

# University Catalog

## 2022-2023

**New England Institute of Technology**  
One New England Tech Boulevard  
East Greenwich, Rhode Island 02818  
**neit.edu | 401-739-5000**

## QUALITY SERVICE

Quality Service for students, employees and customers at New England Institute of Technology is knowledgeable and informed employees working as a team to provide more assistance and information than expected, in a caring and professional manner, in order to empower the students to achieve their goals.

## NONDISCRIMINATION STATEMENT

New England Institute of Technology admits qualified students of any race, color, religion, sex, age, disability or national and ethnic origin to all the rights and privileges, programs and activities generally accorded or made available to students at the university. New England Institute of Technology does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender identity or expression, disability, age, or national and ethnic origin in administration of its educational policies, admissions policies, scholarship and loan programs, and other school-administered programs nor does New England Institute of Technology discriminate on the basis of race, color, religion, sex, sexual orientation, gender identity or expression, age, disability or national and ethnic origin in any phase of its employment process. The university has designated Scott Freund, Executive Vice President, to coordinate the university's efforts to comply with Title IX of the Educational Amendments of 1972, Section 504 of the Rehabilitation Act of 1973 and other laws, orders and regulations governing discrimination. Any questions or concerns regarding Title IX, Section 504 or other state or local federal laws related to discrimination should be directed to Scott Freund, Executive Vice President, New England Institute of Technology, One New England Tech Boulevard East Greenwich, Rhode Island 02818, 401-739-5000.



# NEW ENGLAND INSTITUTE OF TECHNOLOGY

## 2022/2023

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The university reserves the right to change, without notice, any information in this catalog including the rate of tuition or fees, course offerings, programs of study, admissions, registration and graduation requirements, calendar, and rules, and to change any other regulations concerning the student body. Although every effort has been made to ensure the accuracy of this catalog, its contents are subject to change without prior notice.





## A Message from President Gouse

*The NEIT formula for success is very simple. We are a university that will prepare you for professional and technological careers. We are dedicated to providing you with specialized associate, bachelor's, and graduate degree programs, which will prepare you for the job world or additional higher education. We will equip you with the skills and knowledge necessary to pursue your professional and personal goals. NEIT's success is measured by our graduates' accomplishments.*

*At New England Tech, you will develop the skills you need for today's job market and acquire important knowledge about next-generation technologies. You will learn from industry professionals in small classes – and will have hands-on experiences with the most current technologies available. You will also learn how to communicate effectively with your future co-workers and customers. We will help you develop basic math, communications, and business skills that will allow you to compete for the best jobs and ensure growth in your chosen career. We believe in the investment you're making in your future. That's why our focus is entirely on helping you achieve the next professional step in your life.*

*That's the NEIT Edge.*

*Richard I. Gouse  
President*



## History of the University

For over eighty years, New England Institute of Technology has met the challenge of preparing its graduates to enter an increasingly competitive workplace. Founded in 1940 as the New England Technical Institute, the present university began as a certificate-granting trade school. In 1971, a new administration, under the leadership of President Richard I. Gouse, envisioned a degree-granting institution that would not only be better qualified to meet industry's need for technically-trained workers, but would also become one of the top technical universities in the nation.

When the Board of Regents of the State of Rhode Island granted the institution the authority to offer associate degrees in 1977, its name was changed to New England Institute of Technology (NEIT). In 1982, NEIT was accredited by the New England Association of Schools and Colleges, Inc. (NEASC). Two years later, in addition to associate degrees, the State of Rhode Island authorized NEIT to confer baccalaureate degrees and such other degrees, earned and honorary, as are usually conferred by colleges and universities in addition to its associate degree programs. By 1990, four new bachelor's programs had been added to the university's offerings. In 1995, the New England Association of Schools and Colleges' Commission on Technical and Career Institutions awarded accreditation to NEIT as a baccalaureate-granting institution. In 2005, the New England Association of Schools and Colleges continued NEIT's accreditation through its Commission on Institutions of Higher Education. This accreditation continues today through the New England Commission of Higher Education. In 2010, the university began enrolling students for its first Master of Science degree program, and in 2018, the university offered its first post-professional doctoral program.

The original educational programs have increased to over 60 undergraduate and graduate degree programs in such diverse fields as automotive technology, business management, criminal justice, information technology, electrical engineering technology, mechanical engineering technology, nursing, occupational therapy, surgical technology, and digital media production. The campus that started in an older mill-style building in Providence, Rhode Island, now encompasses three locations in Rhode Island: the main campus in East Greenwich, Rhode Island, featuring a residence hall, and two campuses in Warwick, RI. See a detailed description in the section "Campuses" beginning on page 5.

These dynamic changes to its program offerings and physical plant symbolize NEIT's response to the radical transformation that new technologies have brought to the workplace. The needs of tomorrow's students demand access to those technological resources that will enable them to realize technology's full potential to change their education and their lives. As it has since its beginning, NEIT has chosen to meet that challenge: the success of the university will continue to be measured by its graduates' accomplishments in the world they are entering both as workers and citizens.

# GENERAL INFORMATION

## Statement of Mission and Objectives

The mission of New England Institute of Technology (NEIT) is to provide specialized undergraduate and graduate degree and certificate programs which prepare students for professional and technical careers. Through the combination of professional and technical courses and an integrated liberal arts core, academic programs emphasize the relevance of continuous learning to personal and professional growth. Upon successful completion, graduates are prepared to enter the workforce or to continue their education. As an extension of the primary mission, NEIT offers the opportunity to pursue professional and technological studies to satisfy personal interests.

As an institution primarily devoted to teaching, NEIT provides opportunities for students from diverse educational backgrounds and with varying levels of ability to study in a variety of technological fields.

NEIT's objectives are to:

1. offer technology programs that meet the career-oriented needs of students and to assist each student in identifying and developing a career path of interest.
2. stress the relationship between theoretical knowledge and practical application.
3. provide a laboratory approach, which prepares students for business and industry.
4. enable students to develop skills in writing, oral communication, and team building.
5. use innovative learning approaches to help each student realize his or her academic potential.
6. help students to develop skills in problem solving and in thