Principles of Sociology OR	3
SOCA102	Cultural Anthropology	3
EARL217	Child, Family and Community	3
EARL208	Math in Early Childhood	3
EARL216	Language & Literacy in Early Childhood	3
MATH118	Foundations of Mathematics I	3
ARTA100	Art & Visual Thinking OR	3
CMTH110	Introduction to the Theatre OR	3
MUSC101	Introduction to Music OR	3
DANC101	Dance History	3

Subtotal: 15

Students transferring to East Stroudsburg University take SOCA102.

Fourth Semester

BIOS105	Contemporary Biology	4
EARL218	Science in Early Childhood	3
EARL244	Early Childhood Profession	3
EARL263G	Internship-Early Childhood	3
GEOG101	World Geography OR	3
HIST113	American History I OR	3
HIST163	American History II	3

Subtotal: 16

- Computer competencies are included in various courses in the program.
- Students must maintain a grade of "C" or better in all Early Childhood Education courses.
- One course must be designated Diversity and Global Awareness (D).
- EARL263G satisfies the Writing Intensive (WI) requirement for the program.

Subtotal: 62

Early Childhood Education: Infant to Grade 4, Certificate Courses

Required Courses

EARL106	Early Childhood Development & Learning	3
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EARL107	Observation & Assessment in Early Childhood	3
EARL126	Arts in Early Childhood	3
EARL128	Infant-Toddler Development and Learning	3
EARL208	Math in Early Childhood	3
EARL216	Language & Literacy in Early Childhood	3
EARL217	Child, Family and Community	3
EARL218	Science in Early Childhood	3
EARL244	Early Childhood Profession	3
EARL263G	Internship-Early Childhood	3
ENGL101	English I	3
GEOG101	World Geography OR	3
HIST113	American History I OR	3
HIST163	American History II	3

Subtotal: 36

Child Development Associate (CDA), Specialized Diploma

Courses

The CDA is the nationally recognized credential awarded by the Council for Professional Recognition and provides entry into the early childhood profession. Students may choose from Infant/Toddler, Pre-K, or Family Child Care. Upon satisfactory completion of a CDA Specialized Diploma you are prepared to apply to the Council for your assessment and receive 9 credits toward an Early Childhood Associate Degree. This program is offered on campus and online. Check with an admission counselor before enrollment.

Required Courses

EARL106	Early Childhood Development & Learning	3
EARL217	Child, Family and Community	3
EARL244	Early Childhood Profession	3

Subtotal: 9

Infant-Toddler Child Development Associate, Specialized Diploma

Courses

This program is designed for students interested in working with infant and toddler age groups. Those interested in earning their CDA credential from the Council for Professional Recognition must enroll in the Child Development Associate Specialized Diploma program (see above). Credits earned (9) will apply towards an AAS degree in Early Childhood Education: Infant to Grade 4.

Required Courses

EARL106	Early Childhood Development & Learning	3
EARL128	Infant-Toddler Development and Learning	3
EARL244	Early Childhood Profession	3

Subtotal: 9

School-Age Child Care, Specialized Diploma

Courses

Credits earned (9) will apply towards an AAS degree in Early Childhood Education: Infant to Grade 4. This program provides training for teachers and school-age providers in school-age childcare centers and before/after school programs. Coursework covers successful youth programming, such as observation and assessment, planning, interaction with families and communities, social-emotional development of school-age students, management and leadership of school-age programs, and professional Code of Ethics and Standards for before and after school programs.

Candidates are prepared for the Pennsylvania School-Age Professional Credential.

Required Courses

EARL102	Introduction to School Age Child Care	3
EARL103	Society and the School Age Child	3
EARL104	School Age Child Care Professional	3

Subtotal: 9

Leadership for Early Childhood Program Directors, Specialized Diploma

Courses

Program Prerequisite: 15 credits in Early Childhood/Child Development course work or department approval.

This program provides training for current and future directors and owners of early childcare centers and programs. Coursework covers leadership, organization, administration and business management. Program meets Pennsylvania Director's Credential requirement.

Required Courses

EARL231	Organization and Administration of Early Child Programs	3
EARL232	Leadership Seminar in Early Childhood Education	3
BUSA101	Introduction to Business	3

Subtotal: 9

Middle Level Education: Grades 4 to 8, Associate in Arts

Overview

Program Narrative

The need for dedicated, caring, and highly skilled teachers in our nation's schools is greater than ever before. Northampton is committed to providing an excellent foundation for students preparing to major in middle level education when they transfer to a four-year college or university.

The College offers the first two years of the baccalaureate degree program. Completion of the Associate in Arts Degree with a major in Middle Level Education: Grades 4 to 8 allows for a smooth transition to a four-year institution. At the transfer institution students will take advanced courses leading to a degree and certification for grades 4 through 8. Students interested in becoming an art teacher should refer to the Individualized Transfer Studies major which is the pathway from NCC to Kutztown University for art education.

Program Outcomes

Graduates of the program will:

- Explain the distinctive philosophy and characteristic components of developmentally responsive middle level programs and schools.
- Identify the range of developmental differences of all young adolescents and the implications of these differences for teaching and learning.
- Explain the historical, legal, and philosophical frameworks of special education to describe current trends, evidence-based practices, and resources relevant to the education of children with exceptionalities.
- Summarize the process of acquiring multiple languages and literacy skills, and the sociocultural characteristics of English Language Learners.
- Plan positive, productive teaching and learning opportunities that take into consideration the developmental differences of adolescents.
- Practice being a positive role model and tutor to middle level students by upholding high professional standards in the school setting during 40 hours of early field experience.

Transfer Information

This AA in Middle Level Education provides a pathway to transfer to a four-year college or university where students can earn a baccalaureate degree and apply for their teacher licensure. Students are strongly encouraged to select a transfer destination as soon as possible. Students should consult with their chosen transfer institution regarding recommended courses that will transfer and be applied to their baccalaureate degree program. These are some of the places NCC students transfer frequently to, though students may transfer to a wide variety of institutions.

- East Stroudsburg University
- Kutztown University
- Bloomsburg University
- Moravian College

Career Information

NCC's associate degree program focuses on hands-on experiences and ongoing field-work, allowing students to get excited about their future from the start. The associate degree transfers smoothly into a baccalaureate level middle level education teacher certification program. Most, but not all, of the courses can be completed online.

Program Entry Requirements

The Pennsylvania Department of Education requires that all students participating in field experiences must provide the documentation listed below:

- FBI Federal Criminal History Record (Act 114)
- PA State Police Criminal Record Check (Act 34)
- PA Child Abuse History Clearance (Act 151)
- Mandated and Permissive Reporting in PA Online Training (Act 31)
- Arrest/ Conviction Report and Certification Form (Act 24)
- TB (Mantoux) test

NOTE: Students must obtain all background clearances and other documentation in order to do the field work component of each education course – the field work in schools is integral to success in these courses.

Courses

First Semester

COLS101	College Success	1
MATH150	Introductory Statistics	3
CMTH102	Introduction to Communication	3
ENGL101	English I	3
EDUC115	Education for All Students	3
HIST113	American History I	3

Subtotal: 16

Second Semester

EDUC260G	Adolescent Development & Cognition	3
MATH140	College Algebra	3
BIOS105	Contemporary Biology	4
ENGL151L	English II	3
	General Education Elective (SSHB)	3

Subtotal: 16

Third Semester

SPED160	Introduction to Special Education	3
MATH118	Foundations of Mathematics I	3
CHEM135	Chemistry of Life	4
	General Education Elective (SIT or SSHB)	3

Transfer Elective +	3/4
Subtotal: 16-17	

Fourth Semester

ENGL215G	Multicultural Adolescent Literature	3
MATH119	Foundations of Mathematics II	3
	General Education Elective (SIT or SSHB)	3
	Transfer Elective +	3
	Transfer Elective +	3/4
Subtotal: 15-16		

- Computer competencies are included in various courses in the program.

+ Transfer Electives must be selected with the advice of an academic advisor so that courses will transfer to the student's intended teacher certification program and correspond to the area of subject content the student will teach at the middle school level.

Subtotal: 63-65

Secondary Education, Associate in Arts

Overview

Program Narrative

The need for dedicated, caring, and highly skilled teachers in our nation's schools is greater than ever before. Northampton is committed to providing an excellent foundation for students preparing to major in middle level education when they transfer to a four-year college or university. The College offers the first two years of the baccalaureate degree program. Completion of the Associate in Arts Degree with a major in Middle Level Education: Grades 4 to 8 allows for a smooth transition to a four-year institution. At the transfer institution students will take advanced courses leading to a degree and certification for grades 4 through 8. Students interested in becoming an art teacher should refer to the Individualized Transfer Studies major which is the pathway from NCC to Kutztown University for art education.

Outcomes

Graduates of the program will be able to:

- Explain the philosophy of secondary education and its grounding in the social, philosophical, and historical foundations of education.
- Describe the range of cognitive and developmental differences of all adolescents and the implications of these differences for teaching and learning.
- Identify and apply strategies that provide adolescent students with appropriate skills in making the transition from middle-level to high school, and then to full adult citizenship.
- Explain the historical, legal, and philosophical frameworks of special education to describe current trends, evidence-based practices, and resources relevant to the education of children with exceptionalities.
- Summarize the process of acquiring multiple languages and literacy skills, and the sociocultural characteristics of English Language Learners.
- Practice being a positive role model and tutor to adolescent students by upholding high professional standards in the school setting during 40 hours of early field experience.

Transfer Information

This AA in Secondary Education provides a pathway to transfer to a four-year college or university where students can earn a baccalaureate degree and apply for their teacher licensure. Students are strongly encouraged to select a transfer destination as soon as possible. Students should consult with their chosen transfer institution regarding recommended courses that will transfer and be applied to their baccalaureate degree program. These are some of the places NCC students transfer frequently to, though students may transfer to a wide variety of institutions.

- East Stroudsburg University
- Kutztown University
- Bloomsburg University
- Moravian College

- DeSales University
- Cedar Crest College

Career Information

NCC's associate degree program focuses on hands-on experiences and ongoing field-work, allowing students to get excited about their future from the start. The associate degree transfers smoothly into a baccalaureate level secondary education teacher certification program. Most, but not all, of the courses can be completed online.

Program Entry Requirements

The Pennsylvania Department of Education requires that all students participating in field experiences must provide the documentation listed below:

- FBI Federal Criminal History Record (Act 114)
- PA State Police Criminal Record Check (Act 34)
- PA Child Abuse History Clearance (Act 151)
- Mandated and Permissive Reporting in PA Online Training (Act 31)
- Arrest/ Conviction Report and Certification Form (Act 24)
- TB (Mantoux) test

NOTE: Students must obtain all background clearances and other documentation in order to do the field work component of each education course – the field work in schools is integral to success in these courses.

Courses

First Semester

COLS101	College Success	1
	Transfer Elective +	3/4
CMTH102	Introduction to Communication	3
ENGL101	English I	3
EDUC115	Education for All Students	3
MATH	Mathematics Elective (QL)	3/4
		Subtotal: 16-18

Second Semester

EDUC260G	Adolescent Development & Cognition	3
MATH	Mathematics Elective (QL)	3/4
ENGL151L	English II	3
	Science Elective (SCI)	4
	General Education Elective (SSHB)	3
		Subtotal: 16-17

Third Semester

SPED160	Introduction to Special Education	3
	General Education Elective (SIT)	3
	Transfer Elective +	9/12
		Subtotal: 15-18

Fourth Semester

ENGL215G	Multicultural Adolescent Literature	3
	Transfer Elective +	12/13
		Subtotal: 15-16

- Computer competencies are included in various courses in the program.

+ Transfer Electives must be selected with the advice of an academic advisor so that courses will transfer to the student's intended teacher certification program and correspond to the area of subject content the student will teach at the high school level.

Subtotal: 62-69

Special Education Paraeducator

Narrative

Special Education is an important and exciting career for persons interested in the education of children with disabilities! The federal Individuals With Disabilities Education Improvement Act (IDEIA) and related state laws and standards require personnel working with children with disabilities to be appropriately trained and qualified. Northampton Community College's special education program prepares students with the competencies necessary to meet these requirements. Grounded in a philosophy that emphasizes family and disability perspectives, inclusive practices, and current educational approaches, like Universal Design for Learning (UDL), NCC's special education program provides a valuable program of study.

Features

The Special Education Paraeducator (A.A.S.) degree is designed to prepare individuals to work with children with varying abilities in diverse educational classrooms, under the direct supervision of a certified teacher. A Special Education Paraeducator Specialized Diploma is also available. Students who successfully complete either option are considered "highly qualified" and satisfy the requirements for Pennsylvania's Credential of Competency for Special Education Paraeducators. NCC will assist students with the credentialing process.

Graduates are qualified to work as special education paraeducators, sometimes referred to as teaching assistants, in a wide variety of educational settings. Students are prepared to respect and value the unique perspectives of family and children with disabilities as well as the importance of building and maintaining collaborative relationships. To this end, NCC's curriculum offers a combination of special education coursework and field experience opportunities that integrate federal and state special education policy, standards, and professional competencies.

Special Education Courses are offered at the Bethlehem Campus during the day and evenings. SPED160 is also offered at the Monroe Campus. All special education courses are offered online. Additional AAS required coursework can be taken day, evening, or through online options.

Outcomes

Graduates of the program will:

- Explain the philosophy, foundation, requirements, and current trends relevant to special education programs and practices.
- Describe universally-designed and inclusive environments.
- Apply appropriate instructional responses using multiple and varied assessments, technologies, strategies, and supports within a universally-designed and inclusive framework.
- Discuss the role and nature of collaborative relationships between schools and families.
- Define and use special education vocabulary, professionalism, and ethical practices, to support thinking and communicating in educational environments.
- Act as a paraeducator in diverse learning environments.

Progression

A student must maintain a grade of "C" or better in all Special Education courses.

Career Potential: Paraeducator, teacher assistant

NCC students are employed by: Intermediate Units, Early Childhood Centers, School Districts

Special Education Paraeducator, Associate in Applied Science

Courses

First Semester

CISC101	Introduction to Computers	3
ENGL101	English I	3
PSYC103	Introduction to Psychology	3
SPED160	Introduction to Special Education	3
	Arts & Humanities Elective (AH) *	3
	Subtotal: 15	

Second Semester

CMTH102	Introduction to Communication	3
ENGL151L	English II	3
EARL106	Early Childhood Development & Learning	3

SPED164	Introduction to the Special Education Paraeducator	3
SPED175	Behavior Support	3
		Subtotal: 15
Third Semester		
MATH118	Foundations of Mathematics I	3
SPED170	Instructional Strategies in Inclusive Environments	3
PSYC251	Child Psychology	3
SOCA103	Principles of Sociology	3
	Elective *	3
		Subtotal: 15
Fourth Semester		
SPED205G	Special Education Paraeducator Internship	3
	Science Elective (SCI)	4
	Social Science: Societies and Institutions over Time Elective (SIT)	3
	Elective *	3
	Elective *	3
		Subtotal: 16

* Recommended Elective courses:

EARL217 Child, Family & Community, EDUC115 Education for All Students, MDLA103 Elementary Spanish I, MDLA113 Elementary Spanish II.

Subtotal: 61

Special Education Paraeducator, Specialized Diploma

Courses

Required Courses

SPED160	Introduction to Special Education	3
SPED164	Introduction to the Special Education Paraeducator	3
SPED170	Instructional Strategies in Inclusive Environments	3

+SPED160 is a co- or prerequisite for SPED164, and SPED170.

Subtotal: 9

General Studies

General Studies, Associate in Arts

Overview

Narrative

If you're ready for college, but you are still exploring career choices, an associate's degree in General Studies can be a good way to start your education. Northampton's General Studies major allows you to explore a variety of fields and to discover what subjects suit you best. We'll provide you with a well-rounded selection of studies in social, cultural, behavioral, scientific and computer-related subjects. Upon completion, you will be prepared to transfer to a four-year institution to complete a bachelor's degree in the major of your choice.

Features

Our General Studies program is specifically designed so that you can transfer your credits to a four-year college or university. Schools that are a part of the Pennsylvania state college and university system will accept all of your credits; however, if you wish to attend another school, we suggest you choose elective courses that are transferable to the

institution of your choice. We encourage you to work closely with your academic advisor, as well as the transfer advisor in the Office of Academic Advising, to ensure your greatest opportunity for a smooth and successful transition to a four-year institution.

NCC students have transferred to: East Stroudsburg University, Kutztown University, Moravian College, DeSales University, Cedar Crest College, Pennsylvania State University, Temple University

Outcomes

Graduates of the program will:

- Be able to critically assess and discuss competing perspectives from various disciplines.
- Demonstrate an understanding of human diversity and an awareness of global issues through analysis of arts, histories, cultures, geographies, economics, medicine, scientific data and/or institutions.
- Have a basic understanding of key concepts in social sciences, business, and liberal arts.
- Comprehend the process of scientific inquiry, gain quantitative skills and understand the principles of modern scientific knowledge.
- Know how to retrieve, evaluate, and apply information from a range of sources.
- Possess skills necessary to communicate ideas effectively in the workplace.
- Have a working competency in basic technology applications.
- Be able to work independently and in teams to complete tasks

Courses

First Semester

COLS101	College Success	1
CMTH102	Introduction to Communication	3
ENGL101	English I	3
	Social and Behavioral Understandings and American Experience	3
	World Experience and Cultural Understanding	3
	Science Elective (SCI)	3/4
	Subtotal: 16-17	

Second Semester

ENGL151L	English II	3
	OR	
ENGL151R	English II	3
	OR	
ENGL151T	English II	3
	Communications Elective	3
MATH	Mathematics Elective (QL)	3
CISC101	Introduction to Computers	3
	Elective	3
	Subtotal: 15	

Third Semester

	Mathematics (QL) or Science (SCI) Elective	3/4
	Business & Technology Elective	3/4
	Social and Behavioral Understandings and American Experience	3
	World Experience and Cultural Understanding	3
	Elective	3
	Subtotal: 15-17	

Fourth Semester

	Social and Behavioral Understandings and American Experience	3
	Elective	3
	Elective	3
	Elective	3

Elective

3

Subtotal: 15

- One course should be designated as Diversity and Global Awareness (D).
- Students have a choice of ENGL151L (Literature option), ENGL151R (Report Writing) or ENGL151T (Technical Writing). Contact your advisor for guidance.
- The Mathematics (QL) and Laboratory Science (SCI) Electives must be selected from the list of approved General Education courses in each of those categories.
- For the Electives, students must select one course from the list of approved courses in each of the following three categories: Arts and Humanities (AH); Social Science: Societies and Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB).
- One General Education Elective must be taken in a Writing Intensive (WI) section. In addition, students must select a second Writing Intensive (WI) course.
- Two 200-level courses must be taken from the Social Science/Cultural Studies category or Communication Electives category.
- In addition to satisfying the above requirements, the 18 credits of unspecified electives should be selected from those in the groupings on the "Electives" tab, or from those allowable in the Liberal Arts program, or from the list of courses which are applicable to A.A. and A.S. degrees. Within this, students should select courses which will transfer to the baccalaureate institution of their choice.
- A student who has completed the entire 15-credit Library Technical Assistant specialized diploma may apply these 15 credits to the General Studies degree as free electives.
- Electives must be chosen from the four groupings listed on the "Electives" tab:

Subtotal: 61-63

Electives

Communications Electives (3 credits)

These courses enhance communication skills and offer students the opportunity to pursue an interest in the arts as communication.

ARTA161	Ceramics	3
CMTH104	Mass Media and Society	3
CMTH111	Acting I	3
CMTH115	Technical Theatre and Design	3
CMTH126	The Communication Arts	3
CMTH205	Public Speaking	3
CMTH206	Directing	3
CMTH212	Acting II	3
CMTH214	Interpersonal Communication	3
CMTH215	Intercultural Communication	3
CMTH220	Introduction to Film	3
CMTH225G	Scriptwriting	3
CMTH230G	Introduction to Communication Theory	3
CMTH231	Small Group Communication	3
ENGL253	Creative Writing	3
JOUR103	Newswriting	3
MDLA102	Elementary French I	3
MDLA112	Elementary French II	3
MDLA122	Intermediate French I	3
MDLA103	Elementary Spanish I	3
MDLA113	Elementary Spanish II	3
MDLA123	Intermediate Spanish I	3
MDLA133	Intermediate Spanish II	3
MDLA105	Elementary Chinese I	3
MDLA115	Elementary Chinese II	3
MDLA125	Intermediate Chinese I	3
MDLA135	Intermediate Chinese II	3
MDLA107	Elementary Arabic I	3
MDLA117	Elementary Arabic II	3

Business/Technology Electives (3/4 credits)

These courses are the most generally valuable introduction to business and technology. They are neither too specialized, nor too technical in nature and should prove both interesting and accessible to the non-major.

CISC104	Microcomputer Applications	4
CISC115	Computer Science I	4
ACCT101	Financial Accounting I	3
BUSA101	Introduction to Business	3
BUSA115	Introduction to International Business	3
BUSA131	Principles of Marketing	3
ECON201	Macroeconomics	3
ECON251G	Microeconomics	3

Social Science/Cultural Studies Electives (15 credits)

These courses inform students about society and culture, past and present. They will help the student to place problems in a broad perspective and to make informed choices about the conduct of their lives. In fulfilling the 15-credit social science/cultural studies elective requirement, no more than nine credits may be earned from either group below.

Social and Behavioral Understandings and American Experience**Social and Behavioral Understandings**

PHIL111	On Death and Dying	3
PHIL202	Ethics & Moral Problems	3
PSYC103	Introduction to Psychology	3
PSYC251	Child Psychology	3
	OR	
PSYC258	Developmental Psychology	3
PSYC255	Abnormal Psychology	3
SOCA103	Principles of Sociology	3
SOCA150	Deviance	3
SOCA204	Social Problems	3

American Experience

ENGL265G	African-American Literature	3
GEOG151	Geography of the United States and Canada	3
HIST113	American History I	3
HIST121	The Black Experience	3
HIST163	American History II	3
HIST166	Civil War and Reconstruction	3
HUMA121	American Work Experience	3
HUMA140	Introduction to Women and Gender Studies	3
POLS110	American National Government	3
POLS251	State and Local Government	3
SOCA105	American Ethnicity	3

World Experience and Cultural Understanding**World Experience**

ENGL264G	Irish Literature	3
GEOG101	World Geography	3
GEOG121	Environmental Sustainability	3
GEOG140	Investigating Climate Change	3
GLBL130	Introduction to Global Studies	3
HIST103	Ancient and Medieval History	3
HIST140	Modern Chinese History	3
HIST153	Foundations of Modern European History - 1300-1815	3
HIST168	History of the Middle East	3
HIST173	Modern European History - 1815-Present	3
HUMA250G	Research Methods in the Social Sciences	3

PHIL121	World Religions	3
PHIL201	Introduction to Philosophy	3
PHIL211	Ancient Philosophy	3
PHIL215	Modern Philosophy	3
PHIL220	Existentialism	3
POLS101	Introduction to Political Science	3
POLS202	International Relations	3
SOCA102	Cultural Anthropology	3
SOCA160	Issues in Contemporary Genocide and Mass Violence	3

Cultural Understanding

ARCH100	Architectural History I - Antiquity to 1870	3
ARTA101	Art History Survey	3
CMTH110	Introduction to the Theatre	3
CMTH211G	Plays: Classical to Contemporary	3
ENGL211G	Plays: Classical to Contemporary	3
CMTH220	Introduction to Film	3
ENGL201G	British Literature I	3
ENGL203G	Shakespeare	3
ENGL205G	American Literature I	3
ENGL215G	Multicultural Adolescent Literature	3
ENGL250G	Latin American Literature	3
ENGL251G	British Literature II	3
ENGL255G	American Literature II	3
ENGL256G	Modern Poetry	3
ENGL257G	20th Century Literature by Women	3
ENGL260G	Contemporary Literature	3
MUSC101	Introduction to Music	3

Mathematics/Science Electives (9-11 credits) +

These courses help the student comprehend the process of scientific inquiry, to gain quantitative skills and some of the principles of modern scientific knowledge. Such comprehension is the essential foundation for understanding advancing technology that dominates society and the natural environment in which we live.

BIOS104	Field Ecology	4
BIOS105	Contemporary Biology	4
BIOS107	Biology I	4
BIOS110	In Your Genes	4
BIOS115	Essentials of Biology	4
BIOS126	Environmental Science	4
BIOS150	Biology II	4
BIOS160	Human Biology	4
BIOS202	Microbiology for Allied Health	4
BIOS204	Human Anatomy & Physiology I	4
BIOS206	General Ecology	4
CHEM105	Chemistry in Contemporary Society	4
CHEM120	General Chemistry I	4
CHEM135	Chemistry of Life	4
GEOG150	Astronomy	4
GEOG210	Weather and Climate	4
GEOL201	Physical Geology	4
PHYS101	Physics I	4
PHYS151	Physics II	4
PHYS152	Physical Science II	3
PHYS215	Physics for Science & Engineering I	5
PHYS225	Physics for Science & Engineering II	5
MATH120	Nature of Mathematics	3
MATH140	College Algebra	3

MATH145	Trigonometry	3
MATH150	Introductory Statistics	3
MATH160	Pre-Calculus	4
MATH165	Applied Calculus	3
MATH175	Calculus I with Review (Part 1)	4
MATH176	Calculus I with Review (Part 2)	4
MATH180	Calculus I	4
MATH181	Calculus II	4
MATH210	Calculus III	4
MATH211	Differential Equations	4

+ 3/4 credits must be math; 3/4 credits must be lab science.

Honors Program

The Honors Program at Northampton Community College provides an enriched educational environment in which students will be challenged to reach their full intellectual potential and to better prepare themselves for the academic demands of the four-year college or university of their choice. The overall goal of the program is to provide an academic atmosphere in which students learn to think critically, creatively, and independently, and to take responsibility for their own learning.

Features

The Honors Program at Northampton is flexible and works well with students' intended program of study. Students select from honors sections of courses that are part of the general education core. After successfully finishing 12 credits of honors designated courses and maintaining a GPA of 3.5, students will complete the Honors Program. Honors faculty members are dedicated to inspiring and challenging students with innovative and exciting strategies. Many honors courses include a service learning component, allowing students to relate and apply the content of their course to community service projects outside the college. The emphasis in honors courses is on participating in alternative learning strategies, producing scholarly papers and projects, and experiencing cultural and social activities within and beyond NCC.

Requirements

Students will be eligible for this program by:

- Completing an NCC Application form.
- Completing an Honors Program Application form.
- Meeting the NCC placement requirement for English I.

Students must meet one of the following entrance criteria:

- Have a minimum high school GPA of 3.5 on a 4.0 scale.
- Graduate from the top 20% of high school class.
- Have a minimum college or university GPA of 3.5 after 12 credits of coursework.
- Secure a recommendation letter from a high school faculty member, counselor or other appropriate designee approved by the honors director. Students choosing the recommendation option will need to complete an interview with the Director of the Honors Program.

Contact the Admissions Office at 610-861-5500 for further information.

Outcomes

Graduates of program will:

- Actively participate in the classroom and be more responsible for their own learning.
- Apply the critical thinking skills of analysis, synthesis, and evaluation to course related materials.
- Identify, understand, and apply the methodologies, principles, and research strategies of discipline.
- Complete the honors program will transfer to honors programs at institutions of their choice.

Career Potential: The program will provide an enriched educational environment in which students will be challenged to reach their full intellectual potential and to better prepare themselves for the academic demands of the four-year college or university of their choice.

Individualized Transfer Studies, Associate in Arts

Overview

Narrative

Even if Northampton's extensive selection of degree programs doesn't include your intended major, you can still begin your studies here by creating an Individualized Transfer Studies program. By working with your advisor, you can carefully select courses at NCC that are required by the four-year institution to which you plan to transfer. Doing so will give you an affordable head start on your baccalaureate degree with an associate's degree from Northampton. Please note that this option is intended only for students who have identified their baccalaureate college of choice, and their intended major, and are pre-planning a program of Northampton courses to fulfill the general distribution requirements and other courses that are transferable to the four-year institution.

Features

The Individualized Transfer Studies program consists of a three-part curriculum, including:

- The current Northampton general education core for associate in arts programs
- The addition of one Humanities and one Social Science course to the general education electives
- 30 credit hours aligned with the requirements of the degree program at your transfer institution

The College has negotiated opportunities for students to use the Individualized Transfer Studies program to transfer to several colleges/universities for specific programs:

- East Stroudsburg University
 - Health Service Administration, BS Degree
 - Health Education, Concentration in Community Health, BS Degree
- Kutztown University
 - Art Education, BS Degree
- DeSales University (via online learning)
 - Accounting, BA Degree

Requirements

Students will be eligible for this program by:

1. Pre-planning a 61-credit program with the assistance of the Director of Advising
2. Securing the signature of the transfer counselor and appropriate academic dean
3. Agreeing to work with an academic advisor each semester before registration
4. Securing all signatures for the pre-planned program before attempting the last 15 credits at Northampton
5. Agreeing to contact an advisor at the baccalaureate institution during the first semester of study

Contact the Admissions Office at 610.861.5500 for further information.

Outcomes

Graduates of the program will:

- With the assistance of the Transfer Advisor, have planned and completed a 61-credit program tailored to their transfer institution.
- Have fulfilled all general education objectives at Northampton and maximized their transfer to a baccalaureate institution.

Courses

Required Courses

ENGL101	English I	3
ENGL151L	English II OR	3
ENGL151R	English II OR	3
ENGL151T	English II	3

CMTH102	Introduction to Communication	3
MATH	Mathematics Elective (QL) +	3
	Laboratory Science Elective (SCI) +	4
	Social Science: Societies and Institutions over Time Elective (SIT)+	3
	Social Science: Scientific Study of Human Behavior Elective (SSHB)+	3
	Elective from ECON, GEOG, HIST, POLS, PSYC, or SOCA	3
	Arts and Humanities Elective (AH) +	3
	Elective from ARTA, CMTH, ENGL, MDLA, MUSC, or PHIL	3
	Pre-planned Electives (courses that satisfy the requirements of the baccalaureate institution)	30

ENGL151: Students have a choice of ENGL151L (Literature option), ENGL151R (Report Writing) or ENGL151T (Technical Writing). Contact your advisor for guidance.

+ Must be selected from the list of approved courses in these categories

- Students must select two Writing Intensive (WI) courses.
- One course should be designated as Diversity and Global Awareness(D).
- Completion of both ENGL101 and ENGL151L satisfy the computer literacy requirement.
- Electives should be chosen from the list of courses which are applicable to AA and AS degrees. The intention in the 30 elective credits is to align the NCC courses with the baccalaureate major toward which the student is working; any substitution must be discussed and approved by the student's academic advisor.

Subtotal: 61

Health Sciences & Social Services

Applied Psychology, Associate in Applied Science

Overview

Narrative

To meet the need for graduates who are able to function independently in a mental health and human service environment, the Applied Psychology program offers a liberal arts education, focused on counseling and human services. The program will serve students who either wish to transfer to a four-year institution, or students who wish to work in local organizations with a behavioral health or human services focus with this A.A.S. degree. Graduates of the program will be exposed to a wide diversity of knowledge, be asked to do practical thinking and problem-solving, cultivate knowledge of skills, values and ethics in the counseling profession, and develop a professional identity as a counselor.

Features

Foundational courses in communication, statistics, science, social science, and humanities will be complemented with courses in applied psychology. Contextual courses will help students begin to build competency in psychology and human services, while their elective and program choices will allow them to specialize in developing knowledge of life issues and behavior in a selected developmental range (child/adolescent or adult).

Some Transfer Options

- East Stroudsburg University: Psychology (Clinical Track) or Rehabilitation and Human Services
- Penn State University, Lehigh Valley Campus: Psychology, Rehabilitation and Human Services, or Biobehavioral Health
- Kutztown University: Psychology
- DeSales University: Psychology
- Cedar Crest College: Psychology
- Marywood University: Psychology (Clinical Track)
- University of Scranton: Counseling and Human Services
- Lehigh University: Psychology

Outcomes

Students who complete this program will be able to:

1. Distinguish between normal and abnormal developmental processes and behaviors, and correctly identify these processes and behaviors when observing clients.
2. Demonstrate basic counseling skills (active listening, processing, responding, and expressing empathy) effectively with a client with a neurodevelopmental disorder.
3. Discuss and apply ACA ethical standards and values in a counseling/support staff relationship.
4. Recognize the characteristics of a racially and/or culturally diverse individual (demographic characteristics including gender, race, ethnicity, religion, and socioeconomic status) and identify the potential impact of diversity on client functioning.
5. Conduct interviews to gather information in conjunction with reviewing prior assessment material, to explain the client's current functioning from a developmental perspective and identify the client's strengths, needs, and challenges.
6. Discuss the basic principles of the family systems approach, and evaluate these principles in the context of a client's family situation.
7. Write effective, high-quality progress notes, treatment summaries, and other clinical reports to document treatment.

Courses

First Semester

COLS101	College Success	1
CMTH102	Introduction to Communication	3
ENGL101	English I	3
MATH150	Introductory Statistics	3
PHIL201	Introduction to Philosophy	3
PSYC103	Introduction to Psychology	3
Subtotal: 16		

Second Semester

BIOS105	Contemporary Biology	4
CISC101	Introduction to Computers	3
ENGL151R	English II	3
PSYC235	Developmental Child Psychopathology	3
PSYC258	Developmental Psychology	3
Subtotal: 16		

Third Semester

PSAP250	Developmental Differences	3
PSAP260	Counseling Individuals with Developmental Differences	3
SOCA103	Principles of Sociology	3
	Elective	3
	Elective	3
Subtotal: 15		

Fourth Semester

CMTH215	Intercultural Communication	3
PSAP280	Applied Psychology Experiential Learning	3
SOCA125	Sociology of Families	3
	Elective	3
	Elective	3
Subtotal: 15		

- SPED160 and SPED175 are suggested electives for students planning to work in the school setting
- An Elective must be completed in a Writing Intensive (WI) section

Subtotal: 62

Dental Hygiene, Associate in Applied Science

Overview

Program Information

Narrative

Dental Hygiene is a rewarding field that offers flexible work schedules and attractive salaries. If you are interested in working directly with clients to help them achieve and maintain optimal oral health, a career in Dental Hygiene could be a great option.

Dental hygienists are licensed oral health professionals who play an essential role in the field of dentistry. Dental hygienists provide a variety of services that prevent, or limit the extent of, cavities and/or gum disease. They also provide educational, clinical and therapeutic services for people of all ages and in every situation. As a licensed hygienist you could have the opportunity to make a difference in the lives of a range of populations, including the medically compromised, mentally or physically challenged, and socially or culturally disadvantaged. While most dental hygienists practice in private dental offices, others provide services in hospitals, private businesses, correctional institutions and a variety of private and public centers.

Northampton's Dental Hygiene program is among the most respected in Pennsylvania. During the two-year program, all pre-clinical and clinical practice occurs in the dental clinic located at the Fowler Family Southside Center campus. Professional hygienists working in the field enhance the hands-on aspects of the clinical portion of the program. The dental hygiene program is competency-based and assesses all clinical and laboratory courses using pass/fail criteria. Students must earn grades of C (75%) or better in all DENH courses to qualify for semester promotion. If you are interested in a higher level of education, Northampton has developed articulation agreements with dental hygiene baccalaureate degree programs to facilitate admissions and the transfer of credits.

Northampton's program in Dental Hygiene is accredited by the Commission on Dental Accreditation. The Commission is a specialized accrediting body recognized by the United States Department of Education. The Commission on Dental Accreditation can be contacted at (312) 440-4653 or at 211 East Chicago Avenue, Chicago, IL 60611-2678. www.ada.org

Program Mission

While upholding the mission and vision of Northampton Community College, the Dental Hygiene program provides excellent, comprehensive learning experiences to prepare students with the knowledge and clinical skills to competently practice as dental hygienists.

Statement of Values

The Dental Hygiene program values:

- **Excellence** - Quality in the educational experiences that we provide
- **Innovation** - Curricular responsiveness to adapt quickly to changes in the profession
- **Sustainability** - Commitment through our professional actions to respond to the institution, the community, the economy and the environment
- **Accountability** - Individual responsibility for his/her actions, growth and development
- **Integrity** - Academic, personal and professional honesty, fairness, ethical conduct and respect for others
- **Engagement** - Involvement in and collaboration with the communities we serve

Career Potential: Public Health Dental Hygiene Practitioner, Dental Sales, Dental Hygiene Instructor, School Hygienist, Registered Dental Hygienist in a general, periodontic, pediatric, prosthodontic and/or orthodontic private practice.

Transfer Potential: Penn College of Technology, West Virginia University, Farmingdale State College, University of Bridgeport, St. Petersburg College

Admission Requirements

Admission is on a competitive basis. All applicants must submit:

- an application OR a re-entry form
- a change of major form (only if currently enrolled)
- official transcripts (updated copies)
- a completed Career Assessment Form (a new form must be submitted every year)

The minimum admission requirements to the program include:

- Completed high school Biology with a lab component with a grade of B and
- completed high school Chemistry with a lab component with a grade of B (if a candidate did not complete Biology and/or Chemistry with B grades in high school, equivalent courses taken at a post-secondary institution are acceptable substitutes, i.e., NCC CHEM135 and BIOS115) and
- an overall high school grade point average (GPA) of 3.0 (B)

The minimum admission requirements to the program for applicants who have completed more than 12 college credits include:

- The most recently completed Biology course with a lab - if completed in high school with a grade of B, or if completed in college, a grade of B minus (i.e., NCC BIOS115, BIOS160 or BIOS204) and
- the most recently completed Chemistry course with a lab - if completed in high school with a grade of B, or if completed in college, a grade of B minus (i.e., NCC CHEM135) and
- a program-specific college science GPA of 2.70 (possible courses include NCC CHEM135, BIOS160 and BIOS202 only) and
- a cumulative college GPA of 2.70 in all program- specific non-science courses

Meeting the minimum admission requirements does not guarantee admission to the Dental Hygiene program.

Please Note: Students accepted into the Dental Hygiene program will be required to submit results of a criminal background check and Pennsylvania Child and Elder Abuse History Clearance to the program director. Students will also be required to have health insurance, complete a personal medical history, and be certified prior to the start of the semester in First Aid and CPR/BLS of Healthcare Providers.

Deadlines

To receive primary consideration, completed applications must be submitted by February 1. Applications received after this date will be reviewed on a space-available basis.

Contact the Admissions Office at 610-861-5500 for further information.

Outcomes

1. Students will be competent with respect to the Northampton Community College's Dental Hygiene Department document, "Competencies for Entry into the Profession of Dental Hygiene".

Students must demonstrate competency in the following:

Core Competencies

- Model professional behavior.
- Adhere to state and federal laws, recommendations and regulations in the provision of dental hygiene care.
- Gather, evaluate and use information effectively.
- Reflect on personal performance through self-assessment.
- Communicate effectively with individuals and groups from diverse populations both verbally and in writing.
- Use evidence-based decision making to evaluate products and existing, emerging therapies.

Health Promotion and Disease Prevention

- Identify risk factors and develop, implement, and evaluate strategies to promote health and prevent disease.
- Utilize methods to ensure the health and safety of the client and the dental hygienist in the delivery of dental hygiene services.
- Foster interprofessional relationships and collaborate on strategies for health promotion and disease prevention for individuals and communities.

Community Involvement

- Assess the oral health needs of the community and plan, implement and evaluate programs to address those needs.
- Provide community oral health promotion and disease prevention activities in a variety of settings.

Client Care

- Systematically collect, analyze and record data on the general, oral and social health status of a variety of clients to identify risk factors, clients' needs and oral health problems. (Assess)
- Use assessment data and critical decision making skills to reach conclusions about clients' oral health needs. (Diagnose)
- Collaborate with clients and other health professionals to formulate client-centered, comprehensive dental hygiene care plans that are based on current evidence-based practices and that acknowledge clients' informed consent. (Plan)
- Provide specialized treatment that includes preventive and therapeutic services designed to achieve and maintain oral health. (Implement)
- Evaluate the effectiveness of the implemented clinical, preventive and educational services and modify as needed.

(Evaluate)

2. Students will be prepared to successfully complete the National Board Dental Hygiene Examination and the clinical board examination administered by the Commission on Dental Competency Assessments (CDCA).
3. A relevant, current dental hygiene program will be maintained with a curriculum that reflects the standards of clinical practice, education and research.
4. Quality individualized client-centered dental hygiene care will be provided.
5. Students and faculty will engage in interprofessional collaboration to enhance learning experiences, interpersonal skills, and interactions with diverse populations and health care teams.
6. Students and faculty will participate in community service and professional association activities.

Courses

Summer II Session

COLS101	College Success	1
CHEM135	Chemistry of Life	4
ENGL101	English I	3
		Subtotal: 8

First Semester

BIOS160	Human Biology	4
DENH103	Pre-Clinical Preventative Oral Health Services	3
DENH104	Foundations of Preventive Oral Health Services	4
DENH105	Oral Histology	1
DENH106	Oral Anatomy	2
DENH110	Oral Radiology	2
		Subtotal: 16

Second Semester

BIOS202	Microbiology for Allied Health	4
DENH109	Oral Radiology Laboratory	1
DENH150	Clinical Preventive Oral Health Services I	3
DENH152	Preventative Oral Health Services I	2
DENH153	Periodontology	2
DENH154	Oral Care for Medically Complex Clients	1
DENH155	General and Oral Pathology	2
ENGL151L	English II	3
		Subtotal: 18

Summer I Session

DENH212	Pharmacology	2
CMTH102	Introduction to Communication	3
		Subtotal: 5

Third Semester

DENH205	Nutrition for the Dental Health Care Provider	2
DENH206	Local Anesthesia	2
DENH210	Clinical Preventative Oral Health Services II	4
DENH211	Preventive Oral Health Services II	3
DENH220	Community Dental Health I	1
PSYC103	Introduction to Psychology	3
		Subtotal: 15

Fourth Semester

DENH240	Community Dental Health II	1
DENH250	Clinical Preventative Oral Health Services III	4
DENH251	Preventive Oral Health Services III	2
SOCA103	Principles of Sociology	3
	General Education Elective	3
		Subtotal: 13

- For the General Education Elective, students must choose one course from the list of approved courses in one of the

- following categories: Arts and Humanities (AH); Social Science: Societies and Institutions over Time (SIT).
- The free elective requirement has been waived for this program.
- Computer competencies and writing intensive work are included in various courses in this program. Thus, completing the program automatically satisfies the computing and writing intensive requirements for this program.
- Healthcare Provider CPR and Basic First Aid certifications are required immediately prior to Fall Semester - First Year.
- Students must earn grades of "C" or better in all DENH courses to qualify for semester promotion/graduation.

Subtotal: 75

Diagnostic Medical Sonography, Associate in Applied Science

Overview

Narrative

With America's growing and aging population, the healthcare sector continues to offer growth in employment opportunities. Sonography is a key part of today's advanced medical practices, and qualified sonography graduates from Northampton find good-paying, flexible and rewarding positions throughout the country.

Completion of the program requirements of Northampton's Associate in Applied Science (AAS) degree allows the graduate the opportunity to sit for the American Registry of Diagnostic Medical Sonographer's (ARDMS) examination. NCC's sonography program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) in collaboration with the Joint Review Committee on Education in Diagnostic Medical Sonography (JRC-DMS).

Diagnostic Medical Sonography

Commission on Accreditation of Allied Health Education Programs (CAAHEP)

25400 U.S. Highway 19 North, Suite 158

Clearwater, FL 33763

Phone: (727) 210-2350

Fax: (727) 210-2354

www.caahep.org

Joint Review Committee on Education in Diagnostic Medical Sonography

6021 University Blvd, Suite 500

Ellicott, MD 21043

Phone: (443) 973-3251

Fax: (866) 738-3444

www.jrcdms.org

magat@jrcdms.org

Mission Statement

The mission of Northampton's Diagnostic Medical Sonography Program is to provide a quality and comprehensive education in general sonography in a learner-centered environment. The graduates will have the knowledge and skills needed to perform quality sonograms. The graduates will serve as integral members of the health care team by contributing to the diagnosis of the patient's illness. The program will instill in its graduates an understanding of diversity and cultural differences, empathy, and good communication skills. The graduates will be able to critically think and problem solve in order to meet the required examination protocol and technical needs on atypical patients. The graduates will embrace the concept that learning is a life-long experience in order to maintain currency in the dynamic field of sonography.

Program Goals

To produce graduates:

- To prepare competent entry level general sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains.
- with a broad knowledge base that enables them to embrace life-long learning.
- who are able to adapt to ever-changing technology in the health care industry.
- who are competent to pass the certification examination.
- who meet or exceed the needs of their employers.

Deadlines

To receive primary consideration, completed applications must be submitted by February 1. Applications received after this date will be reviewed on a space-available basis.

Contact the Admissions Office at 610-861-5500 for further information.

Upon Acceptance into the Sonography Program

The Admissions Office will mail to each student, accepted into the program, a form to be completed for criminal background clearance, and a health form for a complete physical examination. The program will ask for written verification that the essential functions/technical standards can be met.

Associate in Applied Science Degree

This program is designed for the individual without an Allied Health background.

Features

The Associate in Applied Science Degree in Diagnostic Medical Sonography at NCC is a 24-month competency-based program beginning in the fall semester of each year. This program is designed for the individual without an Allied Health background. Practice in scanning and instrumentation is done in the lab facility on NCC's campus. The clinical education component of the program is conducted at various clinical affiliates in the Lehigh Valley, Poconos, Bucks County, and New Jersey. There are approximately 1560 hours of clinical education.

Career Potential: Sonographer (RDMS), Echocardiographer (RDCE), Vascular Technologist (RVT)

Transfer Potential: Thomas Jefferson University, Misericordia University and Adventist University of Health Sciences.

Admission Requirements

Admission to the program is on a competitive basis. The minimum admission requirements to the program include:

- Completion of high school or GED equivalent
- Completion of high school biology with a lab component with a grade of B or better **OR** BIOS115
- Completion of 2 units of high school algebra with C or better **OR** MATH022 and MATH026 **OR** MATH028 with a C or better
- Submission of an application
- Submission of all official transcripts
- Completion of a Career Assessment Form (CAF)
- Minimum overall GPA of 3.0
- Competitive applicants will be interviewed by the program admission committee

Meeting the minimum admission requirements does not guarantee admission into the Sonography Program. Primary consideration will be given to applicants who have completed:

- College Algebra, Human Anatomy I & II with a B or better the first time a course is taken
- The general education courses that apply to the program

Courses

Fall Semester

COLS101	College Success	1
BIOS204	Human Anatomy & Physiology I	4
DMSG101	Essentials of Patient Care	2
DMSG102	Introduction to Diagnostic Medical Sonography	1
DMSG103	Introduction to Acoustical Physics	2
DMSG104	Introduction to Clinical Education	1
DMSG125	Sectional Anatomy for Medical Imagers	1
ENGL101	English I	3
MATH140	College Algebra	3

Subtotal: 18

Spring Semester

BIOS254	Human Anatomy & Physiology II	4
DMSG105	Acoustic Physics & Instrumentation I	2
DMSG110	Abdominal Sonography- Anatomy, Physiology, Imaging & Critique I	4
DMSG115	OB&GYN Sonography- Anatomy, Physiology, Imaging & Critique I	4

DMSG124	Clinical Education I	2
		Subtotal: 16
Summer Sessions		
DMSG174	Clinical Education II	2
	Elective	3
		Subtotal: 5
Fall Semester		
CMTH102	Introduction to Communication	3
DMSG155	Acoustic Physics & Instrumentation II	3
DMSG160	Abdominal Sonography- Anatomy, Physiology, Imaging & Critique II	4
DMSG163	Fundamentals of Fetal Scanning	1
DMSG224	Clinical Education III	2
ENGL151L	English II	3
		Subtotal: 16
Spring Semester		
DMSG165	OB&GYN Sonography- Anatomy, Physiology, Imaging & Critique II	4
DMSG215G	Small Parts and Special Topics	2
DMSG234	Clinical Education IV	3
DMSG235	Introduction to Vascular Sonography	2
PSYC103	Introduction to Psychology	3
	Social Science: Societies and Institutions over Time Elective (SIT)	3
		Subtotal: 17
Summer Sessions		
DMSG244	Clinical Education V	3
<ul style="list-style-type: none"> Human Anatomy and Physiology I is substituted for one of the Human Knowledge courses. Computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the computing requirement for this program. 		
		Subtotal: 75

Health Care Billing and Coding, Specialized Diploma

Overview

Narrative

Northampton's Healthcare Billing and Coding specialized diploma program is designed to prepare you to enter a modern healthcare setting in a short time frame. The program offers career-specific coursework for a student wishing to complete their studies within three part-time semesters. The program provides course offerings that prepare you to work as a team player in a specialized office environment.

Your studies will include state-of-the-art office equipment and computer software. You will learn the marketable skills required to work effectively with other people in a healthcare environment. We emphasize development of professional attitudes, values, and ethics. As you progress through the program, you'll gain critical thinking, priority setting, and decision-making skills needed in today's quality-oriented business environment.

Graduates of this specialized diploma program often go on to gain employment and then pursue NCC's Healthcare Office Specialist Certificate or Healthcare Office Coordinator associate degree.

Features

This program prepares you for the responsibilities and challenges expected of a skilled medical biller and coder. A medical biller and coder translates health care procedures into standardized code for use by insurance companies, while also compiling and submitting claims to insurance companies and billing patients.

Courses for the health care pathways include Basics of Human Anatomy and Physiology, CPT Coding Methodology, and PCS Coding Methodologies. We have an excellent record of employment for our graduates in a full range of health care settings.

Graduates of this specialized diploma program can also continue on to complete the Health Care Office Specialist

certificate, as well as the Healthcare Office Coordinator associate degree, with ease.

Endorsed by Local Employers

Potential employers for those following this healthcare career pathway include:

- Hospitals
- Community Health Centers
- Ambulatory Surgical Units
- Outpatient Laboratory Centers
- Physician's Offices
- Urgent Care Centers
- Elder Care Facilities

This program can be completed in the day or evening, on a full or part-time basis.

Please contact the Admissions Office at 610.861.5500 or adminfo@northampton.edu for further information.

Career Potential: Medical Billing Clerk, Medical Coder, Medical Records Clerk, Patient Account Representative

Outcomes

Students who complete the program will:

- Identify the appropriate documentation that is required for billing and reimbursement.
- Categorize patient health conditions and treatments to assign proper codes.
- Apply the appropriate coding system: ICD codes to diagnosis/procedures, HCPCS codes to medical equipment, supplies, etc., and CPT codes to procedures for health records and billing.
- Apply patient accounting principles and reimbursements.
- Analyze patient records to maximize reimbursement.

Courses

First Semester

BIOS130	Basics of Human Anatomy and Physiology	4
HCOA154	Medical Terminology	3
	Subtotal:	7

Second Semester

HCOA172	Health Insurance Basics	3
HCOA175	ICD-10-CM/PCS Coding Methodologies	3
HCOA176	CPT Coding Methodology	3
	Subtotal:	9

Third Semester

ACCT100	Accounting for Non-Accountants	3
HCOA177	Health Information Technology	3
HCOA270	Advanced Coding for Medical Services	3
HCOA275	Capstone Simulation for Coding	2
	Subtotal:	11
	Subtotal:	27

Health Care Office Coordinator, Associate in Applied Science

Overview

Narrative

Northampton's Healthcare Office Coordinator degree program is designed to prepare you for a wide variety of opportunities in a modern healthcare setting.

Your studies will include state-of-the-art office equipment and software. You will learn the marketable skills required to work well with other people in a healthcare environment, and these skills will be applied through a valuable internship experience related to your field of study. We emphasize development of professional attitudes, values, and ethics. As you grow through the program, you will gain critical thinking, priority setting, and decision-making skills needed in today's business environment.

Features

This program prepares you to accept the responsibilities and challenges expected of a skilled healthcare office coordinator in the vast professional medical field. A healthcare office coordinator ensures a well-run practice for physicians and patients in strict compliance with health care laws. Office coordinators oversee the business operations of medical offices, clinics, managed care organizations, health agencies, and similar organizations. Their responsibilities are broad in scope and highly dependent on the size of the practice.

Courses for the health care pathways include Basics of Human Anatomy and Physiology, CPT Coding Methodology, and PCS Coding Methodologies.

We have an excellent record of employment for our graduates in the full range of medical office settings.

Endorsed by Local Employers

Potential employers for those following this healthcare career pathway include:

- Hospitals
- Community Health Centers
- Ambulatory Surgical Units
- Outpatient Laboratory Centers
- Physician's Offices
- Urgent Care Centers
- Elder Care Facilities

This program can be completed in the day or evening, on a full- or part-time basis.

To graduate from the Healthcare Office Coordinator Program, and prior to the start of any internship placement, Healthcare Office Coordinator students enrolling in Internship (OFAD250) are required to submit current documentation to local health networks to include, but not limited to, proof of health insurance, a physical exam, lab tests and immunizations, criminal history record information (CHRI), FBI Clearance, and Child and Elder Abuse History Clearance.

Please contact the Program Coordinator or Division offices should you have questions.

Career Potential: Medical Office Manager, Medical Administrative Assistant, Administrative Assistant, Medical Receptionist, Medical Billing Clerk, Medical Transcriptionist, Medical Coder, Medical Records Clerk, Medical Secretary

Outcomes

Students who complete the program will:

- Utilize analytical skills and administrative techniques necessary to organize, prioritize, and manage the flow of confidential information in a healthcare setting.
- Display professional behaviors congruent with core values, standards, and ethics in healthcare.
- Exhibit professionally acceptable oral, written, and interpersonal communication skills.
- Employ critical thinking skills for appropriate decision making for healthcare office efficiency and financial health.
- Demonstrate leadership and supervisory skills and an appreciation of diversity to support the organization and its goals.
- Evaluate patient records to maximize reimbursement.
- Apply the patient accounting revenue cycle.
- Perform essential business planning and office management skills in the healthcare office setting.

Courses

First Semester

COLS101	College Success	1
BIOS130	Basics of Human Anatomy and Physiology	4
CMTH102	Introduction to Communication	3
ENGL101	English I	3
HCOA154	Medical Terminology	3
Subtotal: 14		

Second Semester

HCOA172	Health Insurance Basics	3
CISC101	Introduction to Computers	3
ENGL151L	English II	3
HCOA175	ICD-10-CM/PCS Coding Methodologies	3
HCOA176	CPT Coding Methodology	3

PSYC103	Introduction to Psychology	3
		Subtotal: 18
Third Semester		
ACCT100	Accounting for Non-Accountants OR	3
ACCT101	Financial Accounting I	3
BUSA221G	Business Communications	3
BUSA205	Management Fundamentals	3
HCOA177	Health Information Technology	3
HCOA240	Medical Office Management Practices	3
		Subtotal: 15
Fourth Semester		
BUSA226	Human Resources Management	3
OFAD250	Internship	3
PHIL202	Ethics & Moral Problems	3
	General Education Elective + Elective	3 3
		Subtotal: 15

+ For the General Education Elective, students must select one course from the list of approved courses in one of the following categories: Arts & Humanities (AH); Social Science: Societies and Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB).

- One course should be designated as Diversity and Global Awareness (D).

Subtotal: 62

Health Care Office Specialist, Certificate

Overview

Narrative

Northampton's Healthcare Office Specialist certificate program is designed to prepare you to enter a modern healthcare setting in a short time frame. The program offers career-specific coursework for a student wishing to complete their studies within three full-time semesters. Each program provides course offerings that prepare you to work as a team player in a specialized healthcare environment.

Your studies will include state-of-the-art office equipment and computer software. You will learn the marketable skills required to work effectively with other people in an office environment. We emphasize development of professional attitudes, values, and ethics. As you progress through the program, you'll gain critical thinking, priority setting, and decision-making skills needed in today's quality-oriented healthcare environment.

Graduates of this certificate program often go on to gain employment and then pursue NCC's Healthcare Office Coordinator associate degree.

Features

This program prepares you for the responsibilities and challenges expected of a skilled administrative assistant in a healthcare setting. Responsibilities of a healthcare office specialist include front-office duties, health services coding, and patient insurance reimbursement, but these responsibilities can vary depending on the size of the practice.

Courses for the healthcare pathways include Basics of Human Anatomy and Physiology, CPT Coding Methodology, and PCS Coding Methodologies.

We have an excellent record of employment for our graduates in the full range of healthcare settings.

Graduates of this certificate program can also continue on to complete the Healthcare Office Coordinator associate degree with ease.

Endorsed by Local Employers

Potential employers for those following this healthcare career pathway include:

- Hospitals
- Community Health Centers
- Ambulatory Surgical Units
- Outpatient Laboratory Centers
- Physician's Offices
- Urgent Care Centers
- Elder Care Facilities

This program can be completed in the day or evening, on a full or part-time basis.

Please contact the Admissions Office at 610.861.5500 or adminfo@northampton.edu for further information.

Career Potential: Medical Receptionist, Medical Secretary, Medical Administrative Assistant, Patient Coordinator, Medical Billing Clerk, Medical Coder, Medical Records Clerk

Outcomes

Students who complete the program will:

- Identify the appropriate documentation that is required for billing and reimbursement.
- Categorize patient health conditions and treatments to assign proper codes.
- Apply the appropriate coding system: ICD codes to diagnosis/procedures, HCPCS codes to medical equipment, supplies, etc., and CPT codes to procedures for health records and billing.
- Apply patient accounting principles and reimbursements.
- Analyze patient records to maximize reimbursement.
- Utilize software to accomplish work-related tasks accurately and efficiently in a health care environment.
- Utilize analytical skills and administrative techniques necessary to organize, prioritize, and manage the flow of confidential information in a health care setting.
- Exhibit professionally acceptable attitudes, values & ethics in the health care profession.
- Explain the basic human resource management principles as related to the health care environment.

Courses

First Semester

BIOS130	Basics of Human Anatomy and Physiology	4
OFAD101	Keyboarding & Formatting Essentials I	3
ENGL101	English I	3
HCOA154	Medical Terminology	3
	Subtotal: 13	

Second Semester

ACCT100	Accounting for Non-Accountants	3
CISC101	Introduction to Computers	3
HCOA172	Health Insurance Basics	3
HCOA175	ICD-10-CM/PCS Coding Methodologies	3
HCOA176	CPT Coding Methodology	3
	Subtotal: 15	

Third Semester

BUSA226	Human Resources Management	3
HCOA177	Health Information Technology	3
HCOA240	Medical Office Management Practices	3
HCOA270	Advanced Coding for Medical Services	3
HCOA275	Capstone Simulation for Coding	2
HCOA276	Diversity & Cultural Competency in Healthcare	2
	Subtotal: 16	
	Subtotal: 44	

Massage Therapy, Specialized Diploma

Overview

Narrative

The Massage Therapy Certificate Program integrates theory (classroom) and hands-on (lab) training for a career as a professional massage therapist. Students develop the knowledge necessary to develop therapeutic treatment plans and apply appropriate massage techniques with focus on whole body wellness. Graduates are prepared for employment opportunities in hospitals, rehabilitation centers, medical offices, spas, health clubs, and private practice and are eligible to sit for the Massage and Bodywork Licensing Exam (MBLEEx).

While in the program, students will have supervised clinical instruction designed to develop client-based skills and techniques. The curriculum is designed sequentially, to allow the student to master basic skills and competencies first, before progressing to more challenging skills and techniques.

Features

The program includes 23 credits of general education courses and 13 credits of Massage Therapy instruction. The Massage Therapy courses will be offered at the Fowler Family Southside Center campus where a practice laboratory is located. Students must take the Massage Therapy courses sequentially to ensure that they build their knowledge and skills to practice techniques independently by the completion of the program. The third semester of the program provides students with 16 hours of practice time to refine their skills as an independent practitioner.

The program includes thorough study of human anatomy and physiology which provides the students with scientific basis for safe, competent practice. Students should consult an advisor regarding their preparation for these science courses prior to starting in the program.

View Gainful Employment information on the Licensed Massage Therapy certificate.

Admission Requirements

This is a selective admission program. Applicants shall have completed work equal to a standard high school course as evidenced by a diploma or GED and be 18 years of age prior to beginning the program. The minimum admission requirements for the program include: 1) one year of HS biology or NCC equivalent (BIOS107 or 115) with a grade of C or better, 2) complete the English Placement Test (EPT) and be eligible to enroll in English 101 and 3) have an overall HS or most recent college GPA of 2.5 or better.

After acceptance into the program, students are required to:

- Submit results of Criminal History Record Information (CHRI), Child and Elder Abuse History Clearance, and FBI Clearance.
- Submit certificate in Basic Life Support for Health Care Providers.

Outcomes

Upon completion of the program, the student will be able to:

1. Plan, organize and safely provide a professional massage and bodywork session to clients from across the lifespan
2. Execute skills required for an entry-level massage therapist utilizing seated, table and floor massage.
3. Display professional behaviors congruent with core values, standards and ethics of the Massage Therapy profession.
4. Demonstrate dignity and respect for cultural diversity, age, gender, lifestyle values and choices of others.
5. Communicate effectively with clients, family members and other healthcare professionals in oral and written formats.
6. Apply critical thinking skills and basic clinical decision-making when administering client centered massage and bodywork.
7. Perform essential business planning and office management skills in the massage practice setting.

Courses

First Semester

COLS101	College Success	1
CISC101	Introduction to Computers	3
BIOS204	Human Anatomy & Physiology I	4
MASG101	Massage Therapy Procedures I	4

Subtotal: 12

Second Semester

BIOS254	Human Anatomy & Physiology II	4
CMTH102	Introduction to Communication	3
MASG102	Massage Therapy Procedures II	5
		Subtotal: 12

Summer I Semester

MASG210	Massage Therapy Procedures III	4
		Subtotal: 4

*NCC Massage Therapy Program meets the 600-hour requirement through both didactic and clinical courses required by PA State Licensing.

Subtotal: 28

Medical Assistant, Specialized Diploma

Allied Health & Sciences

Specialized Diploma conferred

Overview

Narrative

Health care continues to be a growth area of our economy. Varied and satisfying employment opportunities exist, even for individuals with a minimum of science education.

Northampton developed its Medical Assistant specialized diploma program in response to requests from physicians who were looking for workers who were trained in both office and clinical skills. The coursework includes both classroom and lab instruction. Students develop their skills in the academic setting prior to experiencing hands-on clinical instruction in physician practices.

The program progresses sequentially. You will master basic skills and competencies first before moving on to more challenging procedures. Students finish the program with a capstone clinical externship in their third semester. During the externship, you will have the chance to work in the medical office setting under the supervision of a clinical preceptor.

The specialized diploma is part of a career ladder that allows successful students to gain employment at the earliest point in their academic program. Students can also choose to continue their studies full or part-time in a specialized field through direct articulation with other Medical Office Administration programs.

Features

Students will learn clerical skills such as keyboarding and the fundamentals of health care reimbursement. Clinical skills include: history taking, vital sign measurement, documenting on the patient record, medication administration, phlebotomy and EKGs.

Students can elect to attend the program on a part-time or full-time basis, but the Medical Assistant Technique courses must be taken in sequence. This program is offered at the Fowler Southside Center and Monroe Campus.

After completing the program, students can sit for the Registered Medical Assistant American Medical Technologist (RMA-AMT) Certification Exam. The program faculty will distribute information about the exam to students at the conclusion of the program.

View Gainful Employment information on the Medical Assistant specialized diploma.

Career Potential: Medical Assistant in office of: physician, dentist, podiatrist, medical clinic, chiropractor, ambulatory surgical unit, and hospital departments.

Admission Requirements

This is a selective admission program. Applicants shall have completed work equal to a standard high school course as evidenced by a diploma or GED. The minimum admission requirement to the program include: 1) one year of HS biology or NCC equivalent (BIOS105, BIOS107, BIOS115) with a grade of C or better, and 2) one year of HS algebra with a grade of C or better or NCC equivalent (MATH022).

Prior to acceptance, the student is required to take the English Placement Test (EPT) and be able to enroll in English 101 or be able to transfer English 101 or its equivalent.

After acceptance into the program, students are required to

- Carry and maintain health insurance

- Have physical examination
- Submit results of required lab tests, immunizations and drug screen
- Submit certificate in Basic Life Support for Health Care providers throughout the program
- Submit results of Criminal History Record Information (CHRI), Child and Elder Abuse History Clearance and FBI Clearance.

Deadline

In order to be considered, applicants must submit an application and all transcripts by February 1 for Fall semester start. Applications received after this date will be reviewed on a space available basis.

Outcomes

Graduates of the program will:

- Demonstrate an understanding of basic human biology and medical terminology as they relate to the role of the medical assistant.
- Perform the administrative, clerical, and clinical competencies of the medical assistant role.
- Demonstrate knowledge of the legal and ethical responsibilities of the medical assistant.
- Function as an assistant to the physician or health care professional in the medical office setting.
- Demonstrate effective written and oral communication skills in the medical assistant role.
- Integrate biopsychosocial principles in delivering care to patients and in performing the medical assistant role.

Courses

First Semester

COLS101	College Success	1
BIOS130	Basics of Human Anatomy and Physiology	4
MDAS101	Medical Assistant Techniques I	5
OFAD101	Keyboarding & Formatting Essentials I	3
HCOA154	Medical Terminology	3
Subtotal: 16		

Second Semester

MDAS105	Medical Assistant Techniques II	5
HCOA172	Health Insurance Basics	3
HCOA175	ICD-10-CM/PCS Coding Methodologies	3
HCOA176	CPT Coding Methodology	3
HCOA240	Medical Office Management Practices	3
Subtotal: 17		

Third Semester

MDAS201	Medical Assistant Externship	4
Subtotal: 37		

Nursing: LPN, Certificate

Overview

Narrative

The Practical Nursing (PN) certificate program prepares graduates for entry into the nursing profession as a practical nurse. Practical nurses work under the direction of a licensed registered nurse, licensed physician or dentist. The program includes 27 credits of nursing courses and 16 credits of general education courses and can be completed in one calendar year. It is offered at the Monroe and Bethlehem campus locations.

Graduates who successfully complete the program are eligible to apply to a State Board of Nursing for licensure as a licensed practical nurse and to take the National Council Licensure Exam for Practical Nurses (NCLEX-PN®). This examination is used by the State Board of Nursing to assess the entry-level nursing competence of candidates for licensure as licensed practical nurses. When the candidate successfully completes the NCLEX-PN® exam, a license is issued. Information about the NCLEX-PN® exam is available at www.ncsbn.org/nclex.htm.

Students are admitted to the program once a year, in the fall semester. The curriculum focuses on the art and science of nursing, and is taught in classroom, college skills laboratory, and clinical practice settings. Students attend class, skills laboratory and clinical simulation experiences on campus. Additionally, students participate in clinical learning

experiences in various healthcare settings under the guidance of nursing faculty. Clinical learning experiences provide students with the opportunity to apply nursing theory in client care situations. Clinical settings include acute and long term care, in-patient and outpatient facilities.

Class, lab and simulation experiences are scheduled during the day. Most clinical experiences are scheduled during the day between the hours of 6:30 am and 5:00 pm. The college reserves the right to schedule clinical experiences during the evening and/or on weekends if necessary.

General Education courses in the nursing curriculum are offered in traditional and online format during the day and evening. Students may elect to complete general education courses prior to entering the program. All students are encouraged to consult an academic advisor.

[View Gainful Employment information on the Nursing: LPN certificate.](#)

Career Potential

Graduates of the program find jobs in a variety of health care settings including long-term care facilities, home health care agencies, state and federal health-related facilities, private duty nursing, clinics, and office settings.

Accreditation Information

The Practical Nursing program is accredited by the Accreditation Commission for Education in Nursing, Inc., 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326, 404.975.5000, <http://www.acenursing.org> and is approved by the Pennsylvania State Board of Nursing.

Frequently Asked Questions

Responses to frequently asked questions about the PN Certificate program are available here (PDF).

For More Information Contact:

Nursing Department, Penn Hall 120E, Northampton Community College, 3835 Green Pond Road, Bethlehem, Pennsylvania 18020. Telephone: 610.861.5376.

Admission Requirements

Admission to the Practical Nursing certificate program is selective. Applicants must have coursework completed equal to a standard high school course with a minimum of 16 units including 4 units of English, 3 units of Social Sciences, 2 units of Mathematics (one of which is Algebra), and 2 units of Science with a related laboratory or the equivalent. The minimum admission requirements to the program include:

- Completion of high school biology* with a grade of C or better. *An acceptable substitute for high school biology is NCC BIOS115 with a grade of C or better.
- One year of high school Algebra** with a C or better **an acceptable substitute for Algebra, it is NCC MATH022 with a grade of C or better.
- Courses used as admission criteria cannot be used to satisfy degree requirements.
- TEAS® results submitted prior to the application deadline
- Cumulative GPA of 2.5 or higher.

Please note: Meeting the minimum admission requirements does not guarantee admission to the Nursing program. Primary consideration is given to those who have received a grade of B or better in the program sciences on the first attempt and have a TEAS® academic preparedness level of BASIC. Additional information on TEAS® testing is available here.

If available spaces in the program are not filled by students who have met the aforementioned standards, the College reserves the right to accept students who have, in the judgment of the College, the potential to complete the Practical Nursing program.

Outcomes

The graduate of the Practical Nursing Program will:

1. Demonstrate completion of the curriculum objectives and associated competencies:
 - a. Assist in the application of the nursing process to provide nursing care to individuals across the lifespan through efficient and effective use of resources in structured health care settings.
 - b. Communicate effectively with patients, their support systems, and the health care team through the use of interpersonal skills and technology.
 - c. Assess the health status and health care needs of patients through the collection of data within established protocols and guidelines.
 - d. Employ basic clinical decision making based on critical thinking skills to deliver safe effective nursing care under the supervision of an experienced registered nurse, physician, or dentist.
 - e. Demonstrate caring interventions based on accepted standards of care and the physiologic and psychosocial needs of the patient.
 - f. Collaborate with patients, support persons, members of the health care team and community agencies to provide patient-centered quality care.
 - g. Utilize the teaching-learning processes to promote, maintain, and restore health to individuals within their communities.
 - h. Demonstrate professional accountability and commitment to standards of professional practice while practicing nursing within legal, ethical and regulatory frameworks.
2. Students will be prepared to successfully complete the National Council Licensure Exam for Practical Nurses (NCLEX-PN®).
3. Students will be satisfied with their nursing education.
4. Students will be prepared for and gain employment in a variety of settings.

Courses

First Semester

BIOS160	Human Biology	4
ENGL101	English I	3
NURS101	Introduction to Nursing	8
PSYC103	Introduction to Psychology	3
		Subtotal: 18

Second Semester

NURS151	Medical-Surgical Nursing for the Practical Nurse	8
PSYC258	Developmental Psychology	3
SOCA103	Principles of Sociology	3
		Subtotal: 14

Third Semester (Summer)

NURS205	Geriatric Nursing for the Practical Nurse	4
NURS206	Maternal Nursing for the Practical Nurse	4
NURS207	Mental Health Nursing for the Practical Nurse	3
		Subtotal: 11

* Please note: A student is not permitted to progress to the next semester in the program without successful completion of general studies courses in that current semester.;

MINIMUM CREDITS NEEDED TO GRADUATE: 43

Subtotal: 43

Nursing: RN, Associate in Applied Science

Overview

Program Narrative

The Associate Degree Nursing Program at NCC prepares graduates to assume entry level positions as registered nurses

who provide safe, competent nursing care in the various settings of our dynamic, evolving healthcare environment. These settings can include, but are not limited to hospitals, rehabilitation facilities, long term care, home care, clinics, physicians' offices, the community and many other agencies. Successful completion of the program qualifies graduates to apply for licensure as a registered nurse and to take the National Council Licensure Exam for Registered Nurses (NCLEX-RN®). This examination is used by the State Board of Nursing to assess the entry-level nursing competence of candidates for licensure as registered nurses. When the candidate successfully completes the NCLEX-RN® exam, a license is issued. Information about the NCLEX-RN® exam is available at www.ncsbn.org/nclex.htm.

The Associate Degree Nursing Program requires a minimum of four academic semesters to complete. The program is offered on the Bethlehem and Monroe campuses. Students are accepted to the Monroe campus program in each fall semester. Students are accepted to the Bethlehem Campus program each fall and spring semester. The curriculum focuses on the art and science of nursing. Students in the program gain the knowledge, skills and professional attributes required in nursing practice. On campus students attend class, skills lab and simulation experiences. Students participate in clinical learning experiences in various healthcare settings under the guidance of nursing faculty. Clinical learning experiences provide students with the opportunity to apply nursing theory in patient care situations. These experiences are scheduled at a variety of health care agencies in the surrounding areas. Clinical settings include acute and long term care, in-patient and outpatient facilities. Class, lab, clinical and simulation experiences are scheduled during the day. Most clinical experiences are scheduled during the day between the hours of 6:30 am and 5:00 pm. The college reserves the right to schedule clinical experiences during the evening and/or on weekends if necessary.

The Associate Degree Nursing program is also offered on an evening/weekend schedule. Students are admitted to the evening/weekend alternative program in the spring semester of every other year on the even years. The next cohort of student will be admitted in spring 2020. Classes and college laboratory experiences are offered on campus during the early evening hours, between 5:00 pm and 10:00 pm. Clinical learning experiences for the evening/weekend program are scheduled on weekends between the hours of 6:30 am and 5:00 pm. The college reserves the right to schedule clinical learning experiences during the week if necessary.

General Education courses in the nursing curriculum are offered in traditional and online format during the day and evening. Students may elect to complete general education courses prior to entering the program. All students are encouraged to consult an academic advisor.

Accreditation Information

The Associate Degree Nursing program is accredited by the Accreditation Commission for Education in Nursing, Inc., 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326, 404.975.5000, <http://www.acenursing.org> and has full approval of the Pennsylvania State Board of Nursing.

For More Information Contact:

Nursing Department, Penn Hall 120E, Northampton Community College, 3835 Green Pond Road, Bethlehem, Pennsylvania 18020. Telephone: 610.861.5376.

Transfer Potential

In partnership with East Stroudsburg University a BSN completion program is offered on the NCC Bethlehem campus. The program offers flexible evening part-time and full-time options for working nurses and can be completed in as little as 18 months. For details on this program please visit http://www.esu.edu/academics/extended_learning

Seamless transition to a BSN completion program is also possible through articulation agreements established with several four year institutions including but not limited to the following:

- Bloomsburg University
- Carlow University
- Cedar Crest College
- DeSales University
- Drexel University
- Moravian College

Career Potential

For information related to career potential, please visit Your Nursing Career on the American Association of Colleges of Nursing Website.

Admission Requirements

Program Entry Requirements

Admission is on a selective basis. Applicants shall have completed work equal to a standard high school course with a minimum of 16 units including 4 units of English, 3 units of Social Sciences, 2 units of Mathematics (two of which are Algebra), and 2 units of Science with a related laboratory or the equivalent.

The minimum admission requirements to the program include:

- Completion of high school chemistry and biology with labs and grades of B or better. An acceptable substitute for high school chemistry is NCC CHEM135 with a grade of B. An acceptable substitute for high school biology is NCC BIOS115 with a B.
- Two years of high school algebra with a grade of C. An acceptable substitute for high school algebra I and II is MATH022 and 026 or MATH028 with grades of C.
- TEAS® results submitted prior to the application deadline.
- Courses used to satisfy admission criteria cannot be used to satisfy degree requirements.
- Students applying to the program must have a minimum GPA of 3.00.
- Primary consideration is given to those who have received a grade of B or better in the program sciences on the first attempt and have a TEAS® academic preparedness level of Proficient with Adjusted Individual Scores on Reading, Math, Science and English at or above the national mean. Additional information on TEAS® testing is available here.

Deadlines

In order to be considered for program admission, an application, all official transcripts, and official TEAS® test results must be submitted by September 15th for spring admission and by February 1st for fall admission. TEAS® results are valid for two years from the test date. Applications received after these dates will be reviewed on a space available basis. Contact the Admission Office at 610.861.5500 for additional information.

Nursing Health Requirements

The nursing program health requirements are determined by the Nursing Department, affiliating clinical agencies, the College and by the Pennsylvania State Board of Nursing. Students are responsible for maintaining compliance with health requirements annually as outlined below.

- Prior to the first semester students must submit the following documents to the Health and Wellness Center:
 - Completed physical examination
 - Two Step Tuberculin Skin Test - acceptable only if done after April 1st for fall admission and October 1st for spring admission.
 - Copy of current health insurance card (All students are required by the College to carry health insurance during the program)
 - Records of up to date immunizations or blood titers reflecting immunity against:
 - MMR (Measles, Mumps, and Rubella) – 2 doses are required if born after 1957
 - Td (Tetanus and Diphtheria) – last dose must be within 10 years.
 - Hepatitis B – series of 3 immunizations and titers
 - Varicella – 2 doses are needed (if received after age 13) or history of Chicken Pox disease.
 - Seasonal Flu
 - Additional immunizations may be required by clinical agencies.
- During the first semester urine drug screen testing is scheduled and results are submitted directly to the Health Center by the service provider. The nursing program includes clinical experiences in a variety of healthcare settings. Clinical agencies require evidence of a negative urine drug screen before permitting a student to participate in clinical experiences at their facility. Therefore, any student with a positive urine drug screen cannot remain in the program.
- Prior to the third semester the Two Step Tuberculin Skin Test must be repeated and results submitted to the Health and Wellness Center.
- In the third semester urine drug screening must be repeated and the results will be submitted to the Health Center by the service provider. The Nursing Department reserves the right to withdraw the student from a clinical experience and ultimately the course and program if at any time the student's health requirements are out of compliance.

The Nursing Department reserves the right to withdraw the student from a clinical experience and ultimately the course and program if at any time the student's health requirements are out of compliance.

Urine Drug Screening

Urine drug screening is conducted annually. Students who have a positive urine drug screen are not eligible to continue the program.

CPR Certification

Documentation of certification in Basic Life Support (CPR) for Health Care Providers must be submitted to the Nursing Department prior to participating in clinical experiences in the first semester. Certification must remain current throughout the program. Certification courses are available through the NCC Center for Healthcare Education and the American Heart Association.

Essential Functions

Students admitted to the Associate Degree Nursing program are expected to perform the same essential functions of an employment position as a licensed Registered Nurse. The essential functions are the basic cognitive, psychomotor, and affective activities that are essential to successful completion of the NCC Associate Degree Nursing curriculum leading to initial licensure as a nurse. Essential functions are categorized as: Sensory (tactile, visual, hearing and smell) communication, psychomotor (gross motor skills, fine motor skills, physical endurance, physical strength, mobility), intellectual and cognitive abilities (reading, arithmetic competence, analytic thinking, and critical thinking), professional and social attributes (interpersonal skills, and communication) and application of legal/ethical principles and professional standards. All students are required to meet these essential functions. Allowing for individual differences, and encouraging program completion for students with a documented disability, the Nursing Program will work with the student and Disability Services to provide any reasonable accommodation to meet these essential functions. Contact the Nursing Department at 610.861.5376 if you have questions regarding these requirements. A detailed description of these Essential Functions (PDF) is available [here](#).

Background Checks

All convictions and pending or new charges known to the program applicant must be reported to the Nursing Program Director immediately upon offer of program admission. These include felony, misdemeanor and summary convictions. After acceptance, but before starting the program, students are required to submit results of Pennsylvania State Police, FBI criminal background checks and Pennsylvania Child and Elder Abuse History Clearances to an electronic record system for review by the Nursing Department.

Program admission is considered conditional pending receipt and evaluation of the background checks. Positive background checks are reviewed by a Committee to determine eligibility. Applicants who are on probation, or house arrest are not eligible for admission.

Students with a positive Child Abuse History **are not eligible** for program admission. PA State Police and FBI Criminal History Check results are reviewed by the Allied Health Review Committee to determine eligibility for admission.

A nursing student must inform the Director of Nursing Programs immediately if there is a change in the criminal background or child abuse clearance while enrolled in the program. In these circumstances, the student's eligibility to continue in the program will be re-evaluated.

Please be advised that licensing and credentialing bodies may apply their own standards to determine what convictions would disqualify a candidate for licensure. A student with a positive background check who completes the program is not guaranteed licensure.

Act 1985-109 known as the Professional Nursing Law of the Laws of Pennsylvania declares the following: "...The Board shall not issue a license or certificate to an applicant who has been convicted of a felonious act prohibited by the act of April 14, 1971 (P.L. 233, No. 64), known as 'The Controlled Substance, Drug, Device and Cosmetic Act', or convicted of a felony relating to a controlled substance in a court of law of the United States or any other state, territory, or country unless:

1. at least ten (10) years have elapsed from the date of conviction;
2. the applicant satisfactorily demonstrates to the board that he has made progress in personal rehabilitation since the conviction such that licensure of the applicant should not be expected to create a substantial risk of harm to the health and safety of patients or the public or a substantial risk of further criminal violations; and
3. the applicant otherwise satisfies the qualifications contained in or authorized by this act.

Sections 133.14. and 15.1 of the Professional Nursing Law imply the will of the legislature in relation to felonies and misdemeanors reflecting questions about moral character.

As used in this section the term 'convicted' shall include a judgment, an admission of guilt or a plea of nolo contendere.

An applicant's statement on the application declaring the absence of a conviction shall be deemed satisfactory evidence of the absence of a conviction, unless the board has some evidence to the contrary."
Contact the Admissions Office at 610-861-5500 or the Nursing Department at 610-861-5376 for further information.

Professional Conduct

Nursing students are expected to conduct themselves in a professional manner in accordance with the Code of Student Conduct found in the College Student Handbook, and the American Nurses Association Code of Ethics and Classroom and Clinical Behavioral Expectations for the Student of Professional Nursing documents found in the nursing student handbook.

Advanced Placement Program for LPN

The College offers an Advanced Placement program for Licensed Practical Nurses (LPNs) to earn an associate degree and become eligible to take the National Council of Licensing Examination-RN (NCLEX-RN®).

To qualify for the Advanced Placement program, you must:

- Have of C+ or better in Fundamentals of Nursing in the PN program
- Be a Licensed Practical Nurse (LPN) with a current license
- Meet the Registered Nursing program prerequisites
- Submit TEAS® results prior to the application deadline.
- Complete the General Education courses of the Registered Nursing program with a C or better.

Licensed practical nurses may elect to take approved challenge exams for select nursing courses for credit toward the associate degree. Once a student enrolls in a course they are ineligible to gain credit for the course by challenge exam. Qualified candidates are admitted to the program on a seat available basis. Primary consideration is given to those who received a B or better in the program sciences on the first attempt and have a TEAS® academic preparedness level of Proficient with Adjusted Individual Scores on Reading, Math, Science and English at or above the national mean. Additional information on TEAS® testing is available in this document.

If all spaces in the program are not filled by students who have met the aforementioned standards, the College reserves the right to accept students who have, in the judgment of the College, the potential to complete the Associate Degree in Nursing Program.

Progression

A student must maintain a grade of "C+" or better in all nursing courses. The policy addressing options for repeating a nursing course can be found in the Associate Degree Nursing Student Handbook (PDF).

Outcomes

End of Program Student Learning Outcomes

The graduate of the Associate Degree nursing program will:

- Use the nursing process to manage and provide care to individuals across the lifespan through efficient and effective management of resources in a variety of health care settings.
- Perform ongoing comprehensive assessments of patients' health status and changing needs.
- Demonstrate caring interventions based on physiologic and psychosocial needs of the patient.
- Initiate the teaching-learning processes to promote, maintain, and restore health to individuals within their communities.
- Communicate effectively with patients, their support persons, and the health care team through the use of interpersonal skills and technology.
- Collaborate with patients, support persons, members of the health care team and community agencies to provide patient-centered quality care.
- Employ clinical decision making based on critical thinking skills and evidence based practice to deliver safe effective nursing care through the nursing process.
- Demonstrate professional accountability and commitment to standards of professional practice while practicing nursing within legal, ethical and regulatory frameworks

Program Outcomes

Achievement of program outcomes by graduates is measured by program completion rates, pass rates on the National Council Licensure Exam for Registered Nurses (NCLEX-RN®) and employment rates. The most recent student achievement data on program outcomes is available here.

Courses

First Semester

COLS101	College Success	1
BIOS204	Human Anatomy & Physiology I	4
ENGL101	English I	3
NURS101	Introduction to Nursing	8
PSYC103	Introduction to Psychology	3

Subtotal: 19

Second Semester

BIOS254	Human Anatomy & Physiology II	4
ENGL151L	English II OR	3
ENGL151R	English II OR	3
ENGL151T	English II	3
MATH150	Introductory Statistics	3
NURS215	Nursing Care of Patients with Medical Surgical Problems	8

Subtotal: 18

Third Semester

BIOS202	Microbiology for Allied Health	4
NURS223	Maternal Child Health Nursing	4
NURS224	Care of Mental Health Patients	4
PSYC258	Developmental Psychology	3
SOCA	Sociology/Anthropology Elective +	3

Subtotal: 18

Fourth Semester

CMTH102	Introduction to Communication	3
NURS231	Nursing Seminar	2
NURS260	Integrated Concepts for Nursing Practice	6
NURS261	Nursing Practicum	2
PHIL202G	Ethics & Moral Problems	3

Subtotal: 16

Please note: A student is not permitted to progress to the next semester in the program without successful completion of general education courses in that current semester.

* ENGL151L (literature option) is recommended, but R-report writing and T-technical writing options of ENGL151 are also available.

+For the SOCA elective, students must select a SOCA course from the list of approved General Education courses - SOCA102 or SOCA103 is recommended.

- One course should be designated as Diversity and Global Awareness (D).
- Completion of PHIL202G satisfies the Writing Intensive (WI) requirement.
- Computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the computing requirement for this program.
- The Social Science (SIT) requirement and the free elective requirement have been waived for this program.

MINIMUM CREDITS NEEDED TO GRADUATE: 71

Subtotal: 71

Public Health, Associate in Applied Science

Overview

Narrative

The CDC cites unhealthy lifestyle as the primary contributor to the six leading causes of death in the U.S., which collectively account for over 70% of all deaths and 75% of the nation's healthcare costs. This data illustrates a measurable lack of public health infrastructure. Projections indicate that the U.S. will need an additional 250,000 public health workers by 2020 to meet these rising demands.

We need Public Health and we need people trained in Public Health education to move our population into a healthy and safe future. We need individuals taught to appreciate the importance of health behavior change on the individual, community, population and policy levels. We need people who want to make a difference.

NCC Public Health students have the exciting opportunity to be at the forefront of the transitioning landscape of national and international healthcare promotion and education.

NCC can provide students with the applied skills and knowledge to either enter the workforce directly, or transfer easily into a four-year college or university program.

The career opportunities are endless and the specialties diverse. Graduates would be employable in a variety of settings and career paths, including:

- Health Promotion Counselor
- Health Coach
- Patient Navigator
- Community Health Educator
- Health Communication/Public Relations
- Health Teacher
- Public Health Worker
- Wellness Promotion Specialist

The scope of Public Health is not confined only to traditional clinical, healthcare settings. Possible places of employment include:

- Local, state, and federal agencies
- Health departments
- Educational institutions
- Healthcare organizations
- Health Insurance companies
- Relief organizations
- Advocacy groups
- Crisis agencies
- Research organizations
- Global health agencies

New Accelerated Track for 2017! The Associate in Applied Science Degree in Public Health is now being offered in a new online accelerated track format. This option allows students to complete the core Public Health content courses in 16 months instead of the traditional 24 months. Courses are offered online in 6 week blocks that run continuously throughout the year, including summer sessions, beginning in January of each calendar year.

Features

This program is designed to provide our graduates with a solid foundation of knowledge and skills crucial to employment within the Public Health arena. Students will explore an evidence-based approach to improving population health and sustaining those changes through core concepts such as health promotion, health education, health communication, health literacy, advocacy, cultural competency, health disparities, diversity, assessment, planning, implementation, evaluation, community engagement, and policy change.

During the final capstone course, Public Health Field Experience, students will have the opportunity to broaden their public health perspectives and gain experience in applying the theory and content learned in their public health coursework. It is expected that the field experience will afford students the opportunity to interact and collaborate with public health professionals and participate in actions that constitute public health. Integral to closing the loop on the learning process is the opportunity for students to reflect on the field experience. Students will meet weekly in a seminar format class focused on sharing, comparing, and contrasting the different infrastructures and approaches they are observing and experiencing at each field location.

This program can be completed in two years of full time study on the Monroe campus of NCC.

Requirements

Admission to the program is open to any student meeting the standard college entrance requirements. Successful students will have sufficient backgrounds in math, biology, and English as required by certain program courses. NCC offers preparatory courses that will meet these needs if necessary. Background clearances and medical requirements are based on the internship site requirements.

Outcomes

Graduates of the program will:

- Analyze the assessment, planning, implementation, and evaluation of health education interventions and public health programs.
- Identify individual, community and organization health infrastructure.
- Analyze, disseminate and integrate health research and statistics into health promotion.
- Utilize effective public health specific concepts for communication in written and oral format.
- Compare public health initiatives in a variety of diverse settings within community health models.
- Describe the leading causes of morbidity, mortality, and health disparities.
- Define the role of prevention and community collaborations in promoting healthy communities.
- Discuss local, regional, national, and global population health.
- Create and apply a health education intervention including planning, implementing and evaluating.

Courses

First Semester

COLS101	College Success	1
BIOS204	Human Anatomy & Physiology I	4
CMTH102	Introduction to Communication	3
ENGL101	English I	3
MATH150	Introductory Statistics	3
PUBH101	Introduction to Public Health	3
		Subtotal: 17

Second Semester

BIOS254	Human Anatomy & Physiology II	4
ENGL151L	English II	3
PUBH102	Introduction to Epidemiology	3
PUBH103	Social & Cultural Perspectives of Health	3
SOCA103	Principles of Sociology	3
		Subtotal: 16

Third Semester

CISC101	Introduction to Computers	3
PHIL202G	Ethics & Moral Problems	3
PSYC103	Introduction to Psychology	3
PUBH201	Introduction to Global Health	3
PUBH202	Public Health Across the Life Span	3
		Subtotal: 15

Fourth Semester

PUBH203	Public Health Education Communication	3
PUBH204	Community Health Practice	3
PUBH205	Public Health Field Experience	5
	Elective	3
		Subtotal: 14
		Subtotal: 62

Radiography, Associate in Applied Science

Overview

Narrative

Medical imaging is a dynamic, fascinating field. It's also a critical element of diagnostic medicine. Radiologists rely on their radiographers to produce optimum images for accurate interpretation.

The modalities in radiology - including sonography, MRI and more - are advancing technologically at an astounding rate. With that in mind, Northampton's Radiography Program introduces its students to all modalities within the curriculum. Our Radiography program is innovative, educationally sound, and vital in providing medical imaging services for the community-at-large.

Our graduates have the option to remain as general diagnostic radiographers or to cross-train in the following areas/modalities:

- Computed tomography (CT)
- Magnetic resonance (MR)
- Bone densitometry (BD)
- Mammography (M)
- Interventional radiology (IR)
- Nuclear medicine (N)
- Radiation therapy (T)
- Diagnostic medical sonography (RDMS)

Diagnostic Medical Sonography is offered at NCC and is listed in the NCC catalog. Each modality requires additional education (may require transfer to another institution of higher learning) and an additional credentialing examination.

The Radiography Program at NCC is fully accredited by the:

Joint Review Committee on Education in

Radiologic Technology (JRCERT)

20 North Wacker Drive, Suite 2850

Chicago, Illinois 60606-3182

312.704.5300

312.704.5304 (Fax)

E-mail: mail@jrcert.org

Web site: www.jrcert.org

Features

The Radiography Program at NCC is 21 months long and operates on both traditional and non-traditional academic calendars. Clinical education at the affiliated hospitals is scheduled during the regular semesters as well as during both summer sessions at the end of the first year for 40 hours per week.

The Radiography Program has two fully energized digital radiographic rooms in the Wogenrich Lab on the Main Campus. The students practice their skills both on-campus and in clinical education.

When students have completed all of their program requirements, they have the option to voluntarily complete 232-240 hours (6 weeks) in an Advanced Skills Internship in one of the following specialties:

- Bone Densitometry (BD)
- Computed Tomography (CT)
- Interventional Radiology (IR)
- Magnetic Resonance (MR)
- Mammography (M)
- Operating Room (OR)

The Advanced Skills Internship is offered through the College's Center for Business & Industry non-credit course offerings and is available to current year May graduates on a space available basis.

Mission Statement

Our mission is to provide student radiographers with an innovative and educationally sound program that will enable them to deliver quality patient-centered care, use radiation judiciously and display professionalism throughout their career.

Joint Mission Statement between NCC and the Clinical Education Settings

Through mutual respect, in a learner-centered environment, we will collectively educate students to embrace the following components of the profession:

- Effective communication
- Problem solving
- Professionalism
- Radiation safety

- Technical competency and proficiency

Transfer Potential: Bloomsburg University, Cedar Crest College, Misericordia University, Thomas Jefferson University
Career Potential: Radiographer (R), Administrator, Bone Densitometrist (BD), Interventional Technologist (IR), Computed Tomography Technologist (CT), Health Physicist, Instructor, Mammographer (M), Magnetic Resonance Technologist (MR), Nuclear Medicine Technologist (N), Radiation Therapist (T), Sales Representative, Sonographer (RDMS)

Admission Requirements

Admission to the Radiography program at Northampton is on a competitive basis. Minimum admission requirements include:

- Completion of high school diploma or GED equivalent
- Submission of official transcript(s)-high school and each college (attended/enrolled)
- One-year of high school biology with a lab and a grade of C or better; Or BIOS115 with a grade of C or better
- Two-units of algebra with a grade of C or better; Or MATH022 and MATH026, Or MATH028 with a grade of C or better
- Overall GPA of 2.5 or better
- Information session and interview for competitive applicants by the program's admission committee

How to apply after obtaining an application package from the Admissions Office:

- Complete a standard NCC application or reentry Form (if not currently enrolled)
- Request change of major (if currently enrolled)
- Do "virtual" shadowing in radiology
- Submit a completed a "Career Assessment Form" (CAF)

Meeting the minimum admission requirements does not guarantee admission to the Radiography Program. Primary consideration during the selection process will be given to those who have:

- Grades of B or better (on the first attempt) in college courses such as College Algebra /Introductory Statistics, Human Anatomy I & II or equivalent courses at other colleges
- Completed college credit courses that apply to the program

If available spaces in the program are not filled by students who meet these standards, the College reserves the right to accept students who have, in the judgment of the College, the potential to complete the program.

Deadline:

To receive primary consideration, the completed application, "virtual" shadowing experience, and the CAF, along with all official transcripts must be submitted by February 1. Applications received after that date may be too late for the review process.

Contact the Admissions Office at 610.861.5500 for further information.

After You Have Been Accepted

Radiography program students must do the following:

- Obtain necessary immunizations and/or titers.
- Complete a physical examination and submit a completed health form to the Health Center at NCC.
- Have or obtain health insurance.
- Sign a disclosure form stating that you understand the essential functions/technical standards and are able to comply or request reasonable accommodations.
- Have or obtain CPR certification for Healthcare Provider.
- Sign a verification of understanding sheet for the Radiography Program's Student Handbook.
- Sign a verification of understanding sheet for the HIPAA requirements for the didactic and clinical setting.
- Obtain criminal background checks and drug screening (until clearance is received, program acceptance is provisional and may be rescinded).

Note:

According to the American Registry of Radiologic Technologists (ARRT), a criminal record, violations of academic honor codes, suspension or program dismissal may prevent a graduate from taking the ARRT certification examination. For more information please refer to the ethics informational pages at arrt.org.

Outcomes

Radiography Program Goals and Related Outcomes:

GOAL:

To graduate students who are clinically competent.

The student will be able to:

- Position accurately and in a timely manner in order to visualize the appropriate anatomical structures.
- Select technical factors that will produce an optimal image.
- Employ principles of radiation protection.

GOAL:

To graduate students who communicate effectively through word choice, level of explanation, and method of delivery.

The student will be able to:

- Write an accurate patient history.
- Communicate effectively in written and oral formats with patients, members of the health care team, and the community.
- Listen, understand, and evaluate what the speaker is saying
- Speak using effective word choice, appropriate terminology, level of explanation and method of delivery.

GOAL:

To graduate students who analyze situations using critical thinking to foster better patient care.

The student will be able to:

- Employ critical thinking skills to use appropriate alternative patient positioning and equipment configurations based on patient condition.
- Critique the image and evaluate radiographic quality.
- Manipulate exposure factors to compensate for patient and image variability while minimizing patient dose.

GOAL:

To graduate students who employ the five components of being a true professional – character, attitude, excellence, competency and conduct.

The student will be able to:

- Demonstrate professional attitude, ethics and sound judgment.

Courses

First Semester

COLS101	College Success	1
BIOS204	Human Anatomy & Physiology I	4
RADT102	Fundamentals of Radiologic Sciences	3
RADT107	Clinical Practice I	2
RADT111	Radiographic Procedures I	4
RADT114	Introduction to Radiographic Imaging	3

Subtotal: 17

Second Semester

BIOS254	Human Anatomy & Physiology II	4
ENGL101	English I	3
RADT125	Sectional Anatomy for Medical Imagers	1
RADT117	Clinical Practice II	2
RADT208	Imaging Equipment & Radiation Production	3
RADT210	Level II Radiographic Procedures	4

Subtotal: 17

Summer Session

RADT147	Clinical Practice III	4
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Subtotal: 4

Third Semester

CMTH102	Introduction to Communication	3
MATH140	College Algebra OR	3
MATH150	Introductory Statistics	3
RADT205	Pathology for Radiographers	2
RADT207	Clinical Practice IV	3
RADT230	Radiation Biology/Protection	3
RADT242	Digital Imaging and Analysis	2

Subtotal: 16**Fourth Semester**

ENGL151L	English II	3
PSYC103	Introduction to Psychology	3
RADT201	Advanced Imaging	2
RADT217	Clinical Practice V	3
RADT250	Senior Review	2

Subtotal: 16**Total Credits 69**

- Human Anatomy and Physiology I is substituted for one of the Human Knowledge Courses.
- The Social Science (SIT) requirement has been included in program courses.
- The Diversity and Global Awareness (D) requirement is satisfied by the completion of ENGL151L.
- Writing Intensive (WI) work and computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the Writing Intensive (WI) and computing requirements for this program.

Note:

It is recommended that those students entering the radiography program without computer skills from previous educational experiences take one if not all of the following Open Entrance/Open Exit 1-credit courses:

OFAD141	Introduction to Word	1
OFAD142	Introduction to Excel	1
OFAD143	Introduction to Access	1

Program Features for Certified / Registered (ARRT) Radiographers

A separate program is offered for currently certified and registered ARRT radiographers who were educated in hospital-based radiography programs and now want to earn an associate's degree. 64 - credits are required for degree completion as follows:

- 32 - credits awarded to currently registered ARRT radiographers
- 32 - credits of specified general education courses

Radiography for Registered Technologists*Associate in Applied Science Degree*

	Radiography Registry (Current Certification by the ARRT)	32
BIOS204	Human Anatomy & Physiology I	4
BIOS254	Human Anatomy & Physiology II	4
CISC	Computer Elective	3
CMTH102	Introduction to Communication	3
ENGL101	English I	3
ENGL151L	English II OR	3
ENGL151R	English II OR	3
ENGL151T	English II	3

MATH140	College Algebra OR	3
MATH150	Introductory Statistics	3
PSYC103	Introduction to Psychology	3
	Social Science: Societies and Institutions over Time Elective (SIT) OR	3
	Arts and Humanities Elective (AH)	3
	Elective	3
Subtotal: 64		

ENGL151: Students may select ENGL151L (Literature), ENGL151R (Report Writing) or ENGL151T (Technical Writing).

Social Work, Associate in Arts

Overview

Narrative

If you are looking for a career with meaning, one that allows you to have a direct and positive impact on the lives of others, social work is an excellent choice. Most positions in the field of social work require a bachelor's degree. Northampton's Social Work program is an affordable beginning to your baccalaureate degree in social work. Social work requires excellent skills in communication, problem solving, observation, and critical thinking. It is a demanding and rewarding profession. Students in our program are expected to take part in hands-on service learning opportunities and are also encouraged to get involved in Social Work Club activities. If you are interested in learning more about the field, we suggest you consider taking the Introduction to Social Work course. After graduation from a Bachelor in Social Work degree program (BSW), you may seek professional employment in one of the many social and community agencies locally and beyond or choose to enter a graduate program in social work (MSW). You may then become a licensed social worker.

Features

Northampton's core liberal arts curriculum gives you the solid background you will need to transfer successfully. Courses in sociology, psychology, history, and biology compliment the knowledge, values and skills of social work practice in the United States and globally.

Our program transfers to many schools of social work in the region, including Cedar Crest College, Alvernia College, Kutztown University, Marywood University, and Misericordia University. If you have a transfer program in mind, you are encouraged to check with that institution to see what its transfer requirements may be. You can then consult with your Northampton advisor and/or social work faculty for elective recommendations and guidance. The Social Work program is offered at both the Bethlehem and Monroe campuses, and online.

Students in the Social Work program may also use it to work toward a BS in Health Service Administration by starting at Northampton and transferring to East Stroudsburg University. Northampton and ESU have developed a course-for-course agreement so that students may start taking classes for their major while at Northampton, and then seamlessly transfer to ESU to complete the degree.

Career Potential: You will find Social Workers in: Administration and Management, Advocacy and Community Organization, Aging and Gerontology, Alcohol, Tobacco and Other Drugs, Child Welfare and Family, Developmental Disabilities, Health Care Social Work, Justice and Corrections, International Social Work, Mental Health and Clinical Social Work, Occupational and EAP Social Work, Policy and Planning, Politics, Public Welfare, Research, School Social Work
NCC students have transferred to BSW PROGRAMS AT: Cedar Crest College, Kutztown University, Alvernia College, Millersville University,

Outcomes

Graduates of the program will:

- Explain the knowledge, values, skills and core competencies of the social work profession at the introductory level.
- Demonstrate knowledge and values of culturally competent social work promoting the strengths and well-being of a diverse society.

- Demonstrate the ability to think critically using a liberal arts foundation to articulate problems and solutions orally and in written communication.
- Demonstrate comprehension of the structure and complexities of societal systems and how they affect the person in his or her environment.

Courses

First Semester

COLS101	College Success	1
BIOS105	Contemporary Biology	4
CISC101	Introduction to Computers	3
ENGL101	English I	3
SCWK101	Introduction to Social Work	3
SOCA103	Principles of Sociology	3

Subtotal: 17

Second Semester

BIOS130	Basics of Human Anatomy and Physiology	4
CMTH102	Introduction to Communication	3
PSYC103	Introduction to Psychology	3
ENGL151L	English II	3
SOCA125	Sociology of Families	3

Subtotal: 16

Third Semester

ENGL2__G	Literature Elective	3
MATH150	Introductory Statistics	3
POLS110	American National Government	3
SOCA105	American Ethnicity	3
SOCA204	Social Problems	3

Subtotal: 15

Fourth Semester

HIST163	American History II	3
PHIL202	Ethics & Moral Problems	3
PSYC258	Developmental Psychology	3
	Elective	3
SOCA102	Cultural Anthropology	3

Subtotal: 15

- Students may complete BIOS160 in place of BIOS130.
- Either PHIL202 or SOCA125 should be taken as Writing-Intensive (noted with G).
- The Literature Elective will satisfy one Writing Intensive (WI) requirement.
- Completion of SOCA102 will satisfy the Diversity & Global Awareness (D) requirement.
- Students should consult their advisor and pick the Elective based on the Social Work program at the college to which they will transfer.

Subtotal: 63

Sports Medicine and Rehabilitation Sciences, Associate in Science

Overview

Narrative

The professions within sports medicine and rehabilitation sciences continue to gain popularity and employment opportunities are expanding with the evolvement of the healthcare landscape. Students within the program learn foundational skills to pursue careers in Athletic Training, Physical Therapy, Occupational Therapy, and Exercise Physiology among other professions. The demand for Certified Athletic Trainers in particular is increasing. Certified Athletic Trainers are employed in secondary schools, colleges, universities, professional sports, hospitals, the military, law enforcement, performing arts, industry, sports medicine clinics and the durable medical equipment industry.

If you're planning to attend a four-year college or university, Northampton's Sports Medicine and Rehabilitation Sciences program is an affordable way to start your education. With a curriculum that parallels the first two years of most four-

year programs, NCC's program can save you thousands of dollars on your undergraduate degree while providing the essential foundational skills to thrive at your transfer institution.

The Associate in Science degree in Sports Medicine and Rehabilitation Sciences is designed to prepare students to successfully transfer to a four year Commission on Accreditation of Athletic Training Education (CAATE) accredited program or other four year specialty programs within Sports Medicine and the Rehabilitation Sciences. In addition, students in our program develop a level of expertise in sports medicine that opens up additional employment opportunities as a personal trainer immediately upon graduation from NCC.

Students in the program learn basic skills in the prevention, emergency care, assessment, and rehabilitation of injuries to prepare them to pursue advanced education. Sports Medicine courses include on-campus labs and observational hours in a variety of professional settings. The Sports Medicine program can be completed on a full-time or part-time basis. Students pursuing the degree on a part-time basis are highly encouraged to complete the science related courses prior to entering the program specific courses (i.e. Chemistry, Anatomy & Physiology, etc.). The program requires students to have a good knowledge base in science and math to be successful. Students are advised to speak with an academic advisor to discuss their entrance and success in the program.

Requirements

The Sports Medicine program requires a minimum of four academic semesters to complete. Students are admitted to the program once a year (August). Admission is on a competitive basis. Applicants shall have a high school diploma or GED.

The minimum admission requirements to the program include:

- Completion of high school chemistry with a grade of B or better (or NCC's CHEM135).
- High school biology (or NCC equivalent BIOS107, BIOS115) with a grade of C or better.
- One year of HS algebra (or NCC MATH022) with a grade of C or better.
- Eligibility to take ENGL101.

Meeting the admission requirements does not guarantee admission to the program. Primary consideration is given to those students who have Bs in program sciences. If available spaces in the program are not filled by students who have met the aforementioned standards, the College reserves the right to accept students who have, in the judgment of the College, the potential to complete the Sports Medicine program.

After You Have Been Accepted

Students who have been accepted to the Sports Medicine program will be required to submit:

- A Pennsylvania State Police Criminal Background Check or FBI Clearance.
- Required physical examination forms and immunization history.
- Documentation of recent hepatitis B vaccination or relevant titer.

Deadline

In order to be considered, you must submit an application and all transcripts by February 1 for the Fall semester start date. Applications received after that date will be reviewed on a space available basis.

Career Potential: Certified Athletic Trainer, Personal Trainer, Physical Therapist, Occupational Therapist, Exercise Physiologist, Exercise Specialist

Transfer Potential: East Stroudsburg University, Temple University, West Chester University, DeSales University

Outcomes

The Associate in Science in Sports Medicine and Rehabilitation Sciences will:

- Identify key foundational knowledge needed to transfer to and excel in a 4 year Commission on Accreditation of Athletic Training Education (CAATE) athletic training, pre-physical therapy, or pre-occupational therapy programs.
- Recognize requirements to sit for the National Strength and Conditioning Association's (NSCA) Certified Personal Trainer exam, the American College of Sports Medicine's (ACSM) Certified Personal Trainer exam, or the National Academy of Sports Medicine (NASM) Certified Personal Trainer while preparing students to transfer into 4 year exercise science or strength and conditioning programs.
- Identify knowledge of prevention, management, and rehabilitation of injuries and begin to bridge the gap between classroom knowledge and clinical practice.
- Develop evidence based critical thinking and problem solving skills and the application of them in clinical situations to optimize patient care.

- Apply knowledge in the professional development standards of Sports Medicine and Rehabilitative Science professions.
- Recognize sports medicine and rehabilitative professional practice standards and employment settings as well as the behavioral attitudes needed to excel in the clinical environment.
- Apply effective communication skills among health care providers to begin to develop a patient centered focus.

Courses

First Semester

COLS101	College Success	1
CMTH102	Introduction to Communication	3
ENGL101	English I	3
MATH140	College Algebra	3
SMAT101	Foundations of Sports Medicine and Rehabilitation Sciences	3
SMAT202	Kinesiology: Applied Anatomy	3
		Subtotal: 16

Second Semester

BIOS204	Human Anatomy & Physiology I	4
ENGL151L	English II	3
MATH150	Introductory Statistics	3
SMAT230	Prevention and Management of Injury and Illness	3
SMAT235	Basic Sports Medicine and Rehabilitation Sciences Techniques	1
		Subtotal: 14

Third Semester

BIOS254	Human Anatomy & Physiology II	4
NUTR105	Introduction to Nutrition	3
PSYC103	Introduction to Psychology	3
SMAT280	Measurement and Evaluation of the Lower Extremity	4
	General Education Elective (AH)	3
		Subtotal: 17

Fourth Semester

CHEM135	Chemistry of Life	4
PHYS101	Physics I	4
SMAT245G	Acute Care of Illness and Injury	3
SMAT260	Exercise Physiology & Exercise Prescription	3
SOCA102	Cultural Anthropology	3
		Subtotal: 17

- For the Arts and Humanities (AH) Elective, students must select courses from the list of approved courses in that category.
- Either the AH Elective, PSYC103, or SOCA102 must be taken in a writing intensive (WI) section.
- One course should be designated as Diversity and Global Awareness (D).

Subtotal: 64

Veterinary Technician, Associate in Applied Science

Overview

Career Exploration Form (PDF)
 American Veterinary Medical Association
 Veterinary Technician National Exam Pass Rates (PDF)

Narrative

If you love animals and want a career that keeps you in constant contact with them, being a Veterinary Technician is an

affordable and accessible way to achieve your goal. Veterinary technicians are animal care professionals. Vet techs are knowledgeable in the care and handling of various species, basic principles of normal and abnormal life processes, laboratory and clinical procedures and veterinary medical and surgical nursing.

Certified veterinary technicians find employment in small and large animal veterinary facilities, the pet food industry, specialty practices, diagnostic labs, pharmaceutical research centers, zoo and wildlife organizations, and educational institutions. The job opportunities are numerous and varied. With more Americans than ever sharing their homes with companion animals, the need for formally trained veterinary technicians in veterinarian practices in particular continues to grow.

Working jointly with Lehigh Carbon Community College, Northampton's Veterinary Technician program will provide you with all the necessary coursework, hands-on training, guidance and experience you need to begin an exciting career working with animals.

Graduates of the program are prepared to sit for the veterinary technician national board examination. Students that pass the exam may obtain certification. This program has received full accreditation from the American Veterinary Medical Association.

Features

Northampton's program provides academic and practical experience through a combination of veterinary technology and general education core courses. One-third of veterinary technology courses include laboratory experience including exposure to small, large and exotic animal species.

The culminating experience of the program is a summer externship experience during which students can practice their clinical skills at veterinary hospitals. Instructors in the program are practicing veterinarians and veterinary technicians working in the field.

Classes are held on the NCC and LCCC campuses. There is a clinical science laboratory on the Northampton campus and a Veterinary Training facility adjacent to the LCCC campus provided exclusively for the veterinary technician students. Classes are offered during the day and the program takes 2 full years (fall, spring and summer to complete).

Career Potential: Veterinary Technician, Biologic Research Labs, Lab Animal Technician, Small Animal Practice, Large Animal Practice, Exotics and Specialty Practices, Zoos, Wildlife Rehabilitation Centers, Pharmaceutical Companies, Teaching Institutes, Diagnostic Labs, Aquariums, Animal Shelters, Animal Feed Companies

Any questions or concerns? Contact one of our Program Directors; Dr. Steven Marks at: smarks@northampton.edu or Dr. Lisa Martini-Johnson at: LMartini-Johnson@northampton.edu.

Admission Requirements

Admission Criteria and Program Requirements

Before Admission:

- High school diploma or GED
- A minimum GPA of 2.5
- High School Biology (with a lab), or college equivalent, with a grade of B or better.
- Completion of high school Algebra I and II ,or college equivalent, with grade C or better
- Submission of official high school transcript or copy of GED and official transcripts from all post-secondary institutions attended.
- Placement into college level English and Math; Any remediation must be completed before starting the program
- Application deadline February 1st for fall semester. Application is made by enrolling as "Veterinary Technician Intent" through the admissions office. If not currently enrolled as "Veterinary Technician Intent", a Change of Major Form must be completed.
- At the time of the application, the student must have completed 20 hours observation in a Veterinary facility within the past year and completed the Career Exploration Form available on NCC homepage.
- Interview by invitation. Only the most qualified applicants are interviewed; the college will contact students to schedule interviews when appropriate.

Please Note: Admission into the Veterinary Technician program is competitive. Meeting the minimum requirements does not guarantee admission into the Veterinary Technician program. If available spaces in the program are not filled by students who have met the aforementioned standards, the College reserves the right to accept students who have, in the judgment of the College, the potential to complete the Veterinary Technician Associate Degree.

After Admission:

- Medical Forms: physical examination
- Proof of current health insurance
- Rabies pre-exposure vaccine.

Contact the Admissions Office at **610.861.5500** for further information.

Outcomes

Graduates of the program will:

- Demonstrate competence in performing and engaging in office and hospital procedures, client relations and communication.
- Demonstrate proficiency working in the pharmacy and understand and utilize pharmacologic concepts.
- Safely and competently engage in medical nursing.
- Safely and competently engage in surgical nursing.
- Safely and competently engage in anesthetic nursing.
- Competently perform laboratory procedures.
- Safely and competently perform diagnostic imaging.
- Competently perform laboratory animal and exotic patient husbandry and nursing.

Courses

First Semester

COLS101	College Success	1
CMTH102	Introduction to Communication	3
CHEM135	Chemistry of Life	4
ENGL101	English I	3
VETC101	Veterinary Anatomy & Physiology	4
VETC110	Introduction to Veterinarian Technology	3

Subtotal: 18

Second Semester

BIOS202	Microbiology for Allied Health	4
ENGL151L	English II	3
	OR	
ENGL151R	English II	3
	OR	
ENGL151T	English II	3
VETC115	Animal Management & Nutrition	2
VETC120	Veterinary Parasitology	2
VETC125	Veterinary Clinical Laboratory Techniques	4

Subtotal: 15

Summer Session

VETC210	Large Animal Clinical Procedures	3
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Subtotal: 3

Third Semester

MATH120	Nature of Mathematics	3
VETC215G	Animal Disease	3
VETC218	Veterinarian Pharmacology and Anesthesia	3
VETC220	Small Animal Clinical Procedures	4
	Arts and Humanities Elective (AH)	3

Subtotal: 16

Fourth Semester

VETC225	Veterinary Radiology and Surgical Nursing	4
VETC228	Laboratory Animal Science and Exotics	4
	Social Science: Societies and Institutions over Time Elective (SIT)+	3
	Social Science: Scientific Study of Human Behavior Elective (SSHB) ++	3

Subtotal: 14

Summer Session

VETC230	Veterinary Technician Externship	3
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Subtotal: 3

ENGL151: Students have the choice of ENGL151L (Literature option), ENGL151R (Report Writing), ENGL151T (Technical Writing). Consult with your advisor.

+It is recommended that students take SOCA102 as the Social Science: Societies and Institutions over Time (SIT) Elective; this also satisfies the Diversity (D) requirement.

++ It is recommended that students take PSYC103 as the Social Science: Scientific Study of Human Behavior (SSHB) Elective.

- One course should be designated as Diversity and Global Awareness (D).
- Completion of VETC215G satisfies the Writing Intensive (WI) requirement.

Subtotal: 69

Industry & Manufacturing

Applied Quality and Standards, Associate in Applied Science

Overview

Narrative

Today's manufacturing environment is clean, fast-paced and always changing to stay competitive. Manufacturing today also requires more technical knowledge than in the past. That's why it is important to stay on top of the latest trends and methods involved in manufacturing, technology, and continuous quality improvement. For those just entering the field, it's also vital to have hands-on operating skills specific to at least one area of manufacturing.

The Applied Quality and Standards program was developed with the assistance of local manufacturing experts. Their input assures that graduates of our program are highly skilled and knowledgeable in today's manufacturing and quality assurance practices.

Graduates new to manufacturing will gain a new set of skills and knowledge qualifying them as, quality inspectors or technicians, and manufacturing engineering technicians. Existing manufacturing personnel who graduate from this program will become better qualified as technicians, auditors, supervisors, and managers of Quality, manufacturing group leaders, and process technicians.

Most Major courses are offered during the day in the fall and spring. All other courses are offered both day and evening.

Features

The program focuses on providing practical industry-specific training in well-equipped manufacturing and quality assurance labs. While students study areas of Quality such as Total Quality Management, statistical process control, ISO 9000 standards, and auditing, they also learn to apply this knowledge to specific types of manufacturing through hands-on technical electives. If you have existing skills in manufacturing, you may be able to gain credit through testing to challenge the technical electives requirement.

The associate's degree program includes a series of required general education courses. These classes prepare you to assume a greater role in working with people and other departments in your organization. The well-rounded education you receive increases your potential to grow into supervisory or management positions.

The work-based internship near the end of the degree program can be carried out with your employer or with another approved organization. During your internship, you'll apply your manufacturing and quality skills and knowledge to a production or process operation, experiencing the dynamics found only in an actual organization.

If you're interested in continuing your education to the bachelor's degree level, you may transfer your credits from this program to the following programs:

- Franklin College B.S. in Applied Management (web-based)
- California University of Pennsylvania B.S. in Industrial Management (web-based)
- Penn College of Technology B.S. in Technical Management
- Penn College of Technology B.S. in Welding and Fabrication Engineering Technology

Check with your advisor for more information and options in course selection.

If you have existing skills in manufacturing, you may be able to gain credit through testing to challenge the technical electives requirements and introductory courses

Requirements

No special requirements are needed to apply for this program.

Contact the Admissions Office at 610-861-5500 for further information.

Career Potential: Quality Control Technician, Process Technician, leading to Manufacturing Supervisor, Quality Supervisor Manufacturing Engineer.

Outcomes

Program Outcomes

Graduates of the program will be able to:

- Demonstrate an ability to work independently and collaboratively.
- Analyze and present data in an acceptable and standardized matter.
- Demonstrate the proper use of measuring tools to inspect dimensional features.
- Demonstrate a general knowledge of industrial and manufacturing processes and quality standards.
- Understand and apply proper techniques for analyzing workpiece drawings and their specifications.
- Demonstrate basic knowledge of materials characteristics, testing, and inspection.
- Differentiate manufacturing processes and methods and their limitations.
- Utilize statistical techniques to implement and maintain quality assurance programs.
- Demonstrate basic knowledge of industrial planning and control.

Courses

First Semester

COLS101	College Success	1
BUSA114	Manufacturing Cost Control	3
CMTH102	Introduction to Communication	3
ENGL101	English I	3
MATH150	Introductory Statistics	3
QUAL120	Introduction to Measurement and Metrology	3
		Subtotal: 16

Second Semester

CISC101	Introduction to Computers	3
ENGG117	Technical Drawings & Specifications	3
ENGG125	Manufacturing Processes	3
ENGL151T	English II	3
QUAL130	Geometric Dimensioning and Tolerancing	3
		Subtotal: 15

Third Semester

BUSA252	Quality Management	3
QUAL210	Statistical Quality Control	3
	General Education Elective	3
	General Education Elective	3
QUAL205	Introduction to Six Sigma	3
		Subtotal: 15

Fourth Semester

QUAL215	Quality Assurance	3
QUAL221G	Applied Quality Practicum	3
	General Education Elective	3
QUAL220	Total Quality Management	3
QUAL225	Introduction to Lean Thinking	3
	Elective	3
		Subtotal: 18

- For the General Education Electives, students must select three courses from the list of approved courses in two of the following categories: Arts & Humanities (AH); Social Science: Societies and Institutions over Time (SIT) or Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D)
- Completion of QUAL221G satisfies the Writing Intensive (WI) requirement for this program.

Subtotal: 64

Quality Control Technician, Certificate

Courses

First Semester

COLS101	College Success	1
BUSA114	Manufacturing Cost Control	3
CMTH102	Introduction to Communication	3
ENGL101	English I	3
MATH150	Introductory Statistics	3
QUAL120	Introduction to Measurement and Metrology	3

Subtotal: 16

Second Semester

CISC101	Introduction to Computers	3
ENGG117	Technical Drawings & Specifications	3
ENGG125	Manufacturing Processes	3
ENGL151T	English II	3
QUAL130	Geometric Dimensioning and Tolerancing	3

Subtotal: 15

Third Semester

BUSA252	Quality Management	3
QUAL210	Statistical Quality Control	3
	General Education Elective	3
	Science Elective (SCI)	3/4
QUAL205	Introduction to Six Sigma	3

Subtotal: 15-16

Subtotal: 46-47

Quality Inspector, Specialized Diploma

Courses

First Semester

COLS101	College Success	1
BUSA114	Manufacturing Cost Control	3
CMTH102	Introduction to Communication	3
ENGL101	English I	3
MATH150	Introductory Statistics	3
QUAL120	Introduction to Measurement and Metrology	3

Subtotal: 16

Second Semester

CISC101	Introduction to Computers	3
ENGG117	Technical Drawings & Specifications	3
ENGG125	Manufacturing Processes	3
ENGL151T	English II	3
QUAL130	Geometric Dimensioning and Tolerancing	3

Subtotal: 15

Subtotal: 31

Architecture, Associate in Applied Science

Overview

Narrative

Architects and architectural technicians shape the built environment, creating homes, offices, schools and much more. Do you have a passion for creating on paper and with computers? A career in architecture or architecture-related fields could be a satisfying and rewarding profession. An associate's degree in Architecture from Northampton provides an affordable foundation for a traditional five-year degree program leading to a career as a licensed architect. It can also prepare you for work in the field upon graduation.

Northampton's program offers a mixture of academic, design and advanced computer technology coursework. You will receive a base of knowledge to broaden your perspective of the world. Our four semester design studio sequence emphasizes skills development in architectural conceptualization as well as design vocabulary and process. Supporting coursework in history, graphics and building technology mesh with your studio work to enhance your critical thinking, problem solving and communication skills. With computer technology dramatically changing the practice of architecture, Northampton's curriculum strives to stay on the leading edge of 2D and 3D technology across the curriculum. We also balance those technologies with traditional graphic and model making skills development.

Please note that senior architecture schools consider applicants from Northampton on an individual basis and have traditionally granted both full and partial credit depending on the abilities of the student and the requirements of the transfer school.

Features

Northampton's program is a member of the Association of Collegiate Schools of Architecture, ensuring that the program is current with movements in the field. Our faculty consists of practicing, registered architects who, as members of the American Institute of Architects (AIA), are on top of developments in both architectural education and practice.

The Architecture Department has an active chapter of the American Institute of Architecture Students (AIAS), which provides our students with leadership opportunities at the local and national level. The AIAS also offers social activities and field trips that enhance your architecture studies.

Opportunities for practical experience include a five-credit community design studio taking place in a community-wide environment. This capstone project gives students hands-on experience in the field. In addition, students who qualify may choose to complete a three credit professional internship and apply their practical office experience to their education for credit. Students will work under the direction of an employer with a professional degree in architecture.

Arrangements will be made through the architecture department. Both the community design and internship learning experiences are of great value when the graduate either enters the profession or transfers to a Bachelor degree program.

"Real World Community Learning"

Northampton's architecture program offers a 5 credit capstone community design studio which takes place in a community wide environment giving you "hands-on" learning opportunities.

Professional Internship

Students who qualify may choose the option of a three credit professional internship and apply their practical office experience to their education for credit. Students will work under the direction of an employer with a professional degree in architecture. Arrangements will be made through the architecture department. Both the community design and internship learning experiences will prove to be of great value when the graduate either enters the profession or transfers to a Bachelor's degree program.

Course Scheduling

Courses are scheduled both day and evening for students who want to attend full time or part time. Although many of the required courses are offered in the evening, the complete program will require some daytime attendance.

Career Potential: Leading to: Architect, Architectural Technician, Building Inspector, Architectural/Building Sales
NCC students have transferred to: Drexel University, Florida Atlantic University, Lehigh University, Penn State University, Temple University, University of Arizona, University of Maryland, University of Miami, University of Michigan

Outcomes

Graduates of the program will be able to:

1. Use abstract design ideas to interpret design information while investigating alternative outcomes based on research and analysis.
2. Use a diverse range of media to think about and convey architectural ideas including writing, speaking, drawing and model making (both hand and digital media).
3. Gather, access, record and comparatively evaluate relevant design information as part of the process of investigation.
4. Examine and comprehend history and precedent and make informed choices regarding the incorporation of same into architecture and urban design projects.

5. Identify parallel and divergent ideas and traditions of architecture and urban design influenced by the social, cultural, historical and philosophical determinants of a global society.
6. Comprehend the technical aspects of design, systems, materials and principles of building structure and be able to apply that comprehension to architectural solutions.
7. Respond to site characteristics including zoning, topography, vegetation and watershed in architecture and urban design projects.
8. Prepare drawings and models illustrating and identifying the assembly of materials, systems and components for building design and structure.

These program outcomes are based on:

2014 Conditions for Accreditation of the National Architectural Accrediting Board

- Part (II) - Section 1 - Student Performance - Educational Realms & Student Performance Criteria
 - Realm A: Critical Thinking and Representation
 - Realm B : Integrated Building Practices, Technical Skills and Knowledge
- Based on: "*Teaching for Learning, Teaching and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives.*"

Courses

First Semester

COLS101	College Success	1
ARCH100	Architectural History I - Antiquity to 1870	3
ARCH101	Architectural Graphics I	3
ARCH110	Architecture Design Studio I	3
ENGL101	English I	3
MATH140	College Algebra	3
		Subtotal: 16

Second Semester

ARCH121	Architectural Graphics II	3
ARCH150	Architecture Design Studio II (Digital)	3
ARCH155	Architectural History II - 1870 to Present	3
ENGL151L	English II	3
	OR	
ENGL151R	English II	3
	OR	
ENGL151T	English II	3
MATH145	Trigonometry	3
		Subtotal: 15

ENGL151: *see note

Third Semester

ARCH204	Design & Analysis of Structural Form	3
ARCH210	Architecture Design Studio III	5
ARCH214	Architectural Materials & Methods of Construction I	3
ARCH215	Advanced Digital Analysis	3
CMTH102	Introduction to Communication	3
		Subtotal: 17

Fourth Semester

ARCH250	Architecture Design Studio IV	5
ARCH254	Architectural Materials & Methods of Construction II	3
	General Education Elective (SIT or SSHB)	3
	Elective	3
		Subtotal: 14

NOTE: ARCH200 Interior Design Professional Internship (3 cr. optional elective) offered Fall, Spring, Summer 1 and Summer 2 semesters. Please see advisor.

***Students have a choice of ENGL151L (Literature option), ENGL151R (Report Writing) or ENGL151T (Technical Writing). Contact your advisor for guidance.**

- For the General Education Elective, students must select one course from the list of approved courses in one of the following categories: Social Science: Societies and Institutions over Time (SIT) or Social Science: Scientific Study of Human Behavior (SSHB).
- Completion of ENGL151L satisfies the Diversity and Global Awareness (D) requirement for this program.
- Completion of both ARCH210 and ARCH250 satisfies the Writing Intensive (WI) requirement for this program.
- Computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the computing requirement for this program.

ARCH200 Professional Internship (3 cr. optional elective) offered Fall, Spring, Summer1 and Summer 2 semesters. Please see advisor.

Subtotal: 62

Automotive Technology

Narrative

Today's vehicles are highly sophisticated, using advanced technology that the average car-owner cannot maintain. Customers need and expect qualified automotive technicians now more than ever. Because of this, job opportunities for well-trained technicians continue to grow.

NCC's program provides students with high-level technical understanding of current developments in the automotive service profession. Our program focuses on the mastery of technology as you prepare for the workplace. The two-year program is approved by GM, Chrysler, and Subaru. All feature both classroom work and supervised experience at a sponsoring dealership or approved automotive service facility. Northampton's GM Automotive Service Educational Program (ASEP) and the Chrysler MOPAR College Automotive Program (MCAP) are both certified by the National Automotive Technician Education Foundation.

Features

As a student in NCC's associate's degree program you can choose among four different options: the GM ASEP, Chrysler MCAP, Subaru University and global programs. The ASEP and CAP options focus on courses devoted exclusively to current GM or Chrysler vehicles. Global students may select courses which provide product specific information from either GM or Chrysler or non-product specific automotive courses. Our specialized diploma in Automotive Technology can be completed in just two semesters.

Our program requires practicums so you can apply your classroom theory in the real world. During your practicum, you will work under the guidance of a mentor at an approved sponsoring automotive service facility. The knowledge and skills gained in this setting are extremely valuable.

The cost of tuition, fees, hand tools and other expenses are the responsibility of the student; however, since students are employees of sponsoring dealerships and approved service facilities, they can earn while they learn.

View Gainful Employment information for the Automotive Technology specialized diploma.

Requirements

Enrollment in this program is limited, so apply early. As part of the application process, you will be required to secure a sponsor for your practicums. Assistance will be provided by the automotive staff during the application process. You must also have a valid driver's license and be prepared to purchase an entry level set of hand tools.

Outcomes

Upon successful completion of the Automotive Technology program, the graduate should be able to:

- Have the ability to demonstrate a positive attitude toward the efficacy of professionalism in the work place.
- Diagnose and repair mechanical systems of automotive engines; automatic transmissions and transaxles; manual drive trains and axles; suspension and steering systems; braking systems; electrical and electronic systems; heating and air conditioning systems; and engine performance systems.
- Exhibit logical thinking throughout essential areas of automotive diagnostics, using published technical information to repair a vehicle while meeting manufacturer's specifications.
- Demonstrate competence in the use of general and highly specialized tools and equipment.
- Demonstrate the ability to communicate effectively on both technical and lay levels.

Career Potential: Automotive Service Technician, Auto Electronics Specialist, Transmission and Drive Train Specialist, Alignment Specialist

Leading to: Service Writer, Service Manager, Shop Foreman, Specialty Technician, Specialty Repair Shop Owner

Automotive Technology, Associate in Applied Science

Courses

First Semester

COLS101	College Success	1
AUTO100	Automotive Fundamentals	2
AUTO101	Automotive Engines	4
AUTO103	Automotive Brakes	3
AUTO104	Automotive Suspension & Alignment	3
AUTO105	Automotive Electrical Systems	3
AUTO106	PA Safety Inspection Certificate	1

Subtotal: 17

AUTO100: or ASEP100/AUTC100

AUTO101: or ASEP101/AUTC101

AUTO103: or ASEP103/AUTC103

AUTO104: or ASEP104/AUTC104

AUTO105: or ASEP105/AUTC105

Second Semester

AUTO145	Winter Practicum I	2
AUTO121	Auto A/C & Heating Systems	3
AUTO125	Advanced Automotive Electronic Systems	3
CMTH102	Introduction to Communication	3
ENGL101	English I	3
MATH103	Applications in Mathematics	3

Subtotal: 17

AUTO121: or ASEP121/AUTC121

AUTO125: or ASEP125/AUTC125

Summer Session

AUTO175	Summer Practicum	4
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Third Semester

AUTO203G	Automotive Shop Management Practices	3
AUTO211	Automotive Fuel & Emission Systems	3
AUTO221	Advanced Engine Performance	3
AUTO224	Advanced Automotive Studies	3
ENGL151R	English II	3
PHYS152	Physical Science II	3

Subtotal: 18

AUTO211: or ASEP211/AUTC211

AUTO221: or ASEP221/AUTC221

AUTO224: or ASEP224/AUTC224

Fourth Semester

AUTO245	Winter Practicum II	2
AUTC225	Chrysler Mechanical Drive Train Systems	4
AUTC226	Chrysler Automatic Transmission Systems	4
GEOG121	Environmental Sustainability	3
HUMA121	American Work Experience	3

Subtotal: 16

AUTC225: or AUTO225/ASEP225

AUTC226: or AUTO226/ASEP226

- ASEP are GM-specific courses and AUTC are Chrysler-specific courses.
- Completion of AUTO230G satisfies the Writing Intensive (WI) requirement for this program.
- Computer competencies are included in various courses in this program; thus, completing the program automatically satisfies the computing requirement for this program.
- Recommended additional non-credit course: Welding for Auto Techs.
- AUTO110, Introduction to Hybrid Vehicles, and AUTO230, Hybrid Vehicles, are offered as electives.

Subtotal: 72

Automotive Technology Specialized Diploma

Courses

First Semester

AUTO100	Automotive Fundamentals	2
AUTO103	Automotive Brakes	3
AUTO104	Automotive Suspension & Alignment	3
AUTO105	Automotive Electrical Systems	3
AUTO106	PA Safety Inspection Certificate	1

Subtotal: 12

AUTO100: or ASEP100/AUTC100

AUTO103: or ASEP103/AUTC103

AUTO104: or ASEP104/AUTC104

AUTO105: or ASEP105/AUTC105

Second Semester

AUTO125	Advanced Automotive Electronic Systems	3
AUTO145	Winter Practicum I	2
MATH103	Applications in Mathematics	3
AUTO/ASEP/AUTC	Automotive Electives	9

Subtotal: 17

AUTO125: or ASEP125/AUTC125

Subtotal: 29

Automotive Service Consultant Certificate

Overview

Narrative

Do you have an interest in the automotive field and enjoy interacting with people? If so then becoming an Automotive Service Consultant may be just the niche for you. This one year certificate program will provide you with the basic knowledge of automotive systems and the skills necessary to interact effectively with the customer. There is always a demand for skilled service consultants in automotive dealerships and the aftermarket repair industry.

Features

The automotive service consultant can be completed in one year. It includes one Practicum where you will work in an automotive facility as a service consultant trainee. If you attended a vocational automotive program you may be eligible for advanced placement for some or all of the automotive courses.

Outcomes

Upon successful completion of the Automotive Service Consultant program, the graduate should be able to:

- Have knowledge of basic vehicle systems and nomenclature
- To effectively interact with the customer
- Explain needed repairs in laymen terms to the customer
- Sell the customer needed repairs and services
- Communicate the customer's concerns accurately to technicians

Courses

First Semester

AUTO100	Automotive Fundamentals	2
AUTO103	Automotive Brakes	3
AUTO104	Automotive Suspension & Alignment	3
AUTO105	Automotive Electrical Systems	3

AUTO106	PA Safety Inspection Certificate	1
CMTH102	Introduction to Communication	3
		Subtotal: 15
Second Semester		
AUTO130	Automotive Service Advising	3
AUTO145	Winter Practicum I	2
BUSA131	Principles of Marketing	3
BUSA137	Principles of Selling	3
ENGL101	English I	3
MATH103	Applications in Mathematics	3
		Subtotal: 17
		Subtotal: 32

Automotive Technology Degree for ASE Certified Technicians, Associate in Applied Science

Overview

Narrative

ASE certified technicians (A1 - A8 + L1) now have a convenient and faster option for earning an associate's degree. Northampton's Automotive Technology Online program is designed for Master ASE technicians looking to advance or change their careers. If you have the qualifications, you can receive 44 credits toward your degree from your ASE certifications. The remaining 24 credits may be taken through Northampton's Online Learning division.

Requirements

To enter this program you must apply to the college and indicate that you are interested in the online degree option. You will need to demonstrate current ASE certifications by having ASE send your transcript directly to the college. You may also gain credit for AUTO224 by submitting proof of OEM or aftermarket training equaling 45 to 60 hours of training. Upon acceptance, you can start taking online courses to fulfill your degree requirements. You will need to take the college placement test in reading and writing before taking English I. Please refer to the college's web site for further information on placement testing.

For more information on the program, please contact the Director of Automotive Programs @ 610-861-5327.

Outcomes

Upon successful completion of the Automotive Technology program, the graduate should be able to:

- Have the ability to demonstrate a positive attitude toward the efficacy of professionalism in the work in the work place.
- Diagnose and repair mechanical systems of automotive engines; automatic transmissions and transaxles; manual drive trains and axles; suspension and steering systems; braking systems; electrical and electronic systems; heating and air conditioning systems; and engine performance systems.
- Exhibit logical thinking throughout essential areas of automotive diagnostics, using published technical information to repair a vehicle while meeting manufacturer's specifications.
- Demonstrate competence in the use of general and highly specialized tools and equipment.
- Demonstrate the ability to communicate effectively on both technical and lay levels.

Courses

AUTO	Courses taken through ASE Certification	33
AUTO	Courses given for 2 years Work Experience	8
AUTO	Course given for 45-60 hrs OEM or non OEM training	3
		Subtotal: 44
BUSA221G	Business Communications	3
CMTH102	Introduction to Communication	3

ENGL101	English I	3
ENGL151R	English II	3
GEOG121	Environmental Sustainability	3
HUMA121	American Work Experience	3
MATH103	Applications in Mathematics	3
PHYS152	Physical Science II	3

Subtotal: 24

- Students must complete English I (ENGL101), English II (ENGL151R) and Introduction to Communication (CMTH102) before taking Business Communications (BUSA221G).
- Completion of BUSA221G satisfies the Writing Intensive (WI) requirement for this program.
- Computer competencies are included in various courses in this program; thus, completing the program automatically satisfies the computing requirement for this program.

Subtotal: 68

Computer Aided Design

Narrative

Computer Aided Design is the state-of-the-art technology in fields such as industrial design and architecture. Northampton's Computer Aided Design program integrates the specialized knowledge and skills of design with the power, speed and diversity of computers using state-of-the-industry CAD software. This program will prepare you for a variety of positions or offer you valuable training to stay competitive if you are already employed within the field. As a student in our program, you will learn computer aided design layout and 3D solid modeling definition. You will also gain the knowledge of design and drafting needed for multiple disciplines, including mechanical, civil, architectural and electrical engineering and design. Most major courses are offered during the day in the fall and spring. All other courses are offered both day and evening.

Features

Courses offer a mix of classroom lecture and hands-on experience in the Computer Aided Design Lab. This well-rounded education will prepare you for a position in today's engineering office environment where CAD and computer skills are essential.

As a graduate of Northampton's program, you will be qualified for employment as an entry-level mechanical designer, design drafter, CAD operator or CAD Technician. Professionals in Northampton's placement and counseling offices, as well as instructors within the program, will assist you in meeting your employment and career goals. If you are a student from an area vocational-technical school, you may receive advanced placement for work completed at the vocational-technical school. If you have had previous related experience, you may challenge some of the introductory courses, and receive credit.

Computer Aided Design (CAD), Associate in Applied Science

Outcomes

Program Outcomes

Graduates of the program will be able to:

- Demonstrate an ability to work independently and apply interpersonal and technical skills to solve problems.
- Exhibit proficient 2D drafting, 3D modeling, and computer skills in using several current industry standard CAD software such as but not limited to AutoCAD, Inventor and/or Solidworks to create mechanical designs for product parts, assemblies and models, applying appropriate drafting standards, dimensioning and tolerancing for same.
- Applies 3D parametric modeling techniques to create a digital prototype of the project and use rapid prototyping or similar technology to create a physical prototype of the design.
- Utilize analysis tools included in the CAD software perform simple analysis of parts, and dynamic motion analysis of assemblies to detect interferences of assembled parts.
- Exhibits competent technical vocabulary, graphical techniques and knowledge applicable to a variety of engineering disciplines, including mechanical, electronics, architectural, civil and others.
- Competently uses verbal and written presentation skills utilizing appropriate presentation tools (model, sketches, drawings, visual aids, etc.,) to convey design concept, product features, problems encountered and resolved, and features of a design.
- Understanding of the basic design process, work breakdown structure (WBS), time management, project scheduling, analyzing and researching data in an acceptable and standardized manner as it relates to Engineering Design.

Courses

First Semester

COLS101	College Success	1
CISC101	Introduction to Computers	3
CADM100	Engineering Graphic Essentials	3
CADM115	Computer Aided Design I	3
MATH140	College Algebra	3
ENGL101	English I	3
Subtotal: 16		

Second Semester

ENGG125	Manufacturing Processes	3
CMTH102	Introduction to Communication	3
CADM205	Computer Aided Design II	3
ENGL151T	English II	3
CADM230	Parametric Modeling- Inventor I	3
Subtotal: 15		

Third Semester

CADM210	Computer Aided Design III	3
CADM220	Parametric Modeling - SOLIDWORKS I	3
PHYS101	Physics I	4
CADM240	Digital Manufacturing II	3
MATH145	Trigonometry	3
Subtotal: 16		

Fourth Semester

CADM250	Design Project	3
CADM255	Statics and Strength of Materials	4
	Elective	3
	General Education Elective (AH or SIT)	3
	General Education Elective (SSHB)	3
Subtotal: 16		

- One course should be designated as Diversity and Global Awareness (D).
- For the General Education Elective, students must select two courses: one from Arts & Humanities (AH) or Social Science: Society and Institutions over Time (SIT), and one from Social Science: Scientific Study of Human Behavior (SSHB).
- One of the General Education Electives must be taken in a Writing Intensive (WI) section.
- CADM260 can satisfy the Elective requirement.

Subtotal: 63

Computer Aided Drafting Fundamentals, Specialized Diploma

Courses

First Semester

COLS101	College Success	1
CISC101	Introduction to Computers	3
CADM100	Engineering Graphic Essentials	3
ENGL101	English I	3
CADM115	Computer Aided Design I	3
MATH120	Nature of Mathematics	3
Subtotal: 16		

Second Semester

ENGG125	Manufacturing Processes	3
CADM205	Computer Aided Design II	3

CADM230	Parametric Modeling- Inventor I	3
ENGL151T	English II	3
CMTH102	Introduction to Communication	3

Subtotal: 15

- If student is going to continue on to earn the Certificate or Associate in Applied Science, it is recommended to complete MATH140 instead of MATH120.

Subtotal: 31

Computer Aided Design, Certificate

Courses

First Semester

COLS101	College Success	1
CISC101	Introduction to Computers	3
CADM100	Engineering Graphic Essentials	3
ENGL101	English I	3
CADM115	Computer Aided Design I	3
MATH140	College Algebra	3

Subtotal: 16

Second Semester

ENGG125	Manufacturing Processes	3
CADM205	Computer Aided Design II	3
CADM230	Parametric Modeling- Inventor I	3
ENGL151T	English II	3
CMTH102	Introduction to Communication	3

Subtotal: 15

Third Semester

CADM210	Computer Aided Design III	3
CADM220	Parametric Modeling - SOLIDWORKS I	3
CADM240	Digital Manufacturing II	3
MATH145	Trigonometry	3

Subtotal: 12**Subtotal: 43**

Construction Management, Associate in Applied Science

Overview

Narrative

Large-scale construction requires well-trained managers whose role it is to stay on top of every detail of the job. Construction managers must be familiar with all aspects of the building process, but they also need to be strong leaders. Because of this, our program not only covers essentials such as codes and blueprint reading, but also includes business law, ethics, planning and scheduling and other important management tools. This comprehensive approach results in graduates who are ready to be effective managers and administrators within the construction industry.

Features

Through our balanced mix of liberal arts, specialized courses and hands-on training, Northampton offers you tremendous opportunity for success and professional growth. Our required practicum provides essential real world experience. During the practicum you will have the opportunity to perform various construction management functions, gain insight into the challenges of managing a site, and enhance your critical thinking, problem solving and communication skills. This program can be completed in the day or evening, on a full-time or part-time basis. A few courses may not be offered in the evening every semester so students are advised to plan their schedule carefully to avoid any delay in graduation.

Requirements

Students are required to secure a workplace sponsor for the practicum. Assistance can be provided by the construction management staff to facilitate sponsorship.

Core Progressive Threads of Construction Management

- Leadership and supervisory
- Health and Safety
- Legal and ethical
- Effective Communication and Public Relations

Career Potential: Construction Technicians and tradespersons, Construction Managers, Construction Administrators, Construction and Building Inspectors, Construction Cost Estimators Superintendents, Project Managers, Construction Company Owners, Construction Equipment Operators, Code Enforcement Officer, Construction Specifier

Outcomes

Graduates of Northampton Community College's A.A.S. degree in Construction Management will be able to:

- Understand the importance of management functions of planning, organizing, leading and controlling.
- Describe construction operations as they relate to production processes, logistics, specifications, and regulatory requirements.
- Integrate health and safety issues within the confines of regulatory compliance and current industry standards to the construction industry.
- Interpret building and zoning codes and other regulatory requirements.
- Interpret technical information in the form of architectural drawings, schematics, specifications, graphs and procedures.
- Utilize effective written and oral communication skills.
- Demonstrate the ability to work both independently and as part of a team.
- Apply legal and ethical principles related to the construction industry.
- Demonstrate a basic understanding of accounting/finance functions as it relates to the construction industry.

Transfer Information:

- The program designed to meet the needs of local workforce in various aspects of the industry not needing a Bachelor's degree.
- The program is specifically intended for transfer to Pennsylvania College of Technology for those that desire a Bachelor's in Construction Management.
- The program is eligible for the Bloomsburg partnership for their - Bachelor of Applied Science in Technical Leadership, that guarantees 60 credits of transfer for successfully completed AAS degrees.

Courses

First Semester

COLS101	College Success	1
CISC101	Introduction to Computers	3
CMGT101	Introduction to Construction Codes	3
CMTH102	Introduction to Communication	3
ENGL101	English I	3
MATH120	Nature of Mathematics	3
Subtotal: 16		

Second Semester

CMGT102	Construction Methods & Materials	3
CMGT103	Construction Safety & Health	3
ENGL151R	English II	3
PHIL202G	Ethics & Moral Problems	3
	General Education Elective (SIT)	3
Subtotal: 15		

Third Semester

ACCT101	Financial Accounting I	3
BUSA205	Management Fundamentals	3

CMGT104	Construction Print Reading	3
CMGT105	Project Management and Administration	3
CMGT106	Construction Planning & Scheduling	3
	Elective	3
Subtotal: 18		

Fourth Semester

BUSA152	Business Law I	3
CMGT201	Construction Estimating	3
CMGT202	Construction Supervision & Leadership	3
CMGT203	Construction Management Practicum	3
	General Education Elective (SSHB)	3
Subtotal: 15		

- For the General Education Electives, students must take one course from Social Science: Societies and Institutions over Time (SIT) and Social Science: Scientific Study of Human Behavior (SSHB); one course should be designated as Diversity and Global Awareness (D).
- Completion of PHIL202G satisfies the Writing Intensive (WI) requirement.

Subtotal: 64

Electrical Technology, Associate in Applied Science

Overview

Narrative

There has never been a more rewarding time to consider entering the electrical trades. With a large number of electricians approaching retirement age and the increasing technical complexity of new equipment, skilled electrical technicians are consistently in demand now and into the future. If you enjoy hands-on physical activities combined with complex problem solving opportunities, the electrical trade offers you a rewarding career path.

Northampton's electrical technology program offers a range of stackable degrees; starting with a specialized diploma that can be completed in one-year, a certificate requiring a minimum of 41 credits, and an AAS degree requiring a minimum of 63 credits.

All of our electrical programs are designed to be completed on either a full time or a part time basis, with most courses available in the evenings as well as during the day.

Features

The electrical technology AAS degree offers students an advanced technical credential for those interested in starting an electrical career in the construction trades or pursuing electrical technician positions in the advanced manufacturing sector. All students completing this program will gain a broad understanding of fundamental electrical principles, residential and commercial wiring practices, and basic PLC / VFD programming/operation. In addition, students may tailor their second year technical courses to focus on their specific career goals, selecting from more advanced electrical courses including solar PV systems design, advanced industrial control systems, or specialized wiring courses. The program is rounded out by including general education courses that will prepare you to better communicate and build teamwork at your organization, vital skills that are required to advance into supervisory positions.

Graduates from this program will have employment opportunities as electricians, electrical service technicians, and electrical maintenance personal in both the construction and advanced manufacturing sectors.

Transfer Information:

- While the program is not specifically intended for transfer, it will be considered on a case-by-case basis by Pennsylvania College of Technology.
- In addition, this program is eligible for the Bloomsburg partnership program for their "Bachelor of Applied Science in Technical Leadership" 4 year degree.

Outcomes

Students who complete the **Electrical Technology AAS** will be able to:

- Demonstrate an ability to work and independently and collaboratively.
- Demonstrate competent speaking skills when working with diverse groups.
- Demonstrate skills in collecting, analyzing and applying technical information.
- Explain basic electrical theories, including Ohm's, Kirchhoff's, and Watt's laws.
- Properly use test equipment to troubleshoot electrical circuits.
- Interpret technical information in the form of schematics and electrical specifications.
- Describe the function and application of electrical equipment as used in residential, commercial and industrial environments.
- Construct, analyze, and troubleshoot common industrial circuits used in control and distribution.
- Properly interpret and apply the National Electric Code in common residential, commercial, and industrial applications.
- Demonstrate electrical safety practices when working with electrical control and distribution equipment.
- Apply mathematics to prepare electrical system documentation.

Courses

First Semester

COLS101	College Success	1
CISC101	Introduction to Computers	3
EMEC101	Electrical Fundamentals	3
EMEC117	Industrial Rigging	1
EMEC118	Hand and Power Tools	1
ENGL101	English I	3
MATH140	College Algebra	3
OSAH100	Industry Outreach Safety Education	1
		Subtotal: 16

Second Semester

CMGT104	Construction Print Reading	3
CMTH102	Introduction to Communication	3
ELTC107	Electrical Wiring I	3
EMEC135	Electrical Motors and Controls	4
EMEC140	Sensors, Wiring and Troubleshooting	1
	General Education Elective +	3
		Subtotal: 17

Third Semester

ELTC109	Electrical Wiring II	3
EMEC240	Industrial Control Systems I	4
ENGL151T	English II	3
	General Education Elective +	3
	Technical Elective ++	3/4
		Subtotal: 16-17

Fourth Semester

PHYS101	Physics I	4
ELTC211	National Electrical Code	4
ELTC260G	Electrical Construction Practicum	2
	Elective	3
	Technical Elective ++	2/3
		Subtotal: 15-16

+ For the General Education Electives, students must select one course from the list of approved courses in two of the following categories: Arts & Humanities (AH); Social Science: Societies and Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB).

One of the general electives should be designated as Diversity and Global Awareness (D).
 ++ Eligible technical electives: HVAC101, EMEC125, EMEC130, ELTC222, ELTC265, EMEC245.

Subtotal: 63-65

Electrical Technology, Certificate

Courses

First Semester

CISC101	Introduction to Computers	3
EMEC101	Electrical Fundamentals	3
EMEC117	Industrial Rigging	1
EMEC118	Hand and Power Tools	1
MATH103	Applications in Mathematics*	3
OSAH100	Industry Outreach Safety Education	1

Subtotal: 12

Second Semester

CMGT104	Construction Print Reading	3
ELTC107	Electrical Wiring I	3
EMEC135	Electrical Motors and Controls	4
EMEC140	Sensors, Wiring and Troubleshooting	1
	Technical Elective +	3/4

Subtotal: 14-15

Third Semester

ELTC109	Electrical Wiring II	3
EMEC240	Industrial Control Systems I	4
ENGL101	English I	3
	Technical Elective +	2/3

Subtotal: 12-13

+ Eligible technical electives: HVAC101, EMEC125, EMEC130, ELTC222, ELTC265.

* Advise to take MATH140 for transfer or for application towards Associate in Applied Science (AAS).

Subtotal: 38-40

Electrical Technology, Specialized Diploma

Overview

Narrative

There has never been a more rewarding time to consider entering the electrical trades. With a large number of electricians approaching retirement age and the increasing technical complexity of new equipment, skilled electrical technicians are consistently in demand now and into the future. If you enjoy hands-on physical activities combined with complex problem solving opportunities, the electrical trade offers you a rewarding career path.

Northampton's electrical technology program offers a range of stackable degrees; starting with a specialized diploma that can be completed in one-year, a certificate requiring a minimum of 39 credits, and an AAS degree requiring a minimum of 64 credits.

All of our electrical programs are designed to be completed on either a full time or a part time basis, with most courses available in the evenings as well as during the day.

Features

The specialized diploma in electrical technology offers students an entry-level credential for those interested in starting a career in the electrical trades. Students completing this program will gain a broad understanding of fundamental electrical principles, as well as valuable skills in residential wiring, basic electrical troubleshooting, and construction print reading. In addition, you will have the opportunity to learn about the basic industrial wiring of motors, sensors and controls; key electrical skills that are necessary in a wide variety of industries. Graduates will have entry level employment opportunities as apprenticeship electricians in both the construction and

manufacturing sectors.

Our program is designed to be completed either on a full time or part time basis, with most courses available in the evenings as well as during the day on NCC's main campus.

All course work in this program may be directly applied toward Northampton's more comprehensive electrical technology certificate or our Associate of Applied Science (AAS) degree in electrical technology.

Outcomes

Students who complete the **Electrical Technology Specialized Diploma** will be able to:

- Demonstrate an ability to work independently and collaboratively.
- Demonstrate skills in collecting, analyzing and applying technical information.
- Explain basic electrical theories, including Ohm's, Kirchhoff's, and Watt's laws.
- Properly employ test equipment to troubleshoot basic electrical circuits.
- Interpret technical information in the form of architectural drawings, schematics and electrical specifications.
- Describe the function and application of common electrical equipment as used in residential and light industrial environments.
- Explain basic electrical safety procedures.

Courses

First Semester

CISC101	Introduction to Computers	3
EMEC101	Electrical Fundamentals	3
EMEC117	Industrial Rigging	1
EMEC118	Hand and Power Tools	1
MATH103	Applications in Mathematics*	3
OSAH100	Industry Outreach Safety Education	1

Subtotal: 12

Second Semester

CMGT104	Construction Print Reading	3
ELTC107	Electrical Wiring I	3
EMEC135	Electrical Motors and Controls	4
EMEC140	Sensors, Wiring and Troubleshooting	1
	Technical Elective +	3/4

Subtotal: 14-15

*Advise to take MATH140 for transfer or for application towards Associate in Applied Science (AAS).

+ Eligible technical electives: HVAC101, ELTC222, ELTC265.

Subtotal: 26-27

Electromechanical Technology

Electromechanical Technology Automated Systems, Associate in Applied Science

Overview

Narrative

Industrial technology is a high priority occupation. The use of electromechanical automation to control manufacturing processes enables high productivity and competitiveness in the global economy. It also demands well-trained technicians who can service, maintain, install and retrofit this sophisticated equipment.

Northampton's Electromechanical Technology Automated Systems A.A.S. degree program is designed to prepare you to

enter the maintenance or computer controlled manufacturing environment. Our graduates are qualified to work on such technology as robotics, material handling systems and pharmaceutical packagers as well as most machines and equipment that are controlled with programmable logic controllers.

You can choose to complete our specialized diploma in Machine Repair or our certificate in Instrumentation Process Control to enter the field more quickly. However, if you would like to add to your competitiveness or are considering furthering your education, Northampton's associate's degree in Electromechanical Technology is an excellent option.

Features

Northampton's Electromechanical Technology Automated Systems program curriculum was developed with the assistance of many of the area's leading manufacturers and engineering firms. The program was designed to meet the demands of local and national manufacturers for entry-level employees who have broad-based hands-on skills.

As a student in the program, you'll gain a strong understanding of basic electrical, mechanical and computer skills before actual hands-on exposure to programmable equipment and instrumentation. Industry experienced instructors introduce you to specific areas of expertise such as motor controls, fluid power, mechanisms, programmable logic controllers and industrial networks.

A capstone practicum course in electromechanical systems offers the chance to apply all of the specific areas of knowledge you've gained to solve problems within complex automation systems. The practicum course provides an internship experience with an employer, giving you first-hand experience in maintenance and plant engineering functions. As part of the associate's degree program, you will complete general education coursework that prepares you to better communicate and work with all departments within an organization. This can be vital if you wish to grow into a supervisory position.

Graduates of this program can transfer their coursework towards one of two online Bachelor of Science degrees: Applied Management through Franklin University or Industrial Management through California University of Pennsylvania. Check with your advisor for more information and options in course selection. Coursework can also be applied towards a Bachelor of Applied Science in Technical Leadership through Bloomsburg University with all Bloomsburg courses taught at Northampton Community College.

Endorsed by Local Employers

Potential employers for those following this electromechanical technology pathway include:

- Manufacturers
- Construction Companies
- Automated Equipment Integrators

This program can be completed in the day or evening, on a full or part-time basis.

Please contact Skip Todora, at 610.861.5319 or jtodora@northampton.edu or the Admissions Office at 610.861.5500 for more information.

Career Potential: Electromechanical Technician, Industrial Maintenance Technician, Instrumentation Technician, Maintenance Supervisor.

Outcomes

Students who complete the Electromechanical Technology Automated Systems program will be able to:

- Demonstrate an ability to work independently & collaboratively.
- Demonstrate competent speaking skills when working with diverse groups.
- Describe the operation and application of commonly used automated technology and instrumentation used in modern manufacturing and processing.
- Demonstrate observational, integrative and synthetic skills.
- Demonstrate proficient research and computer skills in data gathering and analysis.
- Demonstrate a basic framework of technical vocabulary and graphics interpretation applicable to the area of equipment maintenance and design.
- Describe the principles and function of the mechanical, electrical and fluid power components and assemblies used in automated equipment.
- Operate, program, troubleshoot, repair and modify programmable automation equipment and associated components commonly found in industry.
- Demonstrate the proper use of common tools and measuring gages used in automated systems.
- Apply mathematics to solving equipment related problems.
- Analyze and present data in an acceptable and standardized manner.
- Demonstrate the use of OSHA safety standards in servicing electromechanical equipment.
- Demonstrate competent technical writing skills.

Courses

First Semester

COLS101	College Success	1
EMEC101	Electrical Fundamentals	3
EMEC125	Process and Automation Diagrams - P&ID	2
EMEC130	Introduction to Process Control	3
ENGG117	Technical Drawings & Specifications	3
ENGL101	English I	3
MATH140	College Algebra	3

Subtotal: 18

Second Semester

EMEC105	Introduction to Fluid Power	3
EMEC110	Mechanical Components	4
EMEC135	Electrical Motors and Controls	4
EMEC140	Sensors, Wiring and Troubleshooting	1
ENGL151T	English II	3
OSAH100	Industry Outreach Safety Education	1

Subtotal: 16

Third Semester

CMTH102	Introduction to Communication	3
EMEC220	Instrumentation I	3
EMEC240	Industrial Control Systems I	4
EMEC251	Mechanical Systems	3
PHYS101	Physics I	4

Subtotal: 17

Fourth Semester

EMEC225	Instrumentation II	3
EMEC245	Industrial Control Systems II	3
EMEC260G	Electromechanical Technology Practicum	2
	General Education Elective	3
	General Education Elective	3
	Elective	3

Subtotal: 17

- For the General Education Electives, students must select one course from the list of approved courses in two of the following categories: Arts & Humanities (AH); Social Science: Societies and Institution over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D).
- Completion of EMEC260G satisfies the Writing Intensive (WI) requirement.
- Computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the computing requirement for this program.

Subtotal: 68

Instrumentation Process Control Technician, Certificate

Overview

Narrative

Northampton's Instrumentation Process Control program is designed to prepare you to enter a career in automated manufacturing. The Instrumentation Process Control certificate program offers coursework for a student wishing to complete their studies within three semesters or advance your current machinery repair skills to the next level. The program also provides course offerings that prepare you to work as a team player in a specialized manufacturing environment. Your studies will include state-of-the-art process control equipment and principles from the International Society of Automation (ISA). You will learn the marketable skills required to work effectively within a manufacturing environment with a strong emphasis on the development of professional attitudes, values, and ethics. As you progress through the program, you'll gain critical thinking and decision-making skills needed in today's quality-oriented business

environment. Graduates of this certificate program can gain employment and then pursue NCC's Electromechanical Technology Automated Controls associate degree program. This program will be of benefit to those who are seeking a position in manufacturing process control as an instrument technician or those who are seeking to change careers. It is also useful for production technicians in need of updated skills.

Features

This program prepares you for the responsibilities and challenges expected of a skilled tradesperson in a manufacturing setting. Students will gain the knowledge and understanding of basic instruments used to measure temperature, pressure, flow and level. Along with troubleshooting skills, you will gain knowledge of installing, calibrating, and tuning a wide array of control loops and understanding and applying Proportional-Integral-Derivative (PID) control algorithms. This is all accomplished with extensive hands-on lab activities using actual equipment that is used in the field, and computer technology to aid in the diagnostic process. Courses for the Instrumentation Process Control certificate program include Electrical Fundamentals, Introduction to Process Control, Industrial Control Systems I & II, and Instrumentation I & II. All of the courses in the certificate can be applied to the Electromechanical Technology Automated Systems associate degree program.

Endorsed by Local Employers

Potential employers for those following this Instrumentation pathway include:

- Food Manufacturers
- Pharmaceutical Manufacturers
- Chemical Manufacturers

This program can be completed in the day or evening, on a full or part-time basis.

Please contact Skip Todora, at 610.861.5319 or jtodora@northampton.edu or the Admissions Office at 610.861.5500 for more information.

Career Potential: Chemical Equipment Maintenance, Biotech Equipment Maintenance, Electromechanical Equipment Assembler, Control Valve Installer/Repairer, Maintenance Technician, Water Waste Treatment Systems Maintenance.

Outcomes

Graduates of the Instrumentation Process Control program will be able to:

- Demonstrate an ability to work independently and collaboratively.
- Analyze and present data in an acceptable and standardized manner.
- Demonstrate a basic framework of technical vocabulary and graphics interpretation.
- Demonstrate an understanding of basic principles and theories related to improving process control.
- Analyze and troubleshoot mechanical and electrical problems.
- Demonstrate observational, integrative, and synthetic skills.
- Demonstrate the proper use and care of instrumentation equipment.
- Understand the mechanics and operation of equipment measuring temperature, pressure and flow.
- Use data to analyze and to avoid failures.

Courses

First Semester

EMEC101	Electrical Fundamentals	3
EMEC125	Process and Automation Diagrams - P&ID	2
EMEC130	Introduction to Process Control	3
MATH140	College Algebra	3

Subtotal: 11

Second Semester

ENGL101	English I	3
EMEC140	Sensors, Wiring and Troubleshooting	1
EMEC240	Industrial Control Systems I	4
EMEC220	Instrumentation I	3

Subtotal: 11

Third Semester

EMEC225	Instrumentation II	3
EMEC245	Industrial Control Systems II	3
PHYS101	Physics I	4

Subtotal: 10

Subtotal: 32

Machine Repair - Automated Systems, Specialized Diploma

Overview

Narrative

Northampton's Machine Repair specialized diploma is designed to prepare you to enter a manufacturing position in a short time frame or advance your current skills to the next level. Your studies will include mechanical and electrical maintenance and repair practices as they apply to a wide range of industrial machinery and plant equipment. As you progress through the program, you'll gain critical thinking and decision-making skills with a strong emphasis on the development of professional attitudes, values, and ethics which are required in today's quality-oriented business environment. Graduates of this specialized diploma program can gain employment and then pursue NCC's Instrumentation Process Control certificate or Electromechanical Technology Automated Systems associate degree programs. This program will be of benefit to those who are seeking an entry level position in industrial maintenance or those who are seeking to change careers. It is also useful for those in need of updated mechanical troubleshooting skills.

Features

This program prepares you for the responsibilities and challenges expected of a skilled tradesperson in a manufacturing setting. Responsibilities of an industrial mechanic include the ability to read and interpret blueprints, demonstrate an understanding of electrical principles, the application of troubleshooting principles, and OSHA guidelines. The program may be completed in as little as two semesters of full time study or on a part-time basis on the College's Main Campus. Courses for the Machine Repair program include Electrical Fundamentals, OSHA, Introduction to Fluid Power, Mechanical Systems, and Sensors, Wiring and Troubleshooting. Most of the courses in the specialized diploma can be applied to the Electromechanical Technology Automated Systems associate degree program. View Gainful Employment information on the Machine Repair certificate program.

Endorsed by Local Employers

Potential employers for those following this machine repair pathway include:

- Manufacturers
- Construction Companies
- Gas Line Companies
- Production Plants

This program can be completed in the day or evening, on a full or part-time basis.

Please contact Skip Todora, at 610.861.5319 or jtodora@northampton.edu or the Admissions Office at 610.861.5500 for more information.

Career Potential: Machine Repairer, Industrial Machinery Mechanic, Maintenance Mechanic, Field Service Technician.

Outcomes

Graduates of the Machine Repair specialized diploma program will be able to:

- Demonstrate an ability to work independently and collaboratively.
- Demonstrate an understanding of electrical principles and practices.
- Analyze and present data in an acceptable and standardized manner.
- Demonstrate a basic framework of technical vocabulary.
- Demonstrate the proper use and care of common hand and mechanical tools.
- Analyze and troubleshoot mechanical and electrical problems.

Courses

First Semester

COLS101	College Success	1
EMEC101	Electrical Fundamentals	3
EMEC105	Introduction to Fluid Power	3
EMEC118	Hand and Power Tools	1
ENGG117	Technical Drawings & Specifications	3
OSAH100	Industry Outreach Safety Education	1

EMEC117	Industrial Rigging	1
		Subtotal: 13
Second Semester		
EMEC110	Mechanical Components	4
EMEC135	Electrical Motors and Controls	4
EMEC140	Sensors, Wiring and Troubleshooting	1
EMEC251	Mechanical Systems	3
		Subtotal: 12
		Subtotal: 25

Electronics Technology

Narrative

Today's high technology companies want to hire well-rounded electronics technicians who can help their businesses grow profitably. Northampton's Electronics Technology program integrates comprehensive electronic circuit theory with practical hands-on lab work. Students develop solid troubleshooting skills using modern industry-quality instruments. Northampton graduates are employed in areas such as manufacturing, installation, repair, operation, and product design. Other graduates choose power generation, industrial control, or sales. Employers value Northampton graduates because they are well-trained and can step right in to resolve many design and application problems.

Features

Our program is based on continuous industry input and evaluation of electronics programs nationwide. The result is a practical curriculum that emphasizes a strong foundation in electronics fundamentals while developing skills critical to success in the field. Your studies will include:

- **Core Coursework:** Two semesters of DC/AC circuit analysis, digital electronics, and solid state devices; one semester of linear integrated circuits and microprocessors.
- **Mechanical Skills:** Courses include Electronics Manufacturing, Mechanical Skills, and Team Projects.
- **Computer Skills:** We emphasize applications such as MultiSIM, MS Word, Excel, PowerPoint, and AutoCAD.
- **Communication Skills:** Your reading, writing, and presentation skills, as applied to technical topics, will be developed over the course of the program.
- **Project Work:** Integrated into all semesters.

Upon graduation, you will be well prepared to enter and advance in the workforce, or you may choose to continue your education toward a four-year bachelor of science degree in electronics technology. We have relationships that can create smooth transitions at institutions such as Bloomsburg University (BS in Electrical and Electronic Technology), Pennsylvania State University (Harrisburg Campus), Pennsylvania College of Technology (Williamsport), New Jersey Institute of Technology (Newark, NJ), Rochester Institute of Technology (Rochester, NY), or at many other colleges and universities.

Students completing this program may also complete their Bachelor of Science degree in Applied Management through Franklin University by completing approximately 24 additional course credits at NCC and an additional 40 course credits through Franklin University's online courses. Check with your advisor for more information and options in course selection.

We carefully schedule the program's courses so that you can earn the A.A.S. degree in two years of full-time study. Students generally begin the program in August. You can also complete your degree in four years through evening part-time study. An attractive option for many students is to complete the A.A.S. degree through part-time evening study, with employers supporting the continuing education through tuition reimbursement. View Gainful Employment information on the Electronics Technology specialized diploma.

Outcomes

Graduates of the program will:

- Prototype, evaluate, and assist in the design of electronic circuits using fundamental analog and digital concepts.
- Fabricate electronic circuit layouts and electromechanical prototypes.
- Use computer technology to conduct research, analyze data, simulate circuit performance, design circuits, program microprocessors, and document findings.
- Select and operate electronic test equipment such as digital multimeters, oscilloscopes, power supplies, and function generators to test and troubleshoot analog and digital circuits.
- Apply mathematics and reasoning to predict electronic circuit performance and to analyze data.
- Effectively speak, write, and graphically illustrate the discourse of electronics technology.

- Work both independently and as a contributing member of an effective team.
- Use applied research, critical thinking, and problem solving skills to support lifelong professional development.

Career Potential: Senior Electronics Technician

Electronics Technology, Associate in Applied Science

Courses

First Semester

COLS101	College Success	1
ELEC101	DC/AC Circuit Analysis I	4
ELEC121	Technical Computer Applications	2
ELEC177	Electronics Manufacturing I	2
ENGL101	English I	3
MATH140	College Algebra	3
	General Education Elective	3

Subtotal: 18

Second Semester

CMTH102	Introduction to Communication	3
ELEC126	Digital Electronics I	3
ELEC151	DC/AC Circuit Analysis II	4
ELEC155	Introduction to Solid State Devices	2
EMEC115	Mechanical Skills for Technicians	1
ENGL151T	English II	3

Subtotal: 16

Third Semester

ELEC207	Solid State Circuits	4
ELEC208	Digital Electronics II	3
ENGG100	Engineering Graphics	3
PHYS101	Physics I	4
	OR	
CHEM120	General Chemistry I	4

Subtotal: 14

Fourth Semester

ELEC226	Microprocessors I	3
ELEC230	Team Project	2
ELEC232	Linear Integrated Circuits	4
	General Education Elective	3
	Elective	3

Subtotal: 15

- For the General Education Electives, students must select one course from the list of approved courses in two of the following categories: Arts & Humanities (AH), Social Science: Societies and Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D).
- One General Education Elective must be taken in a Writing Intensive (WI) section.
- Computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the computing requirement.

NOTE: Students planning to transfer to BS in Electrical Engineering Technology programs should consult with the 4-year institution and the program advisor before selecting courses.

Subtotal: 63

Electronics Technology, Specialized Diploma

Courses

First Semester

ELEC101	DC/AC Circuit Analysis I	4
ELEC121	Technical Computer Applications	2
ELEC177	Electronics Manufacturing I	2
MATH140	College Algebra	3
		Subtotal: 11

Second Semester

ELEC126	Digital Electronics I	3
ELEC151	DC/AC Circuit Analysis II	4
ELEC155	Introduction to Solid State Devices	2
EMEC115	Mechanical Skills for Technicians	1
		Subtotal: 10
		Subtotal: 21

Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC/R) Technology, Associate in Applied Science

Overview

Narrative (AAS)

HVAC/R technology continues to become more and more sophisticated with each technological development. Highly efficient and environmentally sustainable equipment provides affordable and reliable comfort in our factories, offices and homes. These systems create the demand for well-trained technicians who can service, maintain, install and retrofit complex equipment.

Graduates of Northampton's HVAC/R Technology associate's degree program are qualified to service and repair air conditioning equipment, oil and gas burners, heat pumps, ventilation equipment, and commercial refrigeration systems located in residences, offices, industrial plants, medical and educational institutions and retail establishments. Earning an associate's degree gives you an additional competitive edge, particularly if you are interested in growing into supervisory positions. It is also a stepping stone to an advanced degree, such as a bachelor of science.

Features

Northampton's Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC/R) Technology program was developed with the assistance of many of the area's leading HVAC/R organizations. Because of this, you can be confident that your studies will meet the demands of local and national HVAC contractors and fuel companies.

Industry-experienced instructors provide the basic fundamentals of electrical and mechanical systems with over 400-hours of in-depth, hands-on study of actual refrigeration, burner and ventilation systems. As a student in the program, you will be prepared to take the EPA Refrigerant Technician licensure test, which is held at NCC. The Practicum course provides an internship experience with an employer, allowing you first-hand experience in HVAC and refrigeration field service. The associate's degree general education coursework rounds out your education, allowing you to communicate and work more effectively with diverse customers, suppliers and co-workers.

Our program can be completed on either a full-time or part-time evening basis. Check with your advisor for more information and options in course selection.

Transfer Information:

- The program is not specifically intended for transfer, but is considered on a case-by-case basis by Pennsylvania College of Technology.
 - The program is eligible for the Bloomsburg partnership for their - Bachelor of Applied Science in Technical Leadership, that guarantees 60 credits of transfer for successfully completed AAS degrees.
- Career Information:**
Technician Job titles related to HVAC/R education:

- HVAC/
- R Service
- Commercial Refrigeration
- Building Automation
- Facilities Maintenance

See <https://northampton.emsicc.com/careers/heating-and-air-conditioning-mechanic-and-installer> for information on career options and earning potential.

Courses

First Year

COLS101	College Success	1
CISC101	Introduction to Computers	3
EMEC101	Electrical Fundamentals	3
EMEC118	Hand and Power Tools	1
EMEC117	Industrial Rigging	1
HVAC101	Fundamentals of HVAC/R I	4
MATH103	Applications in Mathematics	3
OSAH100	Industry Outreach Safety Education	1

Subtotal: 17

Second Semester

CMGT104	Construction Print Reading	3
ELTC107	Electrical Wiring I	3
ENGL101	English I	3
HVAC102	Fundamentals of HVAC/R II	3
HVAC124	Heating: Gas, Oil, Solar Thermal , Air and Hydronic Systems	4
HVAC140	Heat Pump Systems	2

Subtotal: 18

Third Semester

CMTH102	Introduction to Communication	3
EMEC135	Electrical Motors and Controls	4
ENGL151T	English II	3
PHYS152	Physical Science II	3
	Technical Elective++	3

Subtotal: 16

Fourth Semester

HVAC104	Refrigeration System Troublshooting	3
HVAC150	HVAC Airflow and Distribution	3
HVAC260G	HVAC/R Technology Practicum	2
	General Education Elective	3
	General Education Elective	3
	Elective	3

Subtotal: 17

HVAC101: In conjunction with this course the seminar/testing session: ACRNC108 EPA Refrigerant Usage Certification is offered.

ENGL151T: Students are strongly advised to select the Technical Writing option - ENGL151T, but also could choose Report Writing (ENGL151R). Contact your advisor.

++ Elective options: any EMEC, ELEC, ELTC, ENGG, CHEM, CISC, HVAC or WELD except ENGG100.

For the General Education Electives, students must select one course from the list of approved courses in two of the following categories: Arts & Humanities (AH); Social Science: Societies and Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSH).

- One course should be designated as Diversity and Global Awareness(D).
- Completion of HVAC260G satisfies the Writing Intensive (WI) requirement.

******Due to Semester Schedule Variations (FA/SP), Meeting with your HVAC Advisor is critical for success.******

Subtotal: 68

Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC/R) Technology, Certificate

Overview

Narrative

As a graduate of Northampton's HVAC/R certificate program, you will have the qualifications needed to find good-paying employment in this highly technical field. Many of our graduates command above-average salaries as service and installation technicians with HVAC/Mechanical contractors or as maintenance technicians in commercial and industrial facilities.

Features

Our program offers the unique opportunity to learn the concepts and service practices on components and equipment used in HVAC/R systems. You will also learn the proper methods of recovery and handling of refrigerants and be prepared to take the EPA Refrigerant Technician licensure test.

The program's curriculum includes electrical theory, heating and cooling concepts, refrigeration cycle theory, equipment operation, component specification, whole system operation, system calculations, and diagnostic approaches.

If you decide to advance your education further, all of the course work in this certificate program can be applied toward Northampton's Associate in Applied Science (AAS) degree: Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC/R) Technology.

View Gainful Employment information on the HVAC/R Technology Certificate

Outcomes

Program Learning Outcomes:

- Demonstrate an ability to work independently & collaboratively.
 - Demonstrate competent speaking skills when working with diverse groups.
 - Describe the operation and application of commonly used types of heating, ventilating, air conditioning and refrigeration systems used in residential and commercial facilities.
 - Demonstrate observational, integrative and synthetic skills.
 - Demonstrate proficient research and computer skills in data gathering and analysis.
 - Demonstrate a basic framework of technical vocabulary and graphics interpretation applicable to the area of equipment maintenance and design.
 - Describe the principles and function of the mechanical, electrical and fluid power components and assemblies used in HVAC/R systems.
 - Operate, program, troubleshoot, repair and modify equipment and associated components commonly found in air conditioners, heat pumps, gas burners, oil burners and commercial refrigeration systems.
 - Demonstrate the proper use of common mechanic tools and measuring gages used in HVAC/R construction and troubleshooting.
 - Apply mathematics to solving equipment related problems.
 - Analyze and present data in an acceptable and standardized manner.
 - Demonstrate the use of OSHA safety standards in servicing electromechanical equipment.
 - Demonstrate competent technical writing skills.
- Transfer Information:**
- The program is not specifically intended for transfer, but is considered on a case-by-case basis by Pennsylvania College of Technology.
 - The program is eligible for the Bloomsburg partnership for their - Bachelor of Applied Science in Technical Leadership, that guarantees 60 credits of transfer for successfully completed AAS degrees.

Courses

First Semester

CISC101	Introduction to Computers	3
EMEC101	Electrical Fundamentals	3
EMEC117	Industrial Rigging	1
EMEC118	Hand and Power Tools	1
HVAC101	Fundamentals of HVAC/R I	4
MATH103	Applications in Mathematics	3
OSAH100	Industry Outreach Safety Education	1

Subtotal: 16

Second Semester

ELTC107	Electrical Wiring I	3
ENGL101	English I	3
HVAC102	Fundamentals of HVAC/R II	3
HVAC124	Heating: Gas, Oil, Solar Thermal , Air and Hydronic Systems	4
HVAC140	Heat Pump Systems	2
CMGT104	Construction Print Reading	3
		Subtotal: 18

Third Semester

EMEC135	Electrical Motors and Controls	4
HVAC104	Refrigeration System Troublshooting	3
HVAC150	HVAC Airflow and Distribution	3
	Technical Electives ++	6/8
		Subtotal: 16-18

* Current course scheduling for HVAC104, HVAC150, HVAC110 is to offer in Spring semester only. Check with HVAC advisor for most recent schedule details.

HVAC101: In conjunction with this course the seminar/testing session: ACRNC108 EPA Refrigerant Usage Certification is offered.

++ Technical Elective Options: Any EMEC, ELEC, ENGG, CHEM, CISC, HVAC or WELD except ENGG100 ****SCHEDULING WITH HVAC ADVISOR IS CRITICAL FOR SUCCESS

Subtotal: 50-52

Heating, Ventilation and Air Conditioning (HVAC) Technology, Specialized Diploma

Overview

Narrative (SD)

As a graduate of Northampton's Heating, Ventilation and Air Conditioning (HVAC) Technology program, you will have the qualifications needed to find employment in this highly technical field. Many of our graduates command competitive salaries in facilities maintenance jobs and as service and installation technicians in heating and air conditioning service companies.

Our program was created in response to the needs of business and industry for short-term job training programs. Students gain in-depth understanding of HVAC systems and maintenance practices at an accelerated pace.

Features

Our program offers the unique opportunity to learn the concepts and practices on components and equipment used in actual HVAC systems. You will also learn the proper methods of recovery and handling of refrigerants and be prepared to take the EPA Refrigerant Technician licensure test.

Coursework includes electrical theory, heating and cooling concepts, the refrigeration cycle, equipment operation and maintenance, component specification, and diagnostic approaches. Progressive courses train in the skills related to commercial AC, residential power wiring/NEC code, oil and gas-fired heating equipment, air-to-air heat pumps, and geothermal system design and installation.

All of the course work in this specialized diploma program can be applied toward Northampton's higher level, HVAC/R Certificate and the Associate in Applied Science (AAS) degree in Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC/R) Technology.

View Gainful Employment information on the HVAC/R Technology Specialized Diploma

Career Potential: Facilities Maintenance Mechanic, HVAC Service Technician, and Refrigeration.

Outcomes

Graduates of the program will:

- Demonstrate an ability to work independently and collaboratively.
- Analyze and present data in an acceptable and standardized manner.
- Demonstrate a basic framework of technical vocabulary applicable to the HVAC/R field.
- Demonstrate the proficient use of the tools and diagnostic equipment utilized within the industry.

- Interpret and apply the EPA regulatory laws applicable to refrigerant handling and other environmentally hazardous materials used with HVAC/R systems.
- Be able to describe the principles of operation of residential and light commercial heating and cooling equipment.
- Demonstrate the ability to service and repair these systems utilizing industry proven methods and procedures.

Courses

First Semester

EMEC101	Electrical Fundamentals	3
EMEC117	Industrial Rigging	1
EMEC118	Hand and Power Tools	1
HVAC101	Fundamentals of HVAC/R I	4
MATH103	Applications in Mathematics	3
OSAH100	Industry Outreach Safety Education	1
Subtotal: 13		

Second Semester

ELTC107	Electrical Wiring I	3
HVAC102	Fundamentals of HVAC/R II	3
HVAC124	Heating: Gas, Oil, Solar Thermal , Air and Hydronic Systems	4
HVAC140	Heat Pump Systems	2
CMGT104	Construction Print Reading	3
Subtotal: 15		

HVAC101: In conjunction with this course the seminar/testing session: ACRNC108 EPA Refrigerant Usage Certification is offered.

Subtotal: 28

Nanofabrication Manufacturing Technology, Associate in Applied Science

Overview

Narrative

Nanofabrication manufacturing involves making devices at the smallest dimensions. While it was first used in the semiconductor industry, the technologies are now used for a wide variety of applications. These include miniature sensor arrays for biology and medicine, miniature valves, turbines for fluidics, flat panel displays for computers, and integrated circuits.

As the use of nanofabrication manufacturing technologies by high-tech industries increases, so will the need for trained individuals. Northampton's program prepares graduates for employment as entry-level technicians.

Features

The Nanofabrication Manufacturing Technology degree is a cooperative program between Northampton Community College and Pennsylvania State University. In this program, you will begin with three semesters of study at NCC that covers a broad range of electronics and scientific material. You will also complete your required General Education courses at Northampton. These courses help round out your education, preparing you to communicate in the workplace and setting the stage for potential career growth.

The fourth semester of the program is an intensive "capstone" experience taught at Penn State University's Nanofabrication facility at the University Park campus. Students work in a clean room environment and gain experience in operating and troubleshooting nanofabrication processing equipment as well as using characterization tools. The capstone courses are taught by Penn State faculty using state-of-the-art equipment. Please note that the capstone semester is only offered during the spring and summer semesters. There are two options for the capstone: (1) it is offered in a traditional full-semester format that is held at the facility at University Park or (2) it is offered in a hybrid format where students will take courses online and then participate in a two week lab experience at University Park. Room and board are the responsibility of the student. An additional fee is also charged for the capstone (please refer to the fee schedule in the catalog).

Students must have a minimum GPA of 2.5 and be recommended by NCC for the capstone semester. Northampton awards the associate in applied science degree.

Career Potential: Electronics Technician, Process Analyst, Wafer Fab Operator, Engineering Support Technician, Research Technician, Technology Assistant, Project Technician, Device Technician, Photolithography Technician, Manufacturing Technician, Field Service Technician

NOTE: Students completing this program may also complete their Bachelor of Science degree in Technical Management through Franklin University by completing approximately 24 additional course credits at NCC and an additional 40 course credits through Franklin University's online courses. Check with your advisor for more information and options in course selection.

Outcomes

Graduates of the program will:

- Describe the operation and application of commonly used electronic components and circuits.
- Prototype, test, troubleshoot, and repair electronic circuits.
- Demonstrate the proper use of test equipment including oscilloscopes, DC power supplies, function generators, and multi-meters.
- Collect, record, interpret, and analyze data.
- Interpret technical information in the form of schematics, specifications, graphs, and procedure.
- Record relevant and necessary project information in a working lab notebook.
- Apply the terminology, procedures, equipment to manufacture micro and nanoscale products; and processes used in nanofabrication.
- Apply quality control methodology typical of the industry.
- Demonstrate safe and effective use of nanofabrication processing equipment.
- Demonstrate safe and appropriate maintenance techniques for basic processing equipment used in nanofabrication.
- Identify material and physical hazards associated with basic processing equipment used in nanofabrication.
- Respond appropriately to safety hazards and environmental disposal issues.
- Work both independently and as part of a team.
- Demonstrate written and oral communication skills.
- Use the computer in reporting, analyzing, and researching technical information.
- Be prepared to adapt to changes in the field of nanofabrication.
- Identify industries using nanofab such as opto-electronics, biomedical, sensors, flat panel displays, information storage, micro-electromechanical devices (MEMS), micro-fluidics, solar cells, and microelectronics.

Courses

First Semester

COLS101	College Success	1
ELEC101	DC/AC Circuit Analysis I	4
ELEC121	Technical Computer Applications	2
ELEC177	Electronics Manufacturing I	2
ENGL101	English I	3
MATH140	College Algebra	3
	General Education Elective	3
	Subtotal: 18	

Second Semester

CMTH102	Introduction to Communication	3
ELEC126	Digital Electronics I	3
ELEC151	DC/AC Circuit Analysis II	4
ELEC155	Introduction to Solid State Devices	2
EMEC115	Mechanical Skills for Technicians	1
ENGL151T	English II	3
	Subtotal: 16	

Third Semester

CHEM120	General Chemistry I	4
ELEC207	Solid State Circuits	4
QUAL210	Statistical Quality Control	3
	General Education Elective	3
	Elective	3
	Subtotal: 17	

Fourth Semester

(at PSU, Main Campus)

NANF211	Materials, Safety and Equipment Overview for Nanofabrication	3
NANF212	Basic Nanofabrication Processes	3
NANF213	Thin Films in Nanofabrication	3
NANF214	Lithography for Nanofabrication	3
NANF215	Materials Modification in Nanofabrication	3
NANF216	Characterization, Packaging, and Testing of Nanofabricated Structures	3

Subtotal: 18

- For the General Education Electives, students must select one course from the list of approved courses in two of the following categories: Arts & Humanities (AH), Social Science: Societies and Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D).
- One General Education course must be Writing Intensive (WI).

Subtotal: 69

Sustainable Energy, Specialized Diploma

Overview

Narrative

Participants will gain an understanding of the fundamentals of energy conversion, conservation, sustainability and the role energy has played in the development of modern society. Combining fundamental coursework in electrical technology with courses in energy policy will help students develop a broad perspective on the issues, challenges, and potential solutions for global sustainable energy. This specialized diploma program offers students an introduction to the wide range of topics associated with sustainable energy, including electrical fundamentals, hands-on training experiences, and public policy development.

Features

Students completing the program requirements will gain a broad understanding of the sustainable energy landscape, including global energy policy, energy fundamentals, current renewable energy alternatives, and practical hands-on electrical skills. After completion of the second semester Solar Photovoltaics System course students are eligible to sit for the NABCEP associate level exam (optional). Most of the completed courses may be applied towards a certificate or 2 year degree at NCC in Electrical Construction Technology, HVAC Technology, or Construction Management. Admission to the program is open to any student meeting the standard college entrance requirements. To complete the on-campus program in a timely basis, students should meet with the electrical program manager for advising prior to entering the program.

Contact the Admissions Office at 610.861.5500 for further information.

Outcomes

Students who complete the Sustainable Energy Specialized Diploma program will be able to:

- Demonstrate an ability to work independently and collaboratively.
- Describe basic concepts as utilized for the transmission and storage of energy.
- Demonstrate critical thinking when evaluating and discussing alternative forms of energy generation.
- Apply mathematics to evaluate the relative costs of sustainable energy.
- Qualified to sit for the NABCEP PV Associate Examination.

Courses

First Semester

ELTC130	Introduction to Sustainable Energy	3
EMEC101	Electrical Fundamentals	3
GEOG121	Environmental Sustainability	3
MATH103	Applications in Mathematics	3

MATH140	OR College Algebra	3
		Subtotal: 12
Second Semester		
CISC101	Introduction to Computers	3
ENGL101	English I	3
HUMA150	Nature of the Environment	3
ELTC222	Solar Photovoltaic Systems I	3
		Subtotal: 12

+MATH140 is recommended for students who wish to continue into the Associate in Applied Science degree (Electrical Construction Technology, Construction Management or Heating, Ventilation, Air Conditioning and Refrigeration) or who have plans to transfer.

Subtotal: 24

Welding Technology, Associate in Applied Science

Overview

Narrative

Northampton's Welding Technology A.A.S. degree program is designed to prepare you to enter a modern welding setting. The program offers career-specific coursework for a student wishing to complete their studies within four semesters. The program also provides course offerings that prepare you to work as a team player in a specialized manufacturing environment.

Your studies will include state-of-the-art welding equipment and principles from the American Welding Society. You will learn the marketable skills required to work effectively with other people in a manufacturing environment. We emphasize development of professional attitudes, values, and ethics. As you progress through the program, you'll gain critical thinking, priority setting, and decision-making skills needed in today's quality-oriented business environment. Graduates of this AAS degree program may continue on to a Baccalaureate program.

Features

This program prepares you for the responsibilities and challenges expected of a highly skilled welder. A welder in today's manufacturing environment is expected to possess numerous skills and abilities that allow them to be problem solvers. At Northampton you will learn a variety of different welding processes and inspection techniques that will allow you to become an asset in the job you obtain after your education is complete. The program may be completed in four semesters if taking courses during the day.

Courses for the Welding Technology A.A.S. degree include Welding Fundamentals, OSHA, Fabrication & Welding Symbols, Introduction to Pipe Welding Processes, Advanced Plate Welding Processes, and Gas Tungsten Arc & Semiautomatic Welding Processes Welding & Structural Blueprint Reading, Advanced Gas Tungsten & Semiautomatic Welding Processes, and Pipe Welding Processes II, and Introduction to Metallurgy.

This program prepares you for the responsibilities and challenges expected of a skilled trades person in the welding environment. Responsibilities of a welder include the ability to read and interpret blueprints at an advanced level, demonstrate advanced level welding principles, and to apply the knowledge of welding inspection principles. Students will gain the knowledge and skills needed to prepare for American Welding Society certification exams while achieving a competency-based degree.

Endorsed by Local Employers

Potential employers for those following this healthcare career pathway include:

- Manufacturers
- Sheet Metal Fabricators
- Construction Companies
- Gas Line Companies
- Auto Body Repair Shops
- Material Supply Sales Companies

This program can be completed in the day or evening, on a full or part-time basis.

Please contact Dino Forst, Program Manager, at 610.332.6270 or dforst@northampton.edu or the Admissions Office at 610.861.5500 for more information.

Career Potential: Pipefitter/Steamfitter Welder, Pipeline Welder, Sheet Metal Worker, Structural & Pressure Vessel Welder, Welding Shop Foreman.

Outcomes

Students who complete the Welding Technology program will be able to:

- Demonstrate an ability to work independently and collaboratively.
- Analyze and present data in an acceptable and standardized manner.
- Solve common weldability problems.
- Demonstrate a basic framework of technical vocabulary and graphics interpretation.
- Demonstrate observational, integrative, and synthetic skills.
- Demonstrate the proper use and care of common welding equipment.
- Apply basic defect prevention philosophy and techniques to achieving weld integrity.
- Describe the key process elements and technology commonly found in industrial welding and cutting processes.
- Demonstrate the skills and knowledge needed for the Certified Welding Inspector and Certified Welding Educator certifications. AWS D1.1, ASME Section IX, & API 1104

Courses

First Semester

COLS101	College Success	1
CISC101	Introduction to Computers	3
EMEC118	Hand and Power Tools	1
ENGG117	Technical Drawings & Specifications	3
MATH103	Applications in Mathematics	3
OSAH100	Industry Outreach Safety Education	1
WELD105	Introduction to Welding Processes	5
WELD135	Welding Fabrication and Symbols	2

Subtotal: 19

Second Semester

EMEC117	Industrial Rigging	1
ENGL101	English I	3
WELD110	Introduction to Pipe Welding Processes	3
WELD123	Advanced Plate Welding Processes	5
WELD125	GTAW and Semiautomatic Welding Processes	5

Subtotal: 17

Third Semester

ENGL151T	English II	3
PHYS152	Physical Science II	3
WELD205	Advance Gas Tungsten & Semiautomatic Welding Processes	4
WELD224	Pipe Welding Processes II	3
WELD230	Welding & Structural Blueprint Reading	4

Subtotal: 17

Fourth Semester

CMTH102	Introduction to Communication	3
WELD255G	Introduction to Metallurgy	3
	General Education Elective +	3
	General Education Elective +	3
	Elective	3

Subtotal: 15

+ For the General Education Electives, students must complete two courses from two different categories: Arts & Humanities (AH); Social Science: Societies and Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB).

One course should be designated as Diversity and Global Awareness (D).

Subtotal: 68

Welding and Fabrication Certificate

Overview

Narrative

Northampton's Welding programs are designed to prepare you to enter a welding profession. The Welding & Fabrication certificate program is designed to prepare you to enter a welding setting in a short time frame or advance your current welding skills to the next level. The program offers career-specific coursework for a student wishing to complete their studies within three full-time semesters.

Your studies will include state-of-the-art welding equipment and principles from the American Welding Society. You will learn the marketable skills required to work effectively within a welding environment. Strong emphasis on the development of professional attitudes, values, and ethics. As you progress through the program, you'll gain critical thinking, priority setting, and decision-making skills needed in today's quality-oriented business environment.

Graduates of this certificate program can gain employment and then pursue NCC's Welding Technology associate degree program. This program will be of benefit to those who are seeking an entry level position in welding or those who are seeking to change careers. It is also useful for welders in need of updated skills and certification.

Features

This program prepares you for the responsibilities and challenges expected of a skilled trades person in a welding setting. Responsibilities of a welder include the ability to read and interpret blueprints at an advanced level, demonstrate advanced level welding principles, and to apply the knowledge of plasma arc cutting principles. Program students will be provided with the knowledge and skills to prepare for the American Welding Society certifications. The program may be completed in as little as three semesters if taking courses during the day.

Courses for the Welding & Fabrication Certificate include Welding Fundamentals, OSHA, Fabrication & Welding Symbols, Introduction to Pipe Welding Processes, Advanced Plate Welding Processes, and Gas Tungsten Arc & Semiautomatic Welding Processes Welding & Structural Blueprint Reading, Advanced Gas Tungsten & Semiautomatic Welding Processes, Plasma Arc Cutting and Pipe Welding Processes II. All of the courses in the certificate can be applied to either the certificate or associate degree welding programs.

Graduates of this certificate program can also continue on to complete the Welding Technology associate degree.

View Gainful Employment information on the Welding certificate. (Should hyper-link to costs, financing [success info not available])

Endorsed by Local Employers

Potential employers for those following this welding pathway include:

- Manufacturers
- Sheet Metal Fabricators
- Construction Companies
- Gas Line Companies
- Auto Body Repair Shops
- Material Supply Sales Companies

This program can be completed in the day or evening, on a full or part-time basis.

Please contact Dino Forst, Program Manager, at 610.332.6270 or dforst@northampton.edu or the Admissions Office at 610.861.5500 for more information.

Career Potential: Welding Educator, Welding Inspector, Welding Sales Representative, Welding Supervisor, Welding Technician.

Outcomes

Graduates of the Welding & Fabrication certificate program will be able to:

- Demonstrate an ability to work independently and collaboratively.
- Demonstrate safe welding and thermal cutting practices.
- Produce welds that consistently meet American Petroleum Institute (API) 1104 Standard.
- Analyze and present data in an acceptable and standardized manner.
- Solve common weldability problems.
- Demonstrate a basic framework of technical vocabulary and graphics interpretation.
- Demonstrate observational, integrative, and synthetic skills.
- Demonstrate the proper use and care of common welding equipment.
- Apply basic defect prevention philosophy and techniques to achieving weld integrity.
- Describe the key process elements and technology commonly found in industrial welding and cutting processes.

- Demonstrate the skills & knowledge needed to obtain AWS D1.1, ASME Section IX, & API 1104 certifications.

Courses

First Semester

CISC101	Introduction to Computers	3
E MEC118	Hand and Power Tools	1
ENGG117	Technical Drawings & Specifications	3
MATH103	Applications in Mathematics	3
OSAH100	Industry Outreach Safety Education	1
WELD105	Introduction to Welding Processes	5
WELD135	Welding Fabrication and Symbols	2

Subtotal: 18

Second Semester

E MEC117	Industrial Rigging	1
ENGL101	English I	3
WELD110	Introduction to Pipe Welding Processes	3
WELD123	Advanced Plate Welding Processes	5
WELD125	GTAW and Semiautomatic Welding Processes	5

Subtotal: 17

Third Semester

WELD205	Advance Gas Tungsten & Semiautomatic Welding Processes	4
WELD224	Pipe Welding Processes II	3
WELD230	Welding & Structural Blueprint Reading	4
WELD245	Plasma Arc Cutting	3

Subtotal: 14

Subtotal: 49

Welding Fundamentals, Specialized Diploma

Overview

Narrative

Northampton's Welding programs are designed to prepare you to enter a welding profession. The Welding Fundamentals specialized diploma is designed to prepare you to enter a welding setting in a short time frame or advance your current welding skills to the next level. The program offers career-specific coursework for a student wishing to complete their studies within two semesters.

Your studies will include state-of-the-art welding equipment and principles from the American Welding Society. You will learn the marketable skills required to work effectively within a welding environment. Strong emphasis on the development of professional attitudes, values, and ethics. As you progress through the program, you'll gain critical thinking, priority setting, and decision-making skills needed in today's quality-oriented business environment.

Graduates of this specialized diploma program can gain employment and then pursue NCC's Welding & Fabrication certificate or Welding Technology associate degree programs. This program will be of benefit to those who are seeking an entry level position in welding or those who are seeking to change careers. It is also useful for welders in need of updated skills and certification.

Features

This program prepares you for the responsibilities and challenges expected of a skilled trades person in an entry level welding setting. Responsibilities of a welder include the ability to read and interpret blueprints and demonstrate basic welding principles. Students will gain the knowledge and skills needed to prepare for American Welding Society certification exams while achieving a competency-based academic specialized diploma. The program may be completed in as little as two semesters if taking courses during the day.

Courses for the Welding Fundamentals specialized diploma include Welding Fundamentals, OSHA, Fabrication & Welding Symbols, Introduction to Pipe Welding Processes, Advanced Plate Welding Processes, and Gas Tungsten Arc & Semiautomatic Welding Processes. All of the courses in the specialized diploma can be applied to either the certificate or

associate degree welding programs.

Graduates of this specialized diploma can also continue on to complete the Welding & Fabrication certificate or the Welding Technology associate degree with ease.

View Gainful Employment information on the Welding specialized diploma.

Endorsed by Local Employers

Potential employers for those following this welding pathway include:

- Manufacturers
- Sheet Metal Fabricators
- Construction Companies

This program can be completed in the day or evening, on a full or part-time basis.

Please contact Dino Forst, Program Manager, at 610.332.6270 or dforst@northampton.edu or the Admissions Office at 610.861.5500 for more information.

Career Potential: Autobody Repairer, Business Owner, Maintenance Repair Technician, Welding Assistant, Welder Fabricator.

Outcomes

Graduates of the Welding Fundamentals specialized diploma program will be able to:

- Demonstrate an ability to work independently and collaboratively.
- Demonstrate safe welding and thermal cutting practices.
- Produce welds that consistently meet industry, American Welding Society (AWS) and pressure vessel standards.
- Analyze and present data in an acceptable and standardized manner.
- Solve common weldability problems.
- Demonstrate a basic framework of technical vocabulary and graphics interpretation.
- Demonstrate observational, integrative, and synthetic skills.
- Demonstrate the proper use and care of common welding equipment.
- Apply basic defect prevention philosophy and techniques to achieving weld integrity.
- Describe the key process elements and technology commonly found in industrial welding and cutting processes.

Courses

First Semester

EMEC118	Hand and Power Tools	1
ENGG117	Technical Drawings & Specifications	3
OSAH100	Industry Outreach Safety Education	1
WELD105	Introduction to Welding Processes	5
WELD135	Welding Fabrication and Symbols	2
Subtotal:		12

Second Semester

EMEC117	Industrial Rigging	1
WELD110	Introduction to Pipe Welding Processes	3
WELD123	Advanced Plate Welding Processes	5
WELD125	GTAW and Semiautomatic Welding Processes	5
Subtotal:		14
Subtotal:		26

Public Safety & Services

Computer Forensics Analyst: HERO, Specialized Diploma

Overview

Narrative (SD)

Child pornography is a global scourge that plagues every culture and region. There is a growing need for highly effective cyber investigators to identify and to bring to trial Internet child exploiters. The H.E.R.O. program, designed to meet the

need for these investigators, is delivered through the Department of Homeland Security and NCC. The program is primarily restricted to cohorts of students selected by NCC and DHS. Most students are Special Operations veterans specifically identified for admission to the program.*

Features

The H.E.R.O. Program is a forty-week cohort program. Before entering the cohort, students must obtain introductory training or demonstrate prior learning, typically facilitated by the DHS. The training obtained through the Department of Homeland Security includes intensive computer forensics training leading to certifications in CompTIA A+, AccessData Certified Examiners (ACE) and EnCase 1. It also includes an overview of the child sexual abuse problem, specifically covering child abuse and trauma, child sexual abuse prevention, prosecution of child sex offenders, and coping with the stresses of working in the field of child sexual exploitation prevention.

Students admitted to the program will spend 10 months in NCC-monitored internships assisting Homeland Security Investigations (HSI) special agents with criminal cases and prosecutions. Duties may include processing digital media and forensic analysis. Interns will assist investigators to identify high-value targets, to locate child victims, and to prepare detailed reports for prosecutions.

View Gainful Employment Information on the Computer Forensics Analyst: HERO Specialized Diploma

Outcomes

- Demonstrate computer forensic skills
- Be able to track down on-line predators using legally, ethically and constitutionally sound techniques.
- Demonstrate principles and methods of investigation, including the role of the prosecutor, the function of the courts, and sentencing, corrections, probation and parole processes.
- Manage cases effectively, professionally and efficiently to support successful prosecutions
- Assist investigators to identify high-value targets and locate child victim and prepare detailed reports.

Courses

Fall Semester

CJST101	Introduction to Criminal Justice	3
CISC136	PC Support and Troubleshooting	4
ENGL101	English I	3
		Subtotal: 10

Spring Semester

CJST111	American Legal System	3
CJST115	Criminal Law	3
CJST135	Law Enforcement & Investigative Techniques	3
		Subtotal: 9

Summer Semester

CFAN200	HERO Field Experience	4
CJST245	Criminal Justice Ethics	3
		Subtotal: 7

Session Four

Subtotal: 7

- CFAN200 is only offered in the summer; the program is designed to be completed within two or three academic semesters.
- Program articulation is offered for the following courses:
 - CJST101 - will be waived based on training through DHS and Protect.
 - ENGL101 - may be waived based on faculty evaluation of a written portfolio generated through DHS and Protect training.
 - CISC136 - DHS Ice Training or CompTIA A+ (or CISC130, PC Support and Troubleshooting), AccessData Certified Examiners (ACE), EnCase 1.

*Enrollment in DHS (PROTECT and IT) training is the primary pathway for admission to this program. Students may apply for admission to the program by demonstrating the same competencies and clearances that are facilitated by the DHS pre-admission training program.

1. Academic coursework equivalent to SOCA103 (Introduction to Sociology), SOCA150 (Deviance) and SOCA204 (Social Problems).
2. Three completed computer certifications

- CompTIA A+ (or ELEC130, PC Support and Troubleshooting)
 - AccessData Certified Examiners (ACE)
 - EnCase 1
3. Have identified an appropriate internship at an investigative agency or organization and possess an active, federally-granted 'SECRET' level Security clearance from a sponsoring agency or organization.

Subtotal: 26

Criminal Justice, Associate in Applied Science

Overview

Narrative

Northampton Community College's (NCC) Criminal Justice program offers you a wealth of opportunities. Whether you want to enter the workforce after two years of study, transfer to a four-year program, or enhance your education as a professional already employed in this field, NCC's program is for you. All courses are taught by experts in the field. Learning takes place within a classroom setting, combined with out-of-class relevant experiential learning opportunities such as paid & unpaid internships, volunteer service learning opportunities, job shadowing, department & agency tours, and other hands-on options. You'll obtain an understanding of the criminal justice & juvenile justice systems, be adept with the language and culture of these occupations, and gain the knowledge you need to live up to professional expectations. The program offers students flexibility and is fully available at the Bethlehem and Monroe campuses, as well as online. Courses are offered mainly in the daytime on campus, with some courses available in the evening, and all courses available online every Spring, Summer & Fall semester.

Features

The program serves three types of students: those seeking entry-level employment in the field, those already employed in the system who seek professional advancement, and those who plan to pursue a bachelor's degree in criminal justice, criminology or related disciplines.

Our program readies you for employment in the local, state, or federal level components of law enforcement, Prosecutors' Offices, Public Defenders' Offices, courts, corrections, probation, parole, treatment, and the Juvenile Justice System. It can also prepare you for a career in private sector security or for the military branches of service. If you are interested in working for a specific department or agency, you should contact a program success navigator or your advisor early in your studies to determine the specific educational requirements you will need. Professionals in NCC's Career Services and Counseling offices, as well as experienced instructors within the program, can assist you in meeting your career goals.

All of our instructors are either current or former criminal justice or juvenile justice professionals, so they speak with the voice of experience; not just from a textbook. Additionally, students who have acquired prior discipline-related learning or training experiences might be granted course equivalent credits based upon NCC's life-experience portfolio assessment process.

If your career plan includes a bachelor's degree with specialization in the field, you may want to consider transferring to one of the four-year schools that we have an articulation agreement with such as East Stroudsburg University, Keystone College, Penn State-Lehigh Valley, or the University of Pittsburgh. These special partnerships make the move to a bachelor's degree program easier, since we've already ensured that your credits from NCC will seamlessly transfer. Full transfer also may be possible to other colleges and universities offering baccalaureate degrees in the field. NCC's Academic Advising Transfer Specialists and Success Navigators can offer you support and additional information. The program can be completed in four semesters as a full-time student taking 15-18 credits per semester, or by taking fewer credits each semester, and enrolling in summer classes. The total degree credits are 64-66 credits depending on which courses are completed.

Contact the Admissions Office at 610-861-5500 for further information.

Career Potential: Lawyer, Detective Investigator, Crime Scene Technician, Police, Probation, Parole, Court, Corrections, Security, juvenile justice, or other Public Safety Officer positions

Leading to: Local, State or Federal Criminal Justice, Security, Law, and Public Safety positions

Outcomes

Graduates of the program will:

- Explain and evaluate criminological behavior theory as applied by the criminal justice or juvenile justice professional

in the work environment.

- Analyze and assess the various classical, biological, psychological, sociological, and other emergent theories of crime causation.
- Identify and critique the functions, duties and roles of officials at various levels in the criminal justice system.
- Assess and interpret criminal law, criminal procedure, civil law and the courts as it relates to the legal system.
- Discuss and appraise the special needs and functions of the juvenile justice system.
- Describe and evaluate the corrections system in the United States.
- Apply the ability to think critically and analytically in various criminal justice work settings.
- Develop excellent professional writing and communication skills.
- Exemplify the basic professional requirements for entry level positions in the criminal or juvenile justice systems, as well as in the public safety or private sector security services.

Courses

First Semester

COLS101	College Success	1
CJST101	Introduction to Criminal Justice	3
CMTH102	Introduction to Communication	3
ENGL101	English I	3
SOCA103	Principles of Sociology	3
PSYC103	Introduction to Psychology	3

Subtotal: 16

Second Semester

CISC101	Introduction to Computers	3
CJST111	American Legal System	3
CJST131	Juvenile Justice	3
ENGL151L	English II	3
	OR	
ENGL151R	English II	3
PSYC255	Abnormal Psychology	3
SOCA150	Deviance	3

Subtotal: 18

Third Semester

CJST115	Criminal Law	3
CJST121G	Criminology	3
CJST245	Criminal Justice Ethics	3
SOCA204	Social Problems	3
	Mathematics (QL) or Science (SCI) Elective +	3/4

Subtotal: 15-16

Fourth Semester

CJST225	Corrections and Rehabilitation	3
CJST250	Contemporary Issues Criminal Justice	3
POLS105G	American Constitutional Law	3
	General Education Elective (AH)	3
	Elective ++	3/4

Subtotal: 15-16

+ Mathematics (QL) or Science (SCI) Elective must be chosen from the list of approved General Education Mathematics or Science courses. (NOTE: MATH103 may not be used.) MATH150 is recommended for students who intend to transfer. BIOS104 is recommended as the Science Elective.

++ Elective credits may not be satisfied by a CJST course, except CJST135.

- One course must be designated Diversity and Global Awareness (D).

- Completion of both POLS105G and CJST121G satisfies the program-related Writing Intensive (WI) requirement.
- CJST250 is a capstone course and should be taken in the final semester with CJST225.

Subtotal: 64-66

Emergency Services Administration, Associate in Applied Science

Overview

Narrative

Whether an emergency is the result of a natural disaster or man-made, governments, schools, hospitals and industry need to be able to respond effectively. Emergency Services administrators are the managers who are charged with meeting this important challenge by providing fire, police, emergency medical services and more. Northampton's associate's degree is open to all qualified applicants. If you are an experienced first responder interested in advancing your career, this program could be an excellent option for you. Individuals employed in the private sector as safety officers or security professionals can also develop and strengthen their capabilities and effectiveness by completing this program. Northampton's graduates are employed in positions with job titles such as emergency management coordinator, deputy or assistant emergency management coordinator, public safety director, emergency operations director, fire fighter, emergency medical technician, law enforcement official, safety professional or security coordinator.

Features

Our program and course content has been developed to be congruent with concepts established by the Federal Emergency Management Agency (FEMA), Pennsylvania Emergency Management Agency (PEMA) and local emergency planning committees. Courses emphasize an interoperable approach to the total cycle of emergency management. We develop your administrative skills, including accounting and human resources management, so that you can function at an operational level within an emergency response organization or agency. Required General Education courses round out your training so that you are equipped to communicate well with diverse staff and the community.

Requirements

The Emergency Services Administration degree contains provisions for a free elective of three credits in addition to the General Education electives. This program can be completed in the day or evening, on a full-time or part-time basis. View our Non-credit & Continuing Education Training Programs

Career Potential: Emergency Management Coordinators, Fire Officer, Law Enforcement Officer, Emergency Medical Supervisor, Safety and Security Director, Corrections Officer, Emergency Management Specialist, Emergency Response Manager

Outcomes

Graduates of the program will:

- Demonstrate an understanding of administrative principles as they relate to accounting/finance and management.
- Apply emergency service and public safety skills as they relate to agency/organization operations.
- Acquire and demonstrate strong presentation and communication skills.
- Acquire and practice an understanding of ethics and legal responsibility as they pertain to the gravity of emergency response and public safety.
- Work effectively in both individual and team environments.
- Design and implement a cohesive administrative strategy, effectively combining all elements of successful business practice.
- Employ critical thinking and problem solving techniques relevant to emergency situations.

Courses

First Semester

COLS101	College Success	1
CISC101	Introduction to Computers	3
CMTH102	Introduction to Communication	3
EMGS120	Emergency Services Health & Safety	3
ENGL101	English I	3
MATH150	Introductory Statistics	3

Subtotal: 16

Second Semester

EMGS122	Emergency Action Planning	3
EMGS231	Law for Emergency Services	3
ENGL151R	English II	3
	General Education Elective (AH)	3
	General Education Elective (SSHB)	3
	Subtotal: 15	

Third Semester

ACCT101	Financial Accounting I	3
BUSA226	Human Resources Management	3
EMGS217	Public Information & Relations	3
EMGS221	Emergency Service Management	3
POLS251	State and Local Government	3
	Subtotal: 15	

Fourth Semester

BUSA152	Business Law I	3
EMGS216	Emergency Fiscal Administration	3
EMGS218	Incident Command & Management	3
EMGS219	Regulatory Compliance	3
	Elective	3
	Subtotal: 15	

- For the General Education Electives, students must select one course from the list of approved courses in each of the following categories: Arts & Humanities (AH) and Social Science: Scientific Study of Human Behavior (SSHB).
- One General Education Elective must be taken in a Writing Intensive (WI) section, and one should be designated as Diversity and Global Awareness (D).

Subtotal: 61**Emergency Services Technology**

Career Potential: Emergency Services Technician, Emergency Medical Technician, Firefighter
NCC students have transferred to: Holy Family College, Franklin University

Emergency Services Technology, Associate in Applied Science

Overview

Narrative

In the emergency services professions, masterful skills and attention to detail are essential elements that lead to successful outcomes.

NCC's Emergency Services Technology program provides the education and training you will need to safely and effectively perform the difficult and dangerous duties of saving lives and property. The increasing demand for emergency responders is being driven by the escalating needs of the various communities being served. NCC's Emergency Services Degree is intended to prepare responders to meet those needs. This revised degree contains three concept electives that will allow students to choose between fire, emergency medical, or security technologies. In essence, specific discipline focus based on individual interest is determined by the student.

The program takes into account the logistical challenges of incumbent responders seeking to enhance their skills while additionally meeting the needs of recent high school graduates who are interested in the emergency services. The various experience levels of students in the same class provides for a unique dimension to learning. A number of courses are offered in distance learning formats to accommodate student scheduling challenges. Introduction of eight week long semesters will also allow students the ability to manage their time commitments.

Please Note: Students are required to supply their own NFPA compliant turn-out-gear and self-contained breathing apparatus.

Features

A number of program electives are available to allow you to select and focus on your area of personal interest. You will learn the professional techniques you need to meet the challenges in your specific area. In addition, you will take courses in general education to help give you a broader understanding of the type of work for which you are preparing. To help

students and graduates stay up-to-date, we will announce through the program special "brush-up" and recertification seminars in EMT, CPR, and other related offerings. Enrollment in the EMT program is limited and priority will be given to students who are affiliated with a state-recognized Emergency Services program. You can enter this program any given semester and can complete it within four years by attending evening or distance learning classes on a part-time basis.

Outcomes

Graduates of the program will:

- Apply interoperable emergency response and decision making skills to achieve positive outcomes.
- Demonstrate functionality as it relates to emergency response information technology.
- Function within nationally recognized guidelines and/or standards as an interoperable emergency first responder.
- Apply emergency service and public safety skills as they relate to mitigation, preparedness, response, and recovery operations.
- Develop an interoperable management approach in the various segments of emergency services, Public Safety (Fire/Emergency Medical), and the Private Sector (Industry).
- Discuss ethical, moral, and legal issues associated with emergency response environments and be able to apply these concepts within the context of expected behavior.

Courses

First Semester

COLS101	College Success	1
ENGL101	English I	3
MATH103	Applications in Mathematics	3
	General Education Elective	3
EMGS118	Introduction to Crime Scene Identification, Preservation and Investigation	3
EMGS120	Emergency Services Health & Safety	3
	Subtotal: 16	

Second Semester

CISC101	Introduction to Computers	3
CMTH102	Introduction to Communication	3
ENGL151R	English II	3
EMGS	Concept Electives +	6
	Subtotal: 15	

Third Semester

SOCA103	Principles of Sociology	3
	Free Elective	3
EMGS218	Incident Command & Management	3
EMGS231	Law for Emergency Services	3
EMGS256	First Responder Stress Awareness and Management	3
EMGS	Concept Elective +	3
	Subtotal: 18	

Fourth Semester

	General Education Elective (WI)	3
EMGS122	Emergency Action Planning	3
EMGS201	Chemistry of Hazardous Materials	3
EMGS207	Technology Applications for Emergency Services	3
EMGS	Concept Elective +	3
	Subtotal: 15	

Concept Electives should be completed based on area of focus.

Fire Technology

Second Semester

EMGS104	Essentials of Firefighting & Emergency Response	4
EMGS105	Essentials of Interior Firefighting &	2

	Emergency Response	
Third Semester		
EMGS115	Emergency Medical Technician - Basic	6
Fourth Semester		
EMGS119	Fundamentals of Homeland Security	3
EMGS160	Introduction to Security	3
EMS Technology		
Second Semester		
EMGS151	Fire Prevention	3
Third Semester		
EMGS208	Operational Risk Management for Emergency Medical Services	3
Fourth Semester		
EMGS235	Security Management	3
Security Technology		
Second Semester		
EMGS109	Vehicle Rescue	3
Third Semester		
EMGS220	Methods of EMS Tactical Response	3
Fourth Semester		
EMGS218	Incident Command & Management	3

- For the General Education Electives, students must select one course from the list of approved courses in each of the following categories: Arts & Humanities (AH) and Societies and Institutions over Time (SIT).
- One course should be designated as Diversity and Global Awareness (D).
- One General Education Elective must be taken in a Writing Intensive (WI) section.

Subtotal: 64

Emergency Services Specialist, Specialized Diploma

Overview

Narrative

The demand for well-trained people in the emergency services field is ongoing and the employment outlook is very good. NCC's Emergency Services Specialist diploma program was created to respond to the workforce needs of our region and is unique in Northampton County.

The program provides an opportunity for anyone wanting to enter or advance quickly in this challenging career field. The program is an excellent option for people currently employed as emergency service personnel who want additional training and education for professional advancement or for personal growth in the profession.

Please Note: Students are required to supply their own NFPA compliant turn-out-gear and self-contained breathing apparatus.

Features

If you are interested in a fast-track option, our Emergency Services Specialist program provides an alternative level of achievement in a shorter period of time compared to our associate's degree program. The curriculum includes five required courses (16 credits) and nine credits of EMGS elective courses allowing you to tailor the program to your individual goals and interests. Electives include firefighting courses, rescue courses, Emergency Medical Technician courses, and management courses.

After you've completed the specialized diploma, you may choose to continue your studies. In this case, you can apply all of your specialized diploma courses toward an associate degree program or transfer your credits to another institution. All of the courses in the specialized diploma curriculum are offered as part of the current degree program.

The program can be completed on a part-time schedule.

View Gainful Employment information on the Emergency Services Specialist specialized diploma.

Contact the Admissions Office at 610-861-5500 for further information.

Outcomes

Graduates of the program will:

- Apply interoperable emergency response and decision making skills to achieve positive outcomes.
- Demonstrate functionality as it relates to emergency response information technology.
- Function within nationally recognized guidelines and/or standards as an interoperable emergency first responder.
- Apply emergency service and public safety skills as they relate to mitigation, preparedness, response, and recovery operations.
- Develop an interoperable management approach in the various segments of emergency services, Public Safety (Fire/Emergency Medical), and the Private Sector (Industry).
- Discuss ethical, moral, and legal issues associated with emergency response environments and be able to apply these concepts within the context of expected behavior.

Courses

Emergency Services Technology - Emergency Services Specialist

EMGS104	Essentials of Firefighting & Emergency Response	4
EMGS151	Fire Prevention	3
EMGS221	Emergency Service Management	3
EMGS231	Law for Emergency Services	3
EMGS201	Chemistry of Hazardous Materials	3
EMGS	Program Electives +	9

Subtotal: 25

+ Program electives are restricted to courses with an EMGS prefix.

Emergency Services Technology - Emergency Medical Technician

EMGS115	Emergency Medical Technician - Basic	6
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Subtotal: 6

Science, Math, & Engineering

Biological Science, Associate in Science

Overview

Narrative

Are you interested in pursuing a bachelor's degree in Biological Science? Are your career goals in the areas of medicine or scientific research? Northampton's Biological Science program is an affordable way to start. With a curriculum that parallels the first two years of most four-year programs, NCC can save you thousands of dollars on your undergraduate degree.

NCC's program can be customized to prepare you for the range of majors and fields that are based in biological sciences, including environmental sciences, genetics, molecular biology and more. By working closely with an advisor, you can choose the right electives, and stay on track with the requirements of the transfer college of your choice.

Features

Northampton has dual admissions agreements with a variety of colleges. These arrangements enable you to have admission to Northampton and the four-year institution you select. You will receive close advising, and, based on your performance, our agreements guarantee your easy transfer of credits. NCC also offers a transfer agreement with Pennsylvania State University-Berks/Lehigh Valley and State University of New York-College of Environmental Sciences and Forestry.

Requirements

We expect you to have an adequate background in chemistry and algebra. If you need to develop this background, you may take the necessary preparatory classes prior to, or during your first semester.

Notes

Please note that General Ecology, Organic Chemistry I, and Genetics are only offered in the Fall semester, and Organic Chemistry II is only offered in the Spring semester.

Students interested in graduate programs in Veterinary Medicine should contact Dr. Charles Rinehimer. Contact the Admissions Office at 610-861-5500 for further information.

Career Potential: Leading to transfer degrees for careers in: Research, Teaching, Medicine, Forestry Management, Biotechnology, Pharmaceutical Technology, Environmental Studies, Veterinary Medicine

NCC students have transferred to: Cedar Crest College, East Stroudsburg University Florida Institute of Technology, Kutztown University, Millersville University, Moravian College Pennsylvania State University, Rochester Institute of Technology, Temple University, University of Colorado, West Chester University, Many others nationwide

Outcomes

Graduates of the program will:

- Understand fundamental concepts of Biology, which characterize the various life science fields including Botany, Environmental Science, Genetics, Cellular and Molecular Biology and Zoology.
- Demonstrate oral and written communication skills necessary for sharing discipline-specific knowledge and communicating professionally.
- Conduct scientific inquiry and research on biological science topics as they relate to science, technology and society.
- Proficiently function in laboratory and field settings, using modern scientific instrumentation, including microscopes, measuring devices, and computer technology.
- Demonstrate understanding of the fundamentals of lab safety, to ensure both personal and environmental safety.
- Understand the use of the scientific method, interpretation of scientific data, and scientific literature.
- Be prepared to transfer to a four-year Bachelor's Program or a pre-med, pre-vet, or other pre-professional program.

Courses

First Semester

COLS101	College Success	1
BIOS107	Biology I	4
CHEM120	General Chemistry I	4
ENGL101	English I	3
MATH140	College Algebra	3
	OR	
MATH180	Calculus I	4
	Subtotal: 15-16	

Second Semester

BIOS150	Biology II	4
CHEM220	General Chemistry II	4
ENGL151L	English II	3
CMTH102	Introduction to Communication	3
MATH145	Trigonometry	3
	OR	
MATH181	Calculus II	4
	Subtotal: 17-18	

Third Semester

BIOS2__	Biology Elective ++	4
CHEM201G	Organic Chemistry I	4
PSYC103	Introduction to Psychology	3
	General Education Elective (SIT)	3
	Subtotal: 14	

Fourth Semester

BIOS2__	Biology Elective ++	4
CHEM251	Organic Chemistry II	4
	General Education Elective (AH)	3
	Electives	6
	Subtotal: 17	

+ Mathematics Elective options: MATH140 + MATH145 or MATH180 + MATH181. To insure transfer, electives should be selected to meet the requirements of the appropriate transfer institution.

++ Biology Electives: Students are required to take two of four Biology courses of BIOS206, BIOS210, BIOS240 or BIOS260. For students with an Environmental Science intent, BIOS206 and BIOS210 are recommended. For students with an Integrative Biology intent, BIOS260 and either BIOS206 or BIOS210 are recommended.

- For the Electives, students must select one course from the list of approved courses in each of the following categories: Arts & Humanities (AH) and Social Science: Societies and Institutions over Time (SIT).
- One course must be designated Diversity and Global Awareness (D).
- Completion of CHEM201G satisfies the program-related Writing Intensive (WI) requirement. In addition, one Elective course must be taken in a Writing Intensive (WI) section.
- Computer competencies are included in various program courses. Thus, completing the program automatically satisfies the computing requirement for this program.

Subtotal: 63-65

Biotechnology, Associate in Applied Science

Overview

Narrative

Major improvements in agriculture, breakthroughs in health care, energy production, solutions to environmental challenges - biotechnology is changing our world in exciting ways. Biotech is also one of the more rapidly expanding and diverse areas of employment in today's economy. A career in a biotechnology-related field could lead you to the development of new products and processes to improve the quality of life.

NCC graduates are positioned to compete for a wide range of positions in the chemical and pharmaceutical industries, governmental institutions such as the FDA, USDA, Department of Defense, NIH, EPA, forensics laboratories, the cosmetic industry, biomedical research institutions and the expanding field of green energy.

Students entering this program should be interested in science and should have taken high school classes in biology, chemistry and algebra (or the equivalent). Students who have not taken chemistry or algebra may do so before beginning the program.

Industrial internships are considered the important part of the biotechnology program. Students are strongly encouraged to seek and apply for the internships; program coordinator will assist interested biotechnology majors in the applications process.

Features

Students in NCC's Biotechnology program receive a solid background in math and science and practical knowledge in biotechnology. Students also gain good laboratory and critical thinking skills that make them attractive to employers in the biotechnology and pharmaceutical industry as manufacturing or research technicians. In addition this program prepares students to transfer to a four year institution should they want to pursue a Bachelors degree in Biotechnology. The program can be completed on a part time or full time basis.

Optional Fifth Semester for Biotechnology AAS Degree

Students in the program have the option to acquire additional skills by attending a capstone semester at Penn State focusing on nanotechnology. This optional fifth semester of study will provide students with hands-on experience using state-of-the-art equipment found in industries that apply nanotechnology. Students who are interested in pursuing this training should work closely with their advisor to ensure that they choose those electives that will best prepare them for the capstone semester.

Career Potential: Laboratory Technician, Process Supervisor, Quality Control Technician, Manufacturing Operator/Technician, Research Technician, Forensic Lab Technician, Environmental Lab Technician

Outcomes

Graduates of the program will:

- Demonstrate skills necessary to work in a typical biotechnology laboratory or biomanufacturing facility while following appropriate safety procedures and complying with the federal regulations for the industry.
- Demonstrate an understanding of biotechnological principles and concepts.
- Follow written instructions and work both independently and collaboratively on a wide variety of projects.
- Demonstrate literacy in data manipulation and analysis using computerized spreadsheets and graphing programs.
- Apply statistics to analyze the credibility of scientific results and to follow the biomanufacturing processes.
- Demonstrate the ability to communicate both orally and through written reports in an effective and efficient

manner.

- Apply all the steps of the scientific method to research, design, perform, and report on a solution to a scientific or manufacturing problem.

Courses

First Semester

COLS101	College Success	1
BIOS107	Biology I	4
BIOT184	Introduction to Biotechnology	4
CHEM120	General Chemistry I	4
ENGL101	English I	3
MATH140	College Algebra	3

Subtotal: 19

Second Semester

BIOS150	Biology II	4
BIOT185	Biotechnology Techniques	4
CHEM220	General Chemistry II	4
ENGL151T	English II	3
CISC101	Introduction to Computers	3

Subtotal: 18

Third Semester

BIOS240	Microbiology	4
BIOT175	Introduction to Biomanufacturing	4
CHEM201G	Organic Chemistry I	4
CMTH102	Introduction to Communication	3
	Social Science: Scientific Study of Human Behavior Elective (SSHB)+	3

Subtotal: 18

Fourth Semester

BIOT202	Biotechnology Seminar	1
BIOT220	General Biotechnology	4
MATH150	Introductory Statistics	3
	Arts and Humanities Elective (AH) +	3
	Elective +	3

Subtotal: 14

***Industrial Internships are strongly recommended for students in the biotechnology program. Students are encouraged to seek internship opportunities. Program coordinator will assist students in identifying proper internship sites and the application process.**

+ One course must be designated Diversity and Global Awareness (D).

Nanofabrication Specialization (Optional 5th Semester)

Semester at the Nanofabrication Facility at Pennsylvania State University, Main Campus

NANF211	Materials, Safety and Equipment Overview for Nanofabrication	3
NANF212	Basic Nanofabrication Processes	3
NANF213	Thin Films in Nanofabrication	3
NANF214	Lithography for Nanofabrication	3
NANF215	Materials Modification in Nanofabrication	3
NANF216	Characterization, Packaging, and Testing of Nanofabricated Structures	3

Subtotal: 18

Subtotal: 69

Chemistry, Associate in Science

Overview

Narrative

If you are interested in pursuing a bachelor's degree in chemistry or a career in the areas of medicine or scientific research, Northampton's Chemistry program is an affordable way to start. With a curriculum that parallels the first two years of most four-year programs, NCC can save you thousands of dollars on your undergraduate degree. By working closely with an advisor, you can choose the right electives, and stay on track with the requirements of the transfer college of your choice.

Another option some graduates have chosen is to enter the job market upon completion of their two-year Chemistry degree. NCC's program prepares you for the range of fields that are based in chemistry, including environmental sciences, manufacturing, biotechnology and more.

Features

Northampton has dual admissions agreements with a variety of colleges. These arrangements enable you to have admission to Northampton and the four-year institution you select. You will receive close advising, and, based on your performance, our agreements guarantee your easy transfer of credits. Courses in this program are offered primarily during the day.

Requirements

While there are no special admissions requirements for the Chemistry program, certain courses in the program require a background in English, algebra, and chemistry. If you are lacking background in these areas, you should acquire it during the summer preceding your first semester. Northampton's admissions and counseling staff can answer any questions or concerns you may have regarding your enrollment into this program.

Contact the Admissions Office at 610-861-5500 for further information.

NCC students have transferred to: Cedar Crest College, East Stroudsburg University, Kutztown University, Lafayette College, Lehigh University, Lock Haven University, Penn State University, University of Hawaii

The A.S. in CHEMISTRY prepares you for these other areas of study: Medical School, Biotechnology, and a multitude of chemistry related industries.

Outcomes

Graduates of the program will:

- Demonstrate the ability to solve problems and explain chemical processes.
- Apply scientific principles and skills in conducting experiments, and in the use of instrumentation and analysis of results.
- Present research in acceptable written and oral format using scientific literature and computer aided analysis
- Demonstrate the ability to work successfully in independent and collaborative settings.
- Demonstrate best practice of safety and laboratory techniques and procedures.

Courses

First Semester

COLS101	College Success	1
CHEM120	General Chemistry I	4
CMTH102	Introduction to Communication	3
ENGL101	English I	3
MATH180	Calculus I	4

Subtotal: 15

CHEM120: Students that are not CHEM120 ready for their first semester should take CHEM011 first.

MATH180: Students that are not MATH180 ready for the first semester should take MATH160 or MATH140 first. It is highly recommended that all students start their math sequence in the first semester

Second Semester

CHEM220	General Chemistry II	4
ENGL151L	English II	3
MATH181	Calculus II	4
	General Education Elective	3

Subtotal: 14**Third Semester**

CHEM201G	Organic Chemistry I	4
PHYS215	Physics for Science & Engineering I	5
	General Education Elective	3
	General Education Elective	3

Subtotal: 15**Fourth Semester**

CHEM251	Organic Chemistry II	4
PHYS225	Physics for Science & Engineering II	5
	Electives	8

Subtotal: 17

- For the General Education Electives, students must select one course from the list of approved courses in each of the following categories: Arts and Humanities (AH); Social Science: Societies and Institutions over Time (SIT) and Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D).
- Completion of CHEM201G satisfies the program-related Writing Intensive (WI) requirement. In addition, one General Education Elective must be taken in a Writing Intensive (WI) section.
- Computer competencies are included in various program courses, specifically CHEM120, CHEM220, CHEM210G, and CHEM251. Thus, completing the program automatically satisfies the computing requirement for this program.

Subtotal: 61

Computer Science, Associate in Science

Overview

Narrative

If you are planning to pursue a bachelor's degree in computer science, Northampton's associate's degree program can be an affordable way to start. Our program parallels the first two years of standard four-year computer science degree programs. By working closely with your advisor, you can plan your course of study to ensure that you will enter the transfer school of your choice prepared to complete your degree.

Graduates of our program who complete a bachelor's degree are prepared for a variety of sophisticated positions in the computer field: as an applications programmer, systems programmer, programmer/analyst or software developer.

Features

The Northampton Computer Science curriculum includes computer programming, introductory computer architecture, mathematics, and general education courses. Depending on your plans and available time, you can complete this program in two years of full-time study with day and evening classes or in three to five years of part-time evening study.

Contact the Admissions Office at 610-861-5500 for further information.

Career Potential: Computer Sciences

NCC students have transferred to: DeSales University, East Stroudsburg University, Kutztown University, Moravian College, Muhlenberg College, Pennsylvania State University, Lehigh University

Outcomes

Graduates of the program will:

- Use effective approaches for problem solving and algorithm development.
- Use critical thinking to evaluate computing problems and explore options for their solution.
- Be experienced in solving problems related to computer programming and implementing these solutions.
- Have experience in algorithm analysis and data abstraction.
- Have comprehensive understanding of computer hardware needed to critically interpret technical information.
- Explore the nature, characteristics, and design issues of contemporary computing systems.
- Develop abstract thinking skills necessary to compete at a transfer institution.

Courses

First Semester

COLS101	College Success	1
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CISC115	Computer Science I	4
MATH180	Calculus I	4
ENGL101	English I	3
	General Education Elective (SIT)	3

Subtotal: 15**Second Semester**

CISC125	Computer Science II	4
CMTH102	Introduction to Communication	3
MATH181	Calculus II	4
ENGL151L	English II	3
	General Education Elective (SSHB)	3

Subtotal: 17**Third Semester**

CISC230	Data Structures & Algorithm Analysis	4
MATH202	Discrete Math	3
	Science Elective (SCI)	4
	Elective	3/4

Subtotal: 14-15**Fourth Semester**

CISC225	Computer Organization	4
	Elective	3
	Elective	3
	General Education Elective (AH)	3
	Elective	3

Subtotal: 16

- One course should be designated as Diversity and Global Awareness (D).
- The General Education Electives must be selected from the list of approved courses in each of the categories: Arts and Humanities (AH); Social Science: Society and Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB); Science (SCI).
- All Electives must be chosen from the list of courses which are applicable to AA and AS degrees, and should be chosen with transferability in mind; MATH210 is recommended.
- Two courses must be taken in Writing Intensive (WI) sections. One must be selected from among the General Education Electives; the second must be selected from: PHIL111G, PHIL202G, or PSYC103G.

Subtotal: 62-63

Engineering, Associate in Science

Overview

Narrative

Northampton's Engineering program is designed primarily for transfer to a baccalaureate degree program in engineering. If your goal is to earn a bachelor's degree in engineering, our program can be an affordable and convenient way to get started. Many of our students transfer and complete degrees at Lehigh and Drexel Universities, Lafayette College, Penn State, Rutgers, Northeastern and many other engineering schools. By beginning your studies at Northampton, you could save thousands of dollars.

If you plan to transfer to a four-year institution, we encourage you to check with that institution to see what its requirements are. Then carefully select your courses here with the help of an advisor to be sure that they will meet your transfer school's requirements. Historically, our transfer students generally perform as well or better in their transfer school as they did when they were enrolled at Northampton.

As a graduate of our program you may also choose to transfer into engineering technologies or go directly into industry in a position that requires math, science, and computing skills.

Features

Engineering students at Northampton take courses designed to develop skills common to all engineering specialties - chemical, civil, electrical, mechanical, and more. Our curriculum parallels that of the first two years in typical engineering schools.

Your professors are full-time and will conduct both the lecture and lab segments of your studies. You can also look forward to small class sizes, which ensures personal attention when you need it. As part of our program, you will have access to a full range of student services, including career and personal counseling, transfer counseling, tutoring, and job placement.

More importantly, you may study full-time or part-time. Courses in this program are offered primarily during the day; however, many have evening sections.

Requirements

Engineering is one of the most demanding and challenging of all college majors. Most students pursuing an engineering degree have strong background in math (algebra, geometry, trigonometry, pre-calculus), physics, and chemistry. If you feel you need help or haven't had classes in these areas, NCC advisors can help you schedule specific courses to prepare you for engineering study.

For further information contact the Admissions Office at 610-861-5500 or e-mail us at engineering@northampton.edu.

Career Potential: Transfer program, leading to Engineer

NCC students have transferred to: Lehigh University, Lafayette College, Drexel University, Pennsylvania State University, Rutgers University, Northeastern University, and others . . .

Outcomes

Graduates of NCC's Engineering Program will:

- Transfer to a four-year engineering program in any engineering discipline.
- Move directly into industry in a position requiring math, science, and computing skills.
- Demonstrate an ability to work independently and collaboratively as a team.
- Demonstrate basic skills common to all engineering specialties.
- Effectively research and collect data using various published resources and the Internet.
- Analyze and present data in an acceptable, methodical, and standardized manner.
- Demonstrate competent technical knowledge in engineering-related areas.
- Demonstrate competent speaking skills when working with diverse groups.
- Demonstrate observational, integrative, and synthetic skills.
- Demonstrate a basic framework of technical vocabulary and graphical interpretation skills.
- Successfully apply mathematics (algebra, trigonometry, geometry and calculus) to solving engineering problems.

Courses

First Semester

COLS101	College Success	1
CHEM120	General Chemistry I	4
CMTH102	Introduction to Communication	3
ENGL101	English I	3
MATH180	Calculus I	4
Subtotal: 15		

Second Semester

CISC115	Computer Science I	4
ENGL151L	English II	3
MATH181	Calculus II	4
PHYS215	Physics for Science & Engineering I	5
Subtotal: 16		

Third Semester

MATH210	Calculus III	4
PHYS225	Physics for Science & Engineering II	5
	Engineering Elective +	3/4
	Technical Elective ++	3/4
Subtotal: 15-17		

Fourth Semester

MATH211	Differential Equations	4
	Engineering Elective +	3/4
	Arts and Humanities Elective (AH)	3
	Social Science: Scientific Study of Human Behavior Elective (SSHB)	3

Social Science: Societies and Institutions
over Time Elective (SIT) 3

Subtotal: 16-17

+ Engineering Elective options: ENGG201, ENGG251, ENGG252, ENGG191, ENGG192, ENGG193, ENGG194 or a course approved by the Engineering Department.

++ Technical Elective options: any Engineering Elective (above list); ENGG100; CHEM201, CHEM220; CISC125, CISC230; or a course approved by the Engineering Department.

- One course should be designated as Diversity and Global Awareness (D).
- One General Education Elective (AH, SIT or SSHB) must be taken in Writing Intensive (WI) section. The program-related writing intensive competency is satisfied by the combination of PHYS215 and PHYS225.
- All electives must be chosen from the list of courses which are applicable to AA and AS degrees.

Subtotal: 62-65

Environmental Science, Associate in Science

Overview

Narrative

As an Environmental Science student, you will experience a broad and dynamic field that unites a number of disciplines so you can understand the biologic, hydrologic, geologic, and atmospheric components of the Earth and the role of human beings on the Earth. In addition, an information explosion has occurred in Environmental Science that will provide you with opportunities in many facets of the field. With a curriculum that parallels the first two years of most four-year programs, NCC can provide you with the foundational knowledge and skills in this expanding area of science in preparation for transfer to a four-year college or university program.

NCC's program can be customized to prepare you for the range of majors and fields that are based in the environment, including laboratory sciences, wildlife conservation, resource management, environmental law, human ecology, and more. By working closely with an advisor, you can choose the right electives, and stay on track with the requirements of the transfer college of your choice.

Features

Northampton has close articulation agreements with a variety of colleges; these agreements will enable you to transfer from NCC to the four-year institution you select. You will receive close advising, and, based on your performance, you are assured easy transfer of your credits. Students graduating from NCC often transfer to baccalaureate institutions such as East Stroudsburg University, Cedar Crest College, and the State University of New York-College of Environmental Sciences and Forestry.

Requirements

Successful students in this program have taken sufficient math and chemistry in high school. Students who come to NCC without these previous experiences, can take courses to prepare for the more advanced math and science required in the program. We recommend that you take the necessary preparatory classes prior to, or during your first semester.

Outcomes

Graduates of the program will:

- Understand fundamental concepts of Environmental Science, interrelating the functions of living and nonliving systems and the role of humans in the environment.
- Demonstrate oral and written communication skills necessary for sharing discipline-specific knowledge and communicating professionally.
- Conduct scientific inquiry and research on environmental topics as those topics relate to science, technology, and society.
- Proficiently function in laboratory and field settings, demonstrating proper field techniques and using modern scientific instrumentation, including sampling and measuring devices as well as computer technology.
- Demonstrate understanding of the fundamentals of environmental safety to ensure both personal and group safety.
- Understand the use of the scientific method to interpret scientific data and make policy recommendations based on the data.

Courses

First Semester

COLS101	College Success	1
BIOS107	Biology I	4
CHEM120	General Chemistry I	4
ENGL101	English I	3
MATH	Mathematics Elective (QL) + Environmental Concepts Elective ++	3 3/4

Subtotal: 18-19

Second Semester

BIOS150	Biology II	4
CHEM220	General Chemistry II	4
ENGL151L	English II	3
CMTH102	Introduction to Communication	3
MATH	Mathematics Elective (QL) +	3

Subtotal: 17

Third Semester

BIOS206	General Ecology	4
CHEM201G	Organic Chemistry I Environmental Concepts Elective ++ General Education Elective	4 3/4 3

Subtotal: 14-15

Fourth Semester

BIOS210	Environmental Biology	4
CHEM251	Organic Chemistry II Environmental Concepts Elective ++ General Education Elective	4 3/4 3

Subtotal: 14-15

+ Mathematics Elective options: MATH140, MATH145, MATH150, MATH160, MATH175, MATH176, MATH180, MATH181, MATH210, MATH211. To insure transfer, electives should be selected to meet the requirements of the appropriate transfer institution.

++ Environmental Concepts Electives: Students are required to take three electives from among the following courses: BIOS220, BIOS230, GEOG121, GEOG140, GEOG271, GEOL201, HUMA150. To insure transfer, electives should be selected to meet the requirements of the appropriate transfer institution.

- For the General Education Electives, students must select one course from the list of approved courses in two of the following categories: Arts & Humanities (AH); Social Science: Societies and Institutions over Time (SIT) and Social Science: Scientific Study of Human Behavior (SSHB).
- One course must be designated Diversity (D).
- Completion of CHEM201G satisfies the program-related Writing Intensive (WI) requirement. In addition, one General Education Elective course must be taken in a Writing Intensive (WI) section.
- Computer competencies are included in various program courses. Thus, completing the program automatically satisfies the computing requirement for this program.

Subtotal: 63-66

Math Option-Math/Physics, Associate in Science

Overview

Narrative

Northampton's Math/Physics program prepares you for transfer to a four-year college or university by serving as the first two years of a baccalaureate program in the fields of mathematics, physics, or other physical sciences. Graduates of our two-year program have successfully transferred to and graduated from institutions such as Lafayette College, Kutztown University, the University of Pittsburgh, and Florida Institute of Technology. They have earned degrees in fields as diverse as chemical or geological engineering, mathematics, and oceanography. Our program also qualifies you for immediate employment as a laboratory aide or technician, a scientific assistant or in

technical sales. Members of Northampton's Career Services and counseling staff, as well as instructors within the program, can assist you in meeting your employment and career goals.

Features

In our program, you'll study a combination of common core courses designed for all math or science majors who are specializing in math or physics. You then have the option of focusing on math or physics by selecting a set of specialized courses. In order to ensure that your courses meet the requirements of the school you plan to transfer to, you should work closely with your academic advisor when selecting your electives.

Northampton has a number of special partnerships with four-year institutions. Our admission and transfer agreements allow for smooth transfer to DeSales University, Cedar Crest College, Centenary College, Moravian College, Muhlenberg College, Lincoln or Cheyney Universities.

Requirements

While this program has no special admission requirements, certain courses do require a background in Trigonometry and Chemistry. If you are lacking background in these areas, you should acquire it during the summer session before your first semester, or during your first semester.

For further information contact the Admissions Office at 610.861.5500 or e.mail us at physics@northampton.edu.

Career Potential: Leading to transfer degrees for careers in: Research, Teaching, Medicine, Forestry Management, Biotechnology, Pharmaceutical Technology, Environmental Studies, Veterinary Medicine

NCC students have transferred to: Lehigh University, Penn State University, Lafayette College, Kutztown University, Edinboro University, Moravian College, East Stroudsburg University, Rutgers University

Outcomes

Graduates of the program will:

- Demonstrate proficiency in conceptualization and analysis of problems.
- Demonstrate both conceptual and quantitative ability for problem solving.
- Work independently and also collaboratively.
- Use technology to solve problems.
- Use mathematics to solve problems and make decisions.
- Use the scientific method to investigate a problem and present results and conclusions in a clear and concise form.
- Succeed in a math-physics program at a four-year institution.

Courses

First Semester

COLS101	College Success	1
MATH150	Introductory Statistics	3
CMTH102	Introduction to Communication	3
ENGL101	English I	3
MATH180	Calculus I	4
		Subtotal: 14

Second Semester

ENGL151L	English II	3
MATH181	Calculus II	4
PHYS215	Physics for Science & Engineering I	5
	General Education Elective (SIT)	3
		Subtotal: 15

Third Semester

MATH210	Calculus III	4
PHYS225	Physics for Science & Engineering II	5
	General Education Elective (AH)	3
	General Education Elective (SSHB)	3
		Subtotal: 15

Fourth Semester

CISC115	Computer Science I	4
MATH211	Differential Equations	4
MATH202	Discrete Math	3

Elective	3/4
Elective	3/4

Subtotal: 17-19

- One course should be designated as Diversity and Global Awareness (D).
- One General Education Elective (AH, SIT, SSHB) must be taken in a Writing Intensive (WI) section. The program-related writing intensive competency is satisfied by completion of both combination of PHYS215 and PHYS225.
- All electives must be chosen from the list of courses which are applicable to AA and AS degrees.

Subtotal: 61-63

Physics Option-Math/Physics, Associate in Science

Overview

Narrative

Northampton's Math/Physics program prepares you for transfer to a four-year college or university by serving as the first two years of a baccalaureate program in the fields of mathematics, physics, or other physical sciences. Graduates of our two-year program have successfully transferred to and graduated from institutions such as Lafayette College, Kutztown University, the University of Pittsburgh, and Florida Institute of Technology. They have earned degrees in fields as diverse as chemical or geological engineering, mathematics, and oceanography. Our program also qualifies you for immediate employment as a laboratory aide or technician, a scientific assistant or in technical sales. Members of Northampton's Career Services and counseling staff, as well as instructors within the program, can assist you in meeting your employment and career goals.

Features

In our program, you'll study a combination of common core courses designed for all math or science majors who are specializing in math or physics. You then have the option of focusing on math or physics by selecting a set of specialized courses. In order to ensure that your courses meet the requirements of the school you plan to transfer to, you should work closely with your academic advisor when selecting your electives.

Northampton has a number of special partnerships with four-year institutions. Our admission and transfer agreements allow for smooth transfer to DeSales University, Cedar Crest College, Centenary College, Moravian College, Muhlenberg College, Lincoln or Cheyney Universities.

Requirements

While this program has no special admission requirements, certain courses do require a background in Trigonometry and Chemistry. If you are lacking background in these areas, you should acquire it during the summer session before your first semester, or during your first semester.

For further information contact the Admissions Office at 610.861.5500 or e.mail us at physics@northampton.edu.

Career Potential: Leading to transfer degrees for careers in: Research, Teaching, Medicine, Forestry Management, Biotechnology, Pharmaceutical Technology, Environmental Studies, Veterinary Medicine

NCC students have transferred to: Lehigh University, Penn State University, Lafayette College, Kutztown University, Edinboro University, Moravian College, East Stroudsburg University, Rutgers University

Outcomes

Graduates of the program will:

- Demonstrate proficiency in conceptualization and analysis of problems.
- Demonstrate both conceptual and quantitative ability for problem solving.
- Work independently and also collaboratively.
- Use technology to solve problems.
- Use mathematics to solve problems and make decisions.
- Use the scientific method to investigate a problem and present results and conclusions in a clear and concise form.
- Succeed in a math-physics program at a four-year institution.

Courses

First Semester

COLS101	College Success	1
CHEM120	General Chemistry I	4
CMTH102	Introduction to Communication	3

ENGL101	English I	3
MATH180	Calculus I	4
		Subtotal: 15
Second Semester		
CHEM220	General Chemistry II	4
ENGL151L	English II	3
MATH181	Calculus II	4
PHYS215	Physics for Science & Engineering I	5
		Subtotal: 16
Third Semester		
CISC115	Computer Science I	4
MATH210	Calculus III	4
PHYS225	Physics for Science & Engineering II	5
	Arts and Humanities Elective (AH)	3
		Subtotal: 16
Fourth Semester		
MATH211	Differential Equations	4
	Social Science: Societies and Institutions over Time Elective (SIT)	3
	Social Science: Scientific Study of Human Behavior Elective (SSHB)	3
	Electives	4
		Subtotal: 14
<ul style="list-style-type: none"> • One course should be designated as Diversity and Global Awareness (D). • One General Education Elective (AH, SIT, SSHB) must be taken in a Writing Intensive (WI) section. The program-related writing intensive competency is satisfied by completion of both combination of PHYS215 and PHYS225. • All electives must be chosen from the list of courses which are applicable to AA and AS degrees. 		
		Subtotal: 61

Course Descriptions

Each course that offers academic credit is assigned a credit value based on the number of scheduled student contact hours and the type of teaching modality used to deliver the course. Read the full explanation (p. 37).

ACCT - Accounting

ACCT 100 - Accounting for Non-Accountants (3 credits)

This course examines how business transactions are recorded, summarized, and interpreted for business decision-making purposes. Students will apply the accounting cycle, from event and transaction recognition to financial statement preparation, review, and appreciation. This course will provide a broad knowledge of accounting basics and is designed for non-business majors. Only one of the following: ACCT100 or ACCT101 may be applied to a degree. ACCT100 cannot be used as a substitute for ACCT101. Also available through Online Learning.

ACCT 101 - Financial Accounting I (3 credits)

This course is the analysis and interpretation of basic accounting structure, systems, and controls applicable to various business entities. Students develop the ability to prepare and analyze the financial statements of sole proprietorships. This course provides an introduction to financial accounting, including generally accepted accounting principles, financial statement preparation, the accounting cycle, specialized journals, accounting for cash, accounts receivable, sales, inventories, and long-lived assets. Both service and retail businesses will be discussed. Only one of the following: ACCT100 or ACCT101 may be applied to a degree. ACCT100 cannot be used as a substitute for ACCT101. Also available through Online Learning.

ACCT 151 - Financial Accounting II (3 credits)

This course continues the study of introductory financial accounting concepts including partnerships, short and long-term investments, short and long-term notes payable, bonds payable, cash flow statement, the study of corporate accounting, and financial statement analysis. Students develop the ability to prepare and analyze the financial statements of public corporations. Also available through Online Learning. Prereq. - ACCT101.
Prerequisite: ACCT101.

ACCT 160 - Accounting Applications (3 credits)

In this course students will learn both payroll accounting and QuickBooks. In a hands-on environment, students learn the design and function of a computerized accounting information system, with the emphasis on providing information for external users and for management decision making. The course includes the principles of accounting information systems, the relationship of computerized accounting systems to manual systems, transaction processing, and report generating using an accounting software package, and the application of management decision-making tools using appropriate software. The payroll accounting portion of the course will include personnel and payroll records, Fair Labor Standards Act, phases of the Social Security Act, and Federal Income Tax Withholding laws. Prereq.- ACCT101. Also available through Online Learning.
Prerequisite: ACCT101.

ACCT 201 - Intermediate Accounting I (4 credits)

New approved description: This course is a corporate accounting course dealing with the principles of financial theory and development of accounting theory. This course is the study of accounting principles and procedures essential to the preparation of financial statements with particular emphasis on the course form. Topics of coverage include financial statements, current assets, inventory, property, plant, and equipment, and intangible assets. This course is the first of a series of two intermediate financial accounting courses. It builds on the foundation laid in the two introductory accounting courses to better equip students with the required techniques in preparing and interpreting financial statements. It also examines the conceptual framework of accounting and financial statement presentation. Also available through Online Learning. Prereq. - ACCT151
Prerequisite: ACCT151.

ACCT 202 - Managerial Accounting (3 credits)

This course gives an understanding of the ways in which management accountants provide relevant information for a variety of decisions to be made in managing any organization. This course emphasizes the uses of accounting information for managerial decision making, planning and control, and cost accumulation and allocation. This course is a

study of the uses of accounting information for managerial decision making. Areas of focus include: manufacturing, merchandising, and service cost systems; cost-volume-profit analysis; budgeting; variance analysis, responsibility accounting, and capital investment decision making. Also available through Online Learning. Prereq. - ACCT101
Prerequisite: ACCT101.

ACCT 205 - Cost Accounting (3 credits)

This course is an introduction to cost accounting as a managerial tool. The examination of the accounting practices to record and control material, labor, and overhead costs. The study includes an in-depth look at job-order, process cost and standard cost system for manufacturing and service firms. Cost accounting provides key data to managers for planning and controlling, as well as data on costing products, services, and customers. Emphasis will be placed upon the application of cost accounting theory in the solution of problems and case studies. Also available through Online Learning. Prereq.- ACCT151
Prerequisite: ACCT151.

ACCT 220 - Income Tax Accounting (3 credits)

This course is a study of current federal income tax as it applies to the individual taxpayer. The course focuses on the preparation of federal income tax returns for individuals and small businesses based on current law, regulations, and current trends in practice. Students analyze the current federal regulations and how these laws affect the income tax liability of individuals. Students are required to complete tax returns using a software package. Also available through Online Learning. Prereq. - ACCT151
Prerequisite: ACCT151.

ACCT 251 - Intermediate Accounting II (3 credits)

This course is the second of two courses dealing with corporate accounting and is a continuation of ACCT201. Its purpose is to gain a sound understanding of generally accepted accounting principles governing the recognition and measurement of liabilities and equity. The topics covered include liabilities, contingencies, stockholders' equity, post-retirement benefits, leases, accounting changes and error correction, statement of cash flows, financial statement analysis, and full disclosure. Students will learn how to apply some of the many accounting and economic concepts they have learned to the analysis of a company's financial position and performance as shown in published information, primarily focusing on financial statements. Also available through Online Learning. Prereq. - ACCT201
Prerequisite: ACCT201.

ACCT 255 - Principles of Auditing (3 credits)

This course introduces students to the concepts, principles, and practical applications of auditing in the business and accounting world. The course is an analysis and appraisal of current auditing principles and procedures involving staff organization, professional ethics and legal responsibility, internal control, audit programs and working papers and original record examination. The course emphasizes the concepts and practical applications that will serve as a foundation for developing auditing skills. Students are required to complete a comprehensive audit case study. Also available through Online Learning. Prereq. - ACCT201
Prerequisite: ACCT201.

ACLS - Academic Learning Skills

ACLS 025 - Academic Reading and Writing Skills I (6 credits)

This is the first of two integrated reading and writing courses that provide intensive practice with critical thinking, reading, and writing in a supportive, collaborative environment. It helps students develop the reading and writing and thinking skills necessary to succeed in English I and other college level courses. Students will engage in the reading and writing processes. They will learn and apply the strategies and develop the skills needed to understand challenging academic reading and to write academic essays. Prereq. - Placement as determined by English and Reading departments through testing.
Prerequisite: Placement as determined by English and Reading departments through testing.

ACLS 026 - Academic Reading and Writing Skills II (6 credits)

This is the second of two integrated reading and writing courses that provide intensive practice with critical thinking, reading, and writing in a supportive, collaborative environment. The course helps students develop the reading and writing and thinking skills necessary to succeed in English I and other college level courses. Students will engage in the reading and writing processes. They will learn and apply the strategies and develop the skills needed to understand challenging academic reading and to write academic essays. Prereq. - Placement as determined by English and

Reading departments through testing or course work.

Prerequisite: Placement as determined by English and Reading departments through testing or course work.

ACLS 050 - Introduction to Academic Literacy (4 credits)

This integrated and accelerated reading and writing course provides intensive practice with critical thinking, reading, and writing in a supportive, collaborative environment. It helps students develop the reading and writing skills necessary to succeed in English I and other college level courses. Students will engage in the reading and writing processes. They will learn and apply the strategies and develop the skills needed to understand challenging academic reading and to write academic essays. Prereq. - Placement as determined by the Reading and English departments through testing.

Prerequisite: Placement as determined by the Reading and English departments through testing.

ADVT - Adventure Tourism

ADVT 104 - Adventure Course Practicum (4 credits)

This course will involve structured work experience in selected adventure/challenge course and adventure tourism facilities with a minimum of 255 contact hours. Students are required to function in a variety of workstations to reinforce learned classroom/lab skills. The student will be required to submit evaluations of his/her work. The application of adventure course principles to the work environment serves as a valuable learning experience for the student. This course may be taken two times for credit.

ADVT 114 - Challenge Course Operations (3 credits)

Students will learn the essential fundamentals in proper operation of a variety of low and high challenge courses, including practice lines, assist procedures, harness procedures, inspections, documentation, staffing and training. The course will also include initiatives for adventure programming in problem solving, trust, team development, self-confidence, and communication skills. This course will utilize a blend of lecture and field based classes, allowing for hands-on involvement. Participants must be willing to learn and practice in cold and other environmental conditions, engage in hands on learning, work at height and enjoy a physical challenge.

ADVT 124 - Safety and Risk Management (3 credits)

This class will focus upon the skills necessary to safely operate and maintain challenge course structures and their associated equipment, with a requirement on daily site inspections, annual inspections and updates, operator certification and staff training in both hard and soft skills. Students will also learn about risk management practices as they relate to challenge course facilities, to include customer contractual agreements, safety policies and procedures, and emergency preparedness. This class will utilize a blend of lecture and field based classes, allowing for hands-on involvement. Participants must be willing to learn and practice in cold conditions, engage in hands on learning, work at height and enjoy a physical challenge.

ARCH - Architecture

ARCH 100 - Architectural History I - Antiquity to 1870 (3 credits)

Understanding the physical environment through the study of dominant architectural attitudes, forms, and functions as influenced by the social, cultural, historical and philosophical determinants of architecture through the ages, its continuity with the past, and its relation to the present; methods of historical inquiry and comparative analysis; emphasis on classical and neoclassical periods. Core: AH (Architecture only). Offered fall semester only.

ARCH 101 - Architectural Graphics I (3 credits)

Basic skills of architectural communication; developing design drawings and visualization skills and their relationship to the design process; freehand and drafted methods including projections in orthographic and paraline drawings, shades and shadows; emphasis on freehand perspective drawing as a design tool; paraline and perspective drawings on the computer as a means of enhancing freehand skills; model making skills. Coreq.- ARCH110. Offered fall semester only. Corequisite: ARCH110.

ARCH 110 - Architecture Design Studio I (3 credits)

First studio in four-semester foundation design studio sequence; fundamental principles of design, design vocabulary and design process; studio projects including two and three dimensional abstract exercises architectonic in nature; organizing systems in accompaniment with the study of historical precedents; emphasis on graphic communication and model making. Coreq. - ARCH101. Offered fall semester only.

Corequisite: ARCH101.

ARCH 121 - Architectural Graphics II (3 credits)

Continued development of the graphic language of architecture; hand skills with orthographic drawings extended to the formal language of architecture and developed into formal plans, elevations, sections and details; linework, notation, dimensioning, material indication and sheet layout; different types of drawings used during the design process; computer and hand skills as tools in the exploration of diagrammatic and other analytical drawings; model making. Prereq. - ARCH101 and ARCH110, both with a C or better; Coreq. - ARCH150. Offered spring semester only.
Prerequisite: ARCH101 and ARCH110, both with a C or better. Corequisite: ARCH150.

ARCH 150 - Architecture Design Studio II (Digital) (3 credits)

Digital studio making transition from abstract principles to architectural projects adding issues of function, space, surface and structure; continued emphasis on understanding and developing design process and historical precedent; basic programmatic research; use of the program Archicad in the digital environment for fundamental techniques required to visualize three-dimensional spaces and objects as an integral part of the design process; development of ability to create computer generated design process drawings/models including perspective, plans, sections, isometrics and axonometrics as a means to solving design problems. Formerly ARCH205. Prereq. - ARCH101 and ARCH110, both with a C or Offered spring semester only.
Prerequisite: ARCH101 and ARCH110, both with a C or better.

ARCH 155 - Architectural History II - 1870 to Present (3 credits)

History and theory of the modern era; methods of historical inquiry and comparative analysis; emphasis on the modern movement, particularly recent movements in architecture and their impact on current thinking. Core: SIT (A.A.S. only). Offered spring semester only.

ARCH 200 - Professional Internship (3 credits)

Practical office experience for students who qualify for sophomore standing; work under the direction of an employer with a professional degree in architecture; arrangements made through the architecture department. Prereq. - ARCH 121, ARCH150, and ARCH155, all with a C or better.
Prerequisite: ARCH121, ARCH150, and ARCH155, all with a C or better.

ARCH 204 - Design & Analysis of Structural Form (3 credits)

Fundamental concepts of statics, forms and forces for a spectrum of architectural structures; structural analysis incorporating both graphic representation and numeric investigation, with particular emphasis on the impact of structure on design; study of structures through full scale model building. Prereq. - MATH145. Offered fall semester only.
Prerequisite: MATH145.

ARCH 210 - Architecture Design Studio III (5 credits)

Continued development of design vocabulary and design process; further development of architectural projects considering program, site and context reinforced by historical precedent; use of materials and structure and their impact on design; emphasis on conceptualization and the importance of the building 'parti'; traditional model making; appropriate use of both traditional graphic representation as well as the computer as a design tool during the design process; written research papers on design problems and historical precedent as part of the exploration process. Prereq. - ARCH 121, ARCH150, and ARCH155, all with a C or better. Offered fall semester only.
Prerequisite: ARCH121, ARCH150, and ARCH155, all with a C or better.

ARCH 214 - Architectural Materials & Methods of Construction I (3 credits)

First course in two-term sequence of building technology; conceptual framework integrating construction into the design process; properties of materials used in construction, their appropriate use, and impact on design; methods of construction in wood, masonry, concrete and steel. Formerly ARCH103. Prereq. - ARCH121 with a C or better. Offered fall semester only.
Prerequisite: ARCH121.

ARCH 215 - Advanced Digital Analysis (3 credits)

Advanced computer design and analysis focused on complex three dimensional modeling, including animations and virtual reality 'walk throughs' using Archicad and other modeling software; building of 3D models as both a design tool and an analytical tool; 3D models to analyze structure, circulation, volume, enclosure and zoning in both historical and

current projects as a precursor to modeling studio projects. Prereq. - ARCH150 with a C or better. Offered fall semester only.

Prerequisite: ARCH150 with a C or better.

ARCH 250 - Architecture Design Studio IV (5 credits)

Resolution of more complex architectural programs with the context of a community-wide environment; broad study of a local rural community, narrowing to a study of the main hub of activity, usually 'Main Street', narrowing further to an individual architectural problem important to the community; project selected as subject of the semester; site analysis and fundamental urban design issues; class publication illustrating class involvement and understanding of community design issues; studio with a physical presence in the community with student drawing and models available to citizen review, student interaction with members of the community. Prereq. - ARCH210 with a C or better. Offered spring semester only.

Prerequisite: ARCH210 with a C or better.

ARCH 254 - Architectural Materials & Methods of Construction II (3 credits)

Second course in sequence; systems integration: foundation/wall, wall/window, floor/wall, wall/roof; integration of building assemblies including structural, mechanical and electrical and their impact on design and the design process; overview of codes, standards, safety, accessibility, documentation and specifications. Prereq. - ARCH214 with a C or better. Offered spring semester only.

Prerequisite: ARCH214 with a C or better.

ARCH 265 - Digital Production Drawing (3 credits)

Study of architectural working drawings; introduction to digital media as a basis of creating a complete set of construction documents from a schematic design; the process of working drawing development; determining the required drawing necessary to express the schematic design to a constructed project; development of the required drawings focusing on standard drawing conventions and methods currently in practice. Offered spring semester only. Additional course fees \$64.00. Prereq.- ARCH101 with a C or better.

Prerequisite: ARCH101 with a C or better.

ARCH 291 - Special Studies in Architecture (1 credit)

See Statement on Special Studies (p. 19). Offered on demand.

ARCH 292 - Special Studies in Architecture (2 credits)

See Statement on Special Studies (p. 19). Offered on demand.

ARCH 293 - Special Studies in Architecture (3 credits)

See Statement on Special Studies (p. 19). Offered on demand.

ARCH 294 - Special Studies in Architecture (4 credits)

See Statement on Special Studies (p. 19). Offered on demand.

ARTA - Art

ARTA 100 - Art & Visual Thinking (3 credits)

Prepares students to use art as a visual language to communicate feelings and knowledge, to use art as a process for understanding one's self and others, to understand the value of imagery in the community, and to interpret the work of artists in a historical, cultural and personal context. Also available through Online Learning. Core: AH.

ARTA 101 - Art History Survey (3 credits)

This course covers major trends and influences in western and world art from prehistoric to the present; emphasis on style and form. Also available through Online Learning. Core: AH.

ARTA 107 - Drawing I (3 credits)

This course covers basic concepts, theories, media and techniques of drawing explored through still life, landscape, the figure, portraiture, and perspective studies. Emphasis will be on the development of observational drawing skills,

composition, and an understanding of drawing as a primary form of visual communication and personal expression.

ARTA 110 - Principles of 3-D Design (3 credits)

This course introduces the theory and application of three-dimensional design with an emphasis on the elements of art and principles of organization as the foundation of successful visual problem solving and creativity. Projects cover a variety of media and techniques; technical, perceptual, and analytical skill development; and contemporary and historical art and design practices.

ARTA 111 - Principles of 2-D Design & Color (3 credits)

This course provides an introduction to the theory and application of two-dimensional design for the creation of pictorial space. The formal elements of art and principles of organization will be covered in depth with a special focus on the nature and properties of color. Students will be guided through a series of projects using a variety of dry, wet, digital and mixed media. Development of technical, perceptual, and analytical skills will be emphasized along with an understanding of historical and contemporary art and design practice.

ARTA 124 - Drawing II (3 credits)

This course builds on concepts, theories, media and techniques introduced in Drawing I; and continues exploration of still life, landscape, and perspective studies with additional focus on the figure and portraiture. Emphasis is on the continuing development of observational drawing skills, composition, and an understanding of drawing as a primary form of visual communication and personal expression. Prereq.- ARTA107 and ARTA111.
Prerequisite: ARTA107 and ARTA111.

ARTA 130 - Intro to Web Site Design (3 credits)

Introduction to Web Site Design explores online website design and basic programming with industry standard software and basic coding with HTML and Cascading Style Sheets. The course addresses best practices in current web design and web standards as well as methods of publishing web sites via FTP servers. Finally, students will discuss web design careers and freelance design opportunities. Prereq. - ARTA170. Also available through Online Learning.
Prerequisite: ARTA170.

ARTA 131 - Intro to 3-D Computer Animation (3 credits)

Introduction to 3-D Computer Animation is an exploration of a variety of current computer animation software and state of the art digital technology. The course introduces students to best practices of computer animation and visual effects; model building, rendering, lighting, key-frame animation and character animation. Prereq. - ARTA170.
Prerequisite: ARTA170.

ARTA 132 - Web Animation (3 credits)

This course is designed to introduce students to the many different creative aspects of web animation, while building a strong technical foundation. Students will learn a foundation in the basic principles of animation as well as how to implement them in different types of web animation software. Students are encouraged to experiment with this broad application and find their own personal expression while learning how to apply it to everyday work environments. Prereq. - ARTA130. Also available through Online Learning.
Prerequisite: ARTA130.

ARTA 151 - Black and White Photography (3 credits)

Introduction to 35mm camera work, black and white film and print processing; basic techniques of exposure, lighting and laboratory work; emphasis on technical/creative/aesthetic aspects of photography. Students must furnish their own manually adjustable 35mm cameras, b/w film and paper, matboard, and miscellaneous supplies. Formerly ARTA251.
Additional course fees: \$20.00.

ARTA 158 - Painting I (3 credits)

This course covers basic concepts, theories, and techniques of painting, through the exploration of still life, portraiture, photographs, and mixed media experimentation. Emphasis is on the development of observational painting skills, composition, color mixing, and an understanding of painting as a primary form of visual communication and personal expression. Prereq. - ARTA107 and ARTA111.
Prerequisite: ARTA107 and ARTA111.

ARTA 161 - Ceramics (3 credits)

A basic introduction to the clay medium: earth, water, and fire. The techniques of hand building (pinch, coil, slab) wheel thrown forms, and clay/glaze technology will be covered. An awareness of traditional and contemporary approaches to ceramics will be emphasized. Additional course fees: \$40.00.

ARTA 162 - Sculpture (3 credits)

Course provides a hands-on introduction to methods, techniques and aesthetics of sculpture. Students will be guided through a series of projects using a variety of traditional sculptural media such as wood, plaster, stone, metal, plastic, etc. Development of technical, perceptual, and analytical skills will be emphasized along with an understanding of historical and contemporary sculpture practices. Additional course fees: \$30.00.

ARTA 164 - Printmaking (3 credits)

This course is an introduction to the basic principles of printmaking and applies concepts of image making and editing within the fine arts. Multiple techniques will be covered including collagraph, monoprint, linocut, drypoint, solarplate (relief, intaglio, protogravure), digital media, and non-adhesive book binding/folio creation. Foundation Design concepts, research methods and critiques will also be emphasized.

ARTA 170 - Computer Graphics (4 credits)

Introduction to computer graphics and basic design principles. Utilizing Adobe Photoshop and Illustrator software, students will learn the fundamentals of digital design, image editing/scanning and printing. Assignments, both in and outside of the classroom, will be contextually based, providing real world applications with each lesson. Also available through Online Learning.

ARTA 171 - Desktop Publishing (4 credits)

Desktop Publishing is an introductory course in the use of industry standard page layout software. Students will learn the basic concepts for print design utilizing text, images, and graphics.

ARTA 180 - Digital Design & Typography I (3 credits)

This course is designed to introduce students to the visual and conceptual issues of graphic design and typography. Assignments investigate typography as an element of design whose form and purpose is to convey information in a structured, legible and expressive manner. Students will work with a variety of software applications as they develop their understanding of letterform, graphic design, Gestalt theories, and typographic organization. This course is a combination of lecture, demonstration and hands-on experience. Prereq.- ARTA170.
Prerequisite: ARTA170.

ARTA 190 - Creative Designs (3 credits)

This course is designed to improve conceptual abilities as applied to design. Students will create innovative design projects, emphasizing best practices of the creative design process and visual problem solving. Focus will be on the use of creative thinking techniques and research typically involved with producing a workable design using an innovative approach. Prereq.- ARTA170.
Prerequisite: ARTA170.

ARTA 204 - Drawing III (3 credits)

This course advances concepts, theories, media and techniques developed in Drawing II, while continuing to explore classic themes. Emphasis is on continuing development of core drawing and design skills, technique and content research, more advanced work with the figure, and the creative challenges to work inventively with various drawing media. Prereq.- ARTA124.
Prerequisite: ARTA124.

ARTA 208 - Mobile Development (4 credits)

This course is a comprehensive overview of developing native mobile apps for a variety of platforms. The focus is on group work from students majoring in a variety of disciplines with the goal of creating real-world products that exemplify the strengths of Communication Design, Web Development and Computer Science students. Prereq.-ARTA240.
Prerequisite: ARTA240.

ARTA 210 - Package Design (3 credits)

This is an advanced course, exploring three-dimensional graphic design, processes, and techniques and branding theories. This course specifically defines and identifies visual communication for package structure and use of typography, color and images of three-dimensional prototypes. Students will be challenged with problem-solving techniques as applied in scale, material, form and function. Prereq.- ARTA181.
Prerequisite: ARTA181.

ARTA 220 - Media Art (3 credits)

Combination of elements, approaches and techniques from fine art and applied art with cutting-edge digital technology; theory, methodology and professional practices covered through lectures, in-class hands-on practice and outside assignments; students approach projects conceptually, synthesizing original integrative solutions, which hopefully expand existing conventions; concepts include collaboration, iteration, metaphor, art as commodity, making vs. finding, perfection vs. perfectionism, and creativity and transcendence. Formerly ARTA257. Prereq. - ARTA170.
Prerequisite: ARTA170.

ARTA 226 - Painting II (3 credits)

Advanced problems in still life, the figure, self-portraiture, and abstraction building on foundation skills from Painting I; discussion and exploration of historical and contemporary approaches to painting to provide an informed basis for the development of personal style and direction. Offered on demand. Formerly ARTA126. Prereq. - ARTA111 and ARTA158.
Prerequisite: ARTA111 and ARTA158.

ARTA 230 - New Media Theory and Practice (3 credits)

This course will introduce critical concepts and hands-on skills in the current New Media field. Students will discuss topics related to the World Wide Web, mobile devices, DVDs, CD-ROMs, digital gaming, film and animation. Students will be equipped with the skills necessary for storyboarding, script writing, character development, theories and practices used in pre-production, and creating a film or animation. Prereq.- ARTA170.
Prerequisite: ARTA170.

ARTA 231 - New Media Production (3 credits)

A continuation of ARTA230, New Media Theory and Practice. Students will form groups, devise a production strategy and create an animated short based on a storyboard they have chosen. Students will learn production techniques, including lighting, sound, character building, quick shorts, creating scenes, editing and final production. Prereq.- ARTA230.
Prerequisite: ARTA230.

ARTA 233 - Advanced 3-D Computer Animation (3 credits)

This course is designed to build on the skills, knowledge and experience gained in the ARTA131 Introduction to 3-D Computer Animation course. Emphasis will be placed on working with advanced 3-D computer animation techniques for film, new media, and video games. Formerly ARTA133. Prereq. - ARTA131.
Prerequisite: ARTA131.

ARTA 236 - Interactive Design (3 credits)

This course presents a visual and creative approach to learning interactive design with the basic fundamentals of object-oriented programming. Students will learn the fundamentals of programming within a visual context, including how to develop strong conceptual skills required for creating interactive applications. Interactive design and programming is intended for both creative and technical oriented individuals. Formerly ARTA136. Prereq. - ARTA132.
Prerequisite: ARTA132.

ARTA 240 - Advanced Web Site Design (3 credits)

This advanced course focuses on interface design, web usability, standards-based design, optimization, and cutting-edge interactivity. Students will be exposed to theories of information architecture and content management, which aid in creating more functional, dynamic websites. Students will build on the skills presented in ARTA130 Introduction to Web Site Design to create functional, compliant, and aesthetically pleasing websites. Prereq.- ARTA130.
Prerequisite: ARTA130.

ARTA 260 - Individual Studio/ Professional Practices (4 credits)

This capstone course in the Fine Art Program offers an intensive studio experience for personal development and growth,

culminating in a final, semester-end exhibition. The critique, a detailed analysis of artwork, will be the core process where aesthetic awareness and creative issues unfold. Students gain knowledge of professional practices by visiting galleries, museums, and artists' studios; speaking with artists, art dealers, art critics, and museum staff; and researching and writing about these experiences. Prereq. - Complete two (2) from among ARTA164, ARTA204, ARTA226, ARTA251, ARTA282; Pre or Co-requisite: ARTA220
Prerequisite: Complete two (2) from among ARTA164, ARTA204, ARTA226, ARTA251, ARTA282. Corequisite: ARTA220.

ARTA 261 - Advanced Ceramics (3 credits)

This advanced exploration of the clay medium builds on the foundation skills acquired in ARTA161 Ceramics. The relationship of technique to concept will be examined with an emphasis on craftsmanship. Wheel throwing, hand building, glazing, and firing techniques will be covered in greater depth. Coverage of contemporary issues in ceramics will help students develop a more informed aesthetic sensibility for the ceramic arts. Offered on demand. Prereq.- ARTA161. Additional course fees: \$60.00.
Prerequisite: ARTA161.

ARTA 281 - Digital Design & Typography II (3 credits)

This course is designed to further develop and strengthen the skills and knowledge obtained in Digital Design Typography I. Assignments are selected with the student's portfolio in mind and provide a variety of design challenges that will enhance students' competitive power for industry needs. Special emphasis will be placed on typographic detail, vocabulary, the design process, presentation, assemblage, and problem solving in a "real world" context. This course concludes with a hardcopy built portfolio. Formerly ARTA181. Prereq. - ARTA180.
Prerequisite: ARTA180.

ARTA 282 - Digital Photography (3 credits)

This course is an introduction to digital photography using an Apple Macintosh computer and a variety of digital software and peripheral devices. The course presents an overview of best practices of digital photo capture (camera work), file organization, image manipulation, and storage and output devices. Prereq.- ARTA170. Additional course fees: \$30.00. Also available through Online Learning.
Prerequisite: ARTA170.

ARTA 285 - Portfolio Workshop (3 credits)

This course is the capstone course in Communication Design curriculum. This course will assist students in becoming professional members of the new digital media design market. Students will be revising, developing and assembling a portfolio in both hard-copy and digital formats. Guest speakers from various communication design fields will critique and evaluation students' portfolios during class time and at the final capstone portfolio-day presentation. Prereq.- ARTA281.
Prerequisite: ARTA281.

ARTA 291 - Special Studies in Art (1 credit)

See statement on Special Studies. Offered on demand.

ARTA 292 - Special Studies in Art (2 credits)

See statement on Special Studies. Offered on demand.

ARTA 293 - Special Studies in Art (3 credits)

See statement on Special Studies. Offered on demand.

ASEP - Automotive Technology GM

ASEP 100 - Automotive Fundamentals (2 credits)

This course is an overview of automotive service practices and procedures, shop equipment, use of electronic service information, basic diagnosis and minor repairs, identification of components and component nomenclature.

ASEP 101 - GM Engines (4 credits)

This course covers the operational principles of basic General Motors engine systems and overhaul of GM automotive engines. Emphasis is on the proper use of precision measuring instruments and rebuilding tools, ability to locate and

interpret engine specifications, engine diagnosis, and correct repair procedures. Pre- or coreq. - AUTO100 or ASEP100 or AUTC100. Additional course fees: \$10.00.
Corequisite: AUTO100 or ASEP100 or AUTC100.

ASEP 103 - GM Brakes (3 credits)

This course covers the theory, principles of operation, and terminology of GM brake systems designs. The emphasis is on system inspection, accurate malfunction diagnosis, location and interpretation of specifications, proper use of special tools and machining equipment for disc/drum and standard/power systems, and correct repair procedures. Pre- or coreq. - AUTO100 or ASEP100 or AUTC100. Additional course fees: \$10.00.
Corequisite: AUTO100 or ASEP100 or AUTC100.

ASEP 104 - GM Suspension & Alignment (3 credits)

This course covers the theory, principles of operation, and terminology of GM suspension system designs. The emphasis is on system inspection and accurate malfunction diagnosis, parts replacement procedures, location and interpretation of specifications, measuring and adjustment of alignment angles, wheel balancing, correct use of special tools and equipment, and correct repair procedures on General Motors vehicles. Pre- or coreq. - AUTO100 or ASEP100 or AUTC100. Additional course fees: \$10.00.
Corequisite: AUTO100 or ASEP100 or AUTC100.

ASEP 105 - GM Electrical Systems (3 credits)

This course covers electricity and magnetism, basic DC circuits used in General Motors electrical systems. The use of meters, wiring diagrams, automotive wiring repair, location and interpretation of specifications, semiconductors, microprocessors and selected electronic devices used in General Motors automobiles is also covered in this course. Pre- or coreq. - AUTO100 or ASEP100 or AUTC100. Additional course fees: \$10.00.
Corequisite: AUTO100 or ASEP100 or AUTC100.

ASEP 121 - GM Air Conditioning/Heating Systems (3 credits)

Operation, diagnosing, and servicing of General Motors air conditioning systems and components; emphasis on electronic climate control system troubleshooting and repair. Prereq.- AUTO105 or ASEP105 or AUTC105. Additional course fees: \$10.00. Offered spring semester only.
Prerequisite: AUTO105 or ASEP105 or AUTC105.

ASEP 125 - Advanced GM Electronic Systems (3 credits)

Theory, operation, diagnosis, and repair of General Motors starting, charging, ignition, computer control and electrical-electronic accessory systems to include electronic cruise control, body controls, driver information systems and entertainment systems. Prereq.- AUTO105 or ASEP105 or AUTC105. Additional course fees: \$10.00. Offered spring semester only.
Prerequisite: AUTO105 or ASEP105 or AUTC105.

ASEP 211 - GM Fuel and Emission Systems (3 credits)

Theory, operation, and diagnosis of malfunctions of electronically controlled General Motors emission control systems; emphasis on location and interpretation of specifications, accurate diagnosis of malfunctions by proper use of test equipment, and correct repair procedures. Prereq.- AUTO125 or ASEP125 or AUTC105 and AUTO175. Additional course fees: \$10.00. Offered fall semester only.
Prerequisite: AUTO125 or ASEP125 or AUTC125 and AUTO175.

ASEP 221 - Advanced GM Engine Performance (3 credits)

Diagnosis, adjustment, and repair of the systems which affect automotive performance; emphasis on synthesizing skills learned in electronic systems, fuel and emission control systems courses, accurate use of diagnostic equipment, proper tune-up procedures, use of specifications, and interpretation of test results to enable the rapid isolation of malfunctions of a particular system or combination of systems in GM automobiles. Prereq. - AUTO105 or ASEP105 or AUTC105, AUTO125 or ASEP125 or AUTC125, and AUTO175. Pre- or coreq.- AUTO211 or ASEP211 or AUTC211. Additional course fees: \$10.00. Offered fall semester only.
Prerequisite: AUTO105 or ASEP105 or AUTC105, AUTO125 or ASEP125 or AUTC125, and AUTO175. Corequisite: AUTO211 or ASEP211 or AUTC211.

ASEP 224 - Advanced GM Automotive Studies (3 credits)

Topics related to recent developments or advanced systems currently in production on GM vehicles. Prereq. - AUTO101 or ASEP101 or AUTC101, AUTO103 or ASEP103 or AUTC103, AUTO104 or ASEP104 or AUTC104, AUTO105 or ASEP105 or AUTC105, AUTO121 or ASEP121 or AUTC121, AUTO125 or ASEP125 or AUTC125, and AUTO175. Additional course fees: \$10.00. Offered fall semester only.

Prerequisite: AUTO/ASEP/AUTC101, AUTO/ASEP/AUTC103, AUTO/ASEP/AUTC104, AUTO/ASEP/AUTC105, AUTO/ASEP/AUTC121, AUTO/ASEP/AUTC125, and AUTO175.

ASEP 225 - GM Mechanical Drive Train System (4 credits)

Principles of operation, diagnosis, and repair of clutches, manual transmissions and transaxles, drive lines, differentials, and front wheel drive units used in GM vehicles; emphasis on understanding the principles of torque multiplication and speed reduction through the use of gearing, location and interpretation of specifications, and correct troubleshooting and repair procedure. Prereq.- AUTO125 or ASEP125 or AUTC125 and AUTO175. Additional course fees: \$10.00. Offered spring semester only.

Prerequisite: AUTO125 or ASEP125 or AUTC125 and AUTO175.

ASEP 226 - GM Automatic Transmission System (4 credits)

Theory of operation, diagnosis, maintenance, and overhaul procedures of automatic transmissions and transaxles used in GM vehicles; major emphasis on hydraulic systems and electronic controls. Prereq.- AUTO125 or ASEP125 or AUTC125 and AUTO175. Additional course fees: \$10.00. Offered spring semester only.

Prerequisite: AUTO125 or ASEP125 or AUTC125 and AUTO175.

AUTC - Automotive Technology Chrysler

AUTC 100 - Automotive Fundamentals (2 credits)

This course is an overview of automotive service practices and procedures, shop equipment, use of electronic service information, basic diagnosis and minor repairs, identification of components and component nomenclature.

AUTC 101 - Chrysler Engines (4 credits)

This course covers the operational principles of basic Chrysler engine systems and overhaul of Chrysler automotive engines. Emphasis is on the proper use of precision measuring instruments and rebuilding tools, ability to locate and interpret engine specifications, engine diagnosis, and correct repair procedures. Pre- or coreq. - AUTO100 or ASEP100 or AUTC100. Additional course fees: \$10.00.

Corequisite: AUTO100 or ASEP100 or AUTC100.

AUTC 103 - Chrysler Brakes (3 credits)

This course covers the theory, principles of operation, and terminology of Chrysler brake systems designs. The emphasis is on system inspection, accurate malfunction diagnosis, location and interpretation of specifications, proper use of special tools and machining equipment for disc/drum and standard/power systems, and correct repair procedures. Pre- or coreq. - AUTO100 or ASEP100 or AUTC100. Additional course fees: \$10.00.

Corequisite: AUTO100 or ASEP100 or AUTC100.

AUTC 104 - Chrysler Suspension & Alignment (3 credits)

This course covers the theory, principles of operation, and terminology of Chrysler suspension system designs. The emphasis is on system inspection and accurate malfunction diagnosis, parts replacement procedures, location and interpretation of specifications, measuring and adjustment of alignment angles, wheel balancing, correct use of special tools and equipment, and correct repair procedures on Chrysler vehicles. Pre- or coreq. - AUTO100 or ASEP100 or AUTC100. Additional course fees: \$10.00.

Corequisite: AUTO100 or ASEP100 or AUTC100.

AUTC 105 - Chrysler Electrical Systems (3 credits)

This course covers electricity and magnetism, basic DC circuits used in Chrysler automotive electrical systems. The use of meters, wiring diagrams, automotive wiring repair, location and interpretation of specifications, semiconductors, microprocessors and selected electronic devices used in Chrysler automobiles is also covered in this course. Pre- or coreq. - AUTO100 or ASEP100 or AUTC100. Additional course fees: \$10.00.

Corequisite: AUTO100 or ASEP100 or AUTC100.

AUTC 121 - Chrysler AC and Heating Systems (3 credits)

Operation, diagnosing, and servicing of Chrysler air conditioning systems and components; emphasis on electronic climate control system troubleshooting and repair. Prereq.- AUTO105 or ASEP105 or AUTC105. Additional course fees: \$10.00. Offered spring semester only.
Prerequisite: AUTO105 or ASEP105 or AUTC105.

AUTC 125 - Advanced Chrysler Electronic Systems (3 credits)

Theory, operation, diagnosis, and repair of Chrysler starting, charging, ignition, computer control and electrical-electronic accessory systems to include electronic cruise control, body controls, driver information systems and entertainment systems. Prereq.- AUTO105 or ASEP105 or AUTC105. Additional course fees: \$10.00. Offered spring semester only.
Prerequisite: AUTO105 or ASEP105 or AUTC105.

AUTC 211 - Chrysler Fuel & Emission Systems (3 credits)

Theory, operation, and diagnosis of malfunctions of electronically controlled Chrysler emission control systems; emphasis on location and interpretation of specifications, accurate diagnosis of malfunctions by proper use of test equipment, and correct repair procedures. Prereq.- AUTO125 or ASEP125 or AUTC125 and AUTO175. Additional course fees: \$10.00. Offered fall semester only.
Prerequisite: AUTO125 or ASEP125 or AUTC125 and AUTO175.

AUTC 221 - Advanced Chrysler Engine Performance (3 credits)

Diagnosis, adjustment, and repair of the systems which affect automotive performance; emphasis on synthesizing skills learned in electronic system, fuel and emission control systems courses, accurate use of diagnostic equipment, proper tune-up procedures, use of specification and interpretation of test results to enable the rapid isolation of malfunctions of a particular system or combination of systems in DaimlerChrysler automobiles. Prereq. - AUTO105 or ASEP105 or AUTC105, AUTO125 or ASEP125 or AUTC125, and AUTO175; Pre- or coreq.- AUTO211 or ASEP211 or AUTC211. Additional course fees: \$10.00. Offered fall semester only.
Prerequisite: AUTO105 or ASEP105 or AUTC105, AUTO125 or ASEP125 or AUTC125, and AUTO175. Corequisite: AUTO211 or ASEP211 or AUTC211.

AUTC 224 - Advanced Chrysler Automotive Studies (3 credits)

Topics related to recent developments or advanced systems currently in production on DaimlerChrysler vehicles. Prereq. - AUTO101 or ASEP101 or AUTC101, AUTO103 or ASEP103 or AUTC103, AUTO104 or ASEP104 or AUTC104, AUTO105 or ASEP105 or AUTC105, AUTO121 or ASEP121 or AUTC121, AUTO125 or ASEP125 or AUTC125, and AUTO175. Additional course fees: \$10.00. Offered fall semester only.
Prerequisite: AUTO/ASEP/AUTC101, AUTO/ASEP/AUTC103, AUTO/ASEP/AUTC104, AUTO/ASEP/AUTC105, AUTO/ASEP/AUTC121, AUTO/ASEP/AUTC125, and AUTO175.

AUTC 225 - Chrysler Mechanical Drive Train Systems (4 credits)

Principles of operation, diagnosis, and repair of clutches, manual transmissions and transaxles, drive lines, differentials, and front wheel drive lines, differentials, and front wheel drive units used in DaimlerChrysler products; emphasis on understanding the principles of torque multiplication and speed reduction through the use of gearing, location, and interpretation of specifications, and correct troubleshooting and repair procedures. Prereq.- AUTO125 or ASEP125 or AUTC125 and AUTO175. Additional course fees: \$10.00. Offered spring semester only.
Prerequisite: AUTO125 or ASEP125 or AUTC125 and AUTO175.

AUTC 226 - Chrysler Automatic Transmission Systems (4 credits)

Theory of operation, diagnosis, maintenance, and overhaul procedures of automatic transmissions and transaxles used in DaimlerChrysler products; major emphasis on the hydraulic system and electronic controls used. Prereq.- AUTO125 or ASEP125 or AUTC125 and AUTO175. Additional course fees: \$10.00. Offered spring semester only.
Prerequisite: AUTO125 or ASEP125 or AUTC125 and AUTO175.

AUTO - Automotive Technology**AUTO 100 - Automotive Fundamentals (2 credits)**

This course is an overview of automotive service practices and procedures, shop equipment, use of electronic service information, basic diagnosis and minor repairs, identification of components and component nomenclature.

AUTO 101 - Automotive Engines (4 credits)

This course covers the operational principles of basic engine systems and overhaul of automotive engines. Emphasis is on the proper use of precision measuring instruments and rebuilding tools, ability to locate and interpret engine specifications, engine diagnosis, and correct repair procedures. Pre- or coreq. - AUTO100 ASEP100 or AUTC100. Additional course fees: \$10.00.

Corequisite: AUTO100 or ASEP100 or AUTC100.

AUTO 103 - Automotive Brakes (3 credits)

This course covers the theory, principles of operation, and terminology of brake systems designs. The emphasis is on system inspection, accurate malfunction diagnosis, location and interpretation of specifications, proper use of special tools and machining equipment for disc/drum and standard/power systems, and correct repair procedures. Pre- or coreq. - AUTO100 or ASEP100 or AUTC100. Additional course fees: \$10.00.

Corequisite: AUTO100 or ASEP100 or AUTC100.

AUTO 104 - Automotive Suspension & Alignment (3 credits)

This course covers the theory, principles of operation, and terminology of suspension system designs. The emphasis is on system inspection and accurate malfunction diagnosis, parts replacement procedures, location and interpretation of specifications, measuring and adjustment of alignment angles, wheel balancing, correct use of special tools and equipment, and correct repair procedures. Pre- or coreq. - AUTO100 or ASEP100 or AUTC100. Additional course fees: \$10.00.

Corequisite: AUTO100 or ASEP100 or AUTC100.

AUTO 105 - Automotive Electrical Systems (3 credits)

This course covers electricity and magnetism, basic DC circuits used in automotive electrical systems. The use of meters, wiring diagrams, automotive wiring repair, location and interpretation of specifications, semiconductors, microprocessors and selected electronic devices used in automobiles is also covered in this course. Pre- or coreq.- AUTO100 or ASEP100 or AUTC100. Additional course fees: \$10.00.

Corequisite: AUTO100 or ASEP100 or AUTC100.

AUTO 106 - PA Safety Inspection Certificate (1 credits)

A 12 hour Pennsylvania Bureau of Motor Vehicles program designed to lead to certification by the state as an official inspection mechanic. Successful completion of the course and meeting all state requirements will lead to becoming a state licensed safety inspection mechanic. Coreq.- AUTO103 or ASEP103 or AUTC103 and AUTO104 or ASEP104 or AUTC104. Offered fall semester only. Additional course fees: \$10.00.

Corequisite: AUTO103 or ASEP103 or AUTC103 and AUTO104 or ASEP104 or AUTC104.

AUTO 110 - Introduction to Hybrid Vehicles (1 credits)

This is an introductory course to hybrid vehicles. Vehicle features, operating modes, and major hybrid components will be covered. Correct safety practices will be emphasized. Hybrid vehicle maintenance and general service procedures will be covered. Restricted to Auto students only. Prereq.- AUTO105 or ASEP105 or AUTC105. Offered spring semester only. Prerequisite: AUTO105 or ASEP105 or AUTC105.

AUTO 121 - Auto A/C & Heating Systems (3 credits)

Operation, diagnosis, and servicing of auto air conditioning systems and components; emphasis on electronic climate control system troubleshooting and repair. Prereq.- AUTO105 or ASEP105 or AUTC105. Additional course fees: \$10.00. Offered spring semester only.

Prerequisite: AUTO105 or ASEP105 or AUTC105.

AUTO 125 - Advanced Automotive Electronic Systems (3 credits)

Theory, operation, diagnosis and repair of starting, charging, ignition, computer control and electrical-electronic accessory systems to include electronic cruise control, body controls, driver information systems, and entertainment systems. Prereq. - AUTO105 or ASEP105 or AUTC105. Additional course fees: \$10.00. Offered spring semester only.

Prerequisite: AUTO105 or ASEP105 or AUTC105.

AUTO 130 - Automotive Service Advising (3 credits)

This course is designed to prepare students for the role as a service advisor in an automotive repair facility. Emphasis will

be on managing work load, interacting with the customers and technicians, writing repair orders, basic knowledge and skills of professional selling and practicing ethical sales practices. Methods of maintaining or increasing customer satisfaction index (CSI) will be emphasized. Additional course fees: \$10.00.

AUTO 145 - Winter Practicum I (2 credits)

Work experience at a sponsoring dealership, approved automotive service facility or the advanced technology lab on campus; tasks consistent with the course work of the preceding semester. Pre- or coreq. - AUTO103 or ASEP103 or AUTC103, AUTO104 or ASEP104 or AUTC104, and AUTO105 or ASEP105 or AUTC105.
Corequisite: AUTO103 or ASEP103 or AUTC103, AUTO104 or ASEP104 or AUTC104, and AUTO105 or ASEP105 or AUTC105.

AUTO 175 - Summer Practicum (4 credits)

Work experience at a sponsoring dealership, approved automotive service facility or the advanced technology lab on campus; tasks consistent with the course work of the preceding semester. Pre- or coreq. - AUTO101 or ASEP101 or AUTC101, AUTO103 or ASEP103 or AUTC103, AUTO104 or ASEP104 or AUTC104, AUTO105 or ASEP105 or AUTC105, AUTO121 or ASEP121 or AUTC121, and AUTO125 or ASEP125 or AUTC125.
Corequisite: AUTO/ASEP/AUTC101, AUTO/ASEP/AUTC103, AUTO/ASEP/AUTC104, AUTO/ASEP/AUTC105, AUTO/ASEP/AUTC121, and AUTO/ASEP/AUTC125.

AUTO 203G - Automotive Shop Management Practices (3 credits)

Principles of operation for today's automotive repair center to include staffing, customer relations, personnel management, schedule of work and workers, parts inventory control procedures, job costs, supervisor roles in cost control, business law with special applications to the automotive repair field, marketing, and advertising the automotive repair services. Writing intensive. Prereq. - AUTO175 and ENGL101. Core: WI. Also available through Online Learning.
Prerequisite: AUTO175 and ENGL101.

AUTO 211 - Automotive Fuel & Emission Systems (3 credits)

Theory, operation, diagnosis of malfunctions of electronically controlled automotive emission control systems; emphasis on location and interpretation of specifications, accurate diagnosis of malfunctions by proper use of test equipment, and correct repair procedures. Prereq.-AUTO125 or ASEP125 or AUTC125 and AUTO175. Additional course fees: \$10.00. Offered fall semester only.
Prerequisite: AUTO125 or ASEP125 or AUTC125 and AUTO175.

AUTO 221 - Advanced Engine Performance (3 credits)

Diagnosis, adjustment, and repair of the systems which affect engine performance; emphasis on synthesizing skills learned in electronic systems, fuel and emission control systems courses, accurate use of diagnostic equipment, proper tune-up procedures, use of specifications and interpretation of test results to enable the rapid isolation of malfunctions of a particular system or combination of systems in the automobile. Prereq. - AUTO105 or ASEP105 or AUTC105, AUTO125 or ASEP125 or AUTC125, and AUTO175; Pre- or coreq.- AUTO211 or ASEP211 or AUTC211. Additional course fees: \$10.00. Offered fall semester only.
Prerequisite: AUTO105 or ASEP105 or AUTC105, AUTO125 or ASEP125 or AUTC125, and AUTO175. Corequisite: AUTO211 or ASEP211 or AUTC211.

AUTO 224 - Advanced Automotive Studies (3 credits)

Topics related to recent developments or advanced systems currently in production on GM/DaimlerChrysler vehicles. Prereq. - AUTO101 or ASEP101 or AUTC101, AUTO103 or ASEP103 or AUTC103, AUTO104 or ASEP104 or AUTC104, AUTO105 or ASEP105 or AUTC105, AUTO121 or ASEP121 or AUTC121, AUTO125 or ASEP125 or AUTC125, and AUTO175. Additional course fees: \$10.00. Offered fall semester only.
Prerequisite: AUTO/ASEP/AUTC101, AUTO/ASEP/AUTC103, AUTO/ASEP/AUTC104, AUTO/ASEP/AUTC105, AUTO/ASEP/AUTC121, AUTO/ASEP/AUTC125, and AUTO175.

AUTO 225 - Mechanical Drive Train Systems (4 credits)

Principles of operation, diagnosis, and repair of clutches, manual transmissions, drivelines, differentials, and front wheel drive units with emphasis on understanding the principles of torque multiplication and speed reduction through the use of gearing, location and interpretation of specifications, and correct troubleshooting and repair procedures. Prereq.- AUTO125 or ASEP125 or AUTC125 and AUTO175. Additional course fees: \$10.00.
Prerequisite: AUTO125 or ASEP125 or AUTC125 and AUTO175.

AUTO 226 - Automatic Transmission Systems (4 credits)

Theory of operation, diagnosis, maintenance, and overhaul procedures of the automatic transmission with a major emphasis on hydraulic systems and electronic controls used on automatic transmissions. Prereq.- AUTO125 or ASEP125 or AUTC125 and AUTO175. Additional course fees: \$10.00.
Prerequisite: AUTO125 or ASEP125 or AUTC125 and AUTO175.

AUTO 230 - Hybrid Vehicles (3 credits)

This course covers hybrid vehicles. Vehicle feature, operating modes, and major hybrid components will be covered. Correct safety practices will be emphasized. Hybrid vehicle maintenance and general service procedures will be covered. In addition diagnosis and repair of hybrid vehicles will be covered. Restricted to AUTO students. Prereq.- AUTO105 or ASEP105 or AUTC105 and AUTO125 or ASEP125 or AUTC125. Additional course fees: \$10.00.
Prerequisite: AUTO105 or ASEP105 or AUTC105 and AUTO125 or ASEP125 or AUTC125.

AUTO 245 - Winter Practicum II (2 credits)

Work experience at a sponsoring dealership or approved automotive service facility; tasks consistent with the course work of the preceding semester. Prereq. - AUTO125 or ASEP125 or AUTC125, AUTO211 or ASEP211 or AUTC211, and AUTO221 or ASEP211 or AUTC 221. Offered spring semester only.
Prerequisite: AUTO125 or ASEP125 or AUTC125, AUTO211 or ASEP211 or AUTC211, and AUTO221 or ASEP221 or AUTC221.

BIOS - Biological Science

BIOS 104 - Field Ecology (4 credits)

Principles and techniques of ecology, class work stresses the theories behind field work, including structure of the physical and biotic components of the environment, conservation and preservation of wildlife and natural resources, biogeography, and classification, laboratory work centered around field experiences. Core: SCI.

BIOS 105 - Contemporary Biology (4 credits)

Designed for students not intending to major in science or the allied health fields; develops an awareness of the impact of biology on individuals and the environment and an understanding of the process of science, ecology, cells, genetics, selected human systems and evolution. Not more than one of BIOS103, BIOS105, BIOS107, or BIOS115 may count for credit toward the same degree. Course numbers ending with G are Writing Intensive (WI). Approved for the Honors Program. Also available through Online Learning. Core: SCI.

BIOS 105G - Contemporary Biology (4 credits)

Designed for student not intending to major in science or the allied health fields; develops an awareness of the impact of biology on individuals and the environment and an understanding of the process of science. Ecology, cells, genetics, selected human systems and evolution. Not more than one of BIOS103, BIOS105, BIOS107, or BIOS115 may count for credit towards the same degree. Writing intensive. Prereq. - ENGL101. Core: SCI, WI.
Prerequisite: ENGL101.

BIOS 107 - Biology I (4 credits)

This course is designed for science majors. Utilizing an evolutionary approach, the molecular basis of life will be studied, including such topics as the scientific method, chemistry, cell structure and function, cellular respiration, photosynthesis, mitosis, meiosis, genetics, and evolution. Not more than one of BIOS103, BIOS105, BIOS107, or BIOS115 may count for credit toward the same degree. Core: SCI.

BIOS 110 - In Your Genes (4 credits)

Designed for students with an interest in modern genetics and the Human Genome Project, the course will develop an awareness of the impact of genetics on individuals, society, and the environment. The course's goal is to empower students to make informed decisions about ethical dilemmas in genetics that society will face in the next generation. Not intended for Biological Science or Allied Health majors. Core: SCI. Also available through Online Learning.

BIOS 115 - Essentials of Biology (4 credits)

This course is designed to build skills necessary for successful completion of advanced Biology courses, especially those in the Allied Health fields. Basic topics such as the metric system, atomic structure, and informational literacy will be

covered, as well as more in depth biological subjects such as cell structure and function, and human genetics. This course will concentrate on the principles of biology related to the human body, but will not cover body systems, evolution or other topics of general interest. Not more than one of BIOS103, BIOS105, BIOS107, or BIOS115 may count for credit toward the same degree. Also available through Online Learning. Core: SCI.

BIOS 126 - Environmental Science (4 credits)

This course introduces students to the study of human impact on the environment and the fundamental principles of ecology. The effects of pollution and human disruption on the natural systems of the Earth will be studied, including water, air, and habitat destruction. Municipal solid waste issues, hazardous materials, alternative energy, and public policy (Federal, State, and Local levels) are also addressed. While there are some lab experiments carried out in the lab, laboratory work will center around field experience. This course is designed for students not intending to major in science. Core: SCI and D. Also available through Online Learning.

BIOS 130 - Basics of Human Anatomy and Physiology (4 credits)

This course is designed to introduce students to the basics of the structure and function of the human body, of the interrelation of the body systems and an understanding of homeostasis and its role in disease. This course is not intended for Allied Health majors or science majors. BIOS130 will count as SCI for Healthcare Office AAS students only. Only one of BIOS130 or BIOS160 or BIOS204 can be used for credit in the same program. Restricted to Social Work Degree, Healthcare Office Coordinator Degree, Health Care Billing and Coding Specialized Diploma, HealthCare Office Specialist Certificate, and Medical Assistant Special Diploma majors only. Also available through Online Learning.

BIOS 150 - Biology II (4 credits)

Using an evolutionary framework, this course is a survey of the major taxonomic divisions and hierarchical organization of living systems on the planet. This course emphasizes eukaryotic organisms as it illustrates the similarities and differences in living forms through descriptions of their anatomy, physiology, ecology, reproduction, and development. Prereq.- BIOS107. CORE: SCI
Prerequisite: BIOS107.

BIOS 160 - Human Biology (4 credits)

This course is designed to introduce students to the structure and function of the human body. The course begins with a review of biochemistry and cell structure. It then uses a systems approach to examine the parts and workings of the skeletal, muscular, nervous, digestive, endocrine, immune, cardiovascular, urinary and reproductive systems. Not more than one of BIOS130, BIOS160, or BIOS204 may count for credit towards the same degree. Prereq. - high school biology or BIOS105 or BIOS107 or BIOS115. Also available through Online Learning. Core: SCI.
Prerequisite: High school Biology or BIOS105 or BIOS107 or BIOS115.

BIOS 202 - Microbiology for Allied Health (4 credits)

This course will provide students with a foundation in the principles of morphology and physiology as they apply to microbes. The control of bacteria and other microorganisms will be discussed. This course will also look into the medical and economic importance of microorganisms and the role of pathogens. The laboratory portion of the course will focus on aseptic techniques, biochemical analysis of bacteria, the isolation, identification and enumeration of bacteria. This course is oriented toward students who are interested in the Allied Health field. This course is not intended for the biology major. BIOS202 and BIOS240 may not both be used for credit. Prereq.- BIOS107 or BIOS115 or BIOS160 or BIOS204 or VETC101. Core: SCI.
Prerequisite: BIOS107 or BIOS115 or BIOS160 or BIOS240 or VETC101.

BIOS 204 - Human Anatomy & Physiology I (4 credits)

This course is a thorough introduction to the structure and function of the human body. The course will include a survey of biochemistry, cell biology, histology, and the anatomy and physiology of the integumentary, skeletal, muscular and nervous systems of the body. Not more than one of BIOS130, BIOS160 or BIOS204 may count for credit toward the same degree. Prereq. - one year of high school biology or BIOS107 or BIOS115. Also available through Online Learning. Core: SCI.
Prerequisite: One year of high school biology or BIOS107 or BIOS115.

BIOS 206 - General Ecology (4 credits)

The study of interrelationships between organisms and their environment. Topics include physical factors, adaptation of species, energy flow, nutrient cycling, biogeography, population dynamics, community structure and function, ecosystems analysis, ecological management applications, and the effects of human impact. Most lab work is conducted in the field. Prereq. - BIOS107 and BIOS150. Core: SCI.

Prerequisite: BIOS107 and BIOS150.

BIOS 210 - Environmental Biology (4 credits)

Utilizing an ecosystem approach, this course provides a survey of the broad topics of ecology and the environmental sciences. This approach gives an integrative study of the interactions of living systems with the physical world. Particular emphasis will be placed on conservation at the local level (Pocono Mountain and Lehigh Valley) and how these issues relate to global concerns. Topics include aquatic as well as terrestrial ecosystems, pollution, and the distinction between conservation and preservation. Prereq.- BIOS107. Core: D.

Prerequisite: BIOS107.

BIOS 220 - Field Zoology (4 credits)

This course provides an overview of animal groups, emphasizing the vertebrate fauna of eastern Pennsylvania. The lecture portion of the course will cover concepts in animal morphological and behavioral adaptations, ecological relationships, evolutionary history, and conservation. Laboratory sessions will include a number of field trips to local sites of interest and will focus on species identification and animal survey methods. Prereq.- BIOS150.

Prerequisite: BIOS150.

BIOS 230 - Field Botany (4 credits)

This course provides an overview of plant groups, emphasizing the terrestrial flora of eastern Pennsylvania. The lecture portion of the course will cover concepts in plant morphology and adaptations, ecological relationships, evolutionary history, and conservation. Laboratory sessions will include a number of field trips to local sites of interest and will focus on species identification and animal survey methods. Prereq.- BIOS150.

Prerequisite: BIOS150.

BIOS 240 - Microbiology (4 credits)

This course will provide an introduction into the field of microbiology and will include discussions of prokaryotic, eukaryotic and acellular microbes. It will cover the characteristics, growth and metabolism of the microbes, as well as how microbes interact with other organisms and their environment. The lab component emphasizes aseptic techniques and methods of isolation, enumeration, staining, and biochemical characterization. It is intended to fulfill one of the biology elective requirements for biology majors during their sophomore semester. BIOS240 and BIOS202 may not both be used for credit towards the same degree. Prereq. - BIOS150 and CHEM120.

Prerequisite: BIOS150 and CHEM220.

BIOS 254 - Human Anatomy & Physiology II (4 credits)

This course is designed as a continuation of BIOS204 and will cover the following systems: circulatory, lymphatic, endocrine, respiratory, digestive, urinary, and reproductive systems. Additional topics will include water, electrolyte and acid/base balance and nutrition, metabolism and energy balance. Prereq. - BIOS204. Also available through Online Learning.

Prerequisite: BIOS204.

BIOS 260 - Genetics (4 credits)

This course provides an introduction to the fundamentals of genetics. Topics of investigation include principles of Mendelian genetics, chromosomal theory, DNA structure, gene structure and expression, and population genetics. Lab investigations will utilize traditional as well as novel methods of genetic analysis including the extraction and manipulation of DNA, gel electrophoresis, and polymerase chain reactions (PCR). Prereq.- BIOS150 and CHEM220.

Prerequisite: BIOS150 and CHEM220.

BIOS 281 - Research in Biology (1 credits)

An independent, experimental investigation of an area of biology selected by the students in consultation with and under the guidance of a biology faculty member; both library and laboratory research is required. Offered on demand with the approval of the science cluster. Prereq. - gpa of 2.5 or higher in at least 8 credits of biology and 4 credits of chemistry plus permission of the science cluster. Repeatable; may be taken 3 times with a limit of 9 credits total from any combination of BIOS 281/282/283.

BIOS 282 - Research in Biology (2 credits)

An independent, experimental investigation of an area of biology selected by the students in consultation with and under the guidance of a biology faculty member; both library and laboratory research is required. Offered on demand with the

approval of the science cluster. Prereq. - gpa of 2.5 or higher in at least 8 credits of biology and 4 credits of chemistry plus permission of the science cluster. Repeatable; may be taken 3 times with a limit of 9 credits total from any combination of BIOS 281/282/283.

BIOS 283 - Research in Biology (3 credits)

An independent, experimental investigation of an area of biology selected by the students in consultation with and under the guidance of a biology faculty member; both library and laboratory research is required. Offered on demand with the approval of the science cluster. Prereq. - gpa of 2.5 or higher in at least 8 credits of biology and 4 credits of chemistry plus permission of the science cluster. Repeatable; may be taken 3 times with a limit of 9 credits total from any combination of BIOS 281/282/283.

BIOS 291 - Special Studies in Biological Science (1 credit)

See Statement on Special Studies (p. 19). Offered on demand.

BIOS 292 - Special Studies in Biological Science (2 credits)

See Statement on Special Studies (p. 19). Offered on demand.

BIOS 293 - Special Studies in Biological Science (3 credits)

See Statement on Special Studies (p. 19). Offered on demand.

BIOS 294 - Special Studies in Biological Science (4 credits)

See Statement on Special Studies (p. 19). Offered on demand.

BIOT - Biotechnology

BIOT 101 - Introduction to Good Manufacturing Practices (GMP) (3 credits)

Course is designed to give an overview of biomanufacturing processes and the fundamentals of current Good Manufacturing Practice (GMP) in the field of sterile products and aseptic processing. A significant portion of the course will be geared towards understanding the latest US Food and Drug Administration's guidance documents and their applications. The course will also introduce the student to the European version of current GMP. Also available through Online Learning.

BIOT 120 - Cleanroom Microbiology (2 credits)

Course presents the basic information on cleanroom operations and management. Content will focus on basics of cleanroom design, daily operation and cleaning, understanding how a cleanroom can become contaminated, microbial monitoring, determining the source of contamination, identification of the contaminant, disinfection processes and prevention of recontamination. All techniques will be in accordance with procedures outlined by the International Standards Organization (ISO) and the International Association for Pharmaceutical Science and Technology (ISPST). Pre- or coreq.- BIOT184 or permission of the instructor. Corequisite: BIOT184 or permission of the instructor.

BIOT 175 - Introduction to Biomanufacturing (4 credits)

This course presents fundamentals of Biomanufacturing or a type of manufacturing that utilizes biological systems to produce commercially important products. Biomanufactured products range from biopharmaceuticals to industrial enzymes, human tissues and replacement organs, biofuels, "green" chemicals, and the green products replacing those derived from petroleum. Students will be introduced to the different bioprocessing methods including a survey of proteins and vaccines currently produced by biopharmaceutical companies. Content of the course emphasizes complexity of the processing approaches, methods for the effective environmental monitoring and control presented in the context of regulatory compliance. Regulatory environment of the industry Good Manufacturing Practices (GMP's) and the current thinking of the United States Food and Drug Administration (FDA) will be discussed.

BIOT 184 - Introduction to Biotechnology (4 credits)

This course introduces the fundamental scientific concepts of biotechnology. The course covers historical development in the field and current applications in the areas of agriculture, medicine, forensics, environment, renewable energy, and chemical industry. The scientific basis of recombinant DNA technology, cell culture, stem cells, cloning, bio-terrorism, vaccines, bioethics, and other current developments are explained. The laboratory component of the course reinforces

the scientific inquiry method. Pre- or coreq.- BIOS107.
Corequisite: BIOS107.

BIOT 185 - Biotechnology Techniques (4 credits)

Concepts and techniques necessary to work effectively in a biotechnology research or manufacturing laboratory. The importance of quality regulations and standards and the role of the technician in producing quality results will be emphasized. Students will gain theoretical and practical knowledge of laboratory instruments as well as basic laboratory techniques. Topics will include maintenance, record keeping, cleaning and calibration of laboratory equipment, preparation of common solutions and reagents, and writing and following procedures. Computer software will be used to generate spreadsheets and data analysis. Applications of bio-separations, cell culture, and fermentation will be introduced. Students will be trained in laboratory safety policies and good laboratory practices (GLP). Prereq. - BIOS107 and CHEM120.
Prerequisite: BIOS107 and CHEM120.

BIOT 188 - Biotechnology Internship (1 credit)

Work experience in the biotechnology/pharmaceutical industry or other related industries. Prereq. - BIOT185.
Prerequisite: BIOT185.

BIOT 202 - Biotechnology Seminar (1 credits)

This course is designed to do a survey (in seminar format) of current advances in biotechnology, bioinformatics, and the societal implications of biotechnological developments. Students will develop the presentation and discussion skills necessary for a biotechnology career by giving oral presentations on these topics and participating in instructor-facilitated group discussions. The importance of using current journals, scientific meetings, and the internet to stay current in biotechnological topics will be emphasized. Prereq. - BIOS240 and CMTH102.
Prerequisite: BIOS240 and CMTH102.

BIOT 220 - General Biotechnology (4 credits)

This course is designed to provide a survey of biotechnological applications of molecular and cell biology. Topics include transcription, translation, cell cycle regulation, protein expression, prokaryotic and eukaryotic expression systems, DNA sequencing and amplification. The laboratory will give the students exposure to recombinant DNA technology such as cloning techniques, restriction digests, DNA isolation and purification, electrophoresis, DNA amplification and analysis protein expression and purification, and immunoassays. This course will concentrate on the molecular principles of biotechnology related to broad range of applications. Its objective is to build skills necessary for successful employment in biopharmaceutical industry or transfer into four year academic institution. Prereq. - BIOT175 and BIOS240.
Prerequisite: BIOT175 and BIOS240.

BUSA - Business

BUSA 101 - Introduction to Business (3 credits)

Fundamental operations of business including management, human resource management, economics, marketing, operations and manufacturing, accounting, finance, and international relations. Also available through Online Learning.

BUSA 114 - Manufacturing Cost Control (3 credits)

Budget planning administration, standard costs, control of labor time, scrap, waste, inventory control, and maintenance costs. Offered fall semester only.

BUSA 115 - Introduction to International Business (3 credits)

This is an introduction course to the environment, concepts and differences involved in international business. Students will be able to identify and explain terms in the global environment, discuss international institutions and legislation, complete projects in the internationalization of functional business operations, and resolve case problems of emerging multinational corporation business practices. Also available through Online Learning. CORE: D.

BUSA 131 - Principles of Marketing (3 credits)

Principles of marketing and analysis of the four variables of the marketing mix: product, price, promotion, and distribution; marketing concepts as related to products and services and businesses and non-profit organizations. Also available through Online Learning.

BUSA 137 - Principles of Selling (3 credits)

Basic principles of professional selling; characteristics and opportunities of a sales career; knowledge and skills associated with the selling process; hands-on course emphasizing role-playing, and in-class presentations. Offered spring semester only.

BUSA 141 - Entrepreneurship (3 credits)

This course is designed to introduce the processes for creating a potentially successful business plan. Students will be able to recognize and evaluate the skills and commitment necessary to successfully operate an entrepreneurial venture. Students will apply a design and development process to an idea, produce a business plan for implementation, and identify a plan for acquiring resources needed to implement a business plan. Offered fall semester only.

BUSA 152 - Business Law I (3 credits)

Basic introduction to legal aspects of business including relevant terminology; essential elements of the American legal system, structure and operation of courts, torts and crimes in a business environment, common law of contracts, sales under the Uniform Commercial Code, and ethical considerations in business operations. Also available through Online Learning.

BUSA 201 - Business Statistics I (4 credits)

This course focuses on the application of data analytic quantitative tools in business decisions. Major topics of study are statistical description, central tendency, dispersion, distributional shapes, sampling, confidence levels, probability, comparison tests, association tests, regression and time series. The objectives of the course are to develop the skills necessary to apply these concepts in conjunction with computer usage and make appropriate decisions regarding actual business problems. Prereq. - Appropriate competence as outlined in the Mathematics Placement Policy or MATH022. Also available through Online Learning.

Prerequisite: Appropriate competence as outlined in the Mathematics Placement Poly or MATH022.

BUSA 202 - Business Law II (3 credits)

Basic legal concepts and procedures underlying the formation, operation, and dissolution of various forms of business organization; commercial paper, creditor/debtor rights, bailments, employment law, and relevant social legislation.

Prereq. - BUSA152. Also available through Online Learning.
Prerequisite: BUSA152.

BUSA 205 - Management Fundamentals (3 credits)

Principles and functions of management within organizations; planning and decision-making, organizing and staffing, leading and controlling with emphasis on the managers role in goal achievement; ethical, political, legal, and international aspects of the environments in which business and other organizations operate; a management case study or simulation may be integrated into the course. Also available through Online Learning.

BUSA 211 - Personal Finance (3 credits)

This course provides knowledge that helps business and non-business students effectively manage their personal financial affairs. The course will provide an overview and coverage of the fundamentals of personal financial planning. Topics include personal financial statements, budgeting, tax planning, investing and savings, insurance, real estate, and retirement planning. Contemporary business problems and the changing economic and social environment and their effect on business and personal financial planning decisions are discussed. Also available through Online Learning.

BUSA 221G - Business Communications (3 credits)

Comprehensive overview of the communications processes with special emphasis on practical workplace applications; students assess and develop their listening, speaking, writing, and research skills as they prepare business letters, memos, reports, presentations, proposals, and employment packages; students plan and conduct business meetings and practice effective group problem-solving skills. Only one of the following - BUSA221 or OFAD221 may be applied to a degree. Writing intensive. Prereq. - CMTH102 and ENGL151. Also available through Online Learning. Core: WI.
Prerequisite: ENGL151 and CMTH102.

BUSA 226 - Human Resources Management (3 credits)

The management of human resources in the legal and social environment of business; personnel planning, recruiting, selection, training, job evaluation, employee rights, compensation and benefits, and other aspects of personnel

administration; labor-management relations and industrial safety for employees. Also available through Online Learning.

BUSA 235 - Principles of Advertising & Public Relations (3 credits)

This course is an introduction to the principles of advertising and public relations (familiarity with Microsoft Word, PowerPoint and Internet recommended). This includes the analysis of advertising's role within marketing; how advertising works; the consumer audience; advertising research and planning; advertising media, ad design and copywriting, promotional tools; ad campaign evaluation and the role of public relations. Prereq.- BUSA131. Offered fall semester only.

Prerequisite: BUSA131.

BUSA 252 - Quality Management (3 credits)

Principles and methods used in modern quality management; TQM tools and processes, statistical process control, employee problem-solving; quality as a strategic imperative. Offered fall semester only.

BUSA 260 - International Business Practice Firm (3 credits)

Using an international business model, the students work as team members in a simulated business firm in a state-of-the-art facility; students have the opportunity to perform various business functions (i.e. accounting, human resources, marketing/sales, purchasing/inventory control) as the firm transacts business with students in other simulated companies both in the U.S. and in other countries. Prereq. - ACCT101, BUSA131, BUSA205, BUSA221G, and CISC104.

Prerequisite: ACCT101, BUSA131, BUSA205, BUSA221G, and CISC104.

BUSA 270 - Marketing Simulation (3 credits)

Students work as a team in a simulated advertising agency setting to develop a creative Integrated Marketing Communication Program. In creating the program, students apply all aspects of marketing from previous coursework (i.e. advertising/PR campaigns, brochure/sell sheet development, website design, sales promotion, personal selling, etc.). Students are involved in creative and critical thinking, decision making, environmental scanning and team activities.

Prereq.- BUSA131, BUSA235, ARTA130, and a minimum of 40 credits completed. Offered spring semester only.

Prerequisite: BUSA131, BUSA235, ARTA130, and a minimum of 40 credits completed.

BUSA 272 - Finance/Applied Investment Management (3 credits)

This course is an introduction to the nature of the finance function: risk and return concepts, working capital, dividend policies, mergers, security markets, acquisition and management of corporate capital, analysis of operations, forecasting capital requirements, raising capital and planning profits. Students will be able to manage a portfolio of debt and equity securities with the goal of providing an above average, risk-adjusted return. Prereq. - ACCT151, BUSA205, ECON201, and business faculty recommendation.

Prerequisite: ACCT151, BUSA205, ECON201 and business faculty recommendation.

CADM - Computer Aided Design

CADM 100 - Engineering Graphic Essentials (3 credits)

This course provides an introduction to drafting procedure, practice, and principles. Basic skills and techniques of drafting including freehand orthographic and pictorial sketching will be covered. Emphasis will be placed on the essentials of lines, lettering, multiview projections, section views, dimensioning, tolerancing and notation in the execution of detail and assembly drawings. An introduction to interpreting mechanical drawings and CAD software usage will be explored.

CADM 115 - Computer Aided Design I (3 credits)

This is the first of three courses that explores the Autodesk AutoCAD software. This course introduces the basic 2D elements of computer-aided drafting using AutoCAD. Basic skills including screen controls, file management, creating entities, editing techniques, creating two-dimensional drawings, and printing/plotting methods will be covered. Formerly ENGG115. Pre- or coreq. - CADM100.

Corequisite: CADM100.

CADM 205 - Computer Aided Design II (3 credits)

This is the second of three courses that explores the Autodesk AutoCAD software. This course introduces the advanced elements of 2D computer-aided drawing and editing as well as the basic 3D elements of AutoCAD. Concepts of geometric dimensioning and tolerancing, symbol libraries, attributes, script files, viewports and utilizing externally referenced files

will be covered. 3-D wireframe and solid modeling commands are covered as well as an introduction to 3D modeling techniques. Completion of this course will prepare the student to take the Autodesk AutoCAD User certification test. Formerly ENGG261. Prereq. - CADM115.
Prerequisite: CADM115.

CADM 210 - Computer Aided Design III (3 credits)

This is the third of three courses that explores the Autodesk AutoCAD software. This course covers advanced techniques in 3-D modeling, surface and solid modeling, and visualization. Concepts of menu and toolbar customization, AutoLISP programming language and basic parametric modeling techniques will be covered. Students are exposed to numerous discipline-specific types of drawings and modeling techniques. Completion of this course will prepare the student to take the Autodesk AutoCAD Professional certification test. Formerly ENGG262. Prereq. - CADM205.
Prerequisite: CADM205.

CADM 220 - Parametric Modeling - SOLIDWORKS I (3 credits)

This course introduces the concepts and techniques of parametric feature-based 3D CAD modeling with the Dassault SOLIDWORKS software. The course will cover basic and intermediate commands and concepts to create, edit, manipulate and plot part and assembly models and drawings. Using digital prototype models of industrial, mechanical and consumer products, the student will perform rendering and analysis of design, animation, and simulation of parts and assemblies as well as interfacing with Digital Manufacturing and Computer-Integrated Manufacturing. Completion of this course will prepare the student to take the SOLIDWORKS Certified User (SWCU) certification test. Prereq. - CADM205.
Prerequisite: CADM205.

CADM 230 - Parametric Modeling- Inventor I (3 credits)

This course introduces the concepts and techniques of parametric feature-based 3D CAD modeling with the Autodesk Inventor software. The course will cover basic and intermediate commands and concepts to create, edit, manipulate and plot part and assembly models and drawings. Using digital prototype models of industrial, mechanical, and consumer products, the students will perform rendering and analysis of design, animation and dynamic simulation of parts and assemblies, as well as interfacing with Digital Manufacturing and Computer-Integrated Manufacturing. Completion of this course will prepare the student to take the Autodesk Inventor User certification test. Formerly ENGG205. Pre- or coreq. - CADM205.
Corequisite: CADM205.

CADM 240 - Digital Manufacturing II (3 credits)

This course is an introduction to digital manufacturing which includes additive, subtractive and formative manufacturing processes as well as rapid prototyping, digital scanning and reverse engineering technology. The digital manufacturing principle will be explained as well as the theory behind each type of digital manufacturing process. The various software, hardware, and equipment utilized in digital manufacturing will be explained as well as hands-on experience with various 3D printers, 3D scanners, 3D digitizers, CNC milling machines, CNC routers and laser cutters/engravers. Prereq. - CADM230. Coreq. - CADM220.
Prerequisite: CADM230. Corequisite: CADM220.

CADM 250 - Design Project (3 credits)

This course introduces the concepts, challenges and potential solutions to real design projects. Students work individually or in teams to design a product that will utilize manufactured parts or components. Based on design parameters, students will research, develop, design, analyze and document their project while improving their technical writing, reporting, record keeping, drawing and presentation skills. Formerly ENGG 220. Prereq. - CADM220, CADM230, and ENGL151.
Prerequisite: CADM220, CADM230, and ENGL151.

CADM 255 - Statics and Strength of Materials (4 credits)

This course is an algebra-based introduction for the analytical study of the effects of forces acting on a body at rest. Includes the study of centroids, area moment of inertia, trusses, and frames. Analysis of axial, shear, and torsional stresses and strains in machine and structural elements such as beams, columns, and shafts under static, impact, and dynamic loads are covered. Concepts of thinned-walled cylinders, joints, couplings, shear and moment diagrams, and the design of beams are discussed. Prereq. - PHYS101.
Prerequisite: PHYS101.

CADM 260 - Computer Aided Design Practicum (3 credits)

Actual work experience in any of a variety of engineering disciplines providing exposure to the methodology of drafting and design technology to its product or service. A report will be presented on key experiences related to new product or process technology, drafting and design technology, or productivity improvement. Emphasis on drafting and design issues, documentation, and communication skills. Each student is required to secure a sponsor for the practicum of 225 hours of field experience. Formerly ENGG268. Prereq. – CADM210, CADM220 or CADM230, ENGL101, and approval of instructor.

Prerequisite: CADM210, CADM220 or CADM230, ENGL101, and approval of instructor.

CFAN - Computer Forensics Analyst

CFAN 200 - HERO Field Experience (4 credits)

This is a field experience that will enable the student to gain practical experience assisting Homeland Security Investigations special agents with criminal cases and prosecutions with duties such as imaging and processing digital media; forensic analysis; assisting investigators to identify high-value targets and locate child victims; and preparing detailed reports. Students are required to complete 200 internship hours, and students must secure their own internship position. Restricted to Computer Forensic Analyst: HERO students.

CHEM - Chemistry

CHEM 011 - Preparatory Chemistry (2 credits)

This course is designed to meet the needs of Allied Health, science, and engineering students to prepare them for CHEM135 (Chemistry of Life) or CHEM120 (General Chemistry I), required courses in their programs of study. The development of skills for solving quantitative (numerical) problems is emphasized. Topics include measurement, basic chemical concepts and theories, and nomenclature of simple ionic and covalent compounds.

CHEM 105 - Chemistry in Contemporary Society (4 credits)

This lecture and laboratory course is designed for non-science majors. Students will learn about the many discoveries in chemistry and how they have resulted in significant changes in our world and in the quality of our lives. Students will become better informed about our chemical world in areas such as nutrition, consumer products, medicine, agriculture, industrial products, air and water pollution, and energy. Approved for the Honors Program. Core: SCI.

CHEM 120 - General Chemistry I (4 credits)

Chemistry I is a qualitative and quantitative study, both in the classroom and the laboratory, of matter and energy as they relate to the chemical properties of solids, liquids, gases, and solutions. Topics include stoichiometry, atomic/ molecular structure, bonding, states of matter, changes of state, and solutions. A quantitative study of each area is stressed; a strong background in chemistry and mathematics is required. This course is intended for science and engineering majors. Prereq. - Appropriate competence as outlined in the Mathematics Placement policy or MATH022; Chemistry (1 year of high school chemistry or CHEM011); and Reading and writing competence as determined for ENGL101. Core: SCI. Prerequisite: Appropriate competence as outlined in the Mathematics Placement Policy or MATH022; Chemistry (1 year of high school chemistry or CHEM011); and Reading and writing competence as determined for ENGL101.

CHEM 121 - Lab Safety Procedure (2 credits)

Development of safety attitudes and safety training, toxicological concepts, hazards, risk analysis, chemical storage and disposal, safety regulations, and safety literature, examination of selected case studies and accidents.

CHEM 135 - Chemistry of Life (4 credits)

Principles of general, organic, and biochemistry with emphasis on applications in the health sciences. Also available through Online Learning. Core: SCI.

CHEM 201G - Organic Chemistry I (4 credits)

Functional groups, structures, stereo-chemistry, rates of reactions, reaction mechanisms, preparations and reactions of alkanes, alkenes, dienes, optical isomers, and aromatic compounds; modern organic lab techniques and applications to chemistry, biology, and chemical engineering. Offered fall only. Writing intensive. Pre- or coreq.- CHEM220 and prereq. - ENGL101. Core: WI.

Prerequisite: ENGL101. Corequisite: CHEM220.

CHEM 220 - General Chemistry II (4 credits)

This lecture and laboratory course is a continuation of CHEM 120, General Chemistry I. Students will learn molecular shapes, chemical reactions, changes of state and properties of liquids, solutions, reaction kinetics, chemical equilibrium, thermodynamics, and electrochemistry. Equilibrium topics include gaseous reactions, the ionization of weak acids and bases, hydrolysis of salts, and buffers. Prereq.- CHEM120.

Prerequisite: CHEM120.

CHEM 225 - Quantitative Analysis (4 credits)

Evaluation of analytical data, aqueous and nonaqueous solution chemistry, titration curves, electrochemistry; theory and applications of: gravimetric, titrimetric, potentiometric, complexation, electroanalytical, spectrophotometric, and chromatographic methods of analysis.

Prerequisite: CHEM220.

CHEM 228 - Chemical Methods and Instrumentation (3 credits)

Instrumentation including GC, HPLC, GC/MS, IR, NMR, ICP; introduction to EPA, TQM, and ISO-9000; regulatory compliances; team-oriented problem solving/process improvement methods.

Prereq. - CHEM220.

Prerequisite: CHEM220.

CHEM 251 - Organic Chemistry II (4 credits)

Continuation of CHEM 201, including preparation and reactions of alcohols, thiols, disulfides, ethers, aldehydes, ketones, carboxylic acids, amides, esters, amines, amino acids, and proteins; modern organic lab techniques, and an optional student project in lab. Prereq. - CHEM201. Offered spring only.

Prerequisite: CHEM201.

CHEM 260 - Biochemistry (3 credits)

In this course, emphasis will be placed on the chemistry of biomolecules and their utilization in intermediary metabolism. The principles of bioenergetics and the integration of metabolic control are developed. This course is lecture-only and is intended for students majoring in chemistry, biology, or who intend on pursuing a career in medicine, dentistry, pharmacy or other health-related field. Pre- or co-req. - CHEM251.

Corequisite: CHEM251.

CHEM 261 - Research in Chemistry (1 credits)

This course provides students with an opportunity to do supervised undergraduate research of a topic of interest. Students will utilize the principles, laws, and theories of general chemistry to successfully analyze samples provided using selected instrumental methods. The student will need to be competent to follow a standard procedure, to operate the instrument in a safe manner, to collect suitable data, to evaluate the reliability of the data collected, and to report the results in an appropriate form as would be required of a competent laboratory technician. Repeatable; may be taken 2 times. Prereq. - CHEM220 and permission of the instructor.

Prerequisite: CHEM220 and permission of the instructor.

CHEM 291 - Special Studies in Chemistry (1 credit)

See statement on Special Studies. Offered on demand.

CHEM 292 - Special Studies in Chemistry (2 credits)

See statement on Special Studies. Offered on demand.

CHEM 293 - Special Studies in Chemistry (3 credits)

See statement on Special Studies. Offered on demand.

CHEM 294 - Special Studies in Chemistry (4 credits)

See statement on Special Studies. Offered on demand.

CISC - Computer & Information Science

CISC 100 - Computer Technology I (4 credits)

Introductory course for Computer Information Technology majors with the goal of establishing entry-level skills for three CIT options: Software, Networking, and Web. HTML, programming logic and design, and basic networking concepts will be covered as well as the exploration of CIT careers, and Excel and Word core level skills. Also available through Online Learning.

CISC 101 - Introduction to Computers (3 credits)

This course introduces computer concepts including hardware and software, an overview of application software, networking and the Internet, and current issues with respect to computers and society. Hands-on instruction in the productivity tools such as word-processing, spreadsheets and presentation software. Also available through Online Learning.

CISC 104 - Microcomputer Applications (4 credits)

Designed to give students experience with microcomputers and productivity software. Topics include spreadsheets, database management, word processing systems and presentation packages. Prereq. - CISC100 or CISC101. Also available through Online Learning.

Prerequisite: CISC100 or CISC101.

CISC 105 - Desktop Operating Systems (4 credits)

This course will introduce Desktop Operating System functions and utilities using operating systems such as Windows, Mac, Linux/Unix. Students will compare how the different operating systems handle user interface, file management, memory management, processor management, and network management.

CISC 115 - Computer Science I (4 credits)

Introduction to computing through the development of algorithms and programs which are implemented in a high level function/object oriented language; simple data types, control structures, documentation, basic file manipulation, problem solving techniques, modular design, structured data types, and object oriented implementations. Prereq. - Appropriate competence as outlined in the Mathematics Placement policy or MATH026 or MATH028 either with a C or better.

Prerequisite: Appropriate competence as outlined in the Mathematics Placement policy or MATH026 or MATH028 either with a C or better.

CISC 125 - Computer Science II (4 credits)

Continuation of CISC115 including stacks, backtracking, simulation, recursion, pointers, linear structures, searching, sorting, merging, elementary algorithm analysis, abstract base classes. Prereq. - CISC115.

Prerequisite: CISC115.

CISC 128 - Client-side Scripting (4 credits)

This course includes basic web site design and front-end web development principles using a variety of tools with a strong emphasis on the use of core scripting languages and latest frameworks currently utilized in the industry. Particular focus is placed on the understanding of the core toolset for client-side scripting with additional focus on most popular plug-in libraries and introductory focus on trending concepts and frameworks. Prereq.- CISC100 or ARTA240.

Prerequisite: CISC100 or ARTA240.

CISC 131 - Data Communications & LANs (CCENT1) (4 credits)

This course provides the foundation for work in data communications and local area networks. It introduces the architecture, structure, functions, components, and models (OSI TCP/IP) of the internet and computer networks. The principles of IP addressing, Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple LANs, perform basic configurations for major networking devices, and implement IP addressing schemes. This is the first semester of the Cisco Networking Academy Program. [CCENT 1 = Cisco Certified Entry Networking Technician 1]. Formerly CISC231.

CISC 136 - PC Support and Troubleshooting (4 credits)

Students will gain a complete, step-by-step approach for learning the fundamentals of supporting and troubleshooting desktop hardware and software. This course maps fully to CompTIA's latest A+ Exam objectives. Formerly ELEC130.

CISC 137 - Introduction to Networking Hardware (2 credits)

Companion course to CISC136 to give a jump-start to students who already grasp the general concepts of PC repair and troubleshooting, but would like to focus attention on starting toward NET+ certification studies and an introduction to networking hardware components and the OSI model; networking equipment includes NICs, hubs, switches, routers and cabling, along with network topologies and the OSI model. Formerly ELEC131.

CISC 150 - Object-oriented Programming (4 credits)

This course provides an introduction to object-oriented programming using Java. Basic programming structures such as input, output, decisions and loops, as well as concepts of object-oriented design are covered. Inheritance, polymorphism, data types such as arrays, strings, enumerated types, and graphical user interfaces are also included. Prereq.- CISC115 or CISC128. Offered spring semester only.
Prerequisite: CISC115 or CISC128.

CISC 180 - Introduction to Network Security (4 credits)

This is an introductory course in computer and network security intended for networking or computer professionals and students who want to understand general concepts of network and information security. Topics will include the identification of vulnerabilities and mitigation of security risks, learning the basic principles of cryptography, keys and certificates, VPNs and wireless communication, configure group privileges, access control and authentication, implement security baselines, systems updates, intrusion detection, and create and build organizational and operational security programs that include documentation, risk assessment and user education. Prereq. - CISC131.
Prerequisite: CISC131.

CISC 201 - Advanced Web Technologies (4 credits)

In this capstone course in the Web Development program, students will use cutting-edge technologies focused on interactivity, design and web standards. Students will apply knowledge of database design, programming, client-side scripting, and server-side programming to create functional, dynamic and aesthetically pleasing websites. Prereq. - ARTA130, CISC158 and CISC270. Offered spring semester only.
Prerequisite: ARTA130, CISC158, and CISC270.

CISC 205 - Introduction to Server Operating Systems (4 credits)

Students will explore installation and administration of Windows server and client, and LINUX server and client, and relationships to network security. Securing the NOS and client will also be discussed and the importance of system hardening, backups, user privileges, and disaster recovery. Prereq. - CISC131.
Prerequisite: CISC131.

CISC 208 - Mobile Development (4 credits)

This course is a comprehensive overview of developing native mobile apps for a variety of platforms. The focus is on group work from students majoring in a variety of disciplines with the goal of creating real-world products that exemplify the strengths of Communication Design, Web Development and Computer Science students. Prereq.- CISC257, and CISC270 or CISC125. Offered spring semester only.
Prerequisite: CISC257, and CISC270 or CISC125.

CISC 225 - Computer Organization (4 credits)

This course focuses on computer organization and programming at machine level using assembly language and machine code (low level coding). It will expand knowledge and experience causing the student to become more effective when programming a computer, and understanding how computers and other languages work. It covers the following topics: processor components and organization, addressing techniques, low level data representation, instruction and types and representation, information transfer, control flow, machine and assembly language programming. Prereq. - CISC125.
Offered spring semester only.
Prerequisite: CISC125.

CISC 230 - Data Structures & Algorithm Analysis (4 credits)

Performance analysis and measurement of programs, formal induction proofs, asymptotic notation, algorithm analysis, hashing, binary trees, binary search trees, balanced search trees, graphs, biconnected components, spanning trees, shortest path algorithms. Prereq. - CISC125. Offered fall semester only.
Prerequisite: CISC125.

CISC 251 - Network Administration and Maintenance (3 credits)

The installation, maintenance and troubleshooting of the hardware for local area networks presented with an emphasis on the hands-on, practical experiences needed to service enterprise computing systems used in business and industry. Includes installation and maintenance of hardware, networks, wireless systems and user support. Formerly ELEC251.

Prereq. - CISC136

Prerequisite: CISC136.

CISC 254 - Server I (3 credits)

This course is designed to introduce students to installing and configuring server operating systems. This is an intensive hands-on course where students will learn the skills and knowledge necessary to implement a core Windows Server Infrastructure into an existing enterprise environment. Formerly ELEC254. Prereq. - CISC136.

Prerequisite: CISC136.

CISC 255 - Server II (3 credits)

In this course, students will continue their study of Windows Server administration started in CISC254. More advanced topics include network and file services, load balancing and failover, and disaster recovery. This is an intensive hands-on course where students will learn advanced server administration. Formerly ELEC255. Prereq. - CISC254.

Prerequisite: CISC254.

CISC 257 - Server-side Scripting (4 credits)

Server-side scripting covers topics related to the creation of dynamic web pages using interactive scripting languages for web development. Formerly CISC158. Prereq. - CISC128. Pre- or coreq. - CISC270.

Prerequisite: CISC128. Corequisite: CISC270.

CISC 265 - Windows Server Administration (4 credits)

The primary focus of this course is server administration. Students will learn to configure and deploy common servers such as DNS, DHCP, VPNs, File Servers and Domain Controllers, primarily using Windows Server. In addition, secure account and server policies will be covered. This is an intensive hands-on course providing students with the skills needed to properly maintain servers in a networked environment. Prereq. - CISC254.

Prerequisite: CISC254.

CISC 267 - Routing & Switching Essentials CCENT2 (4 credits)

This is an advanced course intended for networking professionals and students who already grasp the general concepts of data communications and networking, but would like a more detailed understanding of networking switching and routing. This course describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with RIPv1, RIPv2, single-area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks. [CCENT2 CISCO Certified Entry Networking Technician 2] Prereq. - CISC131. Offered spring semester only.

Prerequisite: CISC131.

CISC 270 - Database Systems (4 credits)

This course is an introduction to the concepts of database systems. Topics include the definition, creation, and maintenance of database systems, logical models of data organization such as hierarchical, network, and relational, database integrity and security, effects of redundancy, specification and design of query functions, data entry and retrieval, and query languages. Prereq. - CISC100 or CISC115.

Prerequisite: CISC100 or CISC115.

CISC 271 - Intermediate Routing & Switching , Interconnectivity, and Troubleshooting CCNA R&S (4 credits)

This is an advanced course intended for networking professionals and students who already grasp the general concepts of data communications and networking. This course describes the architecture, components, and operations of routers, and switches in a larger and more complex network. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, and VP in both IPv4 and IPv6 networks. Students will develop the knowledge and skills needed to implement DHCP and DNS operations as well WAN technologies. IPsec and virtual private network (VPN) operations in a complex network. There is a strong emphasis on network design, configuration and troubleshooting. [CCNA R&S CISCO Certified Network Associate Routing & Switching] Prereq.- CISC267. Offered fall

semester only.
Prerequisite: CISC267.

CISC 272 - Building Scalable Internetworks (CCNP-Route) (3 credits)

This course introduces students to scaling IP addresses using VLSM, NAT and PAT. It focuses on advanced concepts and implementation of RIPv2, ISIS, multi-area OSPF, SLA management, IPV6 and BGP. Additional topics include router filtering, path control, Policy Based Routing (PBR) and route distribution. [CCNP-Route Cisco Certified Network Professional-Route] Prereq.- CISC271. Offered spring semester only.
Prerequisite: CISC271.

CISC 277 - Computer Information Technology Practicum (3 credits)

Work-based experience in an approved organization with focused exposure in networking, software or web development activities depending on degree specialty; written field experience report. Prereq. - 40 credits successfully completed for all students; CISC131, ELEC130, CISC254 and CISC265 for students in the Networking Option; CISC104, CISC140, and CISC145 for students in the Software Option; CISC128, CISC150, and CISC257 for students in the Web Option.
Prerequisite: 40 credits successfully completed for all students; CISC131, ELEC130, CISC254, and CISC265 for students in the Networking Option; CISC104, CISC140, and CISC145 for students in the Software Option; CISC128, CISC150, and CISC257 for students in the Web Option .

CISC 278 - Web Server Administration (4 credits)

A comprehensive overview of the tools and techniques needed for installation, configuration and administration of different kinds of Web Server including Microsoft Windows 2000 Server, Red Hat Linux, Internet Information Services (IIS), Apache Web Server, Microsoft SQL Server, etc. Prereq.- CISC100 or CISC105. Offered fall semester only.
Prerequisite: CISC100 or CISC105.

CISC 280 - Law & Ethics of Computer Security (3 credits)

Computer security is a highly technical arena, and one that is highly charged with ethical issues. This course will explore the ethical considerations of the computer security with emphasis on both the perpetrator and of the high standards expected of the computer security practitioner. Among other topics, it will examine the topics of Professional Codes of Ethics, whistle blowing, and "ethical hacking." Prereq. - CISC100 or CISC115.
Prerequisite: CISC100 or CISC115.

CISC 282 - Measure/Counter-Measure (4 credits)

Emphasize the configuration of network servers, routers, firewalls, intrusion detection devices and other technology to create functional systems with a high degree of security and hence to discover the effect each device can have on overall system security. Team projects will lead to these systems which will be tested within the class via team to team or be class to class (intra-campus) security tests to reinforce the subject matter. Prereq. - CISC180 and CISC31. Offered spring semester only.
Prerequisite: CISC180 and CISC131.

CISC 284 - Ethical Hacking (3 credits)

This course emphasizes ethical hacking concepts and practices. Students will study common hacking software, intelligence gathering and techniques for exploiting system vulnerabilities. Hands-on labs will be employed to apply theory to practical scenarios. Students will also study exam objectives for the Certified Ethical Hacker (CEH) certification exam. Prereq. - CISC205.
Prerequisite: CISC205.

CISC 286 - Linux Administration (3 credits)

This course is an overview of the Linux operating system. Students will gain hands-on experience with installing, configuring and maintaining Linux. This course aligns with the Linux Professional Institute (LPI) Linux Essentials Professional Development Certificate. Formerly CISC186. Prereq. - CISC105.
Prerequisite: CISC105.

CISC 293 - Special Studies in Computer Information Science (3 credits)

See Statement on Special Studies (p. 19). Offered on demand.

294 - Special Studies in Computer Information Science (4 credits)

See Statement on Special Studies (p. 19). Offered on demand.

CJST - Criminal Justice

CJST 101 - Introduction to Criminal Justice (3 credits)

This course is an introduction to the field of criminal justice through the examination of historical data, statistical information, theories of crime causation, social control of behavior, development of laws, and evaluation of criminal justice system policies, procedures, and trends. Students learn the terminology of the field, and gain an awareness of the methods of inquiry utilized in the field. Restricted to Criminal Justice majors and Computer Forensics Analyst: HERO majors. Pre- or coreq. - ENGL101. Also available through Online Learning. Corequisite: ENGL101.

CJST 111 - American Legal System (3 credits)

Analysis of the interrelationships between prosecutors, defense attorneys, the courts, police, grand and petit juries, and correctional systems; how the U.S. system of justice is intended to function and how it operates; social and political effects of legal system. Restricted to Criminal Justice majors and Computer Forensics Analyst: HERO majors. Prereq. - CJST101. Also available through Online Learning. Core: CT
Prerequisite: CJST101.

CJST 115 - Criminal Law (3 credits)

This course presents the principles and doctrines embodied in criminal law: substantive crimes, justification, complicity and liability, causation, inchoate crimes. Restricted to Criminal Justice majors and Computer Forensics Analyst: HERO majors. Prereq. - CJST101. Also available through Online Learning. Core: CT.
Prerequisite: CJST101.

CJST 121G - Criminology (3 credits)

The purpose of this course is to provide students with an understanding of the discipline of criminology through an examination of its theories, basic assumptions and definitions with focus on criminal behavior, and the nature, causes, extent and distribution of crime, and their policy implications. Prereq. - CJST101 and ENGL101. Also available through Online Learning. Core: CT, WI.
Prerequisite: CJST101 and ENGL101.

CJST 131 - Juvenile Justice (3 credits)

The American juvenile justice system, its components and functions are examined, focusing on juvenile crime, applicable law and procedures, and theories of delinquency. In addition to examining the evolution and transformation of the juvenile justice systems, students will gain an understanding of the current issues in juvenile justice in the United States and around the world. Restricted to Criminal Justice majors. Prereq. - CJST101. Also available through Online Learning. Prerequisite: CJST101.

CJST 135 - Law Enforcement & Investigative Techniques (3 credits)

This course provides an intensive study of the law enforcement system at the Federal, State, and local levels. Special emphasis will be on police organization and management, police functions, job stress, liability, and sociological and psychological implications. Principles and methods of investigations will also be examined including collection and preservation of evidence, impartial gathering of evidence, interrogation techniques, and the handling of informants. Restricted to Criminal Justice majors and Computer Forensics Analyst: HERO majors. Prereq. - CJST101. Also available through Online Learning. Prerequisite: CJST101.

CJST 225 - Corrections and Rehabilitation (3 credits)

The focus of this course is to provide a survey and analysis of the American correctional system and its processes from both a historical and contemporary perspective. Restricted to Criminal Justice majors. Formerly CJST125. Prereq. - CJST101. Prerequisite: CJST101.

CJST 245 - Criminal Justice Ethics (3 credits)

The focus of this course is to provide students with an overview of prominent ethical issues facing professionals in criminology and criminal justice, with an emphasis on encouraging individual students to explore their own ethical and moral systems and how they make ethical/moral decisions. Restricted to Criminal Justice majors and Computer Forensics Analyst: HERO majors. Formerly CJST145. Prereq. - CJST101.
Prerequisite: CJST101.

CJST 250 - Contemporary Issues Criminal Justice (3 credits)

This course will critically examine controversial issues relating to crime and criminal justice. Emphasis will be placed on topics surrounding crime and justice in America including but not limited to victim so of crime, law enforcement, prosecution, the judicial system, punishment and corrections, and the juvenile system. Restricted to Criminal Justice majors. Prereq. - CJST101. Coreq. - CJST225. Core: CT and D. Also available through Online Learning.
Prerequisite: CJST101. Corequisite: CJST225.

CMGT - Construction Management**CMGT 100 - Building Construction Trades Technical Skills Awareness (3 credits)**

This course provides a basic overview and awareness of the building construction trades for both commercial and residential buildings. Students will learn basic terminology associates with the building trades while acquiring hands-on technical skills experience. Awareness of the various building trades and the interrelationship of their respective completed operations will be discussed. Workplace safety will be stressed throughout the course with regulatory awareness and discussion.

CMGT 101 - Introduction to Construction Codes (3 credits)

This course will provide a study of the interpretation of technical building specifications, codes, and contract documents as they affect the selection, and application of materials and equipment. An emphasis will be placed on understanding local and state codes. Offered fall semester only.

CMGT 102 - Construction Methods & Materials (3 credits)

This course introduces the students to steel, concrete and composite material buildings found in construction projects. There is discussion of building materials along with various systems of construction. Awareness of building codes on material application and an overview of sustainable design as applied to construction material and methods is explored. Exposure to the latest construction techniques as it relates to environmental and health concerns if offered to provide material and method cost effectiveness to construction projects while accommodating regulatory and ethical safety requirements. Offered spring semester only.

CMGT 103 - Construction Safety & Health (3 credits)

This course provides the fundamental safety and health principles needed for an occupationally safe and healthy work environment while offering a practical application of theories and principles related to the construction industry. Students will gain awareness of OSHA's regulatory standards, safety and health strategies along with appropriate management techniques. Offered spring semester only.

CMGT 104 - Construction Print Reading (3 credits)

This course serves as an introduction to building materials and systems and their representation in construction drawings. Included is an introduction of building design and construction with a focus on terminology, industry standards, and the roles of the contractor, architect and other parties involved in construction projects. Emphasis is placed on interpretations of contract drawings, terminology, symbols and conventions used in residential, commercial and industrial drawings. Offered fall semester only.

CMGT 105 - Project Management and Administration (3 credits)

This course will provide students with the knowledge and understanding of the management function in the construction industry. Topics include the project cycle, company and project organization, financial and budgeting considerations, documentation, monitoring, cost control, etc. Emphasis is placed on the responsibilities of the managers and their relationship to the owner, architect, general contractor and subcontractors including other agents involved in a construction project. Pre- or coreq.- CMGT104. Offered fall semester only.
Corequisite: CMGT104.

CMGT 106 - Construction Planning & Scheduling (3 credits)

This course explores the concepts and techniques for construction planning, scheduling and control systems necessary for effectively managing a construction project. Emphasis will be placed on the skills and knowledge necessary to plan and schedule a project. Coordination of manpower, materials, equipment, project funding, and cash flow are all concerns that must be monitored and controlled. Efficiency and use of the computers to facilitate the planning and scheduling process is integrated throughout the class. Pre- or coreq.- CMGT104. Offered fall semester only.
Corequisite: CMGT104.

CMGT 201 - Construction Estimating (3 credits)

This course emphasizes the fundamental of producing construction estimates and bids. Information discussed includes procedures to project material and labor costs. Interpreting construction drawings and specifications to estimate project expenses will be practiced throughout the course. Estimating skills and the integration of computers will be introduced and developed as a comprehensive approach to the estimating and bidding process. Prereq.- CMGT106. Offered spring semester only.
Prerequisite: CMGT106.

CMGT 202 - Construction Supervision & Leadership (3 credits)

This course will provide the opportunity to discuss and evaluate essential leadership and supervisory skills. Understanding and applying leadership behaviors, as well as basic management skills will expand a construction manager's knowledge and abilities. Students will learn how management problems influence efficiency, productivity and employee morale. Pre- or coreq.- CMGT201. Offered spring semester only.
Corequisite: CMGT201.

CMGT 203 - Construction Management Practicum (3 credits)

This capstone course will provide the opportunity to integrate theory and practice with the reality of on-the-job experience. Based on the worksite hosting organization, the student intern will have opportunity to work in the areas of print reading, estimating, equipment management, project supervision, or other management related activities and tasks. All students are required to secure a sponsor for the practicum of 150 hours of field experience.

CMTH - Communications/ Theatre

CMTH 102 - Introduction to Communication (3 credits)

This course covers the basic principles of communication theory and practice, including speech preparation and delivery, and the effective use of critical thinking and listening in relation to intrapersonal, interpersonal, intercultural, and group communication. Also available through Online Learning. Approved for the Honors Program.

CMTH 103 - Mass Communication (3 credits)

This course is an introduction to the cultural, social, legal, business, career and theoretical aspects of media. Provides an overview of mass media functions, structures, supports and influences. Restricted to Media Production (formerly Radio/TV) students. Pre- or coreq. - ENGL101.
Corequisite: ENGL101.

CMTH 104 - Mass Media and Society (3 credits)

This course explores the interaction between society and the mass media and their allied industries, and the historic, economic, legal, and technological influences that have shaped them. Pre- or coreq.- ENGL101.
Corequisite: ENGL101.

CMTH 110 - Introduction to the Theatre (3 credits)

Communicative nature of the theatre, historical perspective, modern trends, basic theories of playwriting, acting, directing, theatre spaces, and theatrical designs; reading plays, production preparation, attending NCC Theatre productions, and a field trip to see a professional production. Core: AH.

CMTH 111 - Acting I (3 credits)

Exploring the acting process, emphasis is on basic acting lessons, development of acting potential and discipline, gaining strength as a truthful actor on one's own and in rehearsal. Core AH.

CMTH 115 - Technical Theatre and Design (3 credits)

This class is an introduction to the principles of design and technology for the stage and provides foundation for further study of the individual aspects of theatrical design. It includes theatre production, research methods for stage design, and technical skills. Topics stressed include principles and elements of design, collaborative problem solving processes, the importance of research and organization, visual and oral presentations and critical evaluations of productions. Core: AH.

CMTH 117 - Stagecraft (3 credits)

This class teaches the non-performance side of theatre with an emphasis on theatrical scenic construction, stage electrics and production skills. It includes preparation for, and execution of, major college productions and college events as well as working with the production staff. Restricted to Theatre and Media Production (formerly Radio/TV) majors. Core: AH.

CMTH 120 - Audio Production (3 credits)

This course covers operation of audio recording hardware and software. Students develop skills and production techniques used in recording studios and radio stations. Pre- or coreq. - ENGL101. Additional course fees: \$50.00. Corequisite: ENGL101.

CMTH 122 - Radio Workshop (1 credits)

Students acquire on-air experience and audio production skills as they produce features and programs that air on WNCC, a web-based streaming radio station. May be taken three (3) times for credit.

CMTH 126 - The Communication Arts (3 credits)

An aesthetic approach to understanding the media, emphasizing critical thinking and the ability to speak and write about technologically mediated arts. Restricted to Media Production (formerly Radio/TV), Theatre, Journalism, and Communication Studies students. Pre- or coreq. - ENGL101. Core: AH, D. Corequisite: ENGL101.

CMTH 130 - Digital Music Production (3 credits)

This course covers topics in music computing including sound synthesis, MIDI sequencing, music theory and notation and emerging technologies in music. Students will use computers to create, edit and record music. Previous music or keyboard skills are helpful but not required.

CMTH 170 - Television Production (3 credits)

Classroom and laboratory experience in the operation of a modern television studio including operation of television cameras, switcher, control room equipment, lighting, and audio for television plus experience scripting, producing, and directing 'live-on-tape' studio productions. Restricted to Media Production (formerly Radio/TV), Theatre and Journalism students. Prereq. - CMTH120; Pre- or coreq. - ENGL101. Additional course fees: \$50.00. Prerequisite: CMTH120. Corequisite: ENGL101.

CMTH 180 - Multimedia Production (3 credits)

This course provides theoretical and hand-on training in the various tools and techniques used in multimedia production for business, education, advertising and entertainment. Areas of instruction include digital photography, multimedia editing, and DVD creation. Additional course fees: \$50.00.

CMTH 182 - Multimedia Graphics & Animation (3 credits)

This course provides theoretical and hands-on training in the various tools and techniques used in the creation of graphics, motion graphics and animation. For use in media production and multimedia presentations. Areas of instruction include Photoshop and After Effects. Additional course fees: \$50.00.

CMTH 185 - Multimedia Video (3 credits)

This course provides theoretical and hands-on training in the use of video for digital content creation. Areas of instruction include use of media to display product, promote brand, increase sales and create targeted digital media campaigns for social media and other outlets.

CMTH 189 - Stage Voice and Movement (1 credits)

Study and practice in natural voice work, movement as destination, and physical commitment to character intentions. May be taken two times for credit. Prereq. - CMTH111. Core: AH.
Prerequisite: CMTH111.

CMTH 190 - Stage Production (1 credits)

Study and practice in stage production work relating to design, construction, implementation and organization in the area of scenery, lighting, sound, properties, costumes and stage management. Course may be taken two times for credit. Pre- or coreq.- CMTH115. Core: AH.
Corequisite: (D in CMTH115).

CMTH 205 - Public Speaking (3 credits)

Students learn advanced speech writing strategies through research, organization, and the delivery of speeches within a public setting. Emphasis is placed on audience analysis, managing anxiety, and use of visual resources and information technology. Formerly CMTH105. Prereq. - CMTH102.
Prerequisite: CMTH102.

CMTH 206 - Directing (3 credits)

This course covers the history and practice of directing - concepts, theories and application. Students will learn key ideas, practice elements such as blocking, stage pictures, and director's concepts and, by the end of the semester, fully direct and produce a 10 minute play on stage. Prereq. - CMTH110 or CMTH111. Core: AH.
Prerequisite: CMTH110 or CMTH111.

CMTH 211G - Plays: Classical to Contemporary (3 credits)

This course introduces students to the analysis of plays as literary text that shapes both performance and an understanding of culture and the human experience. Plays from classical Greece to contemporary Theatre of Diversity will be covered along with the comments of playwrights, directors, actors and critics. Students will analyze drama from psychological, historical, philosophical, structural and dramatic perspectives. Students may not receive credit for both CMTH211G and ENGL211G. Prereq.- ENGL151. Core: AH, D, WI.
Prerequisite: ENGL151.

CMTH 212 - Acting II (3 credits)

Continuing to explore the acting process through scene study, audition preparation, comedy adaptations, psychological gesture work, and animal improvisations. Prereq. - CMTH111. Core: AH.
Prerequisite: CMTH111.

CMTH 214 - Interpersonal Communication (3 credits)

Exploration of the theories, concepts, and processes of interpersonal communication. In this course students explore a variety of personal and professional interpersonal contexts and the processes of relational development. Prereq.- CMTH102. Also available through Online Learning.
Prerequisite: CMTH102.

CMTH 215 - Intercultural Communication (3 credits)

Exploration of the theories, concepts, and themes that examine the influence of culture on the communication process; students explore a wide array of cultures and increase their cultural sensitivity and intercultural communication competence. This course has a service-learning option. Approved for the Honors Program. Prereq. - CMTH102. Also available through Online Learning. CORE: D.
Prerequisite: CMTH102.

CMTH 218 - Theatre Portfolio (1 credits)

This course is tailored for theatre majors. Students will prepare transfer and internship applications, showcase and audition packages, and create a resume and professional headshot. They will perform a showcase piece as a required part of the course. Prereq. - CMTH111. Core: AH.
Prerequisite: CMTH111.

CMTH 220 - Introduction to Film (3 credits)

This course introduces students to the technical and artistic elements of filmmaking. Students will gain an enhanced understanding of the early history of film, film genres and genre conventions, narrative structure, and cinematic techniques including: mise-en-scene, cinematography, editing, and sound. Presentation of weekly film and/or film clips. Prereq. - Reading and writing competency as determined for ENGL101. Core: AH. Also available through Online Learning. Approved for the Honors Program.
Prerequisite: Reading and writing competency as determined for ENGL101.

CMTH 221 - History of Broadcasting (3 credits)

This course is a study of the development of American broadcast media institutions, from radio's earliest beginnings to the complex media structure of today. Prereq. - ENGL101. Core: SIT. Also available through Online Learning.
Prerequisite: ENGL101.

CMTH 225G - Scriptwriting (3 credits)

Writing and analysis of television and radio continuity, ad campaigns and commercial, newswriting, documentary and non-fiction, scripting and the study of screenplays and TV drama. Writing intensive. Prereq. - ENGL101. Core: WI.
Prerequisite: ENGL101.

CMTH 230G - Introduction to Communication Theory (3 credits)

An introduction to the nature of theory, approaches to research, and types of oral communication theories. This course develops skills in researching and analyzing communication phenomena. Prereq. - CMTH102, CMTH214 and ENGL101. Core: WI. Also available through Online Learning.
Prerequisite: CMTH102, CMTH214, and ENGL101.

CMTH 231 - Small Group Communication (3 credits)

An introduction to the foundation, roles, and leadership associated with small groups. The course develops skills in participation and presentation within a small group setting. Prereq. - CMTH102.
Prerequisite: CMTH102.

CMTH 240 - Portable Video Techniques (3 credits)

Designed to give students an in-depth understanding of portable video techniques; professional ENG and EFP shooting, lighting and audio techniques, plus editing techniques necessary to complete news and information segments. Prereq. - CMTH170. Additional course fees: \$50.00.
Prerequisite: CMTH170.

CMTH 245 - Audio Recording & Mixdown (3 credits)

This course provides theoretical and hands-on training in multi-track digital audio production and mixing techniques. Students will gain knowledge about session recording, signal routing, and work actively with a professional digital audio workstation in a recording studio environment. Prereq. - CMTH120. Additional course fees: \$50.00.
Prerequisite: CMTH120.

CMTH 246 - Advanced Audio Production (3 credits)

The course provides advanced theoretical and hands-on training in multi-track digital audio production, location sound, audio for video, and advanced mixing techniques. Students will gain knowledge about advanced Pro Tools operation and expand upon the core concepts introduced in CMTH245, Audio Recording and Mixdown. Restricted to Media Production (formerly Radio/TV) students. Prereq. - CMTH245. Additional course fees: \$50.00
Prerequisite: CMTH245.

CMTH 251 - Advanced Television Production (3 credits)

Practical application of the various media production techniques previously learned culminating in the production of television shows suitable for broadcast on local stations. Emphasis is on the ability to oversee all phases of production and to function as an effective producer. Restricted to Media Production (formerly Radio/TV), Theatre and Journalism students. Prereq. - CMTH170. Additional course fees: \$50.00.
Prerequisite: CMTH170.

CMTH 252 - Video Editing & Post Production (3 credits)

Theoretical and hands-on training in editing and the various video techniques used in post production; non-linear editing and post production, computer graphics, compositing and animation. Prereq. - CMTH240. Additional course fees: \$50.00.
Prerequisite: CMTH240.

CMTH 275 - Media Production Internship (3 credits)

Work experience in a radio or television station, with media production companies or media divisions of business and industry. Restricted to Media Production (formerly Radio/TV), Theatre and Journalism students. Prereq. – CMTH103, CMTH126, CMTH170, CMTH225G, and at least two courses from the list of Media electives.
Prerequisite: CMTH103, CMTH126, CMTH170, CMTH225G, and at least two courses from the list of Media Electives.

CMTH 291 - Special Studies in Speech (1 credit)

See Statement on Special Studies (p. 19). Offered on demand.

CMTH 292 - Special Studies in Speech (2 credits)

See Statement on Special Studies (p. 19). Offered on demand.

CMTH 293 - Special Studies in Speech (3 credits)

See Statement on Special Studies (p. 19). Offered on demand.

COLS - College Success

COLS 101 - College Success (1 credits)

This course introduces new students to the college environment with a focus on learning and adopting the academic skills and mindsets needed to be successful in college. Academic and professional exploration, goal setting, and planning help guide students through the first semester and connect them to the First Year Experience programs. Also available through Online Learning.

COLS 120 - Career Planning I (1 credits)

Students will explore their interests, abilities, values and personality through personal narrative, testing, and career research to formulate a career direction. Pre- or co-req. - Reading competency as determined for ENGL101.
Corequisite: Reading competency as determined for ENGL101.

COLS 150 - Skills for Academic Success (3 credits)

This course will provide students with the skills essential to succeeding in the college setting. Focus will be on understanding the role of a college student and the application of academic success strategies. The course will build a foundational level of information literacy and critical thinking skills.

COUN - Counseling

COUN 130 - Career Planning II (1 credit)

Students will identify a career focus and will learn to utilize effective job search strategies including networking, social media, resumes, cover letters and interviewing techniques.

COUN 291 - Special Studies in Counseling (1 credit)

See statement on Special Studies. Offered on demand.

COUN 292 - Special Studies in Counseling (2 credits)

See statement on Special Studies. Offered on demand.

COUN 293 - Special Studies in Counseling (3 credits)

See statement on Special Studies. Offered on demand.

CULA - Culinary Arts**CULA 102 - Food Safety and Sanitation (2 credits)**

Causes and reduction of food borne illness, the HACCP system, proper sanitation methods, integrated pest management and government regulations. Restricted to Culinary Arts, Restaurant Management and Dining Room Operation students only.

CULA 103 - Nutrition (2 credits)

Fundamentals of nutrition, lifespan and special need nutrition, nutrition and health, marketing nutrition in food service. Restricted to Culinary students. Coreq. - CULA102; Prereq. - eligibility for ENGL101. Prerequisite: Eligibility for ENGL101. Corequisite: CULA102.

CULA 104 - Culinary Foundations (4 credits)

This course provides an overview of the culinary and food service industry including career options and requirements for success. Included in the course will be the history of the culinary field, common culinary terminology, measurements, time management, goal setting and a review of food safety and sanitation guidelines. Students will be exposed to the various types of front and back of the house operations. Through menu planning students will utilize current nutritional trends to meet dietary requests and requirements. Menus will be developed and analyzed to enhance understanding of the similarities and differences of each style of service. Students will be introduced to portfolio requirements. With the assistance of the Career Development department, students will write a cover letter and resume for an entry level position. Restricted to Culinary Arts students.

CULA 105 - Product Identification and Costing (3 credits)

This course is designed to give the students a detailed examination of products and equipment used in the food service industry. Students will learn the importance of purchasing, handling of food products, food costs, recipe measurements and recipe costing. The course reviews details of the flow of goods and services including inventory, forecasting, purchase specifications, product yield, purchasing, receiving, storing, inventory control, and issuing of food and beverage. Restricted to Culinary Students. Prereq. - CULA104. Prerequisite: CULA104.

CULA 110 - Baking and Pastry Production (3 credits)

This foundations course presents the basic principles of baking for food service establishments. Students will be introduced to terms, equipment, and the basic mechanics of the baking and pastry kitchen. Topics covered include the identification, production, and evaluation of yeast leavened products, quick breads, pies, tarts, cookies, and basic cakes. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Restricted to Culinary Students. Prereq. - CULA105. Prerequisite: CULA105.

CULA 112 - Culinary Skill Development (3 credits)

This foundational course presents the basic principles of food preparation for the food service industry building upon culinary fundamentals. Topics covered include mise en place, knife skills, stocks, sauces, soups, vegetables, potatoes, pasta, grains, legumes, and breakfast egg cookery. Students will practice reading and writing of recipe cards, food and kitchen safety and sanitation. Students will participate in lecture and practical hands-on lab instruction. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Restricted to Culinary Arts Students. Prereq. - CULA110. Prerequisite: CULA110.

CULA 115 - Protein Fabrication and Utilization (3 credits)

Students will engage in hands on application of fabricating a variety of meat, poultry, fish and shellfish items and the utilization of the proper cooking techniques for each protein. Students will practice and sample some of the products for texture and flavor. Students will study meat grading methods, purchasing, proper storage of product, and calculate a butcher's yield and food cost of each product. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Restricted to Culinary Students. Prereq. - CULA112.

Prerequisite: CULA112.

CULA 120 - Skill Development I (3 credits)

A chef's guide to the art of cooking beginning with the basic cutting, chopping, mincing and progressively building in complexity; concentration on techniques of cooking and cooking methods; lecture and hands-on class participation dealing with stocks, soups, sauces, roasting, broiling, grilling, sauteing, pan frying, deep frying, braising, stewing, boiling, poaching, vegetable cookery, starch cookery, basic entrees, and meal combination. Restricted to Culinary students. Prereq. - CULA115.

Prerequisite: CULA115.

CULA 130 - Basic Entrees and Vegetables (3 credits)

This course is a study of the fundamental principles of food preparation to include skills associated with the preparation and service of international and ethnic cuisines. Topics include similarities between food production mechanisms used in the United States and other regions of the world. Restricted to Culinary students. Core: D (for Culinary program only).

CULA 135 - American Regional Cuisine (3 credits)

This course presents the principles of traditional dishes of various cuisines and related terminology throughout the United States. This class builds upon the basics and utilizes advanced techniques to proceed into the culinary traditions and practices of the different regions in our country. Ingredients, flavor profiles, preparations, and techniques of each region will be analyzed. Students will have the opportunity to prepare, taste, and present dishes from each regional cuisine. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Restricted to Culinary Arts students. Prereq. – CULA115.

Prerequisite: CULA115.

CULA 145 - Culinary and Restaurant Operations (12 credits)

This course will be the students' introduction into catering and restaurant skills and operations. Topics to be covered include various breakfast cookery and garde manger items. Focus will be placed on nutritional cooking through portion control, use of fats and oils and seasonal ingredients. Dietary needs, allergies and specialty menus will also be covered in this class. Operations in this class will include breakfast and lunch production for a variety of areas, including: banquet service, retail service, and catering and restaurant a la carte menu service. Students will rotate through various stations, including the front of the house, retail market, and student run restaurant. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Restricted to Culinary Students. Prereq. - CULA135. Additional course fees: \$62.00.

Prerequisite: CULA135.

CULA 150 - Restaurant Operations II (15 credits)

Students rotate through the kitchen stations and are responsible for all the menu items for that station; the pace of this course will be higher; the menu items will be more demanding and more emphasis will be put on speed and accuracy; this is a true functioning restaurant operation and the students will learn how a restaurant operates in industry. Restricted to Culinary students. Prereq. - CULA145. Additional course fees: \$115.00.

Prerequisite: CULA145.

CULA 170 - Skill Development II (4 credits)

A chef's guide to pantry, garde manger, charcuterie and egg cookery; basic applications of the fine art of specialty food handling including pates, galantines, ballotines and sausages; brines, cures and smoking; all phases of meat, poultry and fish smoking and curing; buffet style food presentation, food decoration, vegetable carving, platter presentation and edible and non-edible centerpieces; basic cold food preparation including salads, salad dressings, cold sauces, and egg handling and preparation. Restricted to Culinary students. Prereq. - CULA120.

Prerequisite: CULA120.

CULA 230 - Global Cuisine (3 credits)

This course presents the principles of traditional dishes of cuisines from around the globe. Ingredients, flavor profiles, preparations, and techniques of each cuisine will be analyzed. Students will have the opportunity to prepare, taste, and analyze dishes from each cuisine. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Restricted to Culinary Arts students. Prereq. – CULA145.

Prerequisite: CULA145.

CULA 250 - Advanced Culinary and Restaurant Operations (12 credits)

This course is the advanced catering/restaurant skills and operations class with an emphasis on modern day culinary and plating techniques. This course presents the various cuisines and techniques of the world's most prominent chefs. The different chef's style, substance and quality will be explored and students gain insight into the history and evolution of cuisine as an art form and attain inspiration for future study. Dietary needs, allergies and specialty menus will also be covered in this class. Operations in this class will include breakfast and lunch production for a variety of areas, including: banquet service, retail service, and catering and restaurant a la carte menu service. Students will rotate through various stations, including the front of the house, retail market, and student run restaurant. Sanitary practices and compliance with laws and ordinances of the Department of Health are enforced. Restricted to Culinary Arts students. Prereq. – CULA230.

Prerequisite: CULA230.

DANC - Dance**DANC 101 - Dance History (3 credits)**

This course introduces students to the cultural foundations, innovators, dancers, and choreographers who shaped the development of dance. The exploration of dance as an expression of cultural values throughout history will be examined. The course also surveys the purposes, functions, and manifestations of diversity in dance forms both as an artistic expression of cultural values and social contexts throughout history. CORE: AH, D.

DANC 110 - Ballet I (1 credits)

Ballet I introduces the student to the principles of history and the theoretical aesthetic of ballet dance. The course will include active participation to build a technical foundation of movement through barre, center work, and across the floor exercises. A student may take this course three times for credit. To fulfill the Arts and Humanities requirement, students must have a total of three (3) credits. Core: AH.

DANC 120 - Modern Dance I (1 credits)

This course introduces the student to the principles of modern dance techniques. The course will include active participation in center work, movement across the floor, and proper alignment. A student may take this course three times for credit. To fulfill the Arts and Humanities requirement, students must have a total of three (3) credits. Core: AH.

DANC 130 - Jazz I (1 credits)

This course is designed to introduce the student to the principles of Jazz dance techniques. Instruction will include flexibility and other physiological benefits. The course will include active participation in center work, movement across the floor, and proper alignment. It will emphasize performance through both improvisation and structured choreography. Incorporated in this course is the study of Jazz dance history. A student may take this course three times for credit. To fulfill the Arts Humanities requirement, students must have a total of 3 credits. Core: AH.

DANC 202 - Dance Improvisation (2 credits)

This course is designed to introduce students to the exploration of movement through structured movement exercises. Students will experience basic movement concepts, and build upon their personal creative expression. This course will build upon their ideas, aesthetics, proper body awareness and movement vocabulary. Student will emerge with a stronger sense of movement concepts, which will be the basis for the creation of choreography and to develop new movement.

DANC 210 - Ballet II (2 credits)

Ballet II provides the student with continued development and practice of the foundation and technique established in Ballet I. This course includes more training in introductory methods, as well as experience in advanced training at the barre, centre, traveling exercises and variations. This course includes practice in performance fundamentals and critique. A student may take this course up to two times for credit. To fulfill the Arts and Humanities requirement, students must have a total of three (3) credits. Prereq.- DANC110. Core: AH.
Prerequisite: DANC110.

DANC 220 - Modern Dance II (2 credits)

This course provides the student with continued development and practice to the principles of modern dance techniques. The course will include active participation in center work, movement across the floor, and proper alignment.

Intermediate and advanced principles in diverse styles will be explored. A student may take this course two times for credit. To fulfill the Arts and Humanities requirement, students must have a total of three (3) credits. Prereq.- DANC120.

Core: AH.

Prerequisite: DANC120.

DANC 230 - Jazz II (2 credits)

This course is designed to provide the student with continued development and practice of the theory and technical training introduced in Jazz I. Longer movement combinations and more detailed spatial designs will be implemented. Instruction will include flexibility and other physiological benefits as well as provide an opportunity for creative work. The course will also introduce the fundamentals of Jazz Dance performance critique. A student may take this course two times for credit. To fulfill the Arts & Humanities requirement, students must have a total of 3 credits. Prereq.- DANC130 or approval of instructor. Core: AH.

Prerequisite: DANC130.

DENH - Dental Hygiene

DENH 103 - Pre-Clinical Preventative Oral Health Services (3 credits)

Students begin to work toward achieving client assessment and instrumentation competencies. Restricted to Dental students. Coreq. - DENH104; Pre- or coreq. - DENH105 and DENH106. Additional course fees: \$619.00.

Corequisite: DENH104, DENH105, and DENH106.

DENH 104 - Foundations of Preventive Oral Health Services (4 credits)

Infection control procedures, client assessment skills, dental disease prevention, dental materials and instrumentation techniques. Restricted to Dental students. Coreq. - DENH103; Pre- or coreq. - DENH105 and DENH106.

Corequisite: DENH103, DENH105, and DENH106.

DENH 105 - Oral Histology (1 credits)

Integration of embryological concepts with the development of the face, neck, oral structures and teeth; correlation of the histological development of the enamel, dentin, pulp, cementum and periodontal ligament with clinical dental considerations and case histories. Restricted to Dental students. Coreq. - DENH106; Pre- or coreq.- BIOS160.

Corequisite: BIOS160 and DENH106.

DENH 106 - Oral Anatomy (2 credits)

The differences among the permanent and primary dentitions by comparison of crown and root morphology, eruption patterns and occlusion; detailed head and neck anatomy including osteology, muscles, nerve innervation, and blood supply; client cases to correlate theories with clinical dental hygiene therapy. Restricted to Dental students. Coreq.- DENH105.

Corequisite: DENH105.

DENH 109 - Oral Radiology Laboratory (1 credits)

Application of the knowledge, skills and attitudes necessary to competently expose and process diagnostically acceptable radiographs and to identify radiographic landmarks and radiographic evidence of dental disease processes. Students must demonstrate competent radiographic techniques on mannequins prior to performing supervised client exposures.

Restricted to Dental students. Formerly DENX 106. Prereq. - DENH110. Additional course fees: \$20.00.

Prerequisite: DENH110.

DENH 110 - Oral Radiology (2 credits)

Theories and principles of exposing, processing, mounting, and interpreting dental radiographs; anatomical landmarks and radiographic abnormalities; emphasis on radiation safety principles for both client and operator. Formerly DENX 505, DENX 110. Restricted to Dental students. Pre- or coreq.- DENH105 and DENH106.

Corequisite: DENH105 and DENH106.

DENH 150 - Clinical Preventive Oral Health Services I (3 credits)

Assessment, diagnosis, planning, implementation and evaluation of dental hygiene therapies for the client with gingivitis and early periodontal disease; continued development of competency in client assessments and instrumentation.

Restricted to Dental students. Prereq. - DENH103, DENH104, DENH106 and CPR certification; Coreq.- DENH109, DENH152,

and DENH153. Additional course fees: \$65.00.

Prerequisite: DENH103, DENH104, DENH106 and CPR certification. Corequisite: DENH109, DENH152, DENH153.

DENH 152 - Preventative Oral Health Services I (2 credits)

Foundational knowledge and skills for instrument sharpening, preventing gingivitis and dental caries; non-surgical periodontal therapies; recognizing and managing medical emergencies in the dental office; ethical issues affecting the practice of dental hygiene and dentistry. Restricted to Dental students. Prereq. - DENH103 and DENH104 and Coreq. - DENH150 and DENH153.

Prerequisite: DENH103 and DENH104. Corequisite: DENH150 and DENH153.

DENH 153 - Periodontology (2 credits)

The role of periodontal pathogens in relation to systemic diseases and the initiation and progression of gingival and periodontal diseases as they relate to: clinical signs, radiographic signs, microbiologic activity, risk factors, host immune response and pathogenesis and inflammatory response; dental hygiene therapies for gingivitis and early periodontitis. Restricted to Dental students. Prereq. - DENH103 and DENH104; Coreq. - DENH150 and DENH152.

Prerequisite: DENH103 and DENH104. Corequisite: DENH150 and DENH152.

DENH 154 - Oral Care for Medically Complex Clients (1 credits)

Develop skills to competently assess, treatment plan and manage clients who present medically complex health histories and/or special needs. Restricted to Dental students. Prereq. - DENH103 and DENH104; Coreq. - DENH150, DENH152 and DENH155.

Prerequisite: DENH103 and DENH104. Corequisite: DENH150, DENH152, and DENH155.

DENH 155 - General and Oral Pathology (2 credits)

General principles of pathology; the specific etiology and treatment of oral manifestations of local and systemic pathological conditions; emphasis on the histological, clinical, and radiographical appearance of pathological conditions of the oral cavity; application to client assessment during clinical dental hygiene. Restricted to Dental students. Prereq. - DENH105 and DENH106.

Prerequisite: DENH105 and DENH106.

DENH 205 - Nutrition for the Dental Health Care Provider (2 credits)

Application of principles of basic nutrition to everyday life with an emphasis on the relationship between nutrition and health and disease; emphasis on the role nutrition plans in oral health; student skills to enable them to recognize nutritionally related dental disease and to provide dietary counseling for the prevention of further progression of the disease. Formerly DENH145. Restricted to Dental students. Prereq. - CHEM135.

Prerequisite: CHEM135.

DENH 206 - Local Anesthesia (2 credits)

Study of the anatomical, pharmacological and emergency considerations associated with the administration of local anesthesia in dentistry. Lab experiences prepare dental hygiene students to administer effective and safe infiltration and conduction anesthesia. Restricted to Dental students. Prereq.- DENH150, DENH152 and DENH212. Coreq. - DENH210.

Prerequisite: DENH150, DENH152, and DENH212. Corequisite: DENH210.

DENH 210 - Clinical Preventative Oral Health Services II (4 credits)

Continued development of competency in clinical dental hygiene; emphasis on the assessment, diagnosis, planning, implementation and evaluation of dental hygiene therapies for the client with early-moderate chronic periodontal disease; introduction of new skills: impression taking, study models, ultrasonic scaling, tobacco cessation, tooth whitening and intraoral camera imaging. Restricted to Dental students. Prereq. - DENH109, DENH150, DENH152, DENH153, DENH155 and DENH212; Coreq. - DENH211. Additional Course fees: \$277.00.

Prerequisite: DENH109, DENH150, DENH152, DENH153, DENH155, and DENH212. Corequisite: DENH211.

DENH 211 - Preventive Oral Health Services II (3 credits)

Foundational knowledge and skills for impression taking, study models, tooth whitening, intraoral camera imaging, ultrasonic scaling, tobacco cessation counseling; legal and professional issues affecting the practice of dental hygiene and dentistry; reading the dental literature. Restricted to Dental students. Prereq. - DENH152 and DENH153; Coreq. - DENH210.

Prerequisite: DENH152 and DENH153. Corequisite: DENH210.

DENH 212 - Pharmacology (2 credits)

A study of properties, actions, reactions, and dosages of drugs. Special emphasis will be placed on drug therapy common to the practice of dental hygiene. Restricted to Dental students. Prereq. - DENH150.
Prerequisite: DENH150.

DENH 220 - Community Dental Health I (1 credits)

Fundamentals of dental public health and oral epidemiology; introduction to school-based programs, dental health education and teaching methodologies; geriatric dentistry; students are required to participate in community-based dental health activities. Restricted to Dental students.

DENH 240 - Community Dental Health II (1 credits)

Biostatistics, dental epidemiology and the role of government and dental hygienists in community dental health; application of fundamentals of scientific research methodology and biostatistics to the assessment, planning, implementation and evaluation of a community based dental education program; students continue to participate in community based dental health programs as outlined in DENH220. Restricted to Dental students. Prereq. - DENH220.
Prerequisite: DENH220.

DENH 250 - Clinical Preventative Oral Heal Services III (4 credits)

Continued practice toward entry-level competency in clinical dental hygiene for a variety of clients; emphasis on providing comprehensive dental hygiene care for periodontally involved clients. Restricted to Dental students. Prereq. - DENH205, DENH210, and DENH211. Additional course fees: \$30.00.
Prerequisite: DENH205, DENH210, and DENH211.

DENH 251 - Preventive Oral Health Services III (2 credits)

Assessment, diagnosis, planning, implementation and evaluation of therapies indicated for moderate to advanced periodontal disease; dental implants; amalgam finishing and polishing; ergonomics; lasers; discussion of professional issues and responsibilities of the dental hygienist. Restricted to Dental students. Prereq. - DENH211 and Coreq. - DENH250. Course numbers ending with G are Writing Intensive (WI).
Prerequisite: DENH211. Corequisite: DENH250.

DENH 251G - Preventative Oral Health Services III (2 credits)

Assessment, diagnosis, planning, implementation and evaluation of therapies indicated for moderate to advanced periodontal disease, including the development of a soft tissue management program; discussion of professional issues and responsibilities of the dental hygienist. Restricted to Dental students. Prereq.- DENH211 and Coreq.- DENH250.
Additional course fees: \$30.00.
Prerequisite: DENH211. Corequisite: DENH250.

DENH 291 - Special Studies in Dental Hygiene (1 credit)

See statement on Special Studies (p. 19). Offered on demand. Restricted to Dental students.

DENH 292 - Special Studies in Dental Hygiene (2 credits)

See statement on Special Studies (p. 19). Offered on demand. Restricted to Dental students.

DENH 293 - Special Studies (3 credits)

See statement on Special Studies (p. 19). Offered on demand. Restricted to Dental students.

DMSG - Diagnostic Medical Sonography

DMSG 101 - Essentials of Patient Care (2 credits)

Orientation to the hospital and sonography department; history of sonography, roles and responsibilities of the sonographer, medical ethics, HIPPA and patient confidentiality, basic patient care, safety and handling, nursing procedures and medical terminology. Restricted to DMS students. Offered fall semester only.

DMSG 102 - Introduction to Diagnostic Medical Sonography (1 credits)

This introductory course in the field of diagnostic medical sonography discusses sonographic terminology and sonographic tissue characterization. Cross-sectional anatomy of the upper abdomen in the sagittal, transverse and coronal planes utilizes schematic images and sonographic correlation. Patient positioning, labeling of images, image orientation and basic scanning techniques are introduced. Restricted to DMS students. Offered fall semester only.

DMSG 103 - Introduction to Acoustical Physics (2 credits)

Review of reciprocal relations, variables, powers, exponential notation, conversion of units, proportionality, fractions and percentages, logarithms, simple trig and geometry, base 10 and binary. Introduction to waves, Simple Harmonic Motion, wave motion, interference, sound, Doppler, the Ray model of light, reflection and refraction, Snell's law. Restricted to DMS students. Pre- or coreq. - MATH140. Additional course fees: \$170.00. Offered fall semester only. Corequisite: MATH140.

DMSG 104 - Introduction to Clinical Education (1 credits)

Students will be introduced to the clinical environment and will observe and assist with the performance of various sonographic imaging procedures that they have practiced in the sonography lab. The focus of this course is acquisition of basic clinical skills, professionalism, and ability to follow hospital procedures and policies. This course will encompass 120 hours of clinical education. Restricted to DMS students. Offered fall semester only.

DMSG 105 - Acoustic Physics & Instrumentation I (2 credits)

Basic acoustical physics, principles of ultrasound instruments, modes of operation, operator control options, frequency selection, and echogenic properties; emphasis on ultrasound transmission in soft tissues, attenuation of sound energy, parameters affecting sound transmission, and resolution of sound beams. Restricted to DMS students. Prereq. - MATH140. Offered spring semester only. Prerequisite: MATH140.

DMSG 110 - Abdominal Sonography- Anatomy, Physiology, Imaging & Critique I (4 credits)

Human anatomy in the transverse, longitudinal, and coronal planes with emphasis on the organs in the abdomen and pelvic cavity; extensive study of the disease processes and physiological alterations; sonographic methods to visualize adult and pediatric abdomens; normal variants, congenital anomalies, physiology, and related laboratory tests; technical information including procedural and scanning techniques. Restricted to DMS students. Prereq. - BIOS204; Pre- or coreq. - BIOS254. Offered spring semester only. Prerequisite: BIOS204. Corequisite: BIOS254.

DMSG 115 - OB&GYN Sonography- Anatomy, Physiology, Imaging & Critique I (4 credits)

Obstetrical and gynecological anatomy; clinical applications and sonographic methods to visualize pelvic organs, the pregnant uterus, and related structures; comparison of normal sonographic patterns with identification of pathology, physiology, differentials, and correlation with lab test and related organ development; technical information including procedural and scanning techniques. Restricted to DMS students. Prereq. - BIOS204; Pre- or coreq. - BIOS254. Offered spring semester only. Prerequisite: BIOS204. Corequisite: BIOS254.

DMSG 124 - Clinical Education I (2 credits)

Application of sonographic scanning procedures in a hospital or outpatient setting under the supervision of an appropriately credentialed diagnostic medical sonographer; emphasis on liver, pancreas, gallbladder, superficial structures, pelvis, gravid and non-gravid uterus and related structures; production and interpretation of normal and pathological sonograms of each area; film critique a critical component. This course encompasses 240 clinical hours. Restricted to DMS students. Prereq. - DMSG104. Offered spring semester only. Prerequisite: DMSG104.

DMSG 125 - Sectional Anatomy for Medical Imagers (1 credits)

Human anatomy in the transverse, longitudinal, and coronal planes with application to sonography and other imaging modalities in radiology. Restricted to Radiography and Sonography students. Runs with RADT125. Prereq. - BIOS204; Pre- or coreq. - BIOS254. Offered fall semester only. Offered spring semester only. Prerequisite: BIOS204. Corequisite: BIOS254.

DMSG 155 - Acoustic Physics & Instrumentation II (3 credits)

Continuation of acoustical physics; interaction of ultrasound production and display, various transducer designs and construction, quality assurance/control, bioeffects, image artifacts, techniques for recording static and dynamic images, methods of color flow, Doppler principles, and hemodynamics. Restricted to DMS students. Prereq. - DMSG105. Offered fall semester only.

Prerequisite: DMSG105.

DMSG 160 - Abdominal Sonography- Anatomy, Physiology, Imaging & Critique II (4 credits)

Advanced study of human anatomy in the transverse, longitudinal, and coronal planes with emphasis on the organs in the abdomen and pelvic cavity; extensive study of the disease processes and physiological alterations; sonographic methods to visualize adult and pediatric abdomens; normal variants, congenital anomalies, physiology, and related laboratory tests; technical information including procedural and scanning techniques. Restricted to DMS students. Prereq.- DMSG110. Offered fall semester only.

Prerequisite: DMSG110.

DMSG 163 - Fundamentals of Fetal Scanning (1 credits)

An introduction to contemporary fetal growth assessment by early sonographic dating and subsequent growth series examinations will be discussed. Scanning techniques related to amniotic fluid index, and the biophysical profile; sonographic methods to calculate the biparietal diameter, head circumference, abdominal circumference, and extremity measurements will be emphasized. Restricted to DMS students. Offered fall semester only.

DMSG 165 - OB&GYN Sonography- Anatomy, Physiology, Imaging & Critique II (4 credits)

Advanced study of obstetrical and gynecological anatomy; clinical applications and sonographic methods to visualize pelvic organs, the pregnant uterus, and related structures; comparison of normal sonographic patterns with identification of pathology, physiology, differentials, and correlation with lab test and related organ development; technical information, including procedural and scanning techniques. Restricted to DMS students. Prereq.- DMSG115. Offered spring semester only.

Prerequisite: DMSG115.

DMSG 174 - Clinical Education II (2 credits)

Continued application of sonographic scanning procedures in a hospital or outpatient setting under the supervision of an appropriately credentialed diagnostic medical sonographer with independent scanning when competency has been demonstrated; emphasis on liver, pancreas, GB, superficial parts, pelvic areas, pregnant uterus, and related structures; production and interpretation of normal and pathologic sonograms of each area; film critique a critical component. This course will encompass 240 hours of clinical education. Restricted to DMS students. Prereq. - DMSG124. Offered summer only.

Prerequisite: DMSG124.

DMSG 215G - Small Parts and Special Topics (2 credits)

Application and use of ultrasound in the imaging of superficial organs and structures such as the thyroid and parathyroid glands, breasts, extremities, and scrotum; histologic aspects of various pathological conditions correlated with acoustical properties and ultrasound characteristics. Recent applications, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. Restricted to DMS students. Prereq. - ENGL101. Core: WI. Offered spring semester only.

Prerequisite: ENGL101.

DMSG 224 - Clinical Education III (2 credits)

Continued application of sonographic scanning procedures in a hospital or outpatient setting under the supervision of an appropriately credentialed diagnostic medical sonographer; emphasis on identification of pathology, and sonography of abdominal, small parts, and obstetrical-gynecological structures; rotations in the practice of peripheral vascular exams and other specialties within the field may be arranged; film critique a critical component. Independent scanning may take place when competency has been demonstrated. This course will encompass 240 hours of clinical education. Restricted to DMS students. Prereq. - DMSG174. Offered fall semester only.

Prerequisite: DMSG174.

DMSG 234 - Clinical Education IV (3 credits)

Continued application of sonographic scanning procedures in a hospital or outpatient setting under the supervision of an

appropriately credentialed diagnostic medical sonographer; emphasis on identification of pathology, and sonography of abdominal, small parts, and obstetrical-gynecological structures; rotations in the practice of peripheral vascular exams and other specialties within the field may be arranged; film critique a critical component. Independent scanning may take place when competency has been demonstrated. This course will encompass 360 hours of clinical education. Restricted to DMS students. Prereq. - DMSG224. Offered spring semester only.
Prerequisite: DMSG224.

DMSG 235 - Introduction to Vascular Sonography (2 credits)

This introductory course will expose the learner to the fundamental principles of diagnostic testing of the cerebrovascular and peripheral vascular systems. Topics that will be emphasized include extracranial cerebrovascular imaging, non-invasive peripheral arterial and venous testing. Identification of relevant normal anatomy, pathology, and hemodynamics are explored utilizing B-mode, color flow Doppler, and spectral Doppler waveform analysis. Restricted to DMS students. Offered spring semester only.

DMSG 244 - Clinical Education V (3 credits)

Final period of clinical study; student to demonstrate full competency and progress to full independence under the supervision of an appropriately credentialed diagnostic medical sonographer; emphasis on identification of pathology, and sonography of abdominal, small parts, and obstetrical-gynecological areas; rotations in the practice of peripheral vascular exams and other specialties within the field may be arranged; film critique a critical component. This course will encompass 360 hours of clinical education. Restricted to DMS students. Prereq. - DMSG234. Offered summer only.
Prerequisite: DMSG234.

EARL - Early Childhood Education

EARL 102 - Introduction to School Age Child Care (3 credits)

Students use observation and assessment to learn about the development of children and youth; and to plan school-age programs, including effective interaction strategies and appropriate learning/recreation environments that support the development, ability and interest of each youth. Assignments require access to school-age child care programs. Also available through Online Learning.

EARL 103 - Society and the School Age Child (3 credits)

Students learn about the role of families, communities and culture in the development of children and youth. Dominant theories of children's social-emotional development, crises in children's lives, and developmentally appropriate responses will be introduced. Family communication and support, cultural competence, the importance of inclusive teaching practices and respect for diversity are central themes. Assignments require access to school-age child care programs. Also available through Online Learning.

EARL 104 - School Age Child Care Professional (3 credits)

Students learn to use the professions' Code of Ethics and Standards as a basis for developing a professional identity. Management and leadership skills required for working collaboratively to ensure a quality program, and advocacy skills for improving the condition of before and after school programs are included. Assignments require access to school-age child care programs. Also available through Online Learning.

EARL 106 - Early Childhood Development & Learning (3 credits)

This course provides an introduction to child development theories and milestones from prenatal to age 9 in the context of cultural and developmental variations. Students learn inclusive teaching skills and strategies including English Language Learners (ELL). Students identify the value of developing respectful, reciprocal relationships with families and community partners to support learning. Students are introduced to Art as a Way of Learning® (AWL) as a curriculum framework. Professional expectations and the NAEYC Code of Ethics are also explored. Requires 6-hours of field experience observations outside of class. Also available through Online Learning. The Pennsylvania Department of Education requires that all students participating in field experiences must provide the documentation listed below. 1. FBI Federal Criminal History Record (Act 114); 2. PA State Police Criminal Record Check (Act 34); 3. PA Child Abuse History Clearance (Act 151); 4. Mandated and Permissive Reporting in PA Online Training (Act 31); 5. Arrest/Conviction Report and Certification Form (Act 24); 6. Health Assessment with TB (Mantoux) test; 7. 2 Letters of Reference.

EARL 107 - Observation & Assessment in Early Childhood (3 credits)

Students learn methods of observing, documenting, and assessing children's learning from Birth to age 9 in the context

of cultural and developmental variations. They are introduced to learning standards and assessment tools for evaluating safe, healthy indoor and outdoor learning environments integrating Universal Design for Learning (UDL). Students learn how to use the Art as a Way of Learning® (AWL) framework to observe and assess children's learning and development. Ethical practices in assessment are an area of focus. Requires 6-hours of field experience observations outside of class. Also available through Online Learning. The Pennsylvania Department of Education requires that all students participating in field experiences must provide the documentation listed below. 1. FBI Federal Criminal History Record (Act 114); 2. PA State Police Criminal Record Check (Act 34); 3. PA Child Abuse History Clearance (Act 151); 4. Mandated and Permissive Reporting in PA Online Training (Act 31); 5. Arrest/Conviction Report and Certification Form (Act 24); 6. Health Assessment with TB (Mantoux) test; 7. 2 Letters of Reference. Pre- or co-req. - EARL106. Corequisite: EARL106.

EARL 126 - Arts in Early Childhood (3 credits)

Students learn about children's artistic development within the context of cultural, linguistic, and ability diversity. They learn that the arts are symbol systems for representing and constructing meaning. Students create and implement standards-based arts learning experiences and environments using evidence based practice emphasizing Universal Design for Learning (UDL). They assess children's artistic development and learn to build reciprocal partnerships with families, professionals, arts specialists and arts organizations to support each child's learning. Course requires 20 hrs. (2 hrs/wk) field experiences (lab) in programs serving children pre-k to grade 4. Early childhood programs must be a licensed family, group, center, Head Start, faith-based, pre-k or nursery school setting. Additional course fees: \$13.00. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Also available through Online Learning. Video/DVD documentation of student teaching required (online students only). Prereq.- EARL106 and EARL107. Prerequisite: EARL106 and EARL107.

EARL 128 - Infant-Toddler Development and Learning (3 credits)

Students learn developmental theories and milestones of children aged 0 to 3 within the context of cultural, linguistic, and abilities diversity. They are introduced to learning standards and infant/toddler curricula including the framework of Art as a Way of Learning (AWL). Students evaluate healthy and safe indoor and outdoor learning environments integrating Universal Design for Learning (UDL). Course requires 20 hrs. (2 hrs/wk) field experiences (lab) in programs serving children 0 to 36 months of age. Early childhood programs must be a licensed family, group, center, Head Start, faith-based, pre-k or nursery school setting. Additional course fees: \$13.00. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Also available through Online Learning. Video/DVD documentation of student teaching required (online students only). Prereq.- EARL106 and EARL107. Prerequisite: EARL106 and EARL107.

EARL 160 - Child Care Health Advocate (3 credits)

This course prepares the Child Care Practitioner to function in the role of a Child Care Health Advocate (CCHA), and will address 15 different health and safety modules as a resource for child care directors, teachers, assistant teachers, and child care practitioners. The CCHA that will be working in a child care setting will learn to assess, identify, and prioritize health and safety needs of children and staff. The participant learns their role in participating in health and safety activities to ensure activities occur in their facility. This course will also link the CCHA in a child care setting with a registered nurse child care health consultant. Also available through Online Learning.

EARL 208 - Math in Early Childhood (3 credits)

Students learn theories and stages of cognitive development within the context of cultural, linguistic and ability diversity. They learn about children's use of math as a language to represent, construct, problem-solve and reason with the Art as a Way of Learning (AWL) framework. Students create and implement standards-based math learning experiences and environments using evidence based practice emphasizing Universal Design for Learning. Students assess children's learning and build reciprocal partnerships with families and professionals; they use community resources to support children's growth and development. Course requires 20 hours of (2 hrs/wk) field experiences (labs) in programs serving children Pre-K to Grade 4. Early childhood programs must be a license family, group, center, Head Start, faith-based, pre-k or nursery school setting. Additional course fees: \$13.00. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Also available through Online Learning. Video/DVD documentation of student teaching required (online students). Prereq.- EARL106 and EARL107. Prerequisite: EARL106 and EARL107.

EARL 216 - Language & Literacy in Early Childhood (3 credits)

Students learn literacy standards and stages of children's language development within the context of cultural, linguistic and ability diversity. They learn about children's use of language for representing and constructing meaning within the Art as a Way of Learning (AWL). framework. Students create and implement standards-based literacy learning

experiences and environments using evidence based practices emphasizing University Design for Learning. Students assess children's learning and build reciprocal partnerships with families and professionals; they use community resources to support children's language growth and development. Course requires 20 hours of (2 hrs/wk) field experiences (labs) in programs serving children Pre-K to Grade 4. Early childhood programs must be a licensed family, group, center, Head Start, faith-based, pre-k or nursery school setting. Additional course fees: \$13.00. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Also available through Online Learning. Video/DVD documentation of student teaching required (online students). Prereq.- EARL106 and EARL107. Prerequisite: EARL106 and EARL107.

EARL 217 - Child, Family and Community (3 credits)

Students learn the role of families, communities, and culture in the development of children from 0 to age 9 in the context of CLAD (Cultural, Language and Ability Diversity). They examine theories of family systems and children's social emotional development. Students study cultural competence and inclusive practices to build relationships with families and other professionals. They use evidence based practices to collaborate with and advocate for all children and families. Includes the development of professional competencies related to teaching English Language Learners (ELL). Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Completed coursework in Observation and Assessment (EARL107) will support student success in this course. Prereq. - EARL106. Also available through Online Learning.

Prerequisite: EARL106.

EARL 218 - Science in Early Childhood (3 credits)

Students learn the development of children's scientific thinking within the context of cultural, linguistic, and ability diversity. They learn that science is the study of the physical and natural world through observation and experimentation within the Art as a Way of Learning (AWL) framework. Students create and implement standards-based science learning experiences and environments using evidence based practice emphasizing Universal Design for Learning (UDL). Students assess children's learning and build reciprocal partnerships with families and professionals; they use community resources to support children's scientific thinking. Course requires 20 hours of (2 hrs/wk) field experiences (labs) in programs serving children Pre-K to Grade 4. Early childhood programs must be a license family, group, center, Head Start, faith-based, pre-k or nursery school setting. Additional course fees: \$13.00. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Also available through Online Learning. Video/DVD documentation of student teaching required (online students). Prereq.- EARL106 and EARL107.

Prerequisite: EARL106 and EARL107.

EARL 221 - Cultural & Linguistic Diversity in Early Childhood (3 credits)

Students learn and apply evidence-based practices to support children (birth through five) who are culturally and linguistically diverse. They learn multiple perspectives and responsive practices, including global contexts, to support the development and full participation of each child. Students apply evidence-based practices, including Universal Design for Learning (UDL), in designing environments and creating experiences for each child. Students explain and analyze the benefits of positive reciprocal partnerships with families and professionals in all early childhood settings. They identify resources that serve children who are culturally and linguistically diverse and their families. This course is designed for early childhood education professionals in the field who have previous early childhood coursework and/or work experience. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Some field site assignments are embedded in the course. Also available online. This course is not applicable to any associate degree, certificate, or diploma.

EARL 222 - Supporting Young Learners of Diverse Abilities (3 credits)

Students learn about and apply evidence-based practices to support each young child's diverse abilities (birth through five). They examine family centered approaches that encourage the development and full participation of each child by building a sequence of supports and services. Students understand evidence-based practices for referral, assessment, and development of individualized plans. Students explain and analyze how reciprocal partnerships with family members and professionals support the full potential of children with diverse abilities in home, program, and community settings. They identify community resources that can support children of diverse abilities and their families. This course is designed for early childhood education professionals in the field who have previous early childhood coursework and/or work experience. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Up to 10 hours of field site assignments are embedded in the course. Also available online. This course is not applicable to any associate degree, certificate, or diploma.

EARL 231 - Organization and Administration of Early Child Programs (3 credits)

Application of child development knowledge, state regulations and national standards to organization and administration

of high quality early childhood programs; to collaborate with families, school districts and communities and to engage in strategic planning. Designed for current and future directors of child care/child development centers, Head Start programs and community-based pre-kindergarten and kindergarten programs. Prereq. - 15 credits in Early Childhood Education or departmental approval. Also available through Online Learning.
Prerequisite: 15 credits in Early Childhood Education or departmental approval.

EARL 232 - Leadership Seminar in Early Childhood Education (3 credits)

Focus on program director's leadership role in creating environment that supports professionalism, ethics, advocacy, strategic planning, and leadership development for self, staff, and board members. Survey of current issues, trends, problems, and resources related to education and care of young children. Designed for current and future directors and owners of community child care/child development programs, Head Start programs, and pre-kindergarten programs. Prereq. - 15 credits in Early Childhood Education/Child Development, or department approval. Also available through Online Learning.

Prerequisite: 15 credits in Early Childhood Education/ Child Development or departmental approval.

EARL 233 - The Business of Early Learning & School Age Programs (3 credits)

This course provides an introduction to business practices unique to Directors running early learning/school-age programs. Content includes fiscal management, budgets and accounting, as well as insurance, risk management, marketing, sales, data management and technology use, strategic planning, grant writing and human resources. This course is designed to specifically meet the needs of students seeking the Director's Credential from the Pennsylvania Keys. Prereq. - 15 credits in Early Childhood Education or departmental approval. Also available through Online Learning.
Prerequisite: 15 credits in Early Childhood Education or departmental approval.

EARL 244 - Early Childhood Profession (3 credits)

Students use evidence based knowledge to learn about their role as professionals to become informed advocates for all children, their families, and for sound educational practices and policies. Historical perspectives of the early childhood profession and how they influence current trends and curriculum models are analyzed. NAEYC, CEC, and DEC Codes of Ethics are used to examine ethical dilemmas including those related to cultural, linguistic, and ability diversity. Professional competencies related to legal responsibilities, teaching models, and professional resources for Dual Language Learners (DLL) are explored. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Also available through Online Learning. Prereq. - EARL106 and EARL217.
Prerequisite: EARL106 and EARL217.

EARL 263G - Internship-Early Childhood (3 credits)

Students apply, analyze, and synthesize their knowledge of children's development and learning within the context of cultural, linguistic, and ability diversity. They create and implement standards-based learning experiences and aesthetic environments that integrate all curricular areas within the Art as a Way of Learning (AWL) framework. Students use evidence based practices emphasizing Universal Design for Learning (UDL). Students assess children's learning and build reciprocal partnerships with families and professionals; they use community resources to support children's growth and development. This course requires 2 hour weekly seminar class for 15 weeks and 150 hours (10 hrs/wk) of field experiences (lab) in programs serving children Pre-K to Grade 4; hours must be spread over three mornings. Early childhood program must be a licensed family group, center, Head Start, faith-based, pre-k or nursery school setting. The course is designated as a writing intensive course. Students are required to do action research and develop a Program Assessment Portfolio. Additional course fees: \$13.00. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Also available through Online Learning. Video/DVD documentation of student teaching required (online students). Prereq.- EARL106, EARL107, EARL126, EARL128, EARL208, EARL216, EARL217 all with a grade of C or better and ENGL101. Coreq.- EARL218, EARL244.
Prerequisite: EARL106, EARL107, EARL126, EARL128, EARL208, EARL216, EARL217, all with a grade of C or better and ENGL101. Corequisite: EARL218 and EARL244.

EARL 291 - Special Studies in Early Childhood Education (1 credit)

See statement on Special Studies (p. 19). Offered on demand.

EARL 292 - Special Studies in Early Childhood Education (2 credits)

See statement on Special Studies (p. 19). Offered on demand.

EARL 293 - Special Studies in Early Childhood Education (3 credits)

See statement on Special Studies. Offered on demand.

EARL 294 - Special Studies in Early Childhood Education (4 credits)

See statement on Special Studies (p. 19). Offered on demand.

ECON - Economics**ECON 201 - Macroeconomics (3 credits)**

This course deals with introduction to the basic concepts of economics, demand and supply analysis in market economy. It covers the topics of business cycle, unemployment, inflation, GDP and its determinants. This course provides a general overview of fiscal and monetary policies of the United States. National and global current economic issues are also analyzed. Also available through Online Learning. Core: SSHB.

ECON 251G - Microeconomics (3 credits)

This course deals with basic concepts of demand, supply, and their applications. It is primarily concerned with consumer behavior, production and pricing policies of the firm under different models i.e. perfect competition, monopoly, monopolistic competition, and oligopoly. It analyzes the resources pricing policies, unions, and labor markets. The role of government in correcting market failures is also examined. Analysis of current national economic issues is part of the coursework. Prereq. - ENGL101. Also available through Online Learning. Core: WI, IL.
Prerequisite: ENGL101.

EDUC - Education**EDUC 115 - Education for All Students (3 credits)**

This course provides a broad-based overview of professional education: including philosophy, history, organization, ethics, and current issues of education. The course focuses on the effective teaching of all students with an introduction to important theorists, child development, and diversity. The unique characteristics and needs of English Language Learners are considered. Students learn to create a lesson plan, assemble a professional portfolio, and complete ten hours of field experiences. By the end of the course students will understand the path to teacher certification in PA, including how to demonstrate Basic Skills Competency. The Pennsylvania Department of Education requires that all students participating in field experiences must provide the documentation listed below. 1. FBI Federal Criminal History Record (Act 114); 2. PA State Police Criminal Record Check (Act 34); 3. PA Child Abuse History Clearance (Act 151); 4. Mandated and Permissive Reporting in PA Online Training (Act 31); 5. Arrest/Conviction Report and Certification Form (Act 24); 6. TB (Mantoux) test. Pre-req. - Reading and writing competency as determined for ENGL101.
Prerequisite: Reading and writing competency as determined for ENGL101.

EDUC 260G - Adolescent Development & Cognition (3 credits)

The course emphasizes the adolescent as a student and learner in today's inclusive classroom. This course provides an overview of the major concepts, principles, theories, and research related to adolescent cognitive, social, sexual, emotional, and moral development. Strategies for teaching English Language Learners (ELL) comprise 15 hours of course content. Students complete 10 hours of field experience in the form of tutoring as part of this course. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Prereq.- ENGL101 and EDUC115.
Prerequisite: ENGL101 and EDUC115.

EDUC 291 - Special Studies in Education (1 credit)

See statement on Special Studies (p. 19). Offered on demand.

EDUC 292 - Special Studies in Education (2 credits)

See statement on Special Studies (p. 19). Offered on demand.

293 293 - Special Studies in Education (3 credits)

See statement on Special Studies (p. 19). Offered on demand.

ELEC - Electronics Technology

ELEC 101 - DC/AC Circuit Analysis I (4 credits)

This course provides an introduction to the fundamentals of direct and alternating circuit theory including definitions of voltage, current, resistance, and power; Ohm's and Kirchoff's laws; and series-parallel circuit analysis. Concepts of magnetism and sine waves as they related to electronic are covered. Lab work emphasizes related hands-on skills such as circuit wiring, use of test equipment, and data taking and reporting. Prereq. - Appropriate competence as outlined in the Mathematics placement policy or MATH026 or MATH028. Offered fall semester only. Additional course fees \$25.00. Prerequisite: Appropriate competencies as outlined in the Mathematics Placement Policy or MATH026 or MATH028.

ELEC 121 - Technical Computer Applications (2 credits)

This course addresses the computer literacy of students in technology programs. Aspects of reporting technical information are covered including audience, procedure, spreadsheets, graphs, schematics, as well as format and organization. Students are introduced to software applications relevant to the discipline including MS Office, schematic capture and simulation, virtual test equipment, and wikis. Navigational and file management in the Windows environment is important for course success. Offered fall semester only.

ELEC 126 - Digital Electronics I (3 credits)

This introductory course in digital electronics covers topics such as number systems, combinational logic circuits, Boolean theorems, flip-flops, counters, arithmetic circuits, display interface, and data storage and transfer. Labs emphasize the use of specifications in prototyping and troubleshooting discrete component digital circuits. Schematic capture software is used to simulate and simplify circuits. Prereq.- ELEC101. Offered spring semester only. Additional course fees \$25.00. Prerequisite: ELEC101.

ELEC 151 - DC/AC Circuit Analysis II (4 credits)

The second in a two-course sequence, this course provides in-depth coverage of DC and AC concepts. Circuit analysis using network theorems and mathematical solutions in applied to DC circuits. The response of resistors, capacitors, and inductors in both DC and AC circuits is detailed, with an emphasis on application and frequency response. Lab work emphasizes related hands-on skills such as circuit wiring, use of test equipment, and data taking and reporting. Prereq.- ELEC101; Pre- or coreq.- MATH140. Offered spring semester only. Additional course fees \$25.00. Prerequisite: ELEC101. Corequisite: MATH140.

ELEC 155 - Introduction to Solid State Devices (2 credits)

This is an introductory project course in circuit prototyping. Solid state devices such as diodes, transistors, and voltage regulators are introduced. Emphasis is on basic component characteristics and analysis in the context of a power supply circuit. Lab emphasizes component specifications and typical circuit configurations. The project introduces circuit board layout and wiring, chassis wiring and harnessing, and other fabrication techniques. Prereq.- ELEC101; Pre- or coreq.- EMEC115. Offered spring semester only. Additional course fees \$75.00. Prerequisite: ELEC101. Corequisite: EMEC115.

ELEC 161 - Electronics Soldering (2 credits)

Theoretical understanding and hands-on experience in the soldering of electronic assemblies; materials management, soldering processes and techniques, cleaning processes and techniques, desoldering processes and techniques, the application of workman ship standards; materials and processes to perform cause and effect analysis; laboratory exercises to provide hands-on experience hand soldering through hole and surface mount assemblies, inspecting product for adherence to workmanship standards, and removing and replacing defective components.

ELEC 177 - Electronics Manufacturing I (2 credits)

This is a course on the assembly and soldering of electronic circuits. Topics include applied chemistry and safety of materials, soldering processes, workmanship standards, and best practices. Lab work provides experience in hand soldering through-hole and surface mount assemblies, inspection and component replacement. Students who successfully pass the IPC-A-610 and J-STD-001 testing receive industry certification in both areas, valid for two years. Offered fall semester only. Additional course fees \$50.00.

ELEC 207 - Solid State Circuits (4 credits)

This is the first of a two-course sequence in linear electronics. Topical coverage includes: physical concepts of

semiconductors, diodes and power supply circuits, and bipolar-junction transistors (BJTs) used as switches and small- and large-signal amplifiers. Labs emphasize the analysis, prototyping, and troubleshooting of actual and simulated semiconductor circuits; interpreting manufacturer specifications; and documenting procedures and results. Prereq. - ELEC155. Offered fall semester only. Additional course fees \$25.00.
Prerequisite: ELEC155.

ELEC 208 - Digital Electronics II (3 credits)

This second course in digital electronics includes a thorough review of basic digital concepts- combinatorial and sequential logic, and memory devices. The fundamentals of programmable logic devices (PLDs) are introduced through the use of a CAD software that provides a design suite for programming a field programmable gate array (FPGA). Labs emphasize a combination of skills- analysis, prototyping, troubleshooting, design, simulation, and programming digital circuits. Offered fall semester only. Prereq. - ELEC126. Additional course fees \$25.00
Prerequisite: ELEC126.

ELEC 226 - Microprocessors I (3 credits)

This course introduces 8-bit microprocessor systems including architecture, memory and input/output (I/O) interfacing. Topics include: assembly language programming, bus architecture, digital and arithmetic logic, interrupts, interfacing peripherals, and applications. Students interpret, verify, and troubleshoot fundamental microprocessor circuits and programs using both a microprocessor trainer and simulator. Offered spring semester only. Prereq. - ELEC208.
Prerequisite: ELEC208.

ELEC 230 - Team Project (2 credits)

In this capstone course, students work to integrate concepts and skills learned throughout the electronics program. Student design teams prototype an electromechanical system to meet specified guidelines. Emphasis is on effective teamwork, technical research, problem solving within engineering constraints, prototyping, and record keeping/reporting. Offered spring semester only. Pre- or coreq.- ELEC177, ELEC232, ELEC226 and ENGL151.
Corequisite: ELEC177, ELEC232, ELEC226, and ENGL151.

ELEC 232 - Linear Integrated Circuits (4 credits)

This is the second in a two-course sequence in linear electronics covering field-effect transistors in switch and small-signal amplifier applications, a comparison of FETs to BJTs, thyristors, IC fabrication, op-amps in linear and non-linear applications, and voltage regulators. Labs emphasize prototyping, simulating, troubleshooting, and interpretation of procedure and manufacturer specifications. Prereq. - ELEC207. Offered spring semester only. Additional course fees \$25.00.
Prerequisite: ELEC207.

ELEC 271 - Computer Electronics Practicum I (3 credits)

Work-based experience assisting in the servicing of computer systems with focused exposure in carrying out routine maintenance, computer upgrades, common PC setup and repairs, and customer relations. Written analysis of problem solving project. Pre- or Coreq. - CISC255.
Corequisite: CISC255.

ELEC 272 - Computer Electronics Practicum II (3 credits)

Work-based experience assisting in the servicing of computer systems including networks and mainframes with focused exposure in carrying out troubleshooting, repair and upgrades. Written analysis of comprehensive systems problem solving project. Coreq.- CISC255. Course numbers ending with G are Writing Intensive (WI).
Corequisite: CISC255.

ELEC 272G - Computer Electronics Practicum II (3 credits)

Work-based experience assisting in the servicing of computer systems including networks and mainframes with focused exposure in carrying out troubleshooting, repair and upgrades. Written analysis of comprehensive systems problem solving project. Writing intensive. Coreq. - CISC255. Writing Intensive. CORE: WI.
Corequisite: CISC255.

ELEC 281 - Independent Electronics Study (1 credits)

An independent study experience of a topic of interest to the student under close supervision of a member of the Electronics Department faculty. Prereq. - sophomore standing in Electronic Technology and departmental permission.

Prerequisite: Sophomore standing in Electronic Technology and departmental permission.

ELEC 282 - Independent Electronics Study (2 credits)

An independent study experience of a topic of interest to the student under close supervision of a member of the Electronics Department faculty. Prereq. - sophomore standing in Electronic Technology and departmental permission. Prerequisite: Sophomore standing in Electronic Technology and departmental permission.

ELEC 283 - Independent Electronics Study (3 credits)

An independent study experience of a topic of interest to the student under close supervision of a member of the Electronics Department faculty. Prereq. - sophomore standing in Electronic Technology and departmental permission. Prerequisite: Sophomore standing in Electronic Technology and departmental permission.

ELEC 284 - Independent Electronics Study (4 credits)

An independent study experience of a topic of interest to the student under close supervision of a member of the Electronics Department faculty. Prereq. - sophomore standing in Electronic Technology and departmental permission. Prerequisite: Sophomore standing in Electronic Technology and departmental permission.

ELTC - Electrical Technology

ELTC 107 - Electrical Wiring I (3 credits)

This course provides an introduction to the practices of electrical wiring with a focus on residential single and multi-family dwellings. Covers project planning, materials calculation, and National Electrical Code based installation and wiring practices. Formerly ELTC807. Prereq.- EMEC101. Additional course fees \$20.00. Prerequisite: EMEC101.

ELTC 109 - Electrical Wiring II (3 credits)

Practices of electrical wiring with a focus on commercial buildings; project planning, materials calculation, and NEC-based installation and wiring practices. Formerly ELTC809. Coreq. - ELTC107. Additional course fees \$20.00. Corequisite: ELTC107.

ELTC 130 - Introduction to Sustainable Energy (3 credits)

This course introduces the concepts, challenges and potential solutions to globally sustainable energy. The interplay of energy efficiency, universal access, and renewable energy sources used in achieving this goal are examined and discussed. Emphasis is placed on energy conversion fundamentals, data driven analysis and real world examples. Wind, solar, hydro, geothermal, and biomass energy sources are analyzed and compared.

ELTC 211 - National Electrical Code (4 credits)

Preparation for the Masters License Examination including interpretation and application of the current release of the National Electrical Code. Covers calculations; branch and feeder circuits; service entrances; switches, switch boards and panel boards; general equipment; motor circuits, transformers, and welders. Prereq.- ELTC109 or permission of instructor. Prerequisite: ELTC109 or permission of the instructor.

ELTC 222 - Solar Photovoltaic Systems I (3 credits)

This is an introductory course on Solar Photovoltaic (PV) systems and components including system sizing and design for residential and light commercial projects. Other topics covered include energy conversion fundamentals, installation best practices, NEC compliance and ROI financial analysis. After completing this course, students are eligible to take the North American Board of Certified Energy Practitioners (NABCEP®) PV Entry Level exam. Prereq.- EMEC101. Additional course fees \$30.00. Prerequisite: EMEC101.

ELTC 260G - Electrical Construction Practicum (2 credits)

Work experience at an approved electrical contracting firm providing exposure to low and mid-level positions. Writing and presenting research, and analysis of a complete electrical installation project. The tasks will be consistent with the course work of the preceding semester. Prereq.- completion of the first three semester technical courses in the Electrical Construction Technology degree program.

ELTC 265 - Electrical Cabling Systems I (3 credits)

This course introduces students to the design, installation and application of low voltage wiring systems used in both residential and light commercial settings. National Electrical Code class 1, 2 and 3 circuits are discussed along with the applicable NEC Articles governing installation standards. Basic home computer networking protocols, security / video surveillance systems, and lighting control systems are all examined in this introductory course. Additional Course fees \$30.00.

EMEC - Electromechanical Technology**EMEC 101 - Electrical Fundamentals (3 credits)**

Provides a foundation of knowledge in electricity. Covers fundamental electrical concepts, EMF, current, resistance, power, AC and DC series and parallel circuit operation and analysis, inductance, capacitance, meter usage, schematics, and circuit component operation. Industrial safety stressed and math applications are reviewed. Practical lab application of concepts. Also available through Online Learning. Additional course fees \$20.00.

EMEC 105 - Introduction to Fluid Power (3 credits)

This course is the study of basic fluid systems and an introduction to hydraulic and pneumatic component hardware; work, energy, and power introduced and applied to the fluid power system. This course includes hands-on maintenance and troubleshooting of hydraulic and pneumatic components and systems. Prereq. - Appropriate competence as outlined in the Mathematics Placement policy or MATH022. Additional course fees \$25.00.
Prerequisite: Appropriate competence as outlined in the Mathematics Placement Policy or MATH022.

EMEC 110 - Mechanical Components (4 credits)

This course introduces the mechanical components and fasteners used in automated control systems. Discussions and hands-on activities include the use of hand tools, individual mechanical components and mechanical assemblies including: belts, chains, gears, gear drives, bearings, shafts, scales, seals and couplings. Pre- or Coreq. - ENGG117. Additional course fees \$10.00.
Corequisite: ENGG117.

EMEC 115 - Mechanical Skills for Technicians (1 credits)

Covers types of components and fasteners; hand tool usage; basic operation of hand power tools, measurement and layout applied to basic electromechanical projects. Only one of EMEC110 or EMEC115 may be applied to graduation in Electromechanical Technology. Offered spring semester only.

EMEC 117 - Industrial Rigging (1 credits)

The course provides basic rigging skills required for installation, setting or moving of industrial equipment and the use of ladders and scaffolding. This introduction stresses safe application of rigging techniques, the use of various devices in equipment installation, alignment, lifting and the calculation of load, center of gravity and proper material handling.

EMEC 118 - Hand and Power Tools (1 credits)

This course covers proper selection, safe use, care and maintenance of both hand and power tools. Also available through Online Learning. Additional course fees \$10.00.

EMEC 125 - Process and Automation Diagrams - P&ID (2 credits)

This course is an introduction to reading, interpreting and developing Process Instrumentation Drawings (PID) also known as Piping Instrumentation Diagrams or Process and Control Diagrams. The Identification of symbols and function labels commonly found on PID, description of how system components are related and tracing process piping and control loop functions are discussed and practiced.

EMEC 130 - Introduction to Process Control (3 credits)

This course introduces industrial process control and how instrumentation is needed to control the desired outcome. Discussions and online activities include instrumentation loops, instrumentation documents, principles of measurements, basic controller types, advanced control, and final elements.

EMEC 135 - Electrical Motors and Controls (4 credits)

Concepts of electricity, electronics and controls related to industrial applications; industrial control devices and sensors; relays and electromechanical control; electrical diagrams; transformers and power distribution; solid state power devices; motors, starters and drives; AC/DC motor control; process control fundamentals. Prereq. - EMEC101. Additional course fees \$30.00.

Prerequisite: EMEC101.

EMEC 140 - Sensors, Wiring and Troubleshooting (1 credits)

This course covers the basic discrete sensors and an introduction to basic analog sensors used in automated manufacturing systems and processes. The student will be exposed to various sensor technologies, and through the use of hands-on labs and exercises, will determine sensor selection, applications, installation, wiring and troubleshooting. The proper use of hand tools and multimeter(s) are incorporated, along with appropriate industry safety standards. Prereq. - EMEC101.

Prerequisite: EMEC101.

EMEC 220 - Instrumentation I (3 credits)

This is the first of two courses that teach process control instrumentation. The course covers temperature and pressure instruments and sensors, basic transmission signals and communications, safety and Safety Instrumented Systems (SIS). Through the use of theory and hands-on practice, students will practice device installation, wiring and troubleshooting using current industrial equipment. Safety and all applicable industry standards are incorporated throughout the course. Prereq. - EMEC125 and EMEC130. Additional course fees \$20.00.

Prerequisite: EMEC125 and EMEC130.

EMEC 225 - Instrumentation II (3 credits)

This is the second of two courses in process control instrumentation. The course covers level and flow measurements and instruments, final elements such as valves, automatic and manual control and instrumentation and control applications. Through the use of theory and hands-on practice, students will practice device installation, wiring and troubleshooting using current industrial equipment. Safety and all applicable industry standards are incorporated throughout the course. Pre- or Coreq. - EMEC220. Additional course fees: \$20.00.

Corequisite: EMEC220.

EMEC 240 - Industrial Control Systems I (4 credits)

This is a first course in industrial control systems that covers programmable logic controllers (PLCs) and programmable automation controllers (PACs) operation, application, programming and troubleshooting. PLC/PAC hardware identification, input/output (I/O), network communications and I/O wiring is presented. I/O and internal addressing, tags, alias tags and data types are presented and practiced. The basic software instruction set is covered including contacts, coils, timers, counters, data manipulation, comparison and arithmetic. Program control using subroutines and controller organization is also incorporated. Prereq. - EMEC101; Pre- or Coreq. - EMEC140. Additional course fees \$80.00.

Prerequisite: EMEC101. Corequisite: EMEC140.

EMEC 245 - Industrial Control Systems II (3 credits)

This is the second of two courses in Programmable Logic and Programmable Automation Controllers (PLC/PAC). The course covers the advanced instruction set including bit shifts, sequencers and advanced math instructions. Analog control systems are introduced taking the student from simple setpoint control to Proportional-Integral-Derivative (PID) control. Human Machine Interface (HMI) screens are developed and interfaced to the PLC/PAC to form a complete control system. Prereq. - EMEC240. Additional course fees \$80.00.

Prerequisite: EMEC240.

EMEC 251 - Mechanical Systems (3 credits)

Operation, diagnostics, repair, and modification of automation with emphasis on advanced mechanical and fluidic systems found in industrial robotics, conveyors, CNC, packaging machinery, casing machinery, and plastics molding equipment. Preventative maintenance and applicable OSHA safety standards. Pre- or coreq. - EMEC105, EMEC110, and EMEC135. Additional course fees: \$10.00

Corequisite: EMEC105, EMEC110, and EMEC135.

EMEC 260G - Electromechanical Technology Practicum (2 credits)

Actual work 'shadowing' experience in manufacturing or service organizations providing exposure to the maintenance

and/or engineering functions involved in modern factory automation design, installation, and servicing; written analysis of equipment problems and maintenance planning. Writing intensive. Prereq. - ENGL101 and Pre- or Coreq. - completion of all other technical courses in Electromechanical Technology degree program. Core: WI. Prerequisite: ENGL101. Corequisite: Completion of all other technical courses in Electromechanical Technology degree program.

EMEC 281 - Independent Electromechanical Study (1 credits)

Independent study in an advanced topic in electromechanical technology under close supervision of the Electromechanical Technology faculty; conducted primarily in a working lab environment, project requires the student to research information, collect and interpret data, and present the conclusions in written and oral form. Prereq. - EMEC 253. Prerequisite: (D in EMEC253).

EMEC 282 - Independent Electromechanical Study (2 credits)

Independent study in an advanced topic in electromechanical technology under close supervision of the Electromechanical Technology faculty; conducted primarily in a working lab environment, project requires the student to research information, collect and interpret data, and present the conclusions in written and oral form. Prereq. - EMEC 253. Prerequisite: (D in EMEC253).

EMGS - Emergency Services

EMGS 104 - Essentials of Firefighting & Emergency Response (4 credits)

This course will introduce basic firefighting concepts within the context of emergency response. Topics will include an overview of the fire service, fire service organization, firefighter safety, personal protective equipment, self-contained breathing apparatus, terrorism awareness, fire behavior, fire extinguishers, water supply, fire hose, ropes, and hazardous materials. Exterior fire group operation discussion includes ladders, communications, protective systems/sprinklers, forcible entry, and fire prevention. Students will be required to complete or obtain certificates in Hazardous Materials Awareness, Hazardous Materials Operations, Intro to Incident Command Sys. (IS100) and National Incident Management Sys. (IS700).

EMGS 105 - Essentials of Interior Firefighting & Emergency Response (2 credits)

This course will introduce concepts related to interior firefighting and emergency response. The course is designed to introduce firefighters to interior fire ground operations including nozzles and streams, self-contained breathing apparatus (SCBA), rescuer, ventilation, fire suppression, salvage, and firefighter survival. It builds upon concepts from EMGS104 while providing information and procedures that will integrate and complete basic firefighting and emergency response competency skill sets. Prereq.- EMGS104. Prerequisite: EMGS104.

EMGS 109 - Vehicle Rescue (3 credits)

This course will provide an awareness and operations level of information and skills as it pertains to vehicle rescue incidents. Topics will include general vehicle rescue function/operation; incident management of the vehicle accident/rescue incident; vehicle anatomy, design, and construction; recognition and control of hazards relative to a vehicle accident/rescue incident; and the tools and equipment used at a vehicle accident/rescue incident. Additional topics will include, patient access, care, and packaging along with disentanglement; extrication and termination. Students will be required to carry and maintain accident and health insurance and/or workman's compensation and sign a waiver of liability.

EMGS 115 - Emergency Medical Technician - Basic (6 credits)

This course provides fundamental training required to perform as an emergency service medical personnel and to become certified as an EMT. This skills-oriented course involved extensive hands-on training in the evaluation and treatment of the sick and injured. This course requires mandatory student lab time at a hospital in a clinical setting. Students will be required to complete a PA Criminal Background check, FBI Background check, physical exam, immunization record, and 9 panel drug screen as per clinical affiliation policy prior to starting the hospital patient assessment portion of the course. Formerly EMGS 107+108. May not be taken for credit after completing these courses. Additional course fees: \$13.00.

EMGS 118 - Introduction to Crime Scene Identification, Preservation and Investigation (3 credits)

This course provides essential information for first responders as it relates to their potential to encounter crime scenes while performing their duties. It will provide information that will allow responders to identify and preserve critical evidence. Investigative techniques are discussed within the context of potential responder participation in the prosecutorial process. The importance of crime scene identification and preservation while supporting law enforcement investigators as they collect and package crime scene evidence is emphasized.

EMGS 119 - Fundamentals of Homeland Security (3 credits)

This course provides essential introductory information as it relates to homeland security fundamental principles and practices. Discussion provides operational awareness within the variety of challenges associated with the provision of adequate homeland security measures. Subjects and topics covered will allow students to consider all aspects associated with prevention, response and recovery for actions and conditions associated with threats, acts of terror, disasters or catastrophes. Focus within the context of laws and law enforcement will offer insight to the comprehensive topic of homeland security.

EMGS 120 - Emergency Services Health & Safety (3 credits)

This course introduces the basic concepts of occupational health and safety as they relate to emergency service organizations. Topics include risk evaluation and control procedures for fire stations, training sites, emergency vehicles, and emergency situations involving fire, emergency medical services, hazardous materials response and technical rescue response agencies. Offered fall semester only.

EMGS 122 - Emergency Action Planning (3 credits)

This course is intended to provide basic emergency action planning information while emphasizing the importance of the emergency planning process. Additional subject matter includes history, laws and regulations, common practices, risk assessments, response actions including mitigation and recovery. The phases of emergency management are explored along with the roles and responsibilities of all stakeholders. Offered fall semester only.

EMGS 151 - Fire Prevention (3 credits)

This course provides essential information regarding the history and concept of fire prevention. Discussion incorporates concepts that include, authority having jurisdiction, risk assessment, fire prevention, inspection procedures and reports, building construction, and associated occupancy classifications. Additionally it includes identification and correction of fire hazards, ingress and egress, fire protection and water supply systems, portable extinguishers, fire detection and alarm systems, plans review, hazardous materials that include the proper handling and use of flammable and combustible materials.

EMGS 160 - Introduction to Security (3 credits)

This course provides essential introductory information as it relates to basic security fundamental principles and practices. Discussion provides operational awareness within the variety of challenges associated with the provision of adequate security measures. Subjects and topics covered will allow students to consider all aspects associated with basic security practices that involve prevention, response, risk assessment, insurance and liability, workplace violence and inappropriate activities of others associated with negative outcomes. Additional discussion includes recovery for actions and conditions associated with threats, acts of terror, disasters or catastrophes. Focus within the context of laws, regulations and interfacing with law enforcement will offer insight to the comprehensive topic of security.

EMGS 201 - Chemistry of Hazardous Materials (3 credits)

This course provides basic chemistry information relating to the various categories of hazardous materials as it relates to the emergency services. Information discussed includes problems of recognition, reactivity, along with health and safety concerns encountered by first responders.

EMGS 202 - Fire Tactics and Incident Command (3 credits)

Basic fire fighting tactics, the strategy and equipment to be used in extinguishing different types of fires; how to use available manpower and equipment efficiently; techniques in predicting fire severity; when, where and how to ventilate a building.

EMGS 207 - Technology Applications for Emergency Services (3 credits)

This course provides essential introductory information for first responders as it relates to applied technology and the

emergency services. Discussion provides operational awareness within the context of emergency management. Subjects and topics covered will allow responders to utilize technologies to facilitate and enhance emergency response efficiency and effectiveness. Information technological strategies along with operational devices and systems will be discussed as solutions and tools to achieve successful outcomes for all emergency responders and managers.

EMGS 208 - Operational Risk Management for Emergency Medical Services (3 credits)

This course provides essential introductory information for emergency medical providers as it relates to risk management and emergency medical services. Discussion provides operational awareness of the inherent risks for emergency medical service providers within the various aspects of providing emergency medical service. Subjects and topics covered will allow responders to recognize risks while providing mitigating actions to reduce or eliminate exposure to hazards. Discussion of regulatory compliance will be offered to facilitate required compliance efforts as risk management concepts are explored within the context of comprehensive accident prevention and safety programs.

EMGS 216 - Emergency Fiscal Administration (3 credits)

The course will examine the techniques and operations of fiscal administration as it relates to the public sector with an emphasis on emergency services and public safety. Subject matter will include public funding, spending, budgeting, risk management, and grant writing. Information and procedures will be introduced and practiced to allow students to complete a functioning budget, as well as develop future budget projections and funding scenarios. Offered fall semester only.

EMGS 217 - Public Information & Relations (3 credits)

This course will provide an effective way to manage public information at an incident or event, regardless of the size and complexity of the situation or the number of entities involved. Emphasis is placed on understanding the perspective of media personnel arriving on the scene. Students will learn how to prepare for media arrival along with agency interface. Presentation skills that afford concise and accurate information distribution will be discussed and practiced. Offered spring semester only.

EMGS 218 - Incident Command & Management (3 credits)

This course is a collection of FEMA course that comprise IS 100: Introduction to Incident Command System; IS 200: ICS for Single Resources and Initial Action Incidents; IS 300; IS 700 National Incident Management System an Introduction; and IS 800: National Response Framework an Introduction. Through an interrelated progression, the student will be exposed to the comprehensive approach of the National Incident Management System. Offered spring semester only.

EMGS 219 - Regulatory Compliance (3 credits)

Provisions of the regulatory agencies comprising Occupational Safety and Health Administration (OSHA), Environmental Protection Agency (EPA) and US Department of Transportation (DOT) as well as state agencies with similar responsibilities require that entities engaged in emergency response provide awareness and adequate training to ensure compliance with a multitude of regulations. This course is an overview of regulatory requirements along with the regulations that are pertinent to the response community. Offered spring semester only.

EMGS 220 - Methods of EMS Tactical Response (3 credits)

This course provides education and training designed to decrease deaths in tactical situations while focusing on managing trauma in the civilian tactical or hazardous environments such as mass casualty, active shooter, hazardous materials, and other incidents outside the normal operating conditions of most emergency medical services (EMS) agencies. Prereq.- EMGS115.
Prerequisite: EMGS115.

EMGS 221 - Emergency Service Management (3 credits)

This course introduces the basic concepts of management theory as applied to various operations specifically related to emergency service organizations. Topics include historical foundations, administration, management, leadership, finance and managing change. Emphasis is placed on aspects of human resources within a context of education and training to achieve critical outcomes. Health and safety responsibilities within regulatory compliance parameters are discussed as are all pertinent laws and regulations that directly impact emergency service organizations. Ethics and public policy conclude the topical discussions to provide awareness for those who are managers or administrators of emergency service organizations.

EMGS 231 - Law for Emergency Services (3 credits)

This course will discuss the legal aspects of emergency service organizations to include; arson law, legal rights and responsibilities of emergency services providers, their officers and related court procedures. Students will learn about specific laws and legal procedures as they relate to both criminal and civil topics and their subsequent relationship to the emergency services community.

EMGS 235 - Security Management (3 credits)

This course provides essential introductory information as it relates to basic security management principles and practices. Discussion provides managerial awareness within the variety of challenges associated with the provision of adequate security measures. Subjects and topics covered will allow students to consider managerial aspects associated with security practices that involve prevention, response, risk assessment, insurance and liability, workplace violence and inappropriate activities of others associated with negative outcomes. Additional discussion includes critical thinking concepts that will provide an operational competency to mitigate or respond to actions and conditions associated with threats, acts of terror, disasters or catastrophes. Focus within the context of laws, regulations and interfacing with law enforcement will offer insight to the comprehensive topic of security management.

EMGS 255 - First Responder Training (3 credits)

For police, fire, and rescue personnel responding to the scene of injury or illness; procedures used to initiate treatment while awaiting arrival of a higher level of care includes but not limited to CPR, shock and bleeding, and patient survey. Students will be required to carry and maintain accident and health insurance and/or workman's compensation and sign a waiver of liability. Additional course fees: \$13.00.

EMGS 256 - First Responder Stress Awareness and Management (3 credits)

This course provides essential introductory information for first responders as it relates to first responder emotional stress and challenges as a result of functioning within the emergency services. Discussion provides basic awareness within the context of stress management options. Subjects and topics covered will allow responders to utilize information to facilitate coping efforts as emotions are tested within the rigors of life and death scenarios. Further discussion offers insight to the range of emotions experienced by first responders while providing considerations for healing and ultimately essential emotional wellness.

ENGG - Engineering

ENGG 100 - Engineering Graphics (3 credits)

Training and experience in drafting procedure, practice and principles; basic skills and techniques of drafting including freehand orthographic and pictorial sketching; use of drafting equipment; essentials of lines, lettering, multiview projections, section views, dimensioning, tolerancing and notation in execution of detail and assembly drawings; introduction to computer-aided design basics for non-CAD majors. Also available through Online Learning. Additional course fees \$20.00.

ENGG 117 - Technical Drawings & Specifications (3 credits)

Interpreting and sketching engineering drawings and specifications; multiview projection, dimensioning, sectioning, geometric dimensioning and tolerancing; working drawings, pictorials; introduction to electrical, electronics, tooling, weld, and plastics drawing. Also available through Online Learning.

ENGG 125 - Manufacturing Processes (3 credits)

Fundamentals of manufacturing; survey of engineering materials, including the properties of each material and phase diagrams; processes for modifying materials; product design and material selection, relationship between conceptual, functional and process design; manufacturing processes; fundamental workings of the process, its capabilities, typical applications, advantages and limitations. Also available through Online Learning.

ENGG 191 - Special Studies in Engineering (1 credit)

See statement on Special Studies. Offered on demand.

ENGG 192 - Special Studies in Engineering (2 credits)

See statement on Special Studies. Offered on demand.

ENGG 193 - Special Studies in Engineering (3 credits)

See statement on Special Studies. Offered on demand.

ENGG 194 - Special Studies in Engineering (4 credits)

See statement on Special Studies. Offered on demand.

ENGG 201 - Statics (3 credits)

This is a calculus-based, problem-solving engineering course studying Engineering Mechanics - Statics. Topics covered are force resultants, force systems moments, equilibrium of particles rigid bodies, vector analysis, conditions for equilibrium in two three dimensions, structural analysis, shear & bending moment diagrams, and friction. Prereq. - PHYS215 with C or better; Pre- or co-requisite - MATH210. Also available through Online Learning.
Prerequisite: PHYS215 with C or better. Corequisite: MATH210.

ENGG 230 - Team Project (3 credits)

CAD students participate in teams to design and prototype a product under specified guidelines; emphasis on technical writing and reporting, effective teamwork, and prototyping. Only one of the following may be applied to graduation: ELEC230 or ENGG230. Pre- or coreq.- CADM230. Offered spring semester only. Additional course fees \$40.00.
Prerequisite: CADM230.

ENGG 251 - Strength of Materials (3 credits)

This is an engineering and scientist level, calculus-based, problem-solving engineering course. Topics covered are the strength of engineering materials, including stress, strain, beams, columns, torsion, thin wall cylinders, thermal stress, and theory of failure. Prereq. - ENGG201 with C or better. Also available through Online Learning.
Prerequisite: ENGG201 with C or better.

ENGG 252 - Dynamics (3 credits)

Kinematics and dynamics of particles and rigid bodies, principles of work and energy and impulse and momentum.
Prereq.- ENGG201.
Prerequisite: ENGG201.

ENGL - English**ENGL 027 - Writing Skills Workshop (4 credits)**

This course is taught in tandem with ENGL101 and supports the skills learned in that course: logical and focused writing, thorough development of a main point by means of supporting ideas and evidence, and integrating information from secondary sources. Students will use summary, paraphrase, and direct quotation in various forms of thesis-based writing. To support the skills needed for ENGL101, students will do in-depth work on paragraph writing, using details and evidence to support topic sentences and thesis statements. Students will learn and use the stages of the writing process. They will develop strategies for organizing and developing topics and improving coherence in multi-paragraph essay writing. Students will acquire editing and proofreading skills. Placement into developmental writing as determined by the English Placement test or course work.

ENGL 028 - English Vocabulary III (3 credits)

Students with high-intermediate knowledge of English will expand their vocabulary by 300 new words which they will learn to recognize and use in written and oral communication. Students will also develop and improve vocabulary-learning strategies, such as inference from context, understanding word families, recognizing synonyms, analyzing word parts, using dictionaries. Students complete 15 hours of using ESL software as part of the requirements for this course. Prereq. - English language competence as determined by the English or ESL department through testing and/or course work.
Prerequisite: English language competence as determined by the English or ESL department through testing and/or course work.

ENGL 101 - English I (3 credits)

This course gives close attention to the writing process in various forms of thesis-based writing. The course develops skills in logical and focused writing, through thesis development using supporting ideas and evidence. In addition, students

learn to integrate and document information from sources. Prereq. - Competence in reading and writing as determined by English Department through testing and/or course work. Also available through Online Learning. Approved for the Honors Program.

Prerequisite: Competence in reading and writing as determined by English Department through testing and/or course work.

ENGL 151 - English II (3 credits)

Students continue to develop the academic writing and critical reading skills begun in English I. Students may elect to work on introduction to literature (L), report writing (R), or technical writing (T). Prereq.- ENGL101. Also available through Online Learning. ENGL151L (literature option) is approved for the Honors Program and has a designated as a Diversity (D) core course.

Prerequisite: ENGL101.

ENGL 151L - English II (3 credits)

Students continue to develop the academic writing and critical reading skills begun in English I. Students may elect to work on introduction to literature (L), report writing (R), or technical writing (T). Prereq.- ENGL101. Also available through Online Learning. ENGL151L (literature option) is approved for the Honors Program and has a designated as a Diversity (D) core course.

Prerequisite: ENGL101.

ENGL 151R - English II (3 credits)

Students continue to develop the academic writing and critical reading skills begun in English I. Students may elect to work on introduction to literature (L), report writing (R), or technical writing (T). Prereq.- ENGL101. Also available through Online Learning. ENGL151L (literature option) is approved for the Honors Program and has a designated as a Diversity (D) core course.

Prerequisite: ENGL101.

ENGL 151T - English II (3 credits)

Students continue to develop the academic writing and critical reading skills begun in English I. Students may elect to work on introduction to literature (L), report writing (R), or technical writing (T). Prereq.- ENGL101. Also available through Online Learning. ENGL151L (literature option) is approved for the Honors Program and has a designated as a Diversity (D) core course.

Prerequisite: ENGL101.

ENGL 201G - British Literature I (3 credits)

Survey of major works of selected British authors (before 1800) from Old English through the Eighteenth Century; emphasis on understanding the cultural and historical context of the literature as well as on analysis and interpretation of the works of literature. Writing intensive. Prereq. - ENGL151. Also available through Online Learning. Core: AH, WI.

Prerequisite: ENGL151.

ENGL 203G - Shakespeare (3 credits)

By studying Shakespeare's plays and poetry, students will learn to read text accurately, critically and imaginatively, and explore Shakespeare's world and his relevance to ours. Through reading, discussion, and written analysis, we will examine Shakespeare's work in light of the historical, political, cultural contexts in which Shakespeare wrote and ultimately consider the question "Why is Shakespeare's work still important to us?" Approved for the Honors Program. Writing intensive. Prereq. - ENGL151. Core: AH, WI.

Prerequisite: ENGL151.

ENGL 205G - American Literature I (3 credits)

Survey of major American writers from Colonial period to the Civil War, including works from Edwards, Jefferson, Wheatley, Franklin, Douglass, Emerson, Fuller, Thoreau, Poe, Dickinson and Whitman. Emphasis is on texts but with attention to historical, cultural, and intellectual backgrounds. Prereq. - ENGL151. Core: AH, WI, D.

Prerequisite: ENGL151.

ENGL 211G - Plays: Classical to Contemporary (3 credits)

This course introduces students to the analysis of plays as literary text that shapes both performance and an understanding of culture and the human experience. Plays from classical Greece to contemporary Theatre of Diversity

will be covered along with the comments of playwrights, directors, actors and critics. Students will analyze drama from psychological, historical, philosophical, structural and dramatic perspectives. Students may not receive credit for both CMTH211G and ENGL211G. Prereq.- ENGL151. Core: AH, D, WI.
Prerequisite: ENGL151.

ENGL 215G - Multicultural Adolescent Literature (3 credits)

A writing-intensive course based on multicultural literature for adolescents. Overview of materials based upon the socio-cultural and developmental characteristics of young adults with an emphasis on multiculturalism and English language learners; examination of major genres in young adult literature. Ten hours of educational field experience or service learning activity required. Prereq.- ENGL151. Core: AH, D, WI.
Prerequisite: ENGL151.

ENGL 250G - Latin American Literature (3 credits)

This course is a survey of contemporary Latin American writers, including Borges, Allende, Garcia Marquez, Vargas Llosa, Fuentes and others. The emphasis of the course is on reading and writing, with an additional focus on history, culture and literary terms. The course is conducted in English, including class discussions, readings and assignments. Prereq.- ENGL151L. Core: AH, D, WI.
Prerequisite: ENGL151.

ENGL 251G - British Literature II (3 credits)

Major works of selected British authors from the Pre-Romantics to the 20th century. Emphasis on literary analysis but with attention to intellectual and historical backgrounds. Writing intensive. Prereq. - ENGL151. Core: D, AH, WI. Approved for the Honors Program. Also available through Online Learning.
Prerequisite: ENGL151.

ENGL 253 - Creative Writing (3 credits)

This course provides beginning writers with the opportunity to explore imaginative uses of language through the fundamentals of poetry, fiction, and literary nonfiction. Conducted through lectures and workshops, the course exposes students to prominent examples of the kind of writing they are expected to produce, and it promotes the critical analysis of their own writing, as well as the writings of their peers. Prereq.- ENGL101. Also available through Online Learning.
Core: AH, D.
Prerequisite: ENGL101.

ENGL 255G - American Literature II (3 credits)

This survey of major American writers from the Civil War to the present emphasizes literary works with close attention to historical, cultural, and intellectual backgrounds. Prereq. - ENGL151. Also available through Online Learning.
Core: AH, CT, D, WI.
Prerequisite: ENGL151.

ENGL 256G - Modern Poetry (3 credits)

A survey of modern American poetry beginning with Walt Whitman and up to contemporary poets. The course emphasizes understanding of primary literary texts in their socio-historical, political and cultural contexts. The craft and technique of poetry writing will be explored. Prereq. - ENGL151. Core: D, AH, WI. Also available through Online Learning.
Prerequisite: ENGL151.

ENGL 257G - 20th Century Literature by Women (3 credits)

A sophomore-level study of 20th century literature by women through works by major authors of the time, specifically focusing on the written images these authors created of women, and their search for self-awareness in various cultures. Writing intensive. Prereq. - ENGL151. Core: AH, D, WI. Also available through Online Learning.
Prerequisite: ENGL151.

ENGL 258 - Fiction Writing (3 credits)

Students will study elements of fiction in greater depth, read and analyze the techniques of established authors, and practice incorporating these elements and strategies in creating their own original fictional works. Emphasis will be placed on narrative structure, plot, point of view, characterization, setting, dialogue, use of figurative language, and theme. This workshop-style course will include writing exercises, written and verbal analysis, self-assessments, peer and instructor feedback, and revision and editing, as well as an examination of paths to publication and appropriate

submission preparation. Prereq. - ENGL151 or ENGL253. CORE: AH
Prerequisite: ENGL151 or ENGL153.

ENGL 260G - Contemporary Literature (3 credits)

In this course we will study literary works in English and in translation dating from mid-twentieth century to the present with a focus on non-Western literature. We will emphasize situating individual works within their cultural historical, political, and social contexts. The course will include all four main literary genres-poetry, short fiction, the novel, and drama-and works will range from traditional to experimental. Prereq. - ENGL151. Core: AH, CT, D, WI.
Prerequisite: ENGL151.

ENGL 264G - Irish Literature (3 credits)

A survey of the literary works of Irish authors from the mid-nineteenth century to the present, the course emphasizes understanding primary literary texts within their historical, political, and cultural contexts. Prereq.- ENGL151. Approved for the Honors Program. Core: AH, IL, WI, D.
Prerequisite: ENGL151.

ENGL 265G - African-American Literature (3 credits)

This course introduces students to the literary works of African-Americans from the nineteenth century to the present, exploring various genres and themes in their historical, political, and socio-cultural contexts. Prereq.- ENGL151. Core: AH, D, and WI. Also available through Online Learning. Approved for the Honors Program.
Prerequisite: ENGL151.

ENGL 267 - Poetry Writing (3 credits)

This course is intended for students who have experience in writing poetry but would like to improve their writing. The content, structure, and techniques of contemporary poems will be studied, with an emphasis of using such study for the writing and critiquing of the students' own poems. Conducted through lectures and workshops, the course promotes the critical analysis of their own writing, as well as the writings of their peers, with the purpose of writing publishable poems. Prereq.- ENGL101 or permission from the instructor. Core: AH, D.
Prerequisite: ENGL101 or permission of the instructor.

ENGL 291 - Special Studies in English (1 credit)

See Statement on Special Studies (p. 19). Offered on demand.

ENGL 292 - Special Studies in English (2 credits)

See Statement on Special Studies (p. 19). Offered on demand.

ENGL 293 - Special Studies in English (3 credits)

See Statement on Special Studies (p. 19). Offered on demand.

ESLL - English as a Second Language

ESLL 001 - ESL I (6 credits)

For the student with little or no knowledge of English, this course integrates the basic skills listening, speaking, reading, and writing English. Students will practice these skills through various activities and test in a college classroom environment. Students complete 30 hours (2 additional hours per week) of using ESL software in the ESL computer lab as part of the requirements for this course. They must check in with the lab assistant.

ESLL 002 - Clear Speech I (3 credits)

This course begins the study of English pronunciation for non-native speakers with beginning level language proficiency. Students will learn to correctly articulate the simple vowel and consonant sounds of English using the basic phonetic alphabet. In this class, students will apply the building blocks of speech and use rhythm, stress, and intonation for more effective communication. In addition, students complete 15 hours of independent study using ESL software in the ESL computer lab as part of the requirements for this course.

ESLL 004 - ESL Technology for Academic Success (3 credits)

This course introduces students to computer technologies and related social and linguistic skills for learners who have not had access to technology for academics. Students complete 15 hours using software in the ESL computer lab as part of the requirements for this course.

ESLL 005 - ESL Writing II (3 credits)

Students with some knowledge of English will study intermediate grammar, create basic sentences, and compose short paragraphs applying the uses of specific times and verb tenses. Students complete 15 hours of using ESL software in the ESL computer lab as part of the requirements for this course.

ESLL 006 - ESL II Introduction (3 credits)

For the student with fundamental knowledge of English, this course further develops the elementary skills of listening, speaking, reading, and writing English. Students will practice these skills through various activities and tests in a college classroom environment. Students complete 15 hours of using ESL software in the ESL computer lab as part of the requirements for this course. Prereq.- English language competence as determined by the ESL department through testing and/or course work.

Prerequisite: English language competence as determined by the ESL department through testing and/or course work.

ESLL 007 - ESL Speaking II (3 credits)

Students with some knowledge of spoken English will learn and practice conversational skills in order to improve their listening and speaking abilities and learn about American culture in ways that will prepare them for academic contexts. Students complete 15 hours of using ESL software in the ESL computer lab as part of the requirements for this course.

ESLL 008 - English Vocabulary II (3 credits)

Students with low-intermediate knowledge of English will expand their vocabulary by 300 new words which they will learn to recognize and use in written and oral communication. Students will also develop vocabulary-learning strategies, such as inference from context, understanding word families, recognizing synonyms and antonyms, analyzing word parts, using dictionaries. Students complete 15 hours of using ESL software as part of the requirements for this course. Prereq. - English language competence as determined by the ESL department through testing and/or course work.

Prerequisite: English language competence as determined by the ESL department through testing and/or course work.

ESLL 009 - ESL Reading II (3 credits)

Students with some knowledge of English will read materials that are at an intermediate level and aim to prepare students for reading in an academic environment. Students will also learn new vocabulary by memorizing, using context cues, and learning basic dictionary skills. Students complete 15 hours of using ESL software in the ESL computer lab as part of the requirements for this course.

Prerequisite: English language competence as determined by the ESL department through testing and/or course work.

ESLL 010 - Clear Speech II (3 credits)

This is the second course in the study of English pronunciation for non-native speakers with intermediate level language proficiency. The course continues the study of pronunciation skills through the study of the phonetic alphabet. Students will learn to accurately articulate English vowels, vowel blends, and linking and ending consonant sounds. Students will further explore how to effectively use rhythm, stress, and intonation in oral communication. In addition, students complete 15 hours of independent student using ESL software in the ESL computer lab as part of the requirements for this course. Prereq.- English language competence as determined by the ESL department faculty.

Prerequisite: English language competence as determined by the ESL department faculty.

ESLL 014 - Attention to Accent (3 credits)

This course is designed for intermediate to advance English language learners who would like to improve their American English pronunciation. Students complete 15 hours using ESL software in the ESL computer lab as part of the requirements for this course. Prereq. - English language competence as determined by the ESL department faculty through testing and/or course work.

Prerequisite: English language competence as determined by the ESL department faculty through testing and/or course work.

ESLL 015 - ESL Writing IIIA (3 credits)

English language learners will study high intermediate grammar, learn how to select and respond to writing topics, organize ideas, and develop paragraphs in ways that will prepare them for writing in college courses. Students of this course will develop these skills in a network-based computerized classroom. In addition, students complete 15 hours outside of class using ESL software in the ESL computer lab as part of the requirements for this course. Prereq.- English language competence as determined by the ESL department faculty.

Prerequisite: English language competence as determined by the ESL department faculty.

ESLL 016 - ESL Writing IIIB (3 credits)

English language learners will study advanced grammar, learn how to select and respond to writing topics, organize ideas, and develop paragraphs in ways that will prepare them for writing in college courses. Students of this course will develop these skills in a network-based computerized classroom. In addition, students complete 15 hours outside of class using ESL software in the ESL computer lab as part of the requirements for this course. Prereq.- English language competence as determined by the ESL department faculty.

Prerequisite: English language competence as determined by the ESL department faculty.

ESLL 017 - ESL Speaking III (3 credits)

Students with intermediate skills in spoken English will improve and practice conversational skills in order to improve their listening and speaking abilities and learn about American culture in academic contexts. Activities will help students develop presentation skills as well as intercultural understanding. Students complete 15 hours of using ESL software in the ESL computer lab as part of the requirements for this course.

ESLL 018 - ESL Reading IIIA (3 credits)

Students with low-intermediate knowledge of English will improve their ability to read and understand a variety of reading passages. Students will prepare for reading in an academic environment by learning and applying strategies such as predicting, scanning, finding main ideas, developing context clues to build vocabulary, identifying cause and effect, and recognizing facts. Students complete 15 hours of using ESL software as part of the requirements for this course. Prereq. - English language competence as determined by the ESL department through testing and/or course work.

Prerequisite: English language competence as determined by the ESL department through testing and/or course work.

ESLL 019 - ESL Reading IIIB (3 credits)

Students with high-intermediate knowledge of English will improve their ability to read and understand a variety of reading passages. Students will prepare for reading in an academic environment by applying and improving strategies such as predicting, scanning, identifying main and supporting ideas, making inferences, developing context clues to build vocabulary, identifying cause and effect, and recognizing facts and opinions. Students complete 15 hours of using ESL software as part of the requirements for this course.

ESLL 028 - English Vocabulary III (3 credits)

Students with high-intermediate knowledge of English will expand their vocabulary by 300 new words which they will learn to recognize and use in written and oral communication. Students will also develop and improve vocabulary-learning strategies, such as inference from context, understanding word families, recognizing synonyms, analyzing word parts, using dictionaries. Students complete 15 hours of using ESL software as part of the requirements for this course. Prereq. - English language competence as determined by the ESL department through testing and/or course work.

Prerequisite: English language competence as determined by the ESL department through testing and/or course work.

ESLL 031 - ESL Writing IV (3 credits)

English language learners and international students preparing to enroll in regular college courses or enter the work force with an advanced knowledge of English will study and analyze errors in complex sentence structure and learn test-taking strategies. Students complete 15 hours of independent online study in addition to the requirements for this course.

Prereq.- English language competence as determined by the ESL department faculty.

Prerequisite: English language competence as determined by the ESL department faculty.

ESLL 033 - ESL Reading IV (3 credits)

English language learners and international students preparing to enroll in regular college courses or enter the work force with an advanced knowledge of English will develop critical reading and thinking skills and learn test-taking strategies. Students complete 15 hours of independent online study in addition to the requirements for this course. Prereq. - English language competence as determined by ESL department faculty.

Prerequisite: English language competence as determined by the ESL department faculty.

ESLL 035 - ESL College Success (3 credits)

The course focuses on helping second language learners integrate into the US Higher Education environment. This course examines goal setting, cultural adjustment, college policies, graduation requirements, campus resources, programs and services, student rights and responsibilities, student educational planning and other topics as needs are identified. Designed for advanced second language learners, this course enhances the transition into American society and maximizes the successful matriculation through college. Prereq. - English language competence as determined by ESL department faculty.

Prerequisite: English language competence as determined by the ESL department faculty.

ESLL 037 - ESL Speaking IV (3 credits)

English language learners will develop advanced college and work-related communication skills in individual, small group, and classroom situations. Focus will be on practicing academic listening and oral presentation skills. Activities will also help students develop intercultural understanding and appreciation. Students complete 15 hours of using ESL software in the ESL computer lab as part of the requirements for this course. Preq. - English language competence as determined by ESL department faculty.

Prerequisite: English language competence and determined by ESL department faculty.

ESLL 038 - English Vocabulary IV (3 credits)

Students with advanced knowledge of English will expand their vocabulary by 300 new words which they will learn to recognize and use in written and oral communication. Students will also improve and apply vocabulary-learning strategies, such as text analysis, understanding word families, recognizing synonyms and collocations, analyzing word parts, and using dictionaries. Students complete 15 hours of using ESL software as part of the requirements for this course. Prereq.- English language competence as determined by the ESL department through testing and/or course work. Prerequisite: English language competence as determined by the ESL department through testing and/or course work.

FOOD - Food Service Management

FOOD 110 - Food Preparation (4 credits)

This course concentrates on basic food preparations, including station assignments, theory, personnel organization, service and storage; lecture, demonstration, and participation. Students must provide documentation of certification in ServSafe from the National Restaurant Association prior to enrolling in the class. Documentation should be submitted to the Hospitality Management program. Offered Fall semester only. Prereq. - HOSP101.

Prerequisite: HOSP101.

FOOD 123 - Menu Plan/ Food & Beverage Cost Control (3 credits)

Menu design from fast food operations through fine dining; emphasis on creating balanced menus that are profitable, consumer-driven and nutritionally proportioned; methods of establishing menu selection, cost control in food, beverage, and labor; profit margins, selling price strategy; truth in menu regulations and menu engineering as a marketing and merchandising tool. Offered spring semester only.

FOOD 140 - Fundamentals of Beer, Wine, and Spirits (3 credits)

This course will provide the foundational knowledge of Beer, Wine, and Spirits in the growing global hospitality industry. This course provides an overview of the origins, production, sales, and responsible service of wines, spirits and beers. Topics include styles, service techniques, product knowledge, sensory analysis and beverage tasting. Sensory analysis is a significant part of the course and anyone under 21 years of age can only use sight and smell analysis.

FOOD 250 - Dining Room Operations (3 credits)

This course provides instruction in and practical application of the operation of a restaurant dining room. Students will examine various topics in relation to front of the house operations, management practices, technology, trends and communication techniques. Students will engage in learning theory and practice of service fundamentals through a lab experience. Prereq. - HOSP101 and HOSP130.

Prerequisite: HOSP101 and HOSP130.

FUNS - Funeral Service Education

FUNS 101 - Principles of Funeral Service (2 credits)

A review of the typical religious funeral customs associated with Judaism, Roman Catholicism, and Protestantism and strategies to enhance the relationships between the funeral director, the clergy, and the bereaved. Restricted to Funeral students. Prereq. - ACCT100 or ACCT101, BIOS160, BIOS202, BUSA152, CHEM135, CISC101 and PSYC221 all with C or better. Offered fall semester only.

Prerequisite: ACCT100 or ACCT101, BIOS160, BIOS202, BUSA152, CHEM135, CISC101 and PSYC221, all with a C or better.

FUNS 102 - Introduction to Funeral Service (4 credits)

An overview of the funeral service profession with an emphasis on professionalism, ethics, funeral history, the Federal Trade Commission (FTC), current trends (pre-need and cremation), statistics, and relevant vocabulary. Restricted to Funeral students. Prereq. - ACCT100 or ACCT101, BIOS160, BIOS202, BUSA152, CHEM135, CISC101 and PSYC221 all with C or better. Offered fall semester only.

Prerequisite: ACCT100 or ACCT101, BIOS160, BUSA202, BUSA152, CHEM135, CISC101 and PSYC221 all with a C or better.

FUNS 105 - Funeral Directing (3 credits)

The procedures to be used by the funeral director to carry out the necessary functions associated with the notification of a death, transfer of human remains, arrangement conference counseling, visitation, funeral or memorial services, disposition, and post funeral services; funeral related financial resources (Social Security, Veteran's Administration, National Cemeteries, Armed Forces, Public Assistance, etc.) Restricted to Funeral students. Offered spring semester only.

FUNS 201 - Funeral Home Operations I (4 credits)

The role and function of an effective funeral home manager with emphasis on entrepreneurial skills related to buying and selling a funeral home, succession planning, managing facilities, financial statements, financing, and consumer behavior. Restricted to Funeral students. Offered fall semester only.

FUNS 203 - Pathology for Funeral Service (3 credits)

Pathological changes affecting the human body, its structure, function, with particular emphasis on the implications these changes have on the embalming and/or restorative art process. Restricted to Funeral students. Offered fall semester only.

FUNS 210 - Embalming Theory I (3 credits)

Theoretical training in all phases of the embalming process, including an orientation and introduction to embalming, death, pre-embalming changes, embalming instrumentation, preparation of the body, selection of vessels, injection and drain-age techniques, dilution-distribution-diffusion, cavity treatment, and postmortem examinations. Restricted to Funeral students. Prereq. - BIOS160 (or BIOS204 and BIOS254) and CHEM135. Offered fall semester only.

Prerequisite: BIOS160 (or BIOS204 and BIOS254) and CHEM135.

FUNS 212 - Funeral Service Clinical I (1 credits)

This course provides on-campus practical experience in all phases of the applied embalming process and responsibilities required of a funeral director. Restricted to Funeral students. Coreq. - FUNS210. Additional course fees: \$75.00. Offered fall semester only.

Corequisite: FUNS210.

FUNS 220 - Embalming Theory II (3 credits)

Theoretical training in all phases of the embalming process, including embalming chemicals and arterial solutions, specific embalming treatments, disaster management, the history of embalming, biohazardous waste disposal, OSHA standards, and case analysis; continuation of Embalming Theory I. Restricted to Funeral students. Prereq. - FUNS 210. Offered spring semester only.

Prerequisite: FUNS210.

FUNS 222 - Funeral Service Clinical II (1 credits)

A continuation of FUNS212, this course provides on-campus practical experiences in all phases of the applied embalming process and responsibilities required of a funeral director. Restricted to Funeral Service Education students. Prereq.- FUNS212. Additional course fees: \$75.00.

Prerequisite: FUNS212.

FUNS 231 - Funeral Home Operations II (2 credits)

Business principles related to pricing, promotion, personnel management, inventory control, computer usage, and merchandising & pricing of caskets, outer burial containers, and cremation urns, etc. Restricted to Funeral students.

Prereq. - FUNS201. Offered spring semester only.

Prerequisite: FUNS201.

FUNS 241 - Funeral Services Field Study I (1 credits)

This course provides a minimum of six (6) hours per week of cooperative education in an approved funeral home, under the direction of a licensed funeral director. Students will be required to perform tasks related to the embalming procedure and funeral directing. Restricted to Funeral Service Education students. Additional course fees: \$75.00.

FUNS 242 - Funeral Services Field Study II (1 credits)

A continuation of FUNS 241, this course provides a minimum of 6 hours per week of cooperative education in an approved funeral home, under the direction of a licensed funeral director. Students will be required to perform tasks related to the embalming procedure and funeral directing. Restricted to Funeral Service Education students. Prereq. - FUNS241.

Additional course fees: \$75.00.

Prerequisite: FUNS241.

FUNS 251 - United States and Pennsylvania Funeral Law (3 credits)

Basic business laws and principles associated with funeral contracts, negligence, tort liability, magistrates, state and local courts, disposition rights, probate, and Pennsylvania Funeral Director Law and the rules and regulations. Restricted to Funeral students. Offered spring semester only.

FUNS 255 - Cosmetology & Restorative Art (3 credits)

Aspects of general art as applied to funeral service, anatomical modeling, facial expressions, familiarization with tools, materials and techniques necessary to reconstruct human features, color in cosmetics, and development of special laboratory skills. Restricted to Funeral students. Prereq. - BIOS160 or BIOS254. Additional course fees: \$85.00. Offered spring semester only.

Prerequisite: BIOS160 or BIOS254.

FUNS 280 - Funeral Service Education Comprehensive Review (1 credits)

A course designed as a review of the entire curriculum, culminating with an exam designed to prepare students for the national board or various state board examinations. Courses must be taken during the final semester of course work.

Restricted to Funeral students. Prereq. - FUNS201 and FUNS210. Offered spring semester only.

Prerequisite: FUNS201 and FUNS210.

FUNS 291 - Special Studies in Funeral Service (1 credit)

See Statement on Special Studies (p. 19). Offered on demand.

FUNS 292 - Special Studies in Funeral Service (2 credits)

See Statement on Special Studies (p. 19). Offered on demand.

FUNS 293 - Special Studies in Funeral Service (3 credits)

See Statement on Special Studies (p. 19). Offered on demand.

GEOG - Geography

GEOG 101 - World Geography (3 credits)

An introduction to the location, distribution, and spatial organization of selected elements of culture, politics, economics, and environment that have relevance to major contemporary problems in various regions of the world. Also available through Online Learning. Core: SIT, D.

GEOG 121 - Environmental Sustainability (3 credits)

This course used scientific principles of ecology to analyze human impact on the natural environment. It examines population change, resource consumption, environmental modification, and their past and present relationships. With economics, politics, and culture providing context, the course explores possible paths to the sustainability of human society in the natural world. Course numbers ending with a G are Writing Intensive (WI). Also available through Online Learning. Core: SSHB, WI, D.

GEOG 121G - Environmental Sustainability (3 credits)

Human/environment interactions through history; basics of ecology with application to human ecology; causes and consequences of population growth, resource depletion, and pollution; relationships between these problems and possible solutions to them. Writing Intensive. Prereq. - ENGL101. Core: SSHB, D, WI.
Prerequisite: ENGL101.

GEOG 140 - Investigating Climate Change (3 credits)

The course examines the evidence relevant to the questions of whether global climate is changing and if human behavior is a cause; the ways that potential climate changes could be beneficial or harmful; the variation in the potential benefits and risks of climate change for different places and groups of people; the ways that individuals and society can respond to potential or actual climate change; the variety of reasons why people disagree about climate change. CORE: SSHB.

GEOG 150 - Astronomy (4 credits)

Astronomy is an introductory course designed for both science and non-science majors. It will provide a broad introduction to Astronomy, including observational cycles and systems as well as, important historical developments. Weekly laboratory exercises are an integral part of this course, and these investigations are designed for students who have algebra and are comfortable with basic mathematical principles. Also available through Online Learning. Core: SCI.

GEOG 151 - Geography of the United States and Canada (3 credits)

A study of the U.S. and Canada on a topical and regional basis, physical, economic, and cultural factors in the U.S. and Canada and geographical attributes of each region. Course numbers ending with G are Writing Intensive (WI). Core: SIT.

GEOG 151G - Geography of the United States and Canada (3 credits)

A study of the U.S. and Canada on a topical and regional basis, physical, economic, and cultural factors in the U.S. and Canada and geographical attributes of each region. Writing intensive. Prereq. - ENGL101. Core: SIT, WI.
Prerequisite: ENGL101.

GEOG 210 - Weather and Climate (4 credits)

The course provides an introduction to meteorology and atmospheric sciences. It includes the structure and composition of the atmosphere and the elements that affect it, such as pressure, humidity and temperature. It examines the development of a variety of weather phenomenon, such as cloud formation, fronts, storm system and severe weather, and reviews basic weather forecasting and analysis techniques. The course explores short and long-term climate processes and their impact on the environment and people. The course demonstrates how different regions of the world have been and will be impacted by climate change in the past, present and future. This is a laboratory science course and the concepts covered in lecture will be demonstrated with hands-on and technology-based activities using a variety of exercises, observations and experiments. Core: SCI, CT, D.

GEOG 271 - Introduction to Geographic Information Systems (4 credits)

This course teaches the fundamental concepts and basic functions of GIS (Geographic Information Systems), and their application to analyze and solve real-world problems. It is designed to introduce the student to the basic principles and techniques of GIS, the properties of GIS maps, and the structure of a GIS database. The lab material and course exercises will emphasize GIS data collection, entry, storage, analysis, and output using industry standard software. Students will develop basic software skills by working with industry standard tools to visualize geographic data, create maps, query a GIS database, and analyze data using common analysis tools. Core: SSHB.

GEOG 291 - Special Studies in Geography (1 credit)

See Statement on Special Studies (p. 19). Offered on demand.

GEOG 292 - Special Studies in Geography (2 credits)

See Statement on Special Studies (p. 19). Offered on demand.

GEOG 293 - Special Studies in Geography (3 credits)

See Statement on Special Studies (p. 19). Offered on demand.

GEOL - Geology**GEOL 201 - Physical Geology (4 credits)**

The origin, development, structure and composition of the earth, and its surface and internal dynamics. Also available through Online Learning. Core: SCL.

GEOL 291 - Special Studies in Geology (1 credit)

See Statement on Special Studies (p. 19). Offered on demand.

GEOL 292 - Special Studies in Geology (2 credits)

See Statement on Special Studies (p. 19). Offered on demand.

GEOL 293 - Special Studies in Geology (3 credits)

See Statement on Special Studies (p. 19). Offered on demand.

GEOL 294 - Special Studies in Geology (4 credits)

See Statement on Special Studies (p. 19). Offered on demand.

GLBL - Global Studies**GLBL 130 - Introduction to Global Studies (3 credits)**

This course introduces students to ongoing challenges in social, cultural, environmental, economic, and political issues comprising the 21st century global society. Through this course, students gain an interdisciplinary synthesis of globalization through multiple perspectives and lenses, weighing what is changing in the present and immediate future around the world. Core: D, SIT. Also available through Online Learning.

GLBL 160 - Field Experience and Academic Research in Global Studies (3 credits)

This course serves as an alternate cultural immersion experience for students in the global studies program who do not complete a three-credit study-abroad course. The primary focus of the course will be on academic research and experiential learning projects geared toward developing competencies consistent with engaged and responsible global citizenship. This course includes 30 hours of field experience. Prereq. - GLBL130. Core: D, SIT.
Prerequisite: (D in GLBL130).

GLBL 230 - Global Studies Capstone (3 credits)

This course serves as the capstone or culminating immersive experience for students in the global studies program. The course consists of engaged learning experiences while building upon the concept of global citizenship and global studies theory. Students will work with local companies, organizations, or non-profit/service agencies with an international or global focus as part of a 45-hour field learning experience. Prereq. - GLBL130. Core: D, SIT.
Prerequisite: (D in GLBL130).

HCOA - Healthcare Office Administration**HCOA 154 - Medical Terminology (3 credits)**

Comprehensive study of medical terminology with emphasis on prefixes, suffixes, word roots, and spelling principles through the use of programmed materials, interactive computer experiences, lecture, and audio tape delivery. Also available through Online Learning. Formerly OFAD154.

HCOA 172 - Health Insurance Basics (3 credits)

This course reviews the procedures, rules and regulations as well as the history, structure, and organization of the health insurance processes. Emphasis will be placed on review of medical documentation and accuracy in the submission of health claims for optimal reimbursement. Formerly OFAD172. Prereq. - HCOA154.
Prerequisite: HCOA154.

HCOA 175 - ICD-10-CM/PCS Coding Methodologies (3 credits)

This course reviews the ICD-10-CM/PCS coding and classifications systems used in the health care setting. The emphasis is on the coding guidelines, rules and regulations as well as the history, structure and organization of the coding systems. Emphasis on the review of medical documentation, diagnosis selection and the correct sequencing for optimal reimbursement will also be integrated with the course. Prereq. - HCOA154. Formerly known as OFAD175. Also available through Online Learning.
Prerequisite: HCOA154.

HCOA 176 - CPT Coding Methodology (3 credits)

This course reviews the CPT (Current Procedural Terminology) coding system used in the health care setting. The course will emphasize the coding guidelines, the application of modifiers, the rules and regulations as well as the structure of the coding system. Review of medical documentation will also be incorporated. Formerly OFAD177. Prereq. - HCOA154. Also available through Online Learning.
Prerequisite: HCOA154.

HCOA 177 - Health Information Technology (3 credits)

This course is designed to introduce the student to the field of health information technology. Topics to be covered include the healthcare delivery system, medical records format and content, healthcare reimbursement, how information is gathered and by whom, how information is used and the technology behind health information systems. In addition, the course will cover retention policies and procedures, documentation, confidentiality issues (HIPAA), legal and regulatory aspects of the medical record and the basics of the electronic health record. Formerly OFAD177.

HCOA 240 - Medical Office Management Practices (3 credits)

This course is a culminating experience for students enrolled in health care programs. Students will develop skills necessary for working in a health care environment, whether it is in a physician's office, hospital, skilled nursing facility or other health care/medical office. Students will master tasks of a medical office, including medical communications and scheduling, preparing patients' charts and bills, electronic health records, finances, managing health information, ethics, law and compliance and general office management. Prereq. - HCOA154. Formerly known as OFAD240. Also available through Online Learning.
Prerequisite: HCOA154.

HCOA 254 - Advanced Medical Terminology (3 credits)

This course is an in-depth study of medical terminology with emphasis on current usage pertaining to diagnostic techniques, disease processes, oncology, radiology, surgical and medical treatment/intervention. Prereq. - HCOA154. Formerly known as OFAD254.
Prerequisite: HCOA154.

HCOA 270 - Advanced Coding for Medical Services (3 credits)

This course introduces advanced ICD-10 and CPT coding skills with emphasis on enhancing accuracy and refinement of effective use of resources. Course intended only for those students who possess a working knowledge of coding; will prove beneficial to those currently working in a medical billing setting. Prereq. - HCOA17 and HCOA176. Formerly known as OFAD270. Also available through Online Learning.
Prerequisite: HCOA175 and HCOA176.

HCOA 275 - Capstone Simulation for Coding (2 credits)

This course bridges the gap between classroom and work experience for medical coding and billing. It provides a capstone experience allowing students to take what was learned in the classroom and apply it with on-the-job scenarios typically performed by a medical coding and billing specialist. Prereq. - HCOA175 and HCOA176. Formerly known as OFAD275.
Prerequisite: HCOA175 and HCOA176.

HCOA 276 - Diversity & Cultural Competency in Healthcare (2 credits)

This course is designed to explore diversity and cultural competency in healthcare. Students will explore and understand the wide array in which diversity and culture influence healthcare needs, expectations and decisions.

HEAL - Health**HEAL 150 - Contemporary Health (3 credits)**

This course introduces students to current health and wellness issues, while helping them understand the challenges to living a holistically healthy lifestyle. Topics studied include, but are not limited to, behavior change, psychological health, managing stress, improving sleep, preventing injuries and violence, healthy relationships, addictions and other risky health behaviors, nutrition, fitness, weight management, disease prevention, and environmental health threats. Emphasis is placed on incorporating healthy practices into the student's lifestyle. Also available through Online Learning.

HEAL 292 - Special Studies in Health (2 credits)

See Statement on Special Studies (p. 19). Offered on demand.

HEAL 293 - Special Studies in Health (3 credits)

See Statement on Special Studies (p. 19). Offered on demand.

HEAL 295 - Special Studies in Health (1 credit)

See Statement on Special Studies (p. 19). Offered on demand.

HIST - History**HIST 103 - Ancient and Medieval History (3 credits)**

Survey of the evolution of Western society from its origins in the Near East, through the significant civilizations of Egypt, the legacy of the Greco-Roman world, the shaping of the medieval world, the foundations of Europe, to the intellectual advances of the Renaissance. It is an interdisciplinary study emphasizing themes in history, religion, the humanities, and both social and natural science. Core: SIT. Also available through Online Learning.

HIST 113 - American History I (3 credits)

American history from the age of discovery/colonization to the Reconstruction Era; investigates the interaction of change and human experience over time; covers specific individuals, events, and public policies, as well as the relationship between cultures, institutions/systems, and human experience. Course numbers ending with G are Writing Intensive (WI). Also available through Online Learning. Approved for the Honors Program. Core: SIT, D.

HIST 113G - American History I (3 credits)

American history from the age of discovery/colonization to the Reconstruction Era; investigates the interaction of change and human experience over time; covers specific individuals, events, and public policies, as well as the relationship between cultures, institutions/systems, and human experience. Writing Intensive. Also available through Online Learning. Prereq.- ENGL101. Core: SIT, WI. Prerequisite: ENGL101.

HIST 121 - The Black Experience (3 credits)

This course closely examines the influence that people of African descent have had on the development of the United States. Chronologically it begins with the African origins of the black population and traces their experiences through every major period in United States history from colonial times to the present. The course will also explore the rich cultural contributions made by African Americans in the areas of music, art, religion, and literature during such periods as the Harlem Renaissance, Black Power Movement, and the contemporary Hip Hop era. The schools of thought we will encounter range from integration and assimilation to Pan Africanism and civil disobedience. The teaching materials draw on the latest scholarship in history and related disciplines to help students understand the impact of gender, class, and race on historical events. Course numbers ending with G are Writing Intensive (WI). Core: D, SIT.

HIST 121G - The Black Experience (3 credits)

This course closely examines the influence that people of African descent have had on the development of the United States. Chronologically it begins with the African origins of the black population and traces their experiences through every major period in United States history from colonial times to the present. The course will also explore the rich cultural contributions made by African Americans in the areas of music, art, religion, and literature during such periods as the Harlem Renaissance, Black Power Movement, and the contemporary Hip Hop era. The schools of thought we will encounter range from integration and assimilation to Pan Africanism and civil disobedience. The teaching materials draw on the latest scholarship in history and related disciplines to help students understand the impact of gender, class, and race on historical events. Writing Intensive. Core: D, SIT, WI.

HIST 123 - African Civilizations (3 credits)

This is a survey course of several major African Civilizations. Civilizations chosen may vary by instructor but will normally include the classic cultures of Nubia, Kemet, Ghana, Mali, Songhai, Monomotapa, Yoruba, Asante, and Zulu. The period covered is from antiquity to the 19th century. Focus is on the cosmology, worldview, and culture of Africans and the impact of cross-cultural contacts. The course will also include a cursory look at colonial and post-colonial Africa. Core: SIT.

HIST 140 - Modern Chinese History (3 credits)

This survey class will cover China's history from the founding of the last imperial dynasty to the period of economic reform following the death of Mao Zedong. Students will learn about China's long struggle to adapt traditional society to the modern world through years of colonialism, internal upheaval and war. Core: SIT, D.

HIST 153 - Foundations of Modern European History - 1300-1815 (3 credits)

From the breakdown of the medieval feudal synthesis to the emergence of the modern world, this course covers the Renaissance, Reformation, Counter-Reformation, the rise of Absolutism, the Enlightenment and the beginnings of the Industrial Revolution. Course numbers ending in G are Writing Intensive (WI). Core: SIT. Also available through Online Learning.

HIST 153G - Foundations of Modern European History - 1300-1815 (3 credits)

From the breakdown of the medieval feudal synthesis to the emergence of the modern world, this course covers the Renaissance, Reformation, Counter-Reformation, the rise of Absolutism, the Enlightenment and the beginnings of the Industrial Revolution. Students who have taken HIST152 may not take this course. Writing Intensive. Prereq.- ENGL101. Core: SIT, WI. Prerequisite: ENGL101.

HIST 163 - American History II (3 credits)

American history since the Reconstruction Era; investigates the interaction of change and human experience over time; covers specific individuals, events, and public policies, as well as the relationship between cultures, institutions/systems and human experience. Also available through Online Learning. Approved for the Honors Program. Core: SIT.

HIST 165 - The American Experience of Warfare (3 credits)

An exploration of American involvement in warfare and military actions from the late 1860's to the present. The course will give students the opportunity to examine the causes and contexts of the nation's wars; political decisions related to warfare; combat leadership, strategies and outcomes; the effect of the military and of warfare on the American economy and domestic society; the role of dissent during wartime, and the position of military veterans. Course numbers ending with G are Writing Intensive (WI). Core: SIT, D.

HIST 165G - The American Experience of Warfare (3 credits)

An exploration of American involvement in warfare and military actions from the late 1860's to the present. The course will give students the opportunity to examine the causes and contexts of the nation's wars; political decisions related to warfare; combat leadership, strategies and outcomes; the effect of the military and of warfare on the American economy and domestic society; the role of dissent during wartime, and the position of military veterans. Writing Intensive. CORE: SIT, D, WI.

HIST 166 - Civil War and Reconstruction (3 credits)

Political, social, economic, and military aspects of the Civil War and Reconstruction, from 1845-1877. Course discusses systemic American racism, slavery, sectionalism, and the causes of the Civil War; wartime activities of the Union and

Confederacy; leading personalities; issues and policies of the Reconstruction era and the Compromise of 1877. Course numbers ending with G are Writing Intensive (WI). Also available through Online Learning. Core: D, SIT.

HIST 166G - Civil War and Reconstruction (3 credits)

Political, social, economic, and military aspects of the Civil War and Reconstruction, from 1845-1877. Course discusses systemic American racism, slavery, sectionalism, and the causes of the Civil War; wartime activities of the Union and Confederacy; leading personalities; issues and policies of the Reconstruction era and the Compromise of 1877. Writing Intensive. Prereq. - ENGL101. Also available through Online Learning. Core: D, SIT, WI.
Prerequisite: ENGL101.

HIST 168 - History of the Middle East (3 credits)

This course explores the development of the modern Middle East, paying particular attention to the region's multiple cultures; the rise, spread, and influence of Islam; the challenges of imperialism; and the economic, social, and political changes that have occurred in the region since the 7th Century. Analysis will be made of the Middle East's influences on the West, and the shifting power relationships that have caused extensive conflict and turmoil among its people. Course numbers ending with G are Writing Intensive. Core: SIT, D.

HIST 168G - History of the Middle East (3 credits)

This course explores the development of the modern Middle East, paying particular attention to the region's multiple cultures; the rise, spread, and influence of Islam; the challenges of imperialism; and the economic, social, and political changes that have occurred in the region since the 7th Century. Analysis will be made of the Middle East's influences on the West, and the shifting power relationships that have caused extensive conflict and turmoil among its people. Writing Intensive. Core: SIT, D, WI.

HIST 173 - Modern European History - 1815-Present (3 credits)

Post-Napoleonic Europe, the revolutions of 1898, the unifications of Germany and Italy, Imperialism, the causes and results of World War I, the Depression and the ideologies of the 20th century and World War II. The post-war struggle between the super-powers will also be treated. Students who have taken HIST172 may not take this course. Course numbers ending with G are Writing Intensive (WI). Core: SIT, CT, D.

HIST 173G - Modern European History - 1815-Present (3 credits)

Post-Napoleonic Europe, the revolutions of 1898, the unifications of Germany and Italy, Imperialism, the causes and results of World War I, the Depression and the ideologies of the 20th century and World War II. The post-war struggle between the super-powers will also be treated. Students who have taken HIST 172 may not take this course. Writing Intensive. Core: SIT, CT, D WI.

HIST 210 - History of Modern Science (3 credits)

This course is an interdisciplinary overview of the greatest scientific discoveries in history and the people who made them from the ancients to the present. Core: SIT.

HIST 211 - History of Pennsylvania (3 credits)

This course will focus on Pennsylvania history from pre-colonization to the present day. It will examine events specific to the history of the Commonwealth, the state's role in the nation, and national and local events with impact on the state. The course will cover state political, economic and social issues and how they have evolved with the history of the state. Pre- or coreq. - HIST113 or HIST163. Core: SIT. Also available through Online Learning.
Corequisite: HIST113 or HIST163.

HIST 291 - Special Studies in History (1 credit)

See Statement on Special Studies (p. 19). Offered on demand.

HIST 292 - Special Studies in History (2 credits)

See Statement on Special Studies (p. 19). Offered on demand.

HIST 293 - Special Studies in History (3 credits)

See Statement on Special Studies (p. 19). Offered on demand.

HOSP - Hospitality

HOSP 101 - Introduction to the Hospitality Industry (3 credits)

This course provides an overview of the global hospitality industry and the many industry segments, such as hotels, restaurants, beverages, meeting and event planning, etc. Students are exposed to the various functions of each segment, as well as leading-edge issues, trends, career options, and the complex role of the hospitality manager.

HOSP 105 - Enhancing Guest Service (3 credits)

This course is designed to provide the student with an understanding of the importance of guest service in a service economy and the critical necessity of service in hospitality management. Students will learn how to create value for guests by building guest loyalty. Specific skills will be enhanced including: positive attitude projection, anticipation of and exceeding customer expectations, and management tools that will help inspire others to offer excellent guest service. Students will explore methods of identifying guest needs, expectations, and satisfaction in the digital age.

HOSP 111 - Food and Beverage Management (3 credits)

This course is designed to provide students with an understanding of the hospitality food service industry, its variety of operations/outlets and how to gain the skills to successfully manage these operations/outlets. Areas of study include an overview of food and beverage outlets, food service marketing, menu analysis, menu cost and pricing strategies. Analysis will be done on service standard operating procedures, types of service, food and beverage sourcing, and beverage management. Offered spring semester only.

HOSP 130 - Convention Services & Catering (3 credits)

This course focuses on the foundation of convention services which includes reaching and servicing the group meetings and special event markets. The process of selling space, functions and events to groups will be covered. The course will also cover the management and marketing of catering on and off premises, including special event functions. The planning, financing, organizing, marketing and operations of catered events will be discussed. Students apply learning through the participation in 32 hours of on-campus catered events. Formerly FOOD130. Pre- or coreq - HOSP101 and HOSP105.

Corequisite: HOSP101 and HOSP105.

HOSP 201 - Strategic Leadership in Hospitality (3 credits)

This course is designed to acquaint students with the leadership, management, supervision and quality issues facing today's hospitality industry. It covers the organization and management of hospitality operations. Prereq. - HOSP101 and HOSP105. CORE: D (for Hospitality programs only). Offered spring semester only.
Prerequisite: HOSP101 and HOSP105.

HOSP 210 - Human Resources Management for the Hospitality Industry (3 credits)

Recruiting, selection, orientation, training and development, performance appraisals, compensation, discipline methods, and development of the skills to be a successful manager within the culturally diverse hospitality industry. Also available through Online Learning. Prereq. - HOSP101 and HOSP105.
Prerequisite: (D in HOSP101 and D in HOSP105).

HOSP 212 - Hospitality Financial Reporting (3 credits)

This course will provide an understanding of the principles of finance and accounting and to comprehend the money implications of decisions in hospitality. Basic relevant financial concepts and financial tools are introduced to improve business decision making, including how to read balance sheets, income statements, profit and loss, cash flow statements, critical ratios and other financial measurements and to interpret what the numbers mean. Prereq. - HOSP101 and HOSP105. Offered spring semester only.
Prerequisite: HOSP101 and HOSP105.

HOSP 215 - Hospitality Sales & Marketing (3 credits)

The course is designed to provide students with an understanding of marketing and sales, as they relate to the major decisions hospitality marketers face in balancing objectives and resources against the needs and opportunities in the global marketplace. The course focuses on the hospitality markets and products through a creation of a marketing plan. The increased role of hospitality technology to improve hospitality sales will also be addressed. Prereq. - HOSP101 and HOSP105. Also available through Online Learning.

Prerequisite: HOSP101 and HOSP105.

HOSP 221G - Hospitality Management Practicum (3 credits)

Structured work experience in selected hotels, resorts or restaurants; meeting and event planning venues; and adventure tourism facilities. Minimum of 225 contact hours. Students are required to function in a variety of workstations to reinforce learned classroom/lab skills, the student will be required to submit evaluations of his/her work. The application of hospitality principles to the work environment serves as a valuable learning experience for the student. This course may be taken four times for credit. Prereq. - HOSP101, HOSP105, HOSP111, HOSP210, HOSP215, and ENGL101. Core: WI. Prerequisite: HOSP101, HOSP105, HOSP111, HOSP210, HOSP215, and ENGL101.

HOSP 223 - Disney College Program (0 credits)

Students live and work at Walt Disney World and learn current business practices, customer service, leadership skills, communication skills, workforce diversity, and corporate trends. While there, students must also take at least one 3 credit Disney course, which is accredited by the American Council on Education (ACE). Administrative fee: \$50. Prereq. - Currently enrolled at NCC, have completed a minimum of 12 college credits, have a minimum cumulative GPA of 2.0. Prerequisite: Currently enrolled at NCC, have completed a minimum of 12 college credits, have a minimum cumulative GPA of 2.0.

HOSP 224 - Disney Advanced Internship (0 credits)

Students work full time at Walt Disney World as part of an Advanced Internship designed to give them career-related experience in their chosen field, or one that they are considering. A variety of fields are available such as: accounting and finance, marketing and sales, chemistry, conservation education, veterinary science, biotechnology, library science, human resources, and hospitality to name a few. Administrative fee: \$50. Prereq. -Must be currently enrolled at NCC, in good academic standing, meet all the requirements for the particular Advanced Internship (such as experience and program of study), successfully participate in competitive selection process with Disney College recruiting staff, and be approved by NCC Career Services Director. Some Advanced Internships require prior Disney World Experience (HOSP223). Prerequisite: Must be currently enrolled at NCC, in good academic standing, meet all the requirements for the particular Advanced Internship (such as experience and program of study), successfully participate in competitive selection process with Disney College recruiting staff, and be approved by NCC Career Services Director. Some Advanced Internships require prior Disney World Experience (HOSP 223).

HOSP 293 - Special Studies in Hospitality Management (0 credits)

See statement on Special Studies (p. 19). Offered on demand.

HOTL - Hotel Management

HOTL 110 - Hospitality Law (3 credits)

The course will introduce students to the operations of the legal system and practical knowledge of law as it pertains to the hospitality industry. A case study approach will be used to understand restaurant, hotel, and travel laws and regulations that influence business and management decisions in the hospitality industry. The course is designed to provide the student with the practical knowledge of law and the operations of the legal system. Also available through Online Learning.

HOTL 140 - Club Management (3 credits)

This course is a study of club management, to include country, professional, private, city, athletic and other forms of clubs. Concepts covered include the organizational structure of clubs, board of directors, membership requirements, service excellence, leadership, human resources, strategic and financial management, food and beverage operations, club marketing and computer systems.

HOTL 150 - Resort Management (3 credits)

This course highlights the operation and management of resort properties. Beginning with the resort concept and the historical development of resorts, details are presented in planning, development, management, marketing and financial aspects that deal with the unique nature of resort business. Analysis of management systems and methods for development of full-service resorts are presented, along with comparison of specialized requirements for different types of resorts based on location, climate, activities, and life-style.

HOTL 160 - Introduction to Gaming Industry (3 credits)

This course provides an overview of casino management with an emphasis on the analysis of the gaming industry and its trends, a casino's interface with the hotel, organizational structure and terminology. Students will learn the history of gaming, various types of games, daily casino operations, casino marketing and financing, government regulations of gambling and the future development of the industry. Formerly CASN101. Offered fall semester only.

HOTL 170 - Spa Management (3 credits)

Students will learn the essential fundamentals in properly operating and managing a spa. The class will focus upon the systems and processes that are needed to manage the day-to-day operations of many different types of spas, as well as their employees and services. Students will examine key principles and concepts related to the setup and organizations of a spa enterprise including facility design and planning. Special attention is paid to daily business functions, such as scheduling, the creation of staff manuals and documents, and inventory management. Students discover how spa operations are impacted by various independent functions of a spa.

HOTL 207 - Rooms Division Management (3 credits)

This course is designed to provide students with an understanding of the rooms division operations of a hotel. Areas of study include an overview of front office procedures, housekeeping, engineering, night audit, security, and revenue management. Technology and computer software that operates the hotel will be introduced. Reservation channels and techniques for managing demand at the hotel will be presented. Prereq. - HOSP101. Additional course fees: \$60.00. Prerequisite: HOSP101.

HUMA - Humanities

HUMA 121 - American Work Experience (3 credits)

The American Work Experience is an interdisciplinary humanities course using history, literature and the arts, and other cultural studies to deepen the student's knowledge and understanding of over two centuries of Americans at work. Course numbers ending with G are Writing Intensive (WI). Core: AH, D.

HUMA 121G - American Work Experience (3 credits)

The American Work Experience is an interdisciplinary humanities course using history, literature and the arts, and other cultural studies to deepen the student's knowledge and understanding of over two centuries of Americans at work. Writing intensive. Prereq. - ENGL101. Core: AH, D, WI. Prerequisite: ENGL101.

HUMA 140 - Introduction to Women and Gender Studies (3 credits)

This course is an interdisciplinary introduction to Women and Gender Studies from a humanistic perspective using art, film, history, literature, music, and popular culture. Prereq. - ENGL101. Course numbers ending with G are Writing Intensive (WI). Core: AH, D. Prerequisite: ENGL101.

HUMA 140G - Introduction to Women and Gender Studies (3 credits)

This course is an interdisciplinary introduction to Women and Gender Studies from a humanistic perspective using art, film, history, literature, music, and popular culture. Writing Intensive. Prereq. - ENGL101. Core: AH, D, WI. Prerequisite: ENGL101.

HUMA 150 - Nature of the Environment (3 credits)

This course provides an introduction to humanity's complex relationship with the natural world and addresses philosophical theories and ethical issues regarding humankind's responsibility to care for the environment. Topics include environmental ethics and politics, rights of non-humans, ecofeminism, climate change, sustainability, eco-criticism and the idea of wilderness. Pre- or coreq.- ENGL101. Core: AH, D. Corequisite: ENGL101.

HUMA 210 - Creativity and the Origin of Ideas (3 credits)

This course investigates creativity from a cultural and theoretical/research perspective and incorporates a workshop format allowing students to actively apply knowledge gained through experiential learning activities. Pre-req. - ENGL101.

Core: AH, D.
Prerequisite: ENGL101.

HUMA 250G - Research Methods in the Social Sciences (3 credits)

This class is an overview of scientific research methods used in the social sciences. Social sciences include disciplines in which we examine people or collections of people, and their individual or collective behaviors, such as psychology, sociology, and political science. In this class we will discuss not only research methods (such as empirical data collection and analysis) but also the research process from start to end, including the steps of scientific inquiry, and the ethics involved. Restricted to students in the Honors Program. Prereq. - ENGL101 and either POLS101 or PSYC103 or SOCA103. Core: SSHB, WI.

Prerequisite: ENGL101 and either POLS101 or PSYC103 or SOCA103.

HVAC - Heating, Ventilation, Air Conditioning & Refrigeration

HVAC 101 - Fundamentals of HVAC/R I (4 credits)

This is an introductory course in heating, ventilation, air conditioning and refrigeration (HVAC/R) technology. Topics will include heat transfer, refrigerant properties, the vapor-compression refrigeration cycle, service and piping techniques, EPA refrigerant handling regulations, dehydration and charging of systems, control components, basic residential control wiring, domestic refrigerator/freezers, and room air conditioners. Formerly HVAC801. Pre- or coreq.- EMEC101 or instructor approval. Additional course fees \$70.00. Corequisite: EMEC101 or instructor permission.

HVAC 102 - Fundamentals of HVAC/R II (3 credits)

This course is designed to provide a deeper understanding of the components and more rigorous application of the skills of heating, ventilation, air conditioning, and refrigeration (HVAC/R) technology. Topic of lab exercise and study include commercial refrigeration, residential and commercial building systems, building automation, motor applications, and service/troubleshooting principles. Formerly HVAC802. Prereq.- HVAC101 and EMEC101. Additional course fees \$50.00. Prerequisite: HVAC101 and EMEC101.

HVAC 104 - Refrigeration System Troubleshooting (3 credits)

Operation and servicing of commercial refrigeration and display cases; electrical and pressure operated devices, control adjustment, unitary refrigeration units, and component repair; heat loading, piping calculations, and system capacity analysis. Formerly HVAC804. Prereq. - HVAC102. Offered spring semester only. Additional course fees \$30.00. Prerequisite: HVAC102.

HVAC 124 - Heating: Gas, Oil, Solar Thermal, Air and Hydronic Systems (4 credits)

This course covers the installation and maintenance of the key components of oil- and gas-fired hot air furnaces, hydronic systems, and Solar thermal heating. Topics covered include the principles of combustion, sequence of operation, traditional and alternative heat sources, energy efficiency testing, and equipment sizing. Lab exercises are designed to reinforce the practical knowledge of troubleshooting and service in residential and light commercial applications. Prereq. - EMEC101. Additional course fees \$40.00. Prerequisite: EMEC101.

HVAC 140 - Heat Pump Systems (2 credits)

Practical study of the principles and applications of the heat pump used in heating and cooling systems; focus on heating and cooling cycle theory, control systems, and hands-on troubleshooting procedures. Formerly HVAC840. Prereq. - EMEC101 and HVAC101. Additional course fees \$20.00. Prerequisite: EMEC101 and HVAC101.

HVAC 150 - HVAC Airflow and Distribution (3 credits)

Practical study of the principles of airflow and psychometrics and how to achieve proper ventilation and distribution of air; basic duct design, psychometric calculations, fan installation and troubleshooting. Formerly HVAC850. Prereq. - EMEC101. Offered spring semester only. Additional course fees \$35.00. Prerequisite: EMEC101.

HVAC 260G - HVAC/R Technology Practicum (2 credits)

This course is intended to provide actual work "shadowing" experience in the Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC/R) industry with focused exposure to technical problems found in the field; preventative maintenance procedures; installation techniques; and general activities typically encountered. Capstone of this experience is to be presented in written and oral format and will include industry evaluation of student performance.

Prereq.- ENGL101 and completion of 3 semesters of the HVAC/R Technology AAS degree program, or with instructor permission.

Prerequisite: ENGL101 and completion of 3 semesters of the HVAC/R Technology AAS degree program, or instructor permission.

INDS - Interior Design

INDS 100 - History of Interior Design & Furniture (3 credits)

Survey of the development of interior design and furniture styles from antiquity to the present; history of interior space, architectural details and furniture; social, political, economic and technological perspectives as they relate to the interior aesthetic of each period; lectures supported with visual slides; one field trip.

INDS 105 - Introduction to Interior Design (3 credits)

Outline of period styles, decoration as related to architecture, analysis of line, character of form, and expression. Characteristics of the historical and modern periods in interior design and furniture. The work of the past and its modern adaptation. A survey of design; architectural, industrial, and fashion, with particular emphasis on furniture and design. Formerly ARCH105.

INDS 121 - Graphics and Presentation Techniques for Interior Designers (3 credits)

Continued development of the graphic language of architecture with emphasis on interiors. Hand skills are developed as orthographic drawings are extended to the format language of architecture and developed into formal plans, elevations, sections and details. Computer and hand skills continue to be incorporated as tools in the design process. Emphasis on color theory and color application is included. Presentation techniques will also be an emphasis, students will develop both graphic and oral presentation skills. Prereq.- ARCH101 and ARCH110 with a C or better and coreq.- ARCH150. Offered spring semester only.

Prerequisite: ARCH101 and ARCH110, both with a C or better. Corequisite: ARCH150.

INDS 130 - Interior Materials & Structure (3 credits)

Investigation, analysis, evaluation, history, manufacturing, and application of decorative textiles, wall and floor coverings, and accessories. Proper relationships of line, form, color, and texture. Formerly ARCH125. Offered spring semester only.

INDS 160 - Bath and Lighting Design (3 credits)

Investigation of bath design through aesthetics, materials and ergonomic considerations; space analysis, programming and planning; design projects including bath layouts, materials, counters, and storage; wall and floor surface material; lighting design as it relates to baths; furniture, cabinetry, light fixtures, and space planning. Prereq. - INDS121 with C or better. Offered spring semester only.

Prerequisite: INDS121 with a C or better.

INDS 165 - Kitchen and Lighting Design (3 credits)

Investigation of kitchen design through aesthetics, materials and ergonomic considerations; space analysis, programming and planning; design projects including kitchen layouts, materials, counters, storage and fixtures; wall and floor surface material; lighting design as it relates to kitchens; furniture and cabinetry design and space planning as it relates to the kitchen environment. Prereq. - INDS121 with C or better. Offered fall semester only.

Prerequisite: INDS121 with a C or better.

INDS 200 - Professional Internship (3 credits)

General office experience giving the student a broad exposure to the practice environment; student work under the direction of a design professional to gain hands-on experience applying knowledge and skills in the practice setting. Gives students the opportunity to apply practical office experience for credit, particularly students already working in the field.

INDS 225 - Residential Interior Design Studio (3 credits)

Assembling and harmonizing furniture and decorative objects from the point of view of utility and beauty. Analysis of furniture arrangement and room composition, draperies and window treatments, and lighting. Practical problems illustrating the requirements of certain types of residential rooms. Incorporation of the computer as a design tool. Preparation of written research and design position papers on assigned design problems and their solutions. Formerly ARCH225. Prereq. - INDS121 with C or better. Offered fall semester only.
Prerequisite: INDS121 with a C or better.

INDS 255 - Commercial Interior Design Studio (3 credits)

The application of the design fundamentals and trade information to problems of contract interior design. Emphasis on space analysis and planning, coordination of furnishings and equipment, design function, and aesthetics of interior space in relation to individual and group needs. Incorporation of the computer as a design tool. Design projects, the procedure and development of a design project from start to completion. Preparation of written research and design position papers on assigned design problems and their solutions. Formerly ARCH 255; only one may be applied to graduation. Prereq. - INDS105, ARCH101, ARCH 10; Coreq.- ARCH265, INDS160. Offered spring semester only.
Prerequisite: INDS105, ARCH101, and ARCH110. Corequisite: ARCH265 and INDS160.

INTS - Interdisciplinary Studies**INTS 101 - Critical Thinking (3 credits)**

A sequential study of thinking and reasoning abilities, emphasizing active, independent, and comprehensive thinking to solve problems, analyze, infer, and evaluate issues, reason critically, and understand and apply concepts.

INTS 200 - Introduction to Study Abroad (1 credits)

This one-credit course is designed to help students develop skills and perspectives to enable them to get the most out of their international experience. The course offers the student an opportunity to study and experience the culture of another country/region with an emphasis on getting to know the history, architecture, art, literature, geography and political systems and its place in the global system. The course includes pre-trip planning and lectures, study and research during the trip, and post-trip presentations. In addition, it will provide you with the information about the study abroad process and the practical aspects of studying abroad. This course may be taken three (3) times for credit.

INTS 201 - Implementing Sustainable Energy Systems in Developing Communities (Study Abroad) (3 credits)

This interdisciplinary sustainable energy course will provide students with technical skills, economic and political background, and analysis and design skills that will help them to apply knowledge gained about alternative and renewable energies to both local and global issues. Students will be exposed to a broad range of technical and social/political disciplines necessary to understand the sources of renewable energy, technical and economic decisions involved in using alternative energy sources and the potential impacts of bringing power to developing communities. The course will include an in-community experience which involves construction and installation of a sustainable energy system. Basic language and technical instruction will be provided. Prereq.- ENGL101 and approval of the instructor. (Study abroad). Core: SIT, D.
Prerequisite: ENGL101 English I and approval of the instructor.

INTS 202 - Architecture of the City: Classic to Contemporary (3 credits)

This interdisciplinary course focuses on the Architecture of a host city or cities. A specific host city or cities will be selected for each semester that the course is offered. An example host city could be Barcelona, Spain or Paris, France or Rome, Italy. This travel study course is taught primarily on-site and includes site tours and in-person observations to provide an understanding of the architecture of the host city. Students will experience architecture from several time periods that have influenced design throughout the world. Representative projects include monuments, outdoor spaces, and museums, civic and religious buildings, along with historic and contemporary structures. The course will include a study of the architectural design, style and urban context. Students will be required to prepare on-site sketches or photography or video and reflective journaling about each day's experience while abroad. CORE: SIT.

INTS 250 - Study Abroad (3 credits)

This course is designed to help students integrate international experience within their course of study. Students will explore the social, cultural, political, historical, geographic and economic significance of the specified country and its place in the global system. A review of the various socio-cultural, economic and political systems and structures will provide the basis for critically examining the challenges facing the specified country. Students will explore the social,

political, geographic and economic impact of seeking peaceful resolutions to internal and external challenges. The course includes pre-trip planning and lectures, study and research during the trip, and post-trip presentations. This course may be taken three (3) times for credit. CORE: SSHB.

INTS 291 - Special Studies in Interdisciplinary Studies (1 credit)

See Statement on Special Studies (p. 19). Offered on demand.

INTS 292 - Special Studies in Interdisciplinary Studies (2 credits)

See Statement on Special Studies (p. 19). Offered on demand.

INTS 293 - Special Studies in Interdisciplinary Studies (3 credits)

See Statement on Special Studies (p. 19). Offered on demand.

INTS 294 - Special Studies in Interdisciplinary Studies (4 credits)

See Statement on Special Studies (p. 19). Offered on demand.

JOUR - Journalism

JOUR 101 - Journalism and Society (3 credits)

History and current climate of journalism in America; ethical problems in the practice of journalism using a case study approach; principal public criticism of news media, roles and functions of journalism in a multicultural society. Also available through Online Learning. Core: AH.

JOUR 102 - News Editing (3 credits)

In this course, students will edit copy, write headlines and caption photos. They will become familiar with news values, libel law and ethical problems in the management of news. Also available through Online Learning.

JOUR 103 - Newswriting (3 credits)

Fundamentals of newswriting and news gathering; finding stories, covering community events, interviews and beat reporting; news values, legal and ethical issues. Formerly ENGL103. Pre- or coreq. - ENGL101. Also available through Online Learning.

Corequisite: ENGL101.

JOUR 104 - Media Publication (4 credits)

This course will introduce students to visual communication through web and digital publishing, including the use of a website content management system, desktop publishing software application, and image-editing software.

JOUR 110 - Journalism Practicum (1 credits)

Students in this course will work on the print and web versions of the student newspaper, acting in various capacities that may include reporting, editing, blogging, designing layouts, and supervising staff. This course may be taken three times for credit. Prereq. - JOUR102.

Prerequisite: JOUR102.

JOUR 201G - Feature Writing (3 credits)

This course covers the fundamentals of feature writing, including finding story ideas, conducting research and interviews, and developing strong storytelling skills using an array of strategies, techniques and tools to engage an audience.

Formerly ENGL105. Prereq. - ENGL101. Also available through Online Learning.

Prerequisite: ENGL101.

JOUR 202 - Social Media for Writers (3 credits)

Students will analyze and use current and emerging social media platforms and multimedia tools to tell stories and learn best practices for building an audience. Prereq. - ENGL101. Also available through Online Learning.

Prerequisite: ENGL101.

JOUR 203G - Writing for Public Relations (3 credits)

This course is an introduction to the principles of public relations and marketing communications, applying journalistic style to the preparation of position papers, backgrounders, fact sheets, biographical sketches and news releases. Prereq.- JOUR101, JOUR103 (for Journalism majors) or ENGL101 (for other majors). Also available through Online Learning. Core: WI.
Prerequisite: JOUR101 and JOUR103 for Journalism majors or ENGL101 for other majors.

LIBT - Library Technical Assistant**LIBT 101 - Introduction to Library Service (3 credits)**

This course introduces the history, function, organization, and services of various types of libraries. It covers library terminology and processes essential to public service. Available through Online Learning.

LIBT 115 - Reference Resources & Services (3 credits)

This course introduces students to reference services and information resources available in small public libraries. Students will select, evaluate, and use general specific reference tools, as well as investigate the principles and practices of providing reference services. Some travel is expected as students must visit a variety of libraries to evaluate collections and services in order to complete assignments. Only available through Online Learning.

LIBT 203 - Technical Services (3 credits)

This is an introduction to the elements of library technical services, including cataloging, classification, acquisitions, serials management, preservation, outsourcing and collection development and management. Students will apply learned skills to perform collection analysis and to acquire, organize and manage both print and non-print materials. Available through Online Learning.

LIBT 207 - Library Management (3 credits)

This course introduces management principles for a small library. Topic include: administration, budgeting, policymaking, and partnerships related to library personnel, facilities, collections and services. Completion of LIBT101 is recommended prior to taking this course. Available through Online Learning.

LIBT 209 - Computers in Libraries (3 credits)

This course is an introduction to the use of computers and technology in libraries, including Integrated Library System, electronic information resources, the Internet, websites and technology administration. Students will prepare to manage technology within the library setting. Completion of LIBT101 is recommended prior to taking this course. Available through Online Learning.

LIBT 253 - Literature for Children and Young Adults (3 credits)

This course provides historical coverage of literature for children and young adults and includes criteria for the evaluation and presentation of books in all genres. The course will cover administration of youth services, specifically planning, collection development and programming. The course will also discuss issues and trends in youth services including diversity, censorship, and technology. Only available through Online Learning.

LIBT 291 - Special Studies in Library Technical Assistant (1 credit)

See Statement on Special Studies (p. 19). Offered on demand.

LIBT 292 - Special Studies in Library Technical Assistant (2 credits)

See Statement on Special Studies (p. 19). Offered on demand.

LIBT 293 - Special Studies in Library Technical Assistant (3 credits)

See Statement on Special Studies (p. 19). Offered on demand.

MASG - Massage Therapy

MASG 101 - Massage Therapy Procedures I (4 credits)

This course will provide students the fundamentals of massage therapy for table and chair massages. Students will learn hands-on to apply basic massage techniques to the entire body, body mechanics, draping, lotions, as well as palpating muscle and skeletal structures. Additionally, practice management topics such as ethic, legal issues, infection control, documentation, business practices and professional development will be reviewed. Restricted to Massage Therapy students. Pre- or coreq.- BIOS204. Additional course fees: \$63.00
Corequisite: BIOS204.

MASG 102 - Massage Therapy Procedures II (5 credits)

Students will continue to deepen their knowledge of the discipline through focused study of the theory and assessment of neuromuscular conditions. The course includes an extensive review of the techniques specific to deep tissue massage, including trigger point therapy, friction techniques, myofascial techniques and stretching. Students will also be introduced to multiple modalities including, but not limited to, massage for pregnancy, sports, geriatric, and pediatric. Analytic review of anatomy and physiology, with emphasis on muscular, skeletal, and nervous systems, and their interaction in human movement. Prereq. - MASG101. Pre- or coreq. - BIOS254.
Prerequisite: MASG101. Corequisite: BIOS254.

MASG 210 - Massage Therapy Procedures III (4 credits)

This course will prepare students to integrate a basic understanding of pathologies, diseases, pharmacology and pain management to appropriately tailor massage treatment. Disease awareness, treatment planning, indication/contraindications for therapy and Infection Control will be stressed. In the clinic setting, student practice and refine techniques in a professional setting while providing massages to a variety of clients from across the lifespan. The student works with clients in a supervised environment to develop technique, professionalism, communication skills and self-confidence. Students will be required to complete a minimum of two hours of supervised hands-on table massage as well as 14 hours of unsupervised table/chair massage of various lengths and clients of various ages, gender and wellness. Prereq.- MASG102.
Prerequisite: MASG102.

MATH - Mathematics

MATH 020 - Pre-Algebra (3 credits)

This course reviews arithmetic operations on whole numbers, fractions, decimals, and integers and introduces algebraic notation: solution of algebraic equations, inequalities, and applications. This course is intended to prepare students for MATH022 (Elementary Algebra). No calculators are to be used for this course. Also available through Online Learning.

MATH 022 - Elementary Algebra (4 credits)

This course introduces basic algebra topics. These topics include operations and properties of real numbers, solving linear equations and inequalities, modeling and graphing linear functions, slope, systems of equations, and operations on polynomials. Prereq. - Appropriate competence as outlined in the Mathematics Placement policy or MATH020 with a C or better. Also available through Online Learning.
Prerequisite: Appropriate competence as outlined in the Mathematics Placement policy or MATH020 with a C or better.

MATH 026 - Intermediate Algebra (3 credits)

This course extends algebraic properties and processes to linear, quadratic, polynomial, rational and radical expressions and equations, and applies them to real world problems. This course represents quadratic and polynomial expressions in multiple ways and makes connections among these representations. Prereq. - Appropriate competence as outlined in the Mathematics Placement policy or MATH022 with a C or better. Also available through Online Learning.
Prerequisite: Appropriate competence as outlined in the Mathematics Placement policy or MATH022 with a C or better.

MATH 028 - Elementary and Intermediate Algebra Combined (5 credits)

This course combines Elementary and Intermediate Algebra in one semester. Using both real and complex numbers, topics include: solving linear, polynomial, ration, absolute value, and radical equations, inequalities, graphing functions, problem solving, solving systems of linear equations, operations using and simplifying exponents, factoring polynomials, simplifying rational and radical expressions. Prereq.- Appropriate competence as outlined in the Mathematics Placement policy.

Prerequisite: Appropriate competence as outlined in the Mathematics Placement policy.

MATH 103 - Applications in Mathematics (3 credits)

Applications of mathematics emphasizing problem solving and reasoning. Core: QL (A.A.S. only). Also available through Online Learning.

MATH 118 - Foundations of Mathematics I (3 credits)

This course consists of problem solving and inductive reasoning, sets, functions, numeration systems, integers, rational numbers, number theory, decimals, percents, real numbers and proportional reasoning. This course is based on state and national mathematics standards and is restricted to all NCC Education majors. Prereq.- Appropriate competence as outlined in the Mathematics Placement policy or MATH022 with a C or better. MATH 118 and MATH120 may not both count toward the same degree. Also available through Online Learning. Core: QL (Middle Level Education, Early Childhood Education Special Education only).

Prerequisite: Appropriate competence as outlined in the Mathematics Placement policy or MATH022 with C or better.

MATH 119 - Foundations of Mathematics II (3 credits)

This course is a continuation of MATH 118 that includes probability and statistics, elementary geometry, geometric constructions, geometric transformation, tessellations, nets, and measurement. This course is based on state and national mathematics standards and is restricted to all NCC Education majors. Prereq.- Appropriate competence as outlined in the Mathematics Placement policy or MATH022 with a C or better. MATH 119 and MATH120 may not both count toward the same degree. Also available through Online Learning. Core: QL (Middle Level Education Early Childhood Education only).

Prerequisite: Appropriate competence as outlined in the Mathematics Placement policy or MATH022 with a C or better.

MATH 120 - Nature of Mathematics (3 credits)

This course is not designed for science or business majors. Specific topics include financial literacy, number systems, estimation, unit conversions, essential statistical literacy, geometry and various problem solving. MATH118 and 120 nor MATH119 and 120 may not count for credit towards the same degree. Prereq. - Appropriate competence as outlined in the Mathematics Placement policy or MATH022 with a C or better. Also available through Online Learning. Core: QL.

Prerequisite: Appropriate competence as outlined in the Mathematics Placement policy or MATH022 with a C or better.

MATH 140 - College Algebra (3 credits)

Concepts of algebra, graphs and functions, exponential and log functions, systems of inequalities and equalities, complex numbers. Prereq. - Appropriate competence as outlined in the Mathematics Placement policy or MATH026 or MATH028 either with a C or better. Also available through Online Learning. Core: QL.

Prerequisite: Appropriate competence as outlined in the Mathematics Placement policy or MATH026 or MATH028, either with a C or better.

MATH 145 - Trigonometry (3 credits)

Angles, trig functions, trig identities, solution of triangles, complex numbers. Prereq. - Appropriate competence as outlined in the Mathematics Placement policy or MATH140 with a C or better. Also available through Online Learning. Core: QL.

Prerequisite: Appropriate competence as outlined in the Mathematics Placement policy or MATH140 with a C or better.

MATH 150 - Introductory Statistics (3 credits)

This course introduces students to descriptive statistics, probability, correlation and regression, normal distribution, sampling distributions, confidence intervals, and hypothesis testing. Prereq.- Appropriate competence as outlined in the Mathematics Placement policy or MATH022 or MATH028 either with a C or better. Also available through Online Learning. Core: QL.

Prerequisite: Appropriate competence as outlined in the Mathematics Placement policy or MATH022 or MATH028, either with a C or better.

MATH 160 - Pre-Calculus (4 credits)

This course covers topics of algebra, equations, inequalities, graphs, functions, polynomial and rational functions over the real and complex numbers, exponential and logarithmic functions, a comprehensive review of trigonometry, and some aspects of analytic geometry. Prereq.- Appropriate competence as outlined in the Mathematics Placement policy or MATH140 with a C or better. Core: QL. Also available through Online Learning.

Prerequisite: Appropriate competence as outlined in the Mathematics Placement policy or MATH140 with a C or better.

MATH 165 - Applied Calculus (3 credits)

Functions, limits, derivatives and their application, integration, and application of the definite integral. Prereq. - Appropriate competence as outlined in the Mathematics Placement policy or MATH140 with a C or better. Core: QL. Prerequisite: Appropriate competence as outlined in the Mathematics Placement policy or MATH140 with a C or better.

MATH 175 - Calculus I with Review (Part 1) (4 credits)

This course along with MATH176 reviews both algebra and trigonometry throughout the study of calculus. The completion of both MATH175 and MATH176 satisfies the MATH180 requirement. Only MATH175 and MATH176 or MATH180 may be applied to the degree program. Prereq. - Appropriate competence as outlined in the Mathematics Placement policy or MATH140 with a C or better. Core: QL. Offered fall semester only. Prerequisite: Appropriate competence as outlined in the Mathematics Placement policy or MATH140 with a C or better.

MATH 176 - Calculus I with Review (Part 2) (4 credits)

This course along with MATH175 continues review of both algebra and trigonometry throughout the study of calculus. The completion of both MATH175 and MATH176 satisfies the MATH180 requirement. Only MATH175 and MATH176 or MATH180 may be applied to the degree program. Prereq. - MATH175 with C or better. Core: QL. Offered spring semester only. Prerequisite: MATH175 with a C or better.

MATH 180 - Calculus I (4 credits)

In this course, students will study limits of functions, derivatives, chain rule, implicit differentiation, extrema indefinite and definite integration: Fundamental Theorem of Calculus, transcendental functions, and applications. Calculators may not be used on quizzes or tests. Prereq. - Appropriate competence as outlined in the Mathematics Placement policy or MATH145 or MATH160 either with a C or better. Also available through Online Learning. Core: QL. Prerequisite: Appropriate competence as outlined in the Mathematics Placement policy or MATH145 or MATH160, either with a C or better.

MATH 181 - Calculus II (4 credits)

This course is a continuation of Calculus I (MATH180) and the topics to study are: techniques and applications of integration, L' Hopital's Rule, improper integrals, solving differential equations using separation of variables, sequences and series, conics, parametric equations and polar coordinates. Calculators may not be used on quizzes or tests. Prereq. - MATH176 or MATH180 either with a C or better, or a score of 4 or 5 on AP Calculus AB test, or a score of 3, 4, or 5 on AP Calculus BC test. Core: QL. Prerequisite: MATH176 or MATH180 either with a C or better, or a score of 4 or 5 on AP Calculus AB test, or a score of 3, 4, or 5 on AP Calculus BC test.

MATH 191 - Special Studies in Mathematics (1 credit)

See statement on Special Studies. Offered on demand.

MATH 192 - Special Studies in Mathematics (2 credits)

See statement on Special Studies. Offered on demand.

MATH 193 - Special Studies in Mathematics (3 credits)

See statement on Special Studies. Offered on demand.

MATH 194 - Special Studies in Mathematics (4 credits)

See statement on Special Studies. Offered on demand.

MATH 202 - Discrete Math (3 credits)

An introduction to mathematical discrete structures and algorithms will be presented. Topics include: sets, logic, proof techniques, mathematical induction, combinatorics, relations, graph and trees. Prereq. - MATH176 or MATH180 either with C or better. Offered spring semester only. Prerequisite: MATH176 or MATH180, either with a C or better.

MATH 210 - Calculus III (4 credits)

Vectors and the geometry of space, vector-valued functions, partial and directional derivatives, multiple integration, vector analysis, and Green's Theorem, the Divergence Theorem and Stokes' Theorem. Prereq. - MATH181 with C or better. Core: QL.
Prerequisite: MATH181.

MATH 211 - Differential Equations (4 credits)

This is an introductory course to Ordinary Differential Equations (ODE), their solutions and applications. Some of the topics to study: solving differential equations by separations of variable, substitutions methods, numerical methods, exact differential equations, differential equations of higher order, linear system of differential equations, Laplace transform methods, power series, linear systems, matrices, vector space, eigenvalues and eigenvectors. Prereq.- MATH210 with C or better. Core: QL.
Prerequisite: MATH210.

MATH 291 - Special Studies in Mathematics (1 credit)

See Statement on Special Studies (p. 19). Offered on demand.

MATH 292 - Special Studies in Mathematics (2 credits)

See Statement on Special Studies (p. 19). Offered on demand.

MATH 293 - Special Studies in Mathematics (3 credits)

See Statement on Special Studies (p. 19). Offered on demand.

MATH 294 - Special Studies in Mathematics (4 credits)

See Statement on Special Studies (p. 19). Offered on demand.

MDAS - Medical Assisting**MDAS 101 - Medical Assistant Techniques I (5 credits)**

The course will provide an introduction to the clinical role of the Medical Assistant, and will include basic skills necessary to assist the physician and provide direct patient care in the medical office setting. Basic skills will include obtaining a patient history, taking vital signs, administering oral, liquid and topical medications. Telephone triage skills, documentation, infection control principles, use of an autoclave, and assisting with minor office procedures and surgery will also be covered. Restricted to Medical Assistant students. Prereq. or coreq. - BIOS130, OFAD101 and HCOA154.
Additional course fee: \$13.00
Corequisite: BIOS130, OFAD101, and HCOA154.

MDAS 105 - Medical Assistant Techniques II (5 credits)

This course focuses on advanced level clinical skills common to medical offices and clinics. The enhanced role and function of the medical assistant will focus on legal aspects, ethical aspects, patient education, CLIA waived testing, Point of Care Testing, Rapid Response Teams for emergencies, Electrocardiography, phlebotomy, respiratory and physical therapy and rehabilitation therapeutic procedures. Advanced pharmacology will focus on parenteral calculations, preparations, and administration, with a special component on immunizations throughout the lifespan. Restricted to Medical Assistant students. Prereq. - MDAS101. Pre- or coreq. - HCOA172 and HCOA240.
Prerequisite: MDAS101. Corequisite: HCOA172 and HCOA240.

MDAS 201 - Medical Assistant Externship (4 credits)

This course provides an opportunity for the student to integrate theory and practicum into reality practice while working in a medical environment. Medical assisting skills and knowledge will increase in skill proficiency learned in MDAS 101 and 105. This course offers clinical experiences in diagnostic procedures, and other competencies delegated to the entry-level medical assistant with consideration of the ethical and legal implications. This course includes a capstone medical assistant seminar component to link theory to practice to reality. Restricted to Medical Assistant students. Prereq.- MDAS105.
Prerequisite: MDAS101.

MDLA - Modern Languages

MDLA 102 - Elementary French I (3 credits)

This introductory course focuses on listening, speaking, reading and writing in French. Vocabulary and basic grammatical structures are emphasized, and cultural elements are fully integrated in all aspects of the course. This course is designed for students who have not previously studied French and is not appropriate for native French speakers. Core: AH, D.

MDLA 103 - Elementary Spanish I (3 credits)

This is an introductory, elementary part I Spanish course which includes instruction and practice in listening, speaking, reading and writing in the target language. Emphasis is placed on vocabulary and basic grammatical structures. Cultural elements are fully integrated in all aspects of the course. The course is designed for students who have not studied Spanish previously. It is not appropriate for native Spanish speakers. Also available through Online Learning. Core: AH and D.

MDLA 105 - Elementary Chinese I (3 credits)

This is an introductory course which includes instruction and practice in listening, speaking, reading, and writing in the Chinese language. Emphasis is placed on vocabulary and basic grammatical structures. Cultural elements are fully integrated in all aspects of the course. The course is designed for students who have not previously studied Chinese. It is not appropriate for native Chinese speakers. Core: AH, D.

MDLA 107 - Elementary Arabic I (3 credits)

This course is an introduction to the Arabic language. The course stresses the active use of the language whereby students develop proficiency in the four language skills (speaking, listening, reading, and writing.) This course is for beginners and not appropriate for native Arabic speakers. Core: AH, D.

MDLA 112 - Elementary French II (3 credits)

This course is a continuation of Elementary French I. Emphasis will be placed again on developing proficiency in the four skills essential to communicative language learning: listening, speaking, reading, and writing as well as discovering aspects of both daily life and culture of Francophones all over the world. It is designed for students who have previously studied one semester of French at an elementary level. Core: AH, D.

MDLA 113 - Elementary Spanish II (3 credits)

This is an introductory, elementary part I Spanish course which includes instruction and practice in listening, speaking, reading and writing in the target language. Emphasis is placed on vocabulary and basic grammatical structures. Cultural elements are fully integrated in all aspects of the course. The course is designed for students who have not studied Spanish previously. It is not appropriate for native Spanish speakers. Also available through Online Learning. Core: AH and D.

MDLA 115 - Elementary Chinese II (3 credits)

This course expands the skills acquired in elementary Chinese I, and also includes instruction and practice in listening, speaking, reading and writing in Mandarin Chinese. There will be an emphasis on vocabulary and grammatical structures, and cultural elements will be fully integrated in all aspects of the course. This course is designed for students who have previously studied one semester of Chinese at an elementary level and are non-native speakers. Core: AH, D.

MDLA 117 - Elementary Arabic II (3 credits)

Expansion of the skills required in an elementary Arabic I course; the course will stress the active use of the language and continue developing student proficiency in the four language skills (speaking, listening, reading, and writing.) This course is designed for students who have previously studied one semester of Arabic at an elementary level. Core: AH, D.

MDLA 122 - Intermediate French I (3 credits)

This course, which is taught in French, develops further study and review of French grammar and vocabulary. Students are immersed in the French language and culture, and given the opportunity to apply listening and speaking skills to a variety of contexts. Reading strategies are emphasized and fundamentals of composition are presented. It is designed for students who have previously studied two semesters of French. Core: AH, D.

MDLA 123 - Intermediate Spanish I (3 credits)

Expansion of the language skills learned at the elementary levels; emphasis on conversation, reading and writing, with brief reviews of grammar; designed for students who have previously studied two or three semesters of Spanish; cultural elements fully integrated in all aspects of the course; taught primarily in Spanish and appropriate for native and non-native Spanish speakers. Core: AH, D. Also available through Online Learning.

MDLA 125 - Intermediate Chinese I (3 credits)

This intermediate level course in Standard Mandarin Chinese is a continuation of Elementary Chinese level II. The students will continue to extend their ability to listen, speak, read, and write in Mandarin Chinese. The students will focus on communication skills in their daily life, study, society and work while immersed in a fully Chinese speaking environment through exercising the necessary grammar, vocabulary and basic cultural knowledge. Designed for students who have studied two semesters of Elementary Chinese at a college level or equivalent. Core: AH, D.

MDLA 133 - Intermediate Spanish II (3 credits)

Students continue to develop the speaking, writing and critical reading skills begun in prior Spanish courses within the context of communication, culture, vocabulary and grammar. The class is taught completely in Spanish. Designed for students who have had three semesters of Spanish at a college level or equivalent. Core: AH, D.

MDLA 291 - Special Studies in Modern Language (1 credit)

See Statement on Special Studies (p. 19). Offered on demand.

MDLA 292 - Special Studies in Modern Language (2 credits)

See Statement on Special Studies (p. 19). Offered on demand.

MDLA 293 - Special Studies in Modern Language (3 credits)

See Statement on Special Studies (p. 19). Offered on demand.

MEPL - Meeting and Event Planning**MEPL 112 - Meeting and Convention Management (3 credits)**

The introductory course provides the student with an interest in planning events such as meetings, conferences and conventions with the parameters of that segment. Student are introduced to the differences between meetings and conventions, the employees involved in those venues and the steps that are to be taken to plan, organize and produce such activities as meetings, seminars, conventions and trade shows. The course is for those with an interest in organizing and coordinating meetings, conventions, events and tours. Offered fall semester only.

MEPL 122 - Special Event Management (3 credits)

This course covers the theoretical and practical foundation for event management. Emphasis is placed on research, design, planning, coordination, budgeting and evaluation of events. Topics include competencies required for successful events, including parades, festivals, sporting and other special events. Offered spring semester only.

MEPL 132 - Event Promotion and Sponsorship (3 credits)

This course examines how to promote events and use events to endorse products, services and causes. Specifics covered include image, branding, advertising, publicity, ambush marketing and public relations, their importance to an event or product, the benefits and best practices of each. Cause marketing, corporate philanthropy, corporate social responsibility, non-profits and donations will all be analyzed in relationship to sponsorship. Also covered are the coordinating methods to secure sponsorship contracts. Prereq.- MEPL112 or MEPL122. Offered fall semester only. Prerequisite: MEPL112 or MEPL122.

MEPL 143 - Event and Meeting Facilities Management (3 credits)

This course highlights meeting and event facilities and venues and their methods of operation. Venues included are public assembly facilities, arenas, stadiums, convention centers, performing arts centers, and amphitheaters. Logistical considerations of booking events, contract negotiations, ticket sales, maintenance and production are identified. Management techniques of hospitality facilities are examined to improve business productivity. Prereq.- MEPL112 and MEPL122. Offered spring semester only.

Prerequisite: MEPL112 and MEPL122.

MEPL 147 - Business of Social Events and Wedding Consulting (3 credits)

This course provides students with the knowledge and skills needed to operate a business related to social events and wedding consulting. Emphasis is placed on setting up and running an event consulting business, financial management for the business and the client, guidelines for working with clients, selecting vendors and venues, developing professional relationship, timelines and planning schedules. Events covered include: birthdays, anniversaries, bar and bat mitzvahs, quinceanaras, family reunions, showers, sweet sixteen, bachelor(ette) parties and custom designed celebrations.

Prereq.- MEPL112 and MEPL122. Offered spring semester only.

Prerequisite: MEPL112 and MEPL122.

MUSC - Music

MUSC 101 - Introduction to Music (3 credits)

This course is a chronological survey of Western European and American music from 600 AD to the present. The primary emphasis is on developing listening skills through a better understanding of the cultural background and the progressive development of musical styles, musical ideas, musical language, and musical structures. Also available through Online Learning. Core: AH.

MUSC 110 - Fundamentals of Music I (3 credits)

The basic elements of music; exercises dealing with writing and interpreting various musical symbols, as well as constructing scales, intervals, and triads; training in the skills of basic musicianship: ear training, diction, and an introduction to composition.

MUSC 130 - Chorus (1 credits)

Study and performance of representative choral literature. May be taken four (4) times for credit.

MUSC 141 - Applied Music I (1 credits)

Private instrumental or vocal music lessons arranged with a private music teacher through the Northampton Community College faculty Applied Music advisor. The faculty advisor will assist the student in finding an appropriate teacher when necessary. The student will need to complete a minimum of one lesson per week with the private teacher and five practice hours per week during the semester. The student will pay Northampton Community College for the credit and pay the private teacher for the lessons at that teacher's rate.

MUSC 152 - Introduction to Piano (2 credits)

This course is for the student who has no or very little experience and desires to begin learning how to play the piano. It is designed to develop basic keyboard and musicianship skills including technique, sight-reading, harmonization, accompanying, music theory, and playing various piano repertoire. Prereq.- Students need access to a piano/keyboard for practice.

Prerequisite: Students need access to a piano/keyboard for practice.

MUSC 162 - Introduction to Guitar (2 credits)

This class is for the student who desires to learn how to play the guitar. It is designed to develop basic and proper techniques and to provide students with experience reading musical notation and guitar tablature, and strumming chords. Students must have a guitar (acoustic or electric) for class and practice.

MUSC 191 - Special Studies in Music (1 credit)

See Statement on Special Studies (p. 19). Offered on demand.

MUSC 192 - Special Studies in Music (2 credits)

See Statement on Special Studies (p. 19). Offered on demand.

MUSC 193 - Special Studies in Music (3 credits)

See Statement on Special Studies (p. 19). Offered on demand.

MUSC 242 - Applied Music II (1 credits)

Private instrumental or vocal music lessons arranged with a private music teacher through the Northampton Community College faculty Applied Music advisor. The faculty advisor will assist the student in finding an appropriate teacher when necessary. The student will need to complete a minimum of one lesson per week with the private teacher and five practice hours per week during the semester. The student will pay Northampton Community College for the credit and pay the private teacher for the lessons at that teacher's rate. Prereq. - MUSC141.
Prerequisite: MUSC141.

MUSC 243 - Applied Music III (1 credits)

Private instrumental or vocal music lessons arranged with a private music teacher through the Northampton Community College faculty Applied Music advisor. The faculty advisor will assist the student in finding an appropriate teacher when necessary. The student will need to complete a minimum of one lesson per week with the private teacher and five practice hours per week during the semester. The student will pay Northampton Community College for the credit and pay the private teacher for the lessons at that teacher's rate. Prereq. - MUSC242.
Prerequisite: MUSC242.

MUSC 244 - Applied Music IV (1 credits)

Private instrumental or vocal music lessons arranged with a private music teacher through the Northampton Community College faculty Applied Music advisor. The faculty advisor will assist the student in finding an appropriate teacher when necessary. The student will need to complete a minimum of one lesson per week with the private teacher and five practice hours per week during the semester. The student will pay Northampton Community College for the credit and pay the private teacher for the lessons at that teacher's rate. Prereq. - MUSC243.
Prerequisite: MUSC243.

MUSC 253 - Fundamentals of Music II (3 credits)

Students continue their music study developing more advanced principles from Fundamentals of Music I, including the student of common tone chord progressions and modulations, advanced figured bass, non-harmonic tones, melodic harmonization, analysis of diatonic seventh and chromatic harmonies, sight-singing, ear-training, and keyboard/piano skills. Prereq.- MUSC110 or permission of instructor.
Prerequisite: MUSC110 or permission of instructor.

NANF - Nanofabrication**NANF 211 - Materials, Safety and Equipment Overview for Nanofabrication (3 credits)**

This course will provide an overview of basic nanofabrication processing equipment and materials handling procedures. The focus is on procedural, safety, environment, and health issues in equipment operation and materials handling. Emphasis is on using state-of-the-industry processing equipment in the Nanofabrication Facility cleanrooms. Prereq. - permission of department. Offered at the Nanofabrication facility of Pennsylvania State University, main campus.
Prerequisite: Permission of the department.

NANF 212 - Basic Nanofabrication Processes (3 credits)

The course will provide an overview of basic processing steps in nanofabrication. A step-by-step description of the equipment and processes needed to fabricate devices and structures will be examined for microelectromechanical (MEM) devices, biomedical 'lab-on-chip' structures, display devices, and microelectronic devices including the diode, transistor, and full CMOS structures. Students will undertake 'hands-on' processing. Prereq. - permission of department. Offered at the Nanofabrication facility of Pennsylvania State University, main campus.
Prerequisite: Permission of the department.

NANF 213 - Thin Films in Nanofabrication (3 credits)

This course will cover thin film deposition and etching practices in nanofabrication. The purpose is to develop a full understanding of the use of, and the processing involved in, thin film materials in nanofabrication. The emphasis is on learning with and using state-of-the-art processing equipment in the Nanofabrication Facility cleanrooms. Prereq. - permission of department. Offered at the Nanofabrication facility of Pennsylvania State University, main campus.
Prerequisite: Permission of the department.

NANF 214 - Lithography for Nanofabrication (3 credits)

Lithography is a key part of the nanofabrication equipment, processing, and materials base. This course will cover all aspects of lithography from design and mask fabrication to pattern transfer and inspection. Emphasis will be on using state-of-the-art lithography equipment in the Nanofabrication Facility cleanrooms. Prereq. - permission of department. Offered at the Nanofabrication facility of Pennsylvania State University, main campus.
Prerequisite: Permission of the department.

NANF 215 - Materials Modification in Nanofabrication (3 credits)

This course will cover in detail the processing steps used in modifying material properties in nanofabrication. The purpose is to provide hands-on experience across the spectrum of materials modification techniques used in nanofabrication. The emphasis is on learning and using state-of-the-art materials-modification equipment and materials characterization tools in the Nanofabrication Facility clean rooms. Prereq. - permission of department. Offered at the Nanofabrication facility of Pennsylvania State University, main campus.
Prerequisite: Permission of the department.

NANF 216 - Characterization, Packaging, and Testing of Nanofabricated Structures (3 credits)

This course will examine a variety of techniques and measurements essential for controlling device fabrication, device performance, and device coupling to the outside world and device stability. The emphasis will be learning with and using state-of-the-art packaging equipment in the Nanofabrication Facility clean rooms. Prereq. - permission of department. Offered at the Nanofabrication facility of Pennsylvania State University, main campus.
Prerequisite: Permission of the department.

NURS - Nursing

NURS 101 - Introduction to Nursing (8 credits)

This course provides students with fundamental nursing knowledge and skills to provide basic nursing care to patients across the lifespan. The nursing process, communication skills and the recognition of normal assessment parameters are emphasized throughout the course. Students are introduced to principles of pharmacology, nutrition, legal and ethical nursing responsibilities and patient education needs. This course will include classroom, laboratory and clinical experiences. Restricted to Nursing Students. Pre- or coreq.- BIOS160 or BIOS204, ENGL101, PSYC103. Additional course fee: \$13.00 plus additional fees which vary by session.
Corequisite: BIOS160 or BIOS204, ENGL101, and PSYC103.

NURS 151 - Medical-Surgical Nursing for the Practical Nurse (8 credits)

Application of nursing principles to medical-surgical health problems affecting patients across the lifespan; development of critical thinking and communication skills through clinical application in a variety of settings. Restricted to Nursing Students. Prereq. - NURS101 and BIOS160; Pre- or coreq.- PSYC258. Offered spring semester only. Additional course fees: \$235.00.
Prerequisite: NURS101 and BIOS160. Corequisite: PSYC258.

NURS 205 - Geriatric Nursing for the Practical Nurse (4 credits)

Emphasis on application of nursing interventions to address the complex health care needs of geriatric patients; basic principles of nursing management within the scope of practical nursing; extended care facilities provide clinical experiences for the course. Restricted to Nursing Students. Prereq.- NURS151, PSYC258 and SOCA103. Offered summer only.
Prerequisite: (D in NURS151).

NURS 206 - Maternal Nursing for the Practical Nurse (4 credits)

Emphasis on providing nursing care to the childbearing family through the nursing process; exploration of the role of the practical nurse related to pregnancy, childbirth, and pediatrics in acute care and community settings. Restricted to Nursing Students. Prereq.- NURS151, PSYC258 and SOCA103. Offered summer only.
Prerequisite: NURS151, PSYC258, and SOCA103.

NURS 207 - Mental Health Nursing for the Practical Nurse (3 credits)

Application of the nursing process to address the needs of patients with common mental health problems; emphasis on the principles of therapeutic communication and relationships in providing nursing care in inpatient and outpatient

settings. Restricted to Nursing Students. Prereq.- NURS151, PSYC258 and SOCA103. Additional course fees: \$157.00. Offered summer only.
Prerequisite: NURS151, PSYC258, and SOCA103.

NURS 215 - Nursing Care of Patients with Medical Surgical Problems (8 credits)

This course entails the application of the nursing process to plan and provide care to patients of various age groups with medical-surgical problems. This course includes classroom, laboratory, and clinical experiences. Restricted to Associate Degree Nursing Students. Prereq.- NURS101, Pre- or coreq.- BIOS254, ENGL151, and MATH140 or MATH150. Additional course fee: \$180.00.
Prerequisite: NURS101. Corequisite: BIOS254, ENGL101, and MATH140 or MATH150.

NURS 223 - Maternal Child Health Nursing (4 credits)

This course entails the application of the nursing process related to the care of the family throughout the childbearing cycle. Critical thinking skills and caring behaviors are stressed. This course includes classroom, laboratory and clinical experiences. Restricted to Associate Degree Nursing Students. Prereq.- NURS215, Pre- or coreq.- BIOS202, PSYC258, NURS224, and SOCA102 or SOCA103.
Prerequisite: NURS215. Corequisite: BIOS202, PSYC258, NURS224, and SOCA102 or SOCA103.

NURS 224 - Care of Mental Health Patients (4 credits)

This course entails the application of the nursing process in caring for patients along the continuum of mental health. Critical thinking skills and caring behaviors are stressed. Emphasis is placed on self-awareness, the therapeutic process of communication, ethical-legal issues, theoretical and practice advances in the etiology and treatment of mental illness, and the contemporary trends in the practice of psychiatric nursing throughout the lifespan. This course includes classroom, laboratory and clinical experiences. Restricted to Associate Degree Nursing Students. Prereq.- NURS215, Pre- or coreq.- BIOS202, PSYC258, NURS223, SOCA102 or SOCA103. Additional course fee: \$180.00.
Prerequisite: NURS215. Corequisite: BIOS202, PSYC258, NURS223, and SOCA102 or SOCA103.

NURS 231 - Nursing Seminar (2 credits)

This course enables professional nurse role development through simulation exercises that emphasize essential competencies for safe health care delivery. This course is presented in an experience-based learning format. Restricted to Associate Degree Nursing Students. Prereq.- NURS223, NURS224, PSYC258, and SOCA102 or SOCA103. Pre- or coreq.- NURS260, NURS261, CMTH102, and PHIL202G.
Prerequisite: NURS223, NURS224, BIOS202, PSYC258 and SOCA102 or SOCA103. Corequisite: NURS260, NURS261, CMTH102, and PHIL202G.

NURS 260 - Integrated Concepts for Nursing Practice (6 credits)

Through classroom learning activities, simulation, and clinical experience, the student will apply concepts of evidence-based practice, performance improvement, priorities of care, and delegation, as they relate to individuals and families experiencing complex health problems commonly seen the critical care, acute care, and community environments. Prereq.- NURS233 and NURS224, coreq.- NURS231. Additional course fee: \$167.00.
Prerequisite: NURS223 and NURS224. Corequisite: NURS231.

NURS 261 - Nursing Practicum (2 credits)

This class is a faculty guided independent capstone course to culminate the student's nursing education. Students will gain increased autonomy while apply nursing knowledge and leadership concepts to patients and families in the healthcare setting. Students will complete 72 clinical hours (total) over the course period. Students must successfully complete NURS260 before taking this practicum. Prereq.- NURS223 and NURS224, coreq.- NURS231, NURS260, PHIL202G, and CMTH102.
Prerequisite: NURS223 and NURS224. Corequisite: NURS231, NURS260, PHIL202G, and CMTH102.

NURS 291 - Special Studies in Nursing (1 credit)

See Statement on Special Studies (p. 19). Offered on demand.

NURS 292 - Special Studies in Nursing (2 credits)

See Statement on Special Studies (p. 19). Offered on demand.

NURS 293 - Special Studies in Nursing (3 credits)

See Statement on Special Studies (p. 19). Offered on demand.

NURS 297 - Special Studies in Nursing (2 credits)

See Statement on Special Studies (p. 19). Offered on demand.

NUTR - Nutrition

NUTR 105 - Introduction to Nutrition (3 credits)

This course is designed to introduce the student to the fundamentals of nutrition related to health promotion and disease prevention throughout the life cycle. Topics include metabolism of carbohydrate, lipid, protein, vitamins, minerals, food and nutrition across the life span from pregnancy and fetal growth to old age. Also available through Online Learning.

OFAD - Office Administration

OFAD 101 - Keyboarding & Formatting Essentials I (3 credits)

This course will focus on the introduction and development keyboarding methodology through touch typing. Emphasis will also be placed on the formatting skills required to master the preparation of business letters, reports, tables, memorandums, and resumes. Correct technique is strongly encouraged, and a minimum typing speed of 30 words per minute is required to successfully complete the course. Also available through Online Learning.

OFAD 121 - Keyboarding & Formatting II (3 credits)

This course will focus on reinforcement of correct "touch" keyboarding techniques with emphasis on speed and accuracy. Develops mastery of formatting "mailable" business documents using Microsoft Word to accomplish the following: complex letters, a variety of business reports, memos and memo reports, enhanced complex tables, and template modification and application with a minimum speed of 40 words for course completion. Also available in a hybrid format. Prereq.- OFAD101.
Prerequisite: OFAD101.

OFAD 125 - WordPerfect (3 credits)

This course will focus on the development of the skills required to prepare, format and save documents using WordPerfect software as required in a professional office environment. Emphasis will be placed on document accuracy; including formatting, spelling and grammar, as well as overall professional appearance. Particular attention will be paid to mastering file management, composing and producing professional quality correspondence, including emails, resumes and cover letters. Prereq. - OFAD101.
Prerequisite: OFAD101.

OFAD 130 - Introduction to WordPerfect (1 credits)

This course will focus on the development of the skills required to prepare, format and save documents using WordPerfect software as required in a professional office environment. Emphasis will be placed on document accuracy; including formatting, spelling and grammar, as well as overall professional appearance. Particular attention will be paid mastering file management, composing and producing professional quality correspondence, including emails, resumes and cover letters.

OFAD 141 - Introduction to Word (1 credits)

This introductory course is designed for personal and / or vocational use for students wishing to master the fundamentals of Microsoft Word; creation and formatting of letters, reports, labels and flyers; insertion of graphic components to Word documents and introduction to mail merge. Also available through Online Learning.

OFAD 142 - Introduction to Excel (1 credits)

This introductory course is designed for personal and / or vocational use for students wishing to master the fundamentals of Microsoft Excel; creation and formatting of worksheets and charts, creation of formulas, use of functions and graphic features of Excel. Also available through Online Learning.

OFAD 143 - Introduction to Access (1 credits)

This introductory course is designed for personal and / or vocational use for students wishing to master the fundamentals of Microsoft Access; creation, modification and sorting of database tables; extracting information via queries; creation of forms and reports; importing and exporting Access data with Microsoft Word and Excel software including mail merge. Also available through Online Learning.

OFAD 144 - Introduction to Outlook (1 credits)

This introductory course develops skill in utilizing all components of Microsoft Outlook, an information management application that provides tools to send and receive email, organize schedules and events, maintain contacts, to-do-lists and notes. Organizing and managing information is a fundamental skill required in today's society, and while anyone can benefit from this course, these skills are extremely important to those preparing for a career in a business, legal, or medical office. Also available through Online Learning.

OFAD 149 - Digital Presentation Applications (1 credits)

This introductory course develops skills in mastering the fundamentals of a variety of current digital presentation applications. It offers students regardless of career focus, the skills to plan a variety of presentations for an audience. The creation and sharing of professional-quality presentations requires embracing newer interactive, intuitive, mobile and cloud friendly technologies along with a basic understanding of how to plan a presentation from inception to delivery. Also Available through Online Learning.

OFAD 151 - Computer Fundamentals (1 credit)

This introductory course is designed to develop computer skills for personal and/or vocational objectives. Topics include the basics of using and maintaining a Windows-based computer, digital file management, and accessing the Internet to communicate and locate information. Students also learn to use the institution's course management system and current social networking sites.

OFAD 152 - Excel for the Medical Profession (2 credits)

This course develops key skills in Microsoft Excel with a focus on spreadsheets used and useful in the medical office environment. Topics covered include formulas, functions formatting, charts and templates. Advanced topics include pivot tables, general macros skills and accessing data from external sources. Prereq.- OFAD142 or CISC101. Prerequisite: OFAD142 or CISC101.

OFAD 163 - Law Office Procedures (3 credits)

Legal software for billing and docket control, procedures for filing, phone techniques, and appropriate handling of clients in a legal setting; divorce, bankruptcy, and keyboarding of wills. Prereq. - word processing skill using Microsoft Word or Word Perfect. Offered spring semester only. Prerequisite: Word processing skill using Microsoft Word or Word Perfect.

OFAD 201 - Advanced Document Production (3 credits)

This course focuses on effective utilization and further development of advanced word processing and spreadsheet software features used in preparing and formatting various documents according to a variety of style guides and resources. Emphasis is placed on extreme accuracy, mail-ability, and high-level production using simulated information-processing projects that resemble applications that would be required in modern office environments. Prereq. - OFAD121. Prerequisite: OFAD121.

OFAD 230 - Office Procedures (3 credits)

This course emphasizes the essential skills required for administrative assistants working in a contemporary office environment. Topics for this course will include: office protocols, time management, office equipment and technology, records management, meeting and travel planning, customer service, office ergonomics, the virtual administrative assistant, cloud computing, as well as other support functions needed in today's office. Students will develop their customer service, teamwork, and problem solving, as well as other soft skills via real-world office simulations. Prereq. - OFAD121. Also available through Online Learning. Prerequisite: OFAD121.

OFAD 250 - Internship (3 credits)

This course includes preparatory seminars preceding a 150 hour placement of each student in a health care office or

corporate office setting appropriate to the program of study. The on-site experience will provide actual "hands-on" experience supervised by an on-site, experienced mentor; assignments by faculty will include maintenance of a daily journal and development of a detailed procedures manual which reflects office operations. On-site visits will be made by OFAD faculty. Prereq. - BUSA221G; Pre- or co-req. - OFAD230 or OFAD240.
Prerequisite: BUSA221G. Corequisite: OFAD230 or OFAD240.

OSAH - Occupational Safety

OSAH 100 - Industry Outreach Safety Education (1 credits)

This course is based upon the 10-hour Occupational Safety and Health Administration's General Industry and Construction Industry Outreach Training Program. The intention is to provide entry level general industry and construction industry workers a broad awareness as it relates to recognizing and preventing hazards within their respective workplaces. The discussion and information cover a variety of safety and health hazards which an employee may encounter in either workplace. This course is intended to be an orientation to the general safety practices along with introductory concepts of occupational safety and health.

PARL - Paralegal

PARL 101 - Introduction to Paralegal Studies (3 credits)

Basic introduction to the American legal system and the variety of work done in the public and private practice of law by attorneys and paralegals working under the supervision of attorneys; emphasis on substantive and procedural aspects of law and the role of paralegals in accomplishing varied tasks within the legal system; examination of the structure and operation of the federal and state court systems; discussion of the ethical considerations inherent in the performance of various functions by paralegals. Formerly PARL180.

PARL 151 - Family Law (3 credits)

Basic common law and statutory concepts of family law and domestic relations. Topics include, among others, marriages, separation, divorce, annulment, marital property, the parent-child relationship, child custody and supports, adoptions, guardianship, domestic relations court procedures, and the paralegal's role in the delivery of family law legal services. Ethical obligations, family law terminology and relevant technology in domestic relations practice are also presented. Pre- or coreq. - PARL101. Offered fall semester only.
Corequisite: PARL101.

PARL 153 - Real Estate Law (3 credits)

Designed to prepare the student to become a legal office administrative support person who is either a paralegal or legal office administrator; basic concepts of the law of real property and rules affecting ownership, and transfer of ownership of real property; preparation of deeds, mortgages, title search and leases, including accumulating data and information needed to complete the above forms. Pre- or coreq. - PARL101; Prereq. - word processing skill using Microsoft Word. Offered fall semester only.
Prerequisite: Word processing skill using Microsoft Word. Corequisite: PARL101.

PARL 156 - Estates and Trusts (3 credits)

Preparation of wills, trusts and administration of estates; responsibilities of the legal assistant in these areas; sample forms for wills, trusts and administration of an estate; preparation of tax returns. Pre- or coreq. - PARL101. Offered spring semester only.
Corequisite: PARL101.

PARL 161 - Business Organizational Law (3 credits)

Principles of law applicable to operation of a business as a sole proprietorship, partnership, and corporation; documents needed for organization, operation and dissolution of each. Pre- or coreq. - PARL101. Offered spring semester only.
Corequisite: PARL101.

PARL 162 - Contract Law (3 credits)

Analysis and application of the law pertaining to contract classification, formation, interpretation, remedies, and dispute resolution under common law and the Uniform Commercial Code. Emphasis on the role of the paralegal in accomplishing various tasks under the supervision of an attorney in all phases of the contracting process. Pre- or coreq.- PARL101. Offered fall semester only.

Corequisite: PARL101.

PARL 163 - Tort Law (3 credits)

Introduction to the area of civil wrongs including intentional torts, negligence, product liability, trespass, and nuisance cases. Examination of the common defenses to such actions and appropriate remedies for the victims. The paralegal's role in the delivery of legal services, ethical obligations, legal terminology and relevant technology in a tort and personal injury law practice are also presented. Pre- or coreq. - PARL101. Offered spring semester only.
Corequisite: PARL101.

PARL 166 - Criminal Law and Procedure (3 credits)

Overview of the paralegal's role in various law offices involved in the criminal justice process. Substantive aspects of criminal law including the general principles of criminal liability, analysis of particular crimes, parties to crimes, and the substantive defense to crimes. Constitutional safeguards and procedures from arrest through trial, sentencing, punishment, and appeal are also studied. Ethical obligations, appropriate legal terminology and relevant technology in criminal law and procedure are examined. Pre- or coreq. - PARL101. Offered fall semester only.
Corequisite: PARL101.

PARL 175 - Bankruptcy Law (3 credits)

This course will enable students to have a foundation in both substantive and procedural bankruptcy law. The student will explore various legal ethics scenarios, paralegal's role and duty in the practice of bankruptcy law under the supervision of a licensed attorney, client relations and intake as well as drafting of the various petitions and schedules, form and motions.

PARL 187 - Litigation Practice & Procedure (3 credits)

Civil litigation including appeals, drafting pleadings, interrogatories, depositions, and motions; aspects of criminal practice. Pre- or coreq. - PARL101; Prereq. - typing skill.
Prerequisite: Typing skill. Corequisite: PARL101.

PARL 205 - Legal Research (3 credits)

This course provides practical experience understanding the court system at both the federal and state levels, locating and applying conventional and computerized legal research resources in the investigation and resolution of typical fact scenarios and legal issues. Emphasis is placed on preparing for the role of the paralegal performing legal research in an attorney-supervised law office. Students will become familiar with basic legal writing principles. Prereq.- ENGL101 and PARL101.
Prerequisite: ENGL101 and PARL101.

PARL 210G - Legal Writing (3 credits)

This course reinforces legal research skills previously learned and further demonstrates the application and knowledge to synthesize information and research results into practical legal writing exercises. Students will become familiar with basic legal writing principles and the incorporation of legal research results into traditional writing exercises in the IRAC (Issue, Rule, Analysis and Conclusion) method of legal writing such as case briefs, legal research memoranda and attorney-supervised traditional persuasive court required writings (such as but not limited to memos and briefs etc.) to develop advocacy and communication skills. Writing Intensive. Prereq.- ENGL151L and PARL101. Core: WI.
Prerequisite: ENGL151L and PARL101.

PARL 215G - Legal Research and Writing (3 credits)

This course provides practical experience locating and applying conventional and computerized legal research resources in the investigation and resolution of typical fact scenarios and legal issues. Emphasis is placed on preparing for the role of the paralegal performing legal research in an attorney-supervised law office. Students will become familiar with basic legal writing principles and the incorporation of legal research results into traditional writing exercises such as case briefs and legal research memoranda. Prereq.- ENGL151 and PARL101. Core: WI.
Prerequisite: ENGL151 and PARL101.

PARL 250 - Internship (3 credits)

This course includes preparatory seminars preceding placement of each student in an office setting appropriate to the course of study. The onsite experience includes the assignment by PARL faculty in an environment where the intern will be supervised by an onsite experienced mentor, maintenance of a daily journal during the actual work experience and

development of a detailed procedures manual which reflects office operations. Prereq. - OFAD125, OFAD163, PARL187 and PARL215G.

Prerequisite: OFAD125, OFAD163, PARL187 and PARL215G.

PARL 291 - Special Studies in Paralegal (1 credit)

See Statement on Special Studies (p. 19). Offered on demand.

PARL 292 - Special Studies in Paralegal (2 credits)

See Statement on Special Studies (p. 19). Offered on demand.

PARL 293 - Special Studies in Paralegal (3 credits)

See Statement on Special Studies (p. 19). Offered on demand.

PHED - Physical Education

PHED 111 - Tennis (1 credit)

Designed for the beginning student to develop and acquire the skills, techniques and knowledge, thus enabling the student to successfully participate in tennis on a lifetime basis. Coeducational.

PHED 116 - Golf (1 credit)

Designed for the development and acquisition of skills, techniques and knowledge to enable the student to successfully participate in golf on a lifetime basis. Coeducational.

PHED 117 - Bowling I (1 credit)

Designed for the beginning student to develop and acquire the skills, techniques, and knowledge thus enabling the student to successfully participate in bowling on a lifetime basis. Student works independently to achieve the objectives of the course. Additional lane fee will be charged. Coeducational. Also available through Online Learning. Additional course fees: \$40.00.

PHED 120 - Racquetball (1 credit)

Designed to enhance the skills, techniques and knowledge to enable the student to successfully participate in racquetball on a lifetime basis. Coeducational.

PHED 121 - Cardio Conditioning (1 credits)

This course introduces students to basic knowledge regarding developing and performing cardiorespiratory fitness programs. Students will become familiar with various activities used to develop and enhance the cardiorespiratory system, including interval and steady-state training activities, as well as, developing means of assessing individual cardiorespiratory fitness. Participants will learn how to safely and effectively develop an individualized cardiorespiratory training program

PHED 125 - Weight Training I (1 credits)

This course introduces students to basic knowledge regarding developing and performing resistance training programs. Students will become familiar with various resistance training exercises, including free-weights, machines, and other specialized equipment, as well as, developing means of assessing individual muscle fitness. Participants will learn how to safely and effectively develop an individualized resistance training program. Also available through Online Learning.

PHED 130 - Fitness I (1 credits)

This course introduces students to the health-related components of fitness: cardiorespiratory endurance, muscle fitness, flexibility, and body composition. Students will become familiar with various activities used to develop and enhance each of these fitness components, including: resistance training, cardiorespiratory fitness activities, and flexibility exercises, as well as, developing means of assessing each of the components. Participants will learn how to safely and effectively develop an individualized comprehensive fitness program. Also available through Online Learning.

PHED 135 - Yoga and Pilates (1 credits)

Designed to introduce the student to the fundamental philosophies and skills of Yoga and Pilates. Instruction will include flexibility and other physiological benefits as well as psychological and relaxation benefits.

PHED 140 - Backpacking (1 credits)

This course is designed to instruct students in the basic skills and equipment of hiking, backpacking, wilderness camping and cooking, navigation, trip planning, safety, and first aid. Instruction will emphasize the value of backpacking as a life-long activity. Students will plan and execute an overnight trip.

PHED 211 - Tennis II (1 credit)

A course designed to enhance the student's skills, techniques and knowledge of the game of tennis, thus enabling the student to participate on a more competitive basis. Medical clearance or testament of health status is required. Prereq.- PHED111 or departmental approval.

Prerequisite: PHED111 or departmental approval.

PHED 217 - Bowling II (1 credit)

A course designed to enhance the student's skills, techniques and knowledge thus enabling the student to participate on a more competitive lifetime basis. Student works independently to achieve the objective of the course. Coeducational. Prereq. - PHED117 or departmental permission. Also available through Online Learning. Additional course fees: \$40.00.

Prerequisite: PHED117 or departmental approval.

PHED 230 - Fitness II (1 credits)

This course builds upon concepts learned in Fitness I to provide a deeper understanding of fitness and a more complete view of wellness. Goal setting, special exercise considerations, injury prevention, heart health, nutrition, and weight management will be examined. Students will employ these concepts to further enrich fitness programs and lead a healthier lifestyle. Medical Clearance or testament of health status is required. Prereq.- PHED130 or departmental permission. Only available through Online Learning.

Prerequisite: PHED130 or departmental permission.

PHED 235 - Intermediate Yoga (1 credits)

This course is designed for the student with prior experience in Yoga. This course introduces students to more challenging variations of basic postures, and to asanas at the intermediate level. Pranayama, Yogic philosophy, meditation and exercises for stress-reduction are integrated into each class. Prereq.- PHED135.

Prerequisite: PHED135.

PHED 291 - Special Studies in Physical Education (1 credit)

See Statement on Special Studies (p. 19). Offered on demand.

PHED 292 - Special Studies in Physical Education (2 credits)

See Statement on Special Studies (p. 19). Offered on demand.

PHED 293 - Special Studies in Physical Education (3 credits)

See Statement on Special Studies (p. 19). Offered on demand.

PHED 295 - Special Studies in Physical Education (1 credit)

See Statement on Special Studies (p. 19). Offered on demand.

PHIL - Philosophy**PHIL 111 - On Death and Dying (3 credits)**

This course provides a number of perspectives on death and how people perceived and responded to it. It offers a survey of personal, philosophical, social, and artistic aspects as well as routes for exploring grief and grieving and the relationship between death and the meaning of life. Course numbers ending with G are Writing Intensive (WI). Also available through Online Learning. Core: AH, CT, D.

PHIL 111G - On Death and Dying (3 credits)

This course provides a number of perspectives on death and how people perceived and responded to it. It offers a survey of personal, philosophical, social, and artistic aspects as well as routes for exploring grief and grieving and the relationship between death and the meaning of life. Writing intensive. Prereq. - ENGL101. Also available through Online Learning. Core: AH, D, CT, WI.
Prerequisite: ENGL101.

PHIL 121 - World Religions (3 credits)

World-wide religions (Hinduism, Buddhism, Taoism, Judaism, Christianity, Islam and Native American spirituality), their concepts of deity, world-views, and theories on the problems and potentials of humankind; emphasis on essential ethical, metaphysical, and spiritual beliefs and practices, similarities and differences, and relations to contemporary life. Core: AH, D. Also available through Online Learning.

PHIL 201 - Introduction to Philosophy (3 credits)

A study of central philosophical questions and theories about human existence, our experience of and place in the world; God, free will, scientific humanism, existentialism; ancient Greek, Judeo-Christian, Modern and 20th century thought; emphasis on development of rational skills and reflective thinking. Prereq. - Reading and writing competence as determined for ENGL101. Also available through Online Learning. Approved for the Honors Program. Core: AH.
Prerequisite: Reading and writing competence as determined for ENGL101.

PHIL 202 - Ethics & Moral Problems (3 credits)

A critical study of major ethical theories and concepts and their application to selected moral issues, to aid in shaping one's own ethical stance and in making sound ethical choices; Hedonism, Egoism, Altruism, Authenticity, Existentialism, Absolutism, Relativism, Utilitarianism, Human Rights and Duty, Justice, Multiculturalism and Feminism. Course numbers ending in a G are Writing Intensive (WI). Also available through Online Learning. Approved for the Honors Program. Core: AH

PHIL 202G - Ethics & Moral Problems (3 credits)

A critical study of major ethical theories and concepts and their application to selected moral issues, to aid in shaping one's own ethical stance and in making sound ethical choices; Hedonism, Egoism, Altruism, Authenticity, Existentialism, Absolutism, Relativism, Utilitarianism, Human Rights and Duty, Justice, Multiculturalism and Feminism. Writing intensive. Prereq. - ENGL101. Also available through Online Learning. Approved for the Honors Program. Core: AH, WI.
Prerequisite: ENGL101.

PHIL 204 - Asian Philosophies (3 credits)

A survey of major Asian traditions, texts, and thinkers, especially in Indian and Chinese philosophy. Course themes will include Asian philosophical perspectives on the nature of the mind, body, self, soul, identity, knowledge, reality, compassion, duty, karma, and nirvana. This course will involve the disciplined practices of concentration and meditation. Pre or coreq. - PHIL121 or PHIL201. Approved for the Honors Program. Core: AH, D.
Corequisite: PHIL121 or PHIL201.

PHIL 211 - Ancient Philosophy (3 credits)

This course is a survey of major Ancient Western Philosophical traditions, texts, and thinkers, emphasizing Plato and Aristotle, but also including the pre-Socratic and Hellenistic eras. Course themes include Ancient Greek and Roman (et.al.) perspectives on the nature of reality, knowledge, virtue, happiness, the soul, logic, and philosophical inquiry. Prereq. - Reading and Writing Competency as determined for ENGL101. Core: AH.
Prerequisite: Reading and writing competency as determined for ENGL101.

PHIL 215 - Modern Philosophy (3 credits)

This course is a survey of major Modern Western Philosophical traditions, texts, and thinkers, emphasizing Continental Rationalism and British Empiricism and ending with Kant. Course themes include perspectives on the nature of reality, knowledge, the relationship between mind and body, and the limits and possibilities of human reason. Prereq.- PHIL201. Core AH.
Prerequisite: PHIL201.

PHIL 220 - Existentialism (3 credits)

This course is a survey of major existentialist thinkers and traditions in philosophy, beginning with Hegel, and including such thinkers as Kierkegaard, Nietzsche, Simone de Beauvoir, Albert Camus, Jean Paul Sartre, Martin Heidegger and Maurice Merleau-Ponty. Themes addressed include authenticity, bad faith, freedom, anxiety, nihilism, mortality, existentialist ethics, phenomenology, humanism, perception, the body, and truth. Prereq.- PHIL201. Core: AH. Prerequisite: PHIL201.

PHIL 225 - What is Freedom? (3 credits)

An investigation into one of the most central and influential philosophical concepts in our lives and cultures: freedom. What does it mean to be free? What is the nature of free will? Does free will even exist? What is the relationship between personal, metaphysical, and political conceptions of freedom? This course will include a survey of major thinkers and traditions on the subject of freedom. Prereq. - Reading and Writing competency as determined for ENGL101. Core: AH.

Prerequisite: Reading and writing competency as determined for ENGL101.

PHIL 291 - Special Studies in Philosophy (1 credit)

See Statement on Special Studies (p. 19). Offered on demand.

PHIL 292 - Special Studies in Philosophy (2 credits)

See Statement on Special Studies (p. 19). Offered on demand.

PHIL 293 - Special Studies in Philosophy (3 credits)

See Statement on Special Studies (p. 19). Offered on demand.

PHYS - Physics**PHYS 101 - Physics I (4 credits)**

This is an introductory, algebra-based, problem-solving physics course with a lab component. Topics covered are one and two-dimensional motion, forces, Newton's laws, work, power, energy, momentum, rotation, equilibrium, fluids, temperature, and heat. Prereq. - MATH140 with C or better. Core: SCI. Also available through Online Learning. Prerequisite: MATH140 with a C or better.

PHYS 151 - Physics II (4 credits)

This is the follow-on physics course to PHYS 101 (Physics I), and is an introductory, algebra-based, problem-solving course with a lab component. Topics covered are vibrations and waves, sound, electric charge and electric fields, circuits, magnetism, electromagnetic waves, light, and optics. Prereq. - PHYS101 with C or better. Core: SCI. Also available through Online Learning. Prerequisite: PHYS101 with a C or better.

PHYS 152 - Physical Science II (3 credits)

A study of basic physics and chemistry including properties of matter, force and motion, work and machines, heat and combustion, electricity and magnetism, mechanics of liquids and gases, basic chemical reactions, atomic energy and radiation. Core: SCI. Also available through Online Learning.

PHYS 215 - Physics for Science & Engineering I (5 credits)

Physical quantities, particle kinematics and dynamics, work, energy, momentum, rotational mechanics, equilibrium, heat, and thermodynamics. Pre- or coreq. - MATH181. Core: SCI. Corequisite: MATH181.

PHYS 225 - Physics for Science & Engineering II (5 credits)

This is the follow-on physics course to PHYS 215 (Physics for Science Engineering I), and is an engineering and scientist level, calculus-based, problem-solving physics course with lab component. Topics covered are vibrations and waves, sound, electric charge and electric fields, circuits, magnetism, electromagnetic waves, light, optics and modern physics (quantum, atomic, relativity). Prereq. - PHYS215 with C or better. Core: SCI. Prerequisite: PHYS215 with a C or better.

POLS - Political Science

POLS 101 - Introduction to Political Science (3 credits)

Basic issues of political science including political theory, comparative political institutions, dominant ideologies and ideas, the importance of law, the domestic and Third World struggles for civil and political equality and international relations. Also available through Online Learning. Approved for the Honors Program. Core: SIT, D.

POLS 105G - American Constitutional Law (3 credits)

A survey of constitutional law emphasizing civil rights and individual liberties, this course will provide students with a general understanding of the major issues in constitutional law, including the setup of the US Government, the separation of powers between branches of federal government, federalism and states' rights, and the balance of the interests of the government with that of the individual in a diverse society. Writing Intensive. Prereq. - ENGL101. Also available through Online Learning. Core: SIT, WI, CT, D.
Prerequisite: ENGL101.

POLS 110 - American National Government (3 credits)

Constitutional interpretation and implementation, powers and procedures of executive, legislative and judicial branches and the American political process. Course numbers ending with G are Writing Intensive (WI). Also available through Online Learning. Core: SIT.

POLS 110G - American National Government (3 credits)

Constitutional interpretation and implementation, powers and procedures of executive, legislative and judicial branches and the American political process. Offered alternate years. Writing intensive. Prereq. - ENGL101. Core: SIT, WI.
Prerequisite: ENGL101.

POLS 150 - Peace Studies & Conflict Resolution (Study Abroad) (3 credits)

The course examines the political, socioeconomic, and historical factors contributing to a culture of peace and non-violence in Costa Rica as well as the contemporary challenges in maintaining that culture. Students will meet the decision makers and practitioners in the fields of government, business, education, religion, security, foreign policy, environment, and the media. Basic language and cultural instruction will be included along with excursions to areas of interest in Costa Rica. (Study Abroad). Prereq.- ENGL101 and approval of instructor. Core: SIT, D.
Prerequisite: ENGL101 and approval of instructor.

POLS 170 - Politics of Modern Turkey (Study Abroad) (3 credits)

This course focuses on the politics of modern Turkey with special reference to the culture, history, economy, and social life of the country. The political structure and institutions of Turkey are studied with special focus on Turkish secular democracy within the context of tradition, modernity and change. Core: SIT, D.

POLS 202 - International Relations (3 credits)

This course examines the theories and facts about contemporary relationships among the nations of the world. It covers major global issues such as war and national security, economic interdependence, human rights, global poverty, environmental issues, and the work of international organizations such as the United Nations. Also available through Online Learning. Core: SIT, D and CT.

POLS 205 - Women and Politics (3 credits)

This course explores women's quest for political equality in the U.S. and globally. It examines the social, cultural and economic factors affecting women's political power. The course also surveys contemporary global issues and their impact on the status of women. Course numbers ending with G are Writing Intensive (WI). Core: D, SIT.

POLS 205G - Women and Politics (3 credits)

This course explores women's quest for political equality in the U.S. and globally. It examines the social, cultural and economic factors affecting women's political power. The course also surveys contemporary global issues and their impact on the status of women. Writing Intensive. Core: D, SIT, WI.

POLS 251 - State and Local Government (3 credits)

A survey of constitutional law emphasizing civil rights and individual liberties, this course will provide students with a general understanding of the major issues in constitutional law, including the setup of the US Government, the separation of powers between branches of federal government, federalism and states' rights, and the balance of the interests of the government with that of the individual in a diverse society. Course numbers ending with G are Writing Intensive (WI). Core: SIT, CT, D.

POLS 251G - State and Local Government (3 credits)

A survey of constitutional law emphasizing civil rights and individual liberties, this course will provide students with a general understanding of the major issues in constitutional law, including the setup of the US Government, the separation of powers between branches of federal government, federalism and states' rights, and the balance of the interests of the government with that of the individual in a diverse society. Writing intensive. Prereq. - ENGL101. Core: SIT, CT, D, WI. Prerequisite: ENGL101.

POLS 291 - Special Studies in Political Science (1 credit)

See Statement on Special Studies (p. 19). Offered on demand.

POLS 292 - Special Studies in Political Science (2 credits)

See Statement on Special Studies (p. 19). Offered on demand.

POLS 293 - Special Studies in Political Science (3 credits)

See Statement on Special Studies (p. 19). Offered on demand.

PSAP - Applied Psychology**PSAP 250 - Developmental Differences (3 credits)**

An exploration of the symptoms, strengths, daily life experiences, and developmental course of people with neurodevelopmental disorders. Students will explore a wide array of neurodevelopmental disorders and increase their knowledge and understanding of this diverse group of people. Restricted to Applied Psychology majors. Prereq. - PSYC258 and PSYC235 with B or better. Prerequisite: PSYC258 and PSYC235 with a B or better.

PSAP 260 - Counseling Individuals with Developmental Differences (3 credits)

This course is an overview of basic counseling skills and knowledge that students need to become effective helpers to those with developmental differences. Skills include identification with the values and ethics of the profession, cultivating the habit of self-reflection, and developing cultural competence. Students will explore the requirements and challenges of working with individuals with neurodevelopmental disorders, to consider if a counseling career is a good fit. Restricted to Applied Psychology majors. Pre- or coreq. - PSAP250. Corequisite: PSAP250.

PSAP 280 - Applied Psychology Experiential Learning (3 credits)

Students apply their knowledge of human development, psychopathology, counseling skills, and counseling values and ethics in a clinical setting. They interact with clients and analyze assessment information to evaluate clients' strengths, needs and challenges. They develop an identification with their profession through the application of ethical guidelines and professional standards. Students create written assessments of their clients to document clinical treatment. Requires 150 hours working in an approved clinical setting. Restricted to Applied Psychology majors. Prereq. - PSAP260 with B or better. Prerequisite: PSAP260 with a B or better.

PSYC - Psychology**PSYC 103 - Introduction to Psychology (3 credits)**

Research and psychotherapeutic methods, and the following topics: history of psychology, biological bases of behavior, sensation, perception, consciousness, learning, memory, language and thought, intelligence, motivation, emotion, human development, personality, stress and coping, psychological disorders, social behavior. Prereq. - Reading and writing

competency as determined for ENGL101. Course numbers ending with G are Writing Intensive (WI). Also available through Online Learning. Approved for the Honors Program. Core: SSHB.
Prerequisite: Reading and writing competency as determined for ENGL101.

PSYC 103G - Introduction to Psychology (3 credits)

Research and psychotherapeutic methods, and the following topics: history of psychology, biological bases of behavior, sensation, perception, consciousness, learning, memory, language and thought, intelligence, motivation, emotion, human development, personality, stress and coping, psychological disorders, social behavior. Writing intensive. Prereq. - ENGL101. Also available through Online Learning. Core: SSHB, WI.
Prerequisite: ENGL101.

PSYC 221 - Responding to the Bereaved (3 credits)

Comprehensive study of bereavement, including grief and mourning, complicated grief, bereaved children and adolescents, spousal bereavement, bereaved parents, principles of bereavement caregiving and assessment. Students will explore ways to structure the funeral directors role as caregiver, address their feelings and attitudes toward death, and receive training in communication skills enhancement. Restricted to Funeral students. Also available through Online Learning.

PSYC 230 - Introduction to Health Psychology (3 credits)

This course is an overview of the expanding field of health psychology. Current research will be examined to understand how biological, psychological, and social factors influence health, especially as they relate to chronic and life-threatening illnesses (e.g., cancer, AIDS, diabetes, hypertension, and chronic pain). There will be an exploration of the role of psychologists and psychological research in areas such as prevention, early detection and adaptation to illness. Students will also consider cultural and gender factors that influences the following: health behaviors; access to, and utilization of, health-related resources; and health outcomes. Prereq.- PSYC103. Core: SSHB, D.
Prerequisite: PSYC103.

PSYC 235 - Developmental Child Psychopathology (3 credits)

This course investigates the issues of normal versus psychopathological behavior in infants, children, and adolescents and surveys alternative views of etiology, diagnosis, treatment and prevention or various mental disorders with a special emphasis in the developmental psychopathology perspective. Prereq. - PSYC103. Core: SSHB.
Prerequisite: PSYC103.

PSYC 245 - Cognitive Psychology (3 credits)

Cognitive psychology is the study of what we know, how we know it, and how that knowledge is acquired, organized, accessed, and used. This class will be a survey of the following: a historical perspective on the field of studying cognition; the research methods of contemporary cognitive psychology; attention; perception; memory; the structure of knowledge; individual differences in intelligence; our understanding of language and music; reasoning; problem-solving; and cognitive neuroscience. Prereq.- PSYC103. Core SSHB.
Prerequisite: PSYC103.

PSYC 251 - Child Psychology (3 credits)

The individual from conception to adolescence: physically, mentally, emotionally and socially from the research standpoint. PSYC251 and PSYC258 may not both be used for credit. Prereq. - PSYC103. Course numbers ending with G are Writing Intensive (WI). Also available through Online Learning.
Prerequisite: PSYC103.

PSYC 251G - Child Psychology (3 credits)

The individual from conception to adolescence: physically, mentally, emotionally and socially from the research standpoint. PSYC 251 and PSYC 258 may not both be used for credit. Writing intensive. Prereq. - PSYC103 and ENGL101. Core: WI.
Prerequisite: PSYC103 and ENGL101.

PSYC 255 - Abnormal Psychology (3 credits)

This course investigates abnormal psychology and surveys the causes, treatment and prevention of various disorders. Prereq. - PSYC103. Core: SSHB. Also available through Online Learning.
Prerequisite: PSYC103.

PSYC 258 - Developmental Psychology (3 credits)

This course is a theory and research based overview of physical, cognitive, psychosocial dimensions of human development from preconception to death. It includes discussion of universal patterns, cultural differences and individual variations within cultures. PSYC251 and PSYC258 may not both be used for credit. Prereq. - PSYC103. Course numbers ending with G are Writing Intensive (WI). Also available through Online Learning. Approved for the Honors Program. Core: D, SSHB
Prerequisite: PSYC103.

PSYC 258G - Developmental Psychology (3 credits)

This course is a theory and research based overview of physical, cognitive, psychosocial dimensions of human development from preconception to death. It includes discussion of universal patterns, cultural differences and individual variations within cultures. PSYC251 and PSYC258 may not both be used for credit. Writing intensive. Prereq. - PSYC103 and ENGL101. Also available through Online Learning. Core: D, SSHB, WI.
Prerequisite: PSYC103 and ENGL101.

PSYC 265 - Psychology of Sex & Gender (3 credits)

Students explore both human sex (the biological identification as male/female) and gender (the social/personal construct of feminine/masculine) from a psychological perspective. Students investigate the theories and research of biological, psychological, and cultural determinants. The influence of sex and gender is examined in areas of development, aggression, achievement, communication, relationship, employment, and physical and mental health. Prereq. - PSYC103. Core: SSHB. Approved for the Honors Program. Also available through Online Learning.
Prerequisite: PSYC103.

PSYC 291 - Special Studies in Psychology (1 credit)

See Statement on Special Studies (p. 19). Offered on demand.

PSYC 292 - Special Studies in Psychology (2 credits)

See Statement on Special Studies (p. 19). Offered on demand.

PSYC 293 - Special Studies in Psychology (3 credits)

See Statement on Special Studies (p. 19). Offered on demand.

PUBH - Public Health**PUBH 101 - Introduction to Public Health (3 credits)**

This course will provide students with an overview of the population health approach to public health. Students will learn evidence-based public health tools to explain the impact of chronic and non-communicable diseases, communicable diseases, determinants of health, and the environment on the health of populations. Students will examine public health issues and determine how to effectively assess options for interventions to promote health and improve health outcomes. This course includes a review of public health policy, health care systems, and the roles of health professionals. Also available through Online Learning.

PUBH 102 - Introduction to Epidemiology (3 credits)

The course covers applications of epidemiologic methods and procedures to the study of the distribution and determinants of health and diseases, morbidity, injuries, disability, and mortality in populations. Students will be introduced to epidemiologic methods for the control of conditions such as infectious and chronic diseases, mental disorders, community and environmental health hazards, and unintentional injuries. Other topics include quantitative aspects of epidemiology, for example, data sources, measures of morbidity and mortality, evaluation of association and causality, and study design. Prereq. - MATH150 and PUBH101. Also available through Online Learning.
Prerequisite: MATH150 and PUBH101.

PUBH 103 - Social & Cultural Perspectives of Health (3 credits)

This course is designed to develop basic literacy regarding social and cultural ideals that influence health status and public health interventions. Students will be introduced to an ecological, multilevel theory of health, to illustrate how health is molded by various health determinants, including biology, individual behavior, social relationships, social stratification,

institutions, communities, culture, the physical environment, policies, and globalization. Students will examine the causes and mechanisms in which health disparities occur and which populations are most at risk, leading to a greater understanding of the role of cultural competence in Public Health. Prereq. - MATH150 and PUBH101. Core: D (for Public Health program only). Also available through Online Learning.
Prerequisite: MATH150 and PUBH101.

PUBH 201 - Introduction to Global Health (3 credits)

The course will introduce students to the critical links between global health and social and economic development. Students will have a basic overview of the determinants of health and how health status is measured. Students will review the burden of disease, risk factors, and key measures to address the burden of disease in cost-effective ways. Communicable and non-communicable diseases, as well as environmental, behavioral, and cultural influences, will be discussed. Global partnerships and advances in science to improve outcomes will also be addressed. Prereq.- PUBH102 and PUBH103. Core: D (for Public Health program only). Also available through Online Learning.
Prerequisite: PUBH102 and PUBH103.

PUBH 202 - Public Health Across the Life Span (3 credits)

This course is designed to provide evidence based research of trends and developments in health throughout the life span, dealing with the prenatal period through senescence. The course will examine the health profiles of infants and small children (birth - 14 years), adolescents and young adults (15-24 years), adults (25-64 years), and older adults (65 years and older). This course will be conducted in a seminar format to foster a collaborative learning environment. Prereq.- PUBH102 and PUBH103. Also available through Online Learning.
Prerequisite: PUBH102 and PUBH103.

PUBH 203 - Public Health Education Communication (3 credits)

This course will provide students with a practical approach to understanding and applying principles of health education communication to a range of public health issues. Students will employ these concepts and skills for analyzing and evaluating current public health education communication campaigns. Students will create health education communication campaign products in both written and oral format. This course will be conducted in a seminar format to foster a collaborative learning environment. Prereq. - PUBH201 and PUBH202. Also available through Online Learning.
Prerequisite: PUBH201 and PUBH202.

PUBH 204 - Community Health Practice (3 credits)

This course is designed to study the theories and principles of public health promotion at the community level. Students will examine the assessment of population health and the planning, implementation and evaluation of health programs in community settings. Students develop and enhance their skills by designing and implementing a health promotion program in the college community. This course will be conducted in a seminar format to foster a collaborative learning environment. Prereq. - PUBH201 and PUBH202.
Prerequisite: PUBH201 and PUBH202.

PUBH 205 - Public Health Field Experience (5 credits)

This course is designed for Public Health majors as a pre-professional field experience of 150 hours to broaden the student's public health perspectives and provide experience in applying the theory and content learned in their public health coursework. It is expected that the field experience will afford students the opportunity to interact and collaborate with public health professionals and participate in actions that constitute public health. Integral to closing the loop on the learning process is the opportunity for students to reflect on the field experience. Students will meet weekly in a seminar format class focused on sharing, comparing, and contrasting the different infrastructures and approaches they are observing and experiencing at each field location. Prereq. - PUBH201 and PUBH202.
Prerequisite: PUBH201 and PUBH202.

PUBL - Publishing

PUBL 101 - Pathways to Publication for the Aspiring Author (3 credits)

An introduction to the publishing industry including paths to both traditional and self-publication for aspiring authors. Topics include preparing for publication, acquiring a literary agent and/or editor, the publishing industry at large, networking, and a brief discussion of independent and self-publishing. A completed manuscript or publishable work is helpful, but not required.

PUBL 102 - Self-Publishing (3 credits)

This course explores self-publication. Topics include the editing process, including beta readers, interior layouts, cover design, popular publishing platforms such as Amazon's Kindle Direct Publishing, marketing, and social media presence with a strong emphasis on planning and implementing goals for successful publication. A completed manuscript or publishable work is helpful, but not required.

QUAL - Quality**QUAL 120 - Introduction to Measurement and Metrology (3 credits)**

This course provides an introduction to quality control and mechanical measurement techniques used in manufacturing environments. The course introduces the concepts, principles, and techniques of measurement using various types of measuring equipment.

QUAL 130 - Geometric Dimensioning and Tolerancing (3 credits)

This course is an introduction to Geometric Dimensioning and Tolerancing (GDT). The course will instruct how to specify the size, shape, form, orientation, location, and specific tolerances for part features on drawings. It is based on the American Society of Mechanical Engineers (ASME) and American National Standards Institute (ANSI) Y14.5 technical standards. This course introduces participants to the GDT system, providing a working knowledge of the interpretation and application of each symbol, general rules, the datum system, tolerancing, and material conditions.

QUAL 205 - Introduction to Six Sigma (3 credits)

This course covers the fundamentals of Six Sigma improvement methodology, concepts, and language. Six Sigma is a measurement-based strategy that focuses on process improvement and variation reduction to improve quality and productivity. Students will be introduced to the Six Sigma DMAIC and DMADV methods used to improve existing processes falling below specification and develop new processes or products at Six Sigma quality levels. Note: This course does not grant Six Sigma certification. Prereq. – BUSA114 and QUAL120.
Prerequisite: BUSA114 and QUAL120.

QUAL 210 - Statistical Quality Control (3 credits)

Controlling the output variability of the process and producing quality products and services using applied sampling and statistical process control; data collection SPC application, chart construction interpretation, process capability, and taking corrective action; use of spreadsheet and SPC software in data collection and analysis; and statistical experiments. Prereq. - Evidence of score of 500 or higher on SAT mathematics exam or 11th grade PSSA mathematics score of 1300 or higher, or completion of MATH026 or MATH028 with C or better or appropriate competence in MATH150 as determined by the mathematics placement test, and industrial experience or ENGG125 or ELEC177. Offered fall semester only.
Prerequisite: Evidence of score of 500 or higher on SAT mathematics exam or 11th grade PSSA mathematics score of 1300 or higher, or completion of MATH026 or MATH028 with C or better or appropriate competence in MATH150 as determined by the mathematics placement test, and industrial experience or ENGG125 or ELEC177.

QUAL 215 - Quality Assurance (3 credits)

Planning and analysis of quality; customer requirements identification, design review and processes, quality analysis and feedback techniques such as experimental models, process yields analysis, testing, reliability, audit practices, customer/supplier relations, and application of ISO 9000 series of quality standards. Offered spring semester only.

QUAL 220 - Total Quality Management (3 credits)

This course emphasizes the fundamentals of Total Quality Management (TQM) approach towards continuous improvement of an organization's quality and productivity. The course covers the TQM's five principles and four sequential phases, along with their implementation. Prereq. – BUSA114, BUSA252, and QUAL205.
Prerequisite: BUSA114, BUSA252, and QUAL205.

QUAL 221G - Applied Quality Practicum (3 credits)

Actual work experience in manufacturing or service organization providing exposure to the application of Quality methodology to its process, product or service; emphasis on cultural issues, documentation and data collection/reporting, auditing, ethics, and problem solving. Writing intensive. Pre- or coreq. - QUAL210, QUAL215, and ENGL101. Core: WI.
Corequisite: QUAL210, QUAL215, and ENGL101.

QUAL 225 - Introduction to Lean Thinking (3 credits)

This course emphasizes the principles of the lean process for improvement and the benefits this process can bring to a business. It covers how the lean process creates customer value by reducing waste and improves productivity by identifying and fixing inefficient processes. Prereq. – BUSA114 and QUAL210.
Prerequisite: BUSA114 and QUAL210.

RADT - Radiography

RADT 102 - Fundamentals of Radiologic Sciences (3 credits)

Students in the course will learn about the structure of the health care system, attitudes and communications, human diversity, professionalism and ethical behavior, infection control, medical emergencies, and medical terminology. Restricted to Radiography students or those without an RT background planning to enter the Sonography program. Program director's signature required. Offered fall semester only.

RADT 107 - Clinical Practice I (2 credits)

On-campus preparatory instruction for first, three-weeks in basic radiation protection, safety, body mechanics, nursing procedures, and an overview of medical ethics. Clinical rotations through the front desk, file room, transportation, general radiography, and fluoroscopy. This course consists of 240 hours of clinical experience. Restricted to Radiography students. Offered fall semester only.

RADT 111 - Radiographic Procedures I (4 credits)

Students will perform radiographic procedures of the respiratory and abdominal systems, upper and lower extremities, shoulder and pelvic girdle using energized radiographic equipment. Images are performed on phantoms. Restricted to Radiography students. Coreq. - RADT 107. Additional course fees: \$15.00. Offered fall semester only.
Corequisite: (D in RADT107).

RADT 114 - Introduction to Radiographic Imaging (3 credits)

This course provides an introduction to radiographic imaging, exposure and an analysis of the factors that influence radiographic quality including photographic and geometric properties, image receptors and image processing. Restricted to Radiography students. Offered fall semester only.

RADT 117 - Clinical Practice II (2 credits)

This course is a continuation of the clinical education rotations in general radiography and fluoroscopy with an introduction to mobile radiography. The course consists of 240 hours of clinical experience. Restricted to Radiography students. Restricted to Radiography students. Prereq. - RADT107 and 111.
Prerequisite: (D in RADT111 and D in RADT107).

RADT 125 - Sectional Anatomy for Medical Imagers (1 credits)

Human anatomy in the transverse, longitudinal, and coronal planes with application to sonography and other imaging modalities in radiology. Restricted to Radiography and Sonography students. Runs with DMSG 125. Prereq. - BIOS 204; Pre- or coreq. - BIOS 254. Offered spring semester only.
Prerequisite: (D in BIOS204). Corequisite: (D in BIOS254).

RADT 147 - Clinical Practice III (4 credits)

This course continues the student clinical education experience and the application of the principles and procedures involved in general radiography and fluoroscopy; introduces mobile surgical radiography, IVP, and tomography procedures; includes a lecture seminar on advanced procedures and related topics. This course includes 360 hours of clinical experience. Restricted to Radiography students. Prereq. - RADT117 and 210.
Prerequisite: (D in RADT210 and D in RADT117).

RADT 201 - Advanced Imaging (2 credits)

A study of techniques, procedures, and equipment pertaining to advanced imaging in Radiology. Procedures including Interventional Radiology, Cardiac Catheterization, Computed Tomography, MRI, Mammography, GI studies, GU studies, Arthrography, Myelography, Bone Densitometry, Nuclear Medicine, Sonography, and Reproductive System studies will be examined. Restricted to Radiography students. Prereq. - RADT208.

Prerequisite: (D in RADT208).

RADT 205 - Pathology for Radiographers (2 credits)

A study of the disease process affecting body organs and systems; stressing those areas most commonly encountered and demonstrated in diagnostic radiology. Restricted to Radiography students. Offered fall semester only.

RADT 207 - Clinical Practice IV (3 credits)

Continuation of Clinical Practice III, with rotations in general radiography, fluoroscopy, mobile and surgical radiography, IVP and tomography. This course consists of 360 hours of clinical experience. Restricted to Radiography students.

Prereq. - RADT 147. Additional course fees: \$45.00. Offered fall semester only.

Prerequisite: (D in RADT147).

RADT 208 - Imaging Equipment & Radiation Production (3 credits)

The course covers the x-ray circuit, permanent installation and mobile x-ray and fluoroscopic/image intensification units, automatic exposure control, conventional tomography, magnification and electronic imaging along with the application of quality standard and quality control principles. The principles of x-ray production, interactions of photons with matter, technique formation, and exposure calculations will be applied through discussion. Restricted to Radiography students.

Prereq.- RADT 114. Offered spring semester only.

Prerequisite: (D in RADT114).

RADT 210 - Level II Radiographic Procedures (4 credits)

Systematic study, demonstration and practice of radiographic procedures involving the sacro-iliac joints, vertebral column, bony thorax, skull, portable radiography, trauma radiography and pediatric studies using phantom plus simulated radiography. Restricted to Radiography students. Prereq. - RADT 111. Additional course fees: \$15.00. Offered spring semester only.

Prerequisite: (C in RADT111).

RADT 217 - Clinical Practice V (3 credits)

This course is a continuation of the student clinical education rotations with emphasis on increasing professional competency and review of previously acquired radiographic concepts and skills. The course consists of 360 hours of clinical experience. Restricted to Radiography students. Prereq. - RADT207.

Prerequisite: (D in RADT207).

RADT 230 - Radiation Biology/Protection (3 credits)

Biologic effects of ionizing radiation on human tissues, advanced radiation protection/safety, and federal/state regulations. Restricted to Radiography students.

RADT 242 - Digital Imaging and Analysis (2 credits)

The study of the components, principles and operation of digital imaging systems and the factors that impact image acquisition, display, and retrieval in radiology along with the principles of digital system quality assurance and maintenance. Restricted to Radiography students. Prereq.- RADT 208. Offered fall semester only.

Prerequisite: (D in RADT208).

RADT 250 - Senior Review (2 credits)

This course is intended to be a capstone experience in which students analyze, apply and evaluate the principles, concepts, and the art and science of medical imaging. Restricted to Radiography students. Prereq. - RADT207. Offered spring semester only.

Prerequisite: (D in RADT207).

RADT 275 - Computed Tomography Didactic Education for Registered Technologists (2 credits)

This course is designed for Registered Radiologic Technologists requiring structured education in Computed Tomography. Topics include patient care, safety, image production, and procedures. This course satisfies the American Registry of Radiologic Technologists (ARRT) post-primary requirements of structured education in CT. Restricted to students who are Certified and Registered by the ARRT in Radiography, Nuclear Medicine Technology, or Radiation Therapy or the Nuclear Medicine Technology Certification Board (NMTCB) as a Certified Nuclear Medicine Technologist. Registration with approval from Radiography Program Director or Clinical Coordinator. Offered online only.

RADT 276 - Magnetic Resonance Imaging Didactic Education for Registered Technologists (2 credits)

This course is designed for Registered Radiologic Technologists requiring structured education in Magnetic Resonance Imaging. Topics include patient care, safety, image production, and procedures. This course satisfies the American Registry of Radiologic Technologists (ARRT) post-primary requirements of structured education in MRI. Restricted to students who are certified and registered by the ARRT in Radiography, Nuclear Medicine Technology, Radiation Therapy, or Sonography or the Nuclear Medicine Technology Certification Board (NMTCB) as a certified Nuclear Medicine Technologist or the American Registry for Diagnostic Medical Sonography (ARDMS) as a Sonographer. Registration with approval from the Radiography Program Director or Clinical Coordinator. Offered online only.

RADT 277 - Mammography Didactic Education for Registered Technologists (2 credits)

This course is designed for Registered Radiologic Technologists requiring structured education in Mammography. Topics include patient care, safety, image production, and procedures. This course satisfies the American Registry of Radiologic Technologists (AART) post-primary requirements of structured education in Mammography. Restricted to students who are certified and registered by the AART in Radiography. Registration with approval from Radiography Program Director or Clinical Coordinator. Offered online only.

RADT 291 - Special Studies in Radiologic Technology (1 credit)

See Statement on Special Studies (p. 19). Offered on demand.

RADT 292 - Special Studies in Radiologic Technology (2 credits)

See Statement on Special Studies (p. 19). Offered on demand.

RADT 293 - Special Studies in Radiologic Technology (3 credits)

See Statement on Special Studies (p. 19). Offered on demand.

SCWK - Social Work

SCWK 101 - Introduction to Social Work (3 credits)

Introduction to social work as a profession; knowledge, values, and skills necessary for beginning level professional practice; academic and practice requirements for becoming a social worker; various fields of social work practice and the unique attributes of each; linkages between social work and other human service occupations; human diversity, client empowerment and social justice as common themes. Also available through Online Learning.

SMAT - Sports Medicine and Rehabilitation Sciences

SMAT 101 - Foundations of Sports Medicine and Rehabilitation Sciences (3 credits)

This course provides an introduction to sports medicine and rehabilitation sciences. Students will be introduced to the roles of various disciplines within sports medicine and rehabilitation sciences as well as other allied health professions. The course examines the competencies and proficiencies, education requirements, certification requirements, continuing education requirements, and interpersonal skills important to uphold the standards of practice of the various health professions. Coreq.- ENGL101. Offered fall semester only.
Corequisite: ENGL101.

SMAT 202 - Kinesiology: Applied Anatomy (3 credits)

This course is an introduction to the analysis of human movement based on anatomical and mechanical principles. Emphasis is placed on the anatomy and physiology of the muscular, skeletal, and nervous systems and their interaction in human movement and athletic performance. Restricted to Sports Medicine and Massage Therapy majors.

SMAT 230 - Prevention and Management of Injury and Illness (3 credits)

This course provides an introduction to the prevention, evaluation, and treatments of injury and illness. Emphasis is placed on learning musculoskeletal anatomy and recognizing common signs and symptoms of injuries, illnesses, and disorders commonly seen in the physically active population. Restricted to Sports Medicine majors. Prereq.- SMAT101; Pre- or Coreq.- BIOS204; Coreq.- SMAT235. Offered spring semester only.
Prerequisite: SMAT101. Corequisite: BIOS204 and SMAT235.

SMAT 235 - Basic Sports Medicine and Rehabilitation Sciences Techniques (1 credits)

This course focuses on the application of psychomotor competencies and clinical proficiencies essential to becoming a sports medicine or rehabilitation sciences professional. As an introductory course, content emphasizes developing skills in injury prevention, injury and illness assessment, and using appropriate terminology and medical documentation to record injury and illness. Restricted to Sports Medicine majors. Prereq.- SMAT101; Pre- or Coreq. - BIOS204; Coreq.- SMAT230. Offered spring semester only.

Prerequisite: SMAT101. Corequisite: BIOS204 and SMAT230.

SMAT 245G - Acute Care of Illness and Injury (3 credits)

Students will focus on acute management skills of common injuries and illnesses that active individuals commonly incur. This comprehensive course prepares students to evaluate and stabilize an athlete in a variety of emergency situations. Students will acquire the skills necessary to respond to the following emergencies: catastrophic injury to the head and neck, cessation of breathing and circulation, shock, concussion, general medical emergencies, heat and cold illnesses, internal injuries, and other life threatening or serious injury. Course includes certification on first aid, CPR for the professional rescuer and AED use. Restricted to Sport Medicine/Athletic Training students. Prereq. - ENGL101 and SMAT230. Core: WI. Offered spring semester only.

Prerequisite: ENGL101 and SMAT230.

SMAT 260 - Exercise Physiology & Exercise Prescription (3 credits)

This course will provide an introduction into concepts of exercise physiology. Students will develop an understanding of the acute physiological and chronic adaptations of the body to exercise. Neuromuscular, metabolic, cardiovascular, hormonal, and respiratory system will be examined. Emphasis will be placed on exercise testing and exercise prescription to prepare students to sit for nationally recognized personal training and health fitness instructor exams. Restricted to Sports Medicine majors. Prereqs.- BIOS254. Offered spring semester only.

Prerequisite: BIOS254.

SMAT 280 - Measurement and Evaluation of the Lower Extremity (4 credits)

This course provides an in-depth examination of the evaluation of common injuries sustained by active individuals in the lower extremity. Students will gain practical knowledge and skills in orthopedic evaluation of the foot, ankle, shin, knee, thigh and hip areas. All components of a complete and thorough evaluation will be covered including but not limited to: injury history, observation, range of motion, muscle testing and special tests. Emphasis will be placed on the critical thinking and problem solving skills associated with the evaluation process. Restricted to Sports Medicine majors. Prereq. - SMAT230. Offered summer only.

Prerequisite: SMAT230.

SMAT 285 - Sports Medicine and Rehabilitation Sciences Clinical Experience Laboratory (2 credits)

This course will enhance the clinical skills of students through hands on laboratory instruction and an observational field experience. Students will develop knowledge and skills associated with therapeutic modalities, therapeutic exercise, taping and bracing, wound management, injury/illness evaluation, and protective equipment. Emphasis will be placed on the development of psychomotor proficiencies required by Sports Medicine and Rehabilitation Science professionals learned in previous coursework. Restricted to Sport Medicine Majors. Prereq. - SMAT230. Offered fall semester only.

Prerequisite: SMAT230.

SOCA - Sociology/ Anthropology**SOCA 102 - Cultural Anthropology (3 credits)**

The analysis of human culture as it has evolved to the present, covering theories and methods, cultural universals and variations in such areas as marriage and family, politics, economics, kinship, religion and the arts, with an emphasis on non-Western and non-industrial societies. Course numbers ending with G are Writing Intensive (WI). Also available through Online Learning. Core: CT, D, SIT.

SOCA 102G - Cultural Anthropology (3 credits)

The analysis of human culture as it has evolved to the present, covering theories and methods, cultural universals and variations in such areas as marriage and family, politics, economics, kinship, religion and the arts, with an emphasis on non-Western and non-industrial societies. Writing intensive. Prereq. - ENGL101. Also available through Online Learning. Core: CT, D, SIT, WI.

Prerequisite: ENGL101.

SOCA 103 - Principles of Sociology (3 credits)

This course will introduce students to the concepts, methods, major theoretical perspectives and sub-fields of sociology. The goal of this course is to help students think critically about the world around them. Special attention will be given to the real-world application of sociological concepts. Prereq. - Reading and writing competence as determined for ENGL101. Course numbers ending with G are Writing Intensive (WI). Also available through Online Learning. Approved for the Honors Program. Core: SSHB, CT, D.

Prerequisite: Reading and writing competence as determined for ENGL101.

SOCA 103G - Principles of Sociology (3 credits)

This course will introduce students to the concepts, methods, major theoretical perspectives and sub-fields of sociology. The goal of this course is to help students think critically about the world around them. Special attention will be given to the real-world application of sociological concepts. Writing intensive. Prereq. - ENGL101. Also available through Online Learning. Core: SSHB, CT, D, IL, WI.

Prerequisite: ENGL101.

SOCA 105 - American Ethnicity (3 credits)

An exploration of the United States' ethnic diversity from a sociological perspective; history, present, and future of the social construction of race and ethnicity in the US; the impact of institutionalized power on the status of a variety of ethnic groups; contributions made by various ethnicities to the US. Prereq. - SOCA103. Also available through Online Learning. Core: SIT, D.

Prerequisite: SOCA103.

SOCA 125 - Sociology of Families (3 credits)

This course is a sociological analysis of the family as a social institution including historical development, contemporary patterns in the United States, and possible future trends. Topics include the definition of family; families and work; love and sex; child-rearing, family violence; divorce and re-marriage; and variations in marriage and family patterns as related to culture, class, race, ethnicity, gender, and sexual orientation. Prereq. - SOCA103. Course numbers ending with G are Writing Intensive (WI). Also available through Online Learning. Core: SSHB, D.

Prerequisite: SOCA103.

SOCA 125G - Sociology of Families (3 credits)

This course is a sociological analysis of the family as a social institution including historical development, contemporary patterns in the United States, and possible future trends. Topics include the definition of family; families and work; love and sex; child-rearing, family violence; divorce and re-marriage; and variations in marriage and family patterns as related to culture, class, race, ethnicity, gender, and sexual orientation. Writing intensive. Prereq. - ENGL101 and SOCA103. Core: SSHB, WI, D.

Prerequisite: SOCA103 and ENGL101.

SOCA 150 - Deviance (3 credits)

A study of the varieties of deviant behavior and theoretical perspectives in Western culture, particularly American society. The history and development of these sociological phenomenon are examined in detail. Prereq. - SOCA103. Also available through Online Learning. Core: CT, D.

Prerequisite: SOCA103.

SOCA 160 - Issues in Contemporary Genocide and Mass Violence (3 credits)

This course explores the social origins and consequences of genocide in the 20th and 21st centuries. Students will study the theories and definitions of genocide as these are anchored in particular case studies (e.g. Rwanda, Bosnia, Darfur). The course culminates with an examination of ways to stop and prevent genocide as well as various ways to restore justice to victims. Core: SIT, D.

SOCA 204 - Social Problems (3 credits)

Current social problems in the United States examined from the major theoretical perspectives in sociology; substance abuse, crime and violence, family problems, ageism, sexism, racism, problems relating to work, education, urbanization, technology, health care, population and the environment. Prereq. - SOCA103. Also available through Online Learning. CORE: D.

Prerequisite: SOCA103.

SOCA 210 - Sociology of Gender (3 credits)

This course is an exploration of the ways in which gender influences social life, institutions, and interactions. Students will also explore the continuing prevalence of gender, socialization, gender inequality, diverse gender experiences, and the influence of gender in major social institutions. Prereq. - SOCA103. Core, SSHB.
Prerequisite: (D in SOCA103).

SOCA 268 - Independent Study in Ecuador (Study Abroad) (3 credits)

The purpose of the independent study is to have a directed experience rooted in sociology, reflect in a scholarly way on the experience, and apply that experience to one's ongoing life, particularly civic action/understanding. The student and professor will design the course based on the student's learning interests. This will include study abroad and/or service learning experiences. Prereq.- SOCA103. Core: SSHB.
Prerequisite: SOCA103.

SOCA 291 - Special Studies in Sociology/ Anthropology (1 credit)

See Statement on Special Studies (p. 19). Offered on demand.

SOCA 292 - Special Studies in Sociology/ Anthropology (2 credits)

See Statement on Special Studies (p. 19). Offered on demand.

SOCA 293 - Special Studies in Sociology/ Anthropology (3 credits)

See Statement on Special Studies (p. 19). Offered on demand.

SPED - Special Education Paraeducator**SPED 160 - Introduction to Special Education (3 credits)**

This course provides an overview of special education and disability perspectives. It addresses philosophical, historical, foundational, legal and research based aspects concerning the education of students with disabilities and their families. Using the Individuals with Disabilities Education Improvement Act (IDEA) and related federal and state laws as its framework, the course presents students with an overview of various disabilities, the special education process, and multiple educational approaches. Students are required to complete 10 (ten) hours of observing children in educational settings. Course may apply to PA's Credential of Competency for Special Education Paraeducators. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Also available through Online Learning.

SPED 164 - Introduction to the Special Education Paraeducator (3 credits)

This course provides the competences that support a qualified paraeducator. Using national and state standards as its framework, the course presents students with the varying roles and responsibilities of a paraeducator across multiple and diverse cultural and learning environments. Students are required to complete 30 (thirty) hours of field experience in an educational environment. Child Abuse Registry, Criminal Background Check, and the FBI clearances are required. Course may be applied to the PA's Credential of Competency for Special Education Paraeducators. This course is also available through Online Learning. Prereq or coreq:- SPED 160.
Corequisite: (D in SPED160).

SPED 170 - Instructional Strategies in Inclusive Environments (3 credits)

This course addresses multiple and varied strategies and processes for educating all children. It addresses the diversity among learners regarding language, culture, and the educational environment in meeting individual needs. Child Abuse Registry, Criminal Background Check, FBI clearances required. Course may be applied to Pennsylvania's Credential of Competency for Special Education Paraeducators. Also available through Online Learning. Prereq.- SPED160.
Prerequisite: SPED160.

SPED 175 - Behavior Support (3 credits)

This course provides an overview of positive behavior support practices used in educational environments. It considers the purpose of behavior and the positive approaches for preventing and responding to behavioral challenges in the classroom. Prereq.- SPED160. Also available through Online Learning.
Prerequisite: (D in SPED160).

SPED 205G - Special Education Paraeducator Internship (3 credits)

Students in this course are placed in an educational setting to do an intensive internship under the supervision of a certified teacher. This capstone experience allows students to synthesize and apply the knowledge, skills, and competencies gained in all prior coursework. Students are required to complete 150 (one hundred and fifty) hours, (10 hours per week), in an educational setting with children with disabilities. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Prereq.- SPED160, SPED164, SPED170, SPED175 and ENGL101. Also available through Online Learning.

Prerequisite: SPED160, SPED164, SPED170, SPED175, and ENGL101.

SPRT - Sport Management

SPRT 101 - Introduction to Sport Management (3 credits)

Effective sport management strategies and the wide variety of sport-related careers; definitions and directions of sport management, careers and options in sport management, and sport sociology, psychology, philosophy, and the modern history of both sport and management. Also available through Online Learning.

SPRT 152G - Sports In Society (3 credits)

Social processes that explain the pervasiveness and appeal of sport primarily in American culture; effects of sport on behavior and lifestyles of active and passive participants; investigation of historical developments and assessment of interrelationships among sport, culture, and major social institutions such as family, business, education, politics and religion. Writing intensive. Prereq. - ENGL101. Also available through Online Learning. Core: WI.

Prerequisite: ENGL101.

SPRT 162 - Facility Management and Event Planning (3 credits)

An overview of facility management and event planning in the sport environment; an introduction to management theory and practice in relation to sport venues and the organization and planning of a sport industry-related event. Facility development, facility systems and operations, facility administration and event and activity management will be the focus. Also available through Online Learning.

VETC - Veterinary Technician

VETC 101 - Veterinary Anatomy & Physiology (4 credits)

Introduction to biochemistry, cell biology and histology, survey of the structure and function of domestic animals using a systems approach; physiology of domestic animals will be handled primarily in the lecture, while the anatomy will be discussed in the laboratory with the dissection of the cat as the primary tool. Prereq. - grade of B or better in high school biology within 5 years or BIOS107. Additional course fees: \$15.00.

Prerequisite: Grade of B or better in high school biology within 5 years or BIOS107.

VETC 110 - Introduction to Veterinarian Technology (3 credits)

An introduction to the vocation of veterinary technology; orientation to professional organizations, practice management skills, client relations, medical terminology, ethics, legal and occupational issues; role of the veterinary technician in veterinary medicine, research, industry and private practice. Prereq. - admission into Veterinary Technician program.

Prerequisite: Admission into Veterinary Technician program.

VETC 115 - Animal Management & Nutrition (2 credits)

Management of domestic species; animal husbandry, reproduction, restraint, behavior, breed identification and preventative medicine; nutrition and feeding; animal management and feeding in an economic context. Prereq. - admission into Veterinary Technician program.

Prerequisite: Admission into Veterinary Technician program.

VETC 120 - Veterinary Parasitology (2 credits)

Clinically significant internal and external parasites of domestic animals; mites, lice, ticks, fleas, flies, nematodes, cestodes, trematodes and protozoans; parasite life cycles, host infection and pathology; prevention and treatment of parasitic infections; diagnosis via sample collection, preparation and microscopic evaluation during the lab section.

Prereq. - admission into Veterinary Technician program. Additional course fees: \$15.00.

Prerequisite: Admission into Veterinary Technician program.

VETC 125 - Veterinary Clinical Laboratory Techniques (4 credits)

Laboratory evaluation of various diagnostic samples including blood, urine and cytologic specimens; hematology, serum chemistry, serology, urine analysis and cytology as applied to veterinary medicine; laboratory work focusing upon lab technique and manual processing of samples; lecture focusing upon the indication for and interpretation of clinical pathology indices associated with disease states and immunologic function. Prereq. - admission into Veterinary Technician program and CHEM135. Additional course fees: \$15.00.

Prerequisite: Admission into Veterinary Technician program and CHEM135.

VETC 210 - Large Animal Clinical Procedures (3 credits)

Eight-week laboratory course conducted at the Vet Tech barn/animal facility, designed to provide students with hands-on experience in large animal clinical procedures; restraint, physical examination, venipuncture, administration of medications via various routes, wound treatment, bandaging, sample collection, radiology and general husbandry procedures; species include cow, horse, sheep and goat. Attendance is mandatory. Prereq. - all the following: 1) admission into Veterinary Technician program, 2) proof of vaccination: rabies and tetanus, 3) proof of health insurance, 4) VETC101, VETC110 and VETC115. Additional course fees: \$85.00.

Prerequisite: 1) admission into Veterinary Technician program, 2) proof of vaccination: rabies and tetanus, 3) proof of health insurance, 4) VETC101, VETC110 and VETC115. .

VETC 215G - Animal Disease (3 credits)

Provides students with a broad-based understanding of animal medicine and disease; pathogens, host pathology, diagnosis, treatment and prevention for large and small animal species; provides the necessary context in which to understand the "why" of doing diagnostic and therapeutic procedures. Principles of disease in large and small animal species; clinical symptomology, diagnosis, therapy, epidemiology, prevention of common diseases; toxicology, zoonotic diseases and medical emergencies; course organized around body systems and associated pathologic conditions. Writing intensive. Prereq.- all of the following: 1) admission into Veterinary Technician program, 2) VETC101, VETC110 and VETC125, 3) ENGL151. Core: WI.

Prerequisite: 1) admission into Veterinary Technician program, 2) VETC101, VETC110 and VETC125, 3) ENGL151.

VETC 218 - Veterinarian Pharmacology and Anesthesia (3 credits)

Veterinary technicians will spend a significant portion of their time in both the veterinary pharmacy dispensing medication and in surgery serving as assistants and anesthetists. Students receive the theory of basic pharmacology and anesthesiology in this course and receive hands-on experience in a subsequent course. Theory and application of pharmacology and anesthesiology; pharmacologic principles including: drug administration, distribution, excretion and individual variability; drug side-effects, dosing and general pharmacologic calculations; pre-anesthesia patient assessment, pre-anesthetic drugs, induction, maintenance and post-operative patient monitoring; students work with various types of anesthetic equipment, operate anesthesia machines, EKG unit and a pulse oximeter. Prereq. - all the following: 1) admission into Veterinary Technician program, 2) CHEM135, 3) VETC101, VETC110, and VETC125.

Prerequisite: 1) admission into Veterinary Technician program, 2) CHEM135, 3) VETC101, VETC110, and VETC125.

VETC 220 - Small Animal Clinical Procedures (4 credits)

Provides students with hands-on experience conducting diagnostic and therapeutic procedures with small animals; students entering the job market must be able to easily make the transition from academic institution to the workplace; essentials in animal restraint and basic procedures; some basic specialty examinations. Laboratory course geared toward a variety of clinically relevant diagnostic and therapeutic procedures with small animal species; restraint, physical examination procedures, venipuncture, administration of medications, sample collection and general first aid and emergency care; students develop their technical skills in a veterinary setting. Attendance is mandatory. Prereq. - all the following: 1) admission into Veterinary Technician program, 2) proof of vaccination: rabies and tetanus, 3) proof of health insurance, 4) VETC101, VETC110 and VETC125. Additional course fees: \$15.00.

Prerequisite: 1) admission into Veterinary Technician program, 2) proof of vaccination: rabies and tetanus, 3) proof of health insurance, 4) VETC101, VETC110 and VETC125.

VETC 225 - Veterinary Radiology and Surgical Nursing (4 credits)

Course designed to develop technical competence in diagnostic radiology, surgical nursing, anesthesia, and dentistry. The principles learned in previous courses will be applied in a veterinary setting using live animals patients. There will be an overview of the basic principles of radiology: use and maintenance of radiographic/imaging equipment, restraint and positioning of small animals and the development of diagnostic radiographs. In addition, student will be troubleshooting for poor quality films. Record keeping and safety issues will be discussed. The general principles of surgical assisting

including aseptic technique, operating room protocol and surgical assisting by the veterinary technician; surgical instrumentation, surgical instrumentation and surgical preparation will be discussed and practiced. Pre, intra- and post-operative anesthetic nursing will be learned; students will perform anesthesia on small animals and perform prophylactic dentistry. Attendance is mandatory. Prereq. - all the following: 1) admission into Veterinary Technician program, 2) proof of health insurance, 3) proof of vaccination: rabies and tetanus, 4) VETC101, VETC110, VETC125, VETC218 and VETC220. Additional course fees: \$50.00.

Prerequisite: 1) admission into Veterinary Technician program, 2) proof of health insurance, 3) proof of vaccination: rabies and tetanus, 4) VETC101, VETC110, VETC125, VETC218 and VETC220.

VETC 228 - Laboratory Animal Science and Exotics (4 credits)

Due to the variety of job placement options, students must be prepared to work with laboratory animal and exotic species. Course provides foundation in lab animal medicine and disease; use and care of laboratory and research animals; laboratory animal biology, science and management; anatomy and physiology, nutrition, breeding, husbandry, sanitation, behavior, handling, nursing, euthanasia and necropsy; animal welfare regulations and ethics issues. Lecture, discussion, and laboratory sessions to provide hands-on experience with venipuncture, injections, gavage and necropsy; species include rats, mice, guinea pigs, rabbits and reptiles; exotic animal portion includes restraint, examination, medicine and disease and husbandry; species of exotics will vary with availability. Attendance is mandatory. Prereq. - all the following: 1) admission into Veterinary Technician program, 2) proof of health insurance, 3) proof of vaccination: rabies and tetanus, 4) VETC101 and VETC115. Additional course fees: \$15.00.

Prerequisite: 1) admission into Veterinary Technician program, 2) proof of health insurance, 3) proof of vaccination: rabies and tetanus, 4) VETC101 and VETC115.

VETC 230 - Veterinary Technician Externship (3 credits)

Ten-week practicum conducted off campus at two designated (veterinary) community sites. This capstone experience is aimed at providing students the opportunity to integrate the academic knowledge, critical thinking and technical skills developed during the program and directly apply and refine them in a work setting. It will also serve as an opportunity to explore career options. Students must extern for a total of 240 hours during the 10 week summer term. Students must perform 120 hours at each of two sites. Externs must provide proof of vaccination (rabies, tetanus) and current health insurance. Students are responsible for transportation and any required housing arrangements. The college will be responsible for monitoring radiation exposure of externs. Prereq. - successful completion of all veterinary technology courses with a grade of C or better. Additional course fees: \$70.00.

Prerequisite: Successful completion of all veterinary technology courses with a grade of C or better.

WELD - Welding Technology

WELD 105 - Introduction to Welding Processes (5 credits)

This course covers the technical concepts, various techniques, defect analysis, and safety practices in welding. Hands-on experience using shielded metal arc welding (SMAW) in all positions and cutting steel using oxy-fuel cutting apparatus. Technical concepts include code information pertinent to welder certification per ANSI/AWS D1.1 (Structural Welding-Steel). Additional course fees \$300.00.

WELD 110 - Introduction to Pipe Welding Processes (3 credits)

An introduction to the pipe welding process using Shielded Metal Arc Welding (SMAW) in the 2G, 5G, 6G positions of grooved joints on pipe with and/or without the use of backup material on steel. The emphasis on defect prevention, weld analysis, techniques, problem solving, and code information pertinent to certification will be stressed throughout the course. Pre- or coreq.- WELD123. Additional course fees \$150.00.

Corequisite: WELD123.

WELD 123 - Advanced Plate Welding Processes (5 credits)

Skill development in Shielded Metal Arc Welding (SMAW) using all position grooved joints on plate with and without the use of backup material on steel; emphasis on defect prevention, weld analysis techniques, problem solving, skill development and code information pertinent to certification. Formerly WELD823. Prereq. - WELD105. Additional course fees \$200.00.

Prerequisite: WELD105.

WELD 125 - GTAW and Semiautomatic Welding Processes (5 credits)

This course covers the advanced technical information and experience in Gas Tungsten Arc Welding (GTAW), Gas Metal Arc Welding (GMAW), Flux Cored Arc Welding (FCAW), Submerged Arc Welding (SAW) and cutting processes using

standard and programmable equipment, along with Torch Brazing (TB), problem solving; defect analysis; trouble shooting equipment. Prereq. - WELD105. Additional course fees \$150.00.
Prerequisite: WELD105.

WELD 135 - Welding Fabrication and Symbols (2 credits)

This course covers reading welding and structural drawings which includes interpreting weld symbols on welding details. Students will also develop fabrication skills including basic layout, measuring, and utilization of various welding processes. Pre- or coreq. - WELD105. Additional course fees \$50.00.
Corequisite: (D in WELD105).

WELD 205 - Advance Gas Tungsten & Semiautomatic Welding Processes (4 credits)

This course introduces the student to the advanced pipe welding processes on steel pipe and nonferrous materials, using Gas Metal Arc Welding (GMAW) and Gas Tungsten Arc Welding (GTAW) for grooved pipe joints in the 2G, 5G, & 6G positions. The emphasis is on defect prevention, weld analysis, techniques, problem solving, and code information pertinent to certification. Prereq. - WELD110 and WELD25. Additional course fees \$150.00.
Prerequisite: WELD110 and WELD125.

WELD 224 - Pipe Welding Processes II (3 credits)

This course is designed to develop advanced pipe welding skills using Shielded Metal Arc Welding (SMAW) in the 2G, 5G, 6G positions of grooved joints on steel pipe. The emphasis is on defect prevention, weld analysis, advance techniques, problem solving, and code information pertinent to certification. Interpreting common piping drawings and prints and determining the required components for piping systems are covered. Prereq. - WELD110. Additional course fees: \$150.00.
Prerequisite: WELD110.

WELD 230 - Welding & Structural Blueprint Reading (4 credits)

This course introduces the process of interpreting and communicating information found on welding, and construction drawings. In addition, the course covers the design and fabrication of welded and bolted column and beam connections with consideration to the axial, shear, and torsional loads in structural elements. Prereq. - WELD123. Additional course fees \$150.00.
Prerequisite: (D in WELD123).

WELD 235 - Welding Inspection (4 credits)

This course introduces the student to the duties and responsibilities of a welding inspector, quality assurance/quality control of welds, and use of welding cods in the inspection process. The course also covers various destructive and nondestructive testing used to validate the integrity of welds. Prereq. - MATH103, WELD205; Pre-or coreq. - WELD255G. Additional course fees \$70.00
Prerequisite: MATH103 and WELD205. Corequisite: WELD255G.

WELD 245 - Plasma Arc Cutting (3 credits)

This course covers the technical concepts, various techniques, and safety practices in the use and operation of plasma arc cutting equipment, both hand and CNC. The fundamentals of CNC (Computer Numerical Control) programming language structure and operation, editing procedures, and program commands and functions are covered. Prereq. - CISC101, MATH103 and WELD123. Additional course fees \$70.00.
Prerequisite: CISC101, MATH103, and WELD123.

WELD 255G - Introduction to Metallurgy (3 credits)

This course covers the study of the physical, chemical and mechanical properties of ferrous and non-ferrous metals. Specific topics include mechanical testing, welding metallurgy, heat treatment, and nondestructive examination. The laboratory component of the course covers standard methods for determining the properties of common materials. This course also introduces the standards for interpreting, analyzing, and documenting research and experimental data within engineering and technical communities. Prereq. - ENGL151, MATH103, PHYS152 and WELD205. Additional course fees: \$70.00
Prerequisite: ENGL151, MATH103, PHYS152, and WELD205.

Additional Resources

Download Printable College Catalog (Temporary Edition)

Contact Information - <http://northampton.edu/contact>

Campus Locations - <http://northampton.edu/about-ncc/campus-locations>

Mission, Vision & Values - <http://northampton.edu/about-ncc/mission-values-and-vision>

Diversity Statement - <http://northampton.edu/diversity>

Online Learning - <http://northampton.edu/OnlineLearning>

Student Services:

- **Housing** - <http://northampton.edu/housing>
- **Counseling & Support** - <http://northampton.edu/counseling>
- **Career Services** - <http://northampton.edu/CareerServices>
- **Academic Advising** - <http://northampton.edu/advising>
- **Library** - <http://northampton.edu/library>
- **Learning Center** - <http://northampton.edu/LearningCenter>
- **Service Learning** - <http://northampton.edu/ServiceLearning>
- **Smoking Policy** - <http://northampton.edu/smoking>
- **Child Care** - <http://northampton.edu/ChildCare>
- **Disability Services** - <http://northampton.edu/DisabilityServices>
- **Veteran Benefits** - <http://northampton.edu/veterans>
- **Health & Wellness Center** - <http://northampton.edu/health>
- **Clubs & Activities** - <http://northampton.edu/activities>
- **Athletics** - <http://nccspartans.com/>
- **Community Education** - <http://northampton.edu/continuing-education>

Academic Calendars - <http://northampton.edu/AcademicCalendar>

Faculty Directory - <http://northampton.edu/FacultyDirectory>

Staff Directory - <http://northampton.edu/StaffDirectory>

Board of Trustees members - <http://northampton.edu/trustees>

Foundation Board members - <http://northampton.edu/foundation>

Campus Maps - <http://northampton.edu/maps>

Enrollment Application - <http://northampton.edu/appl>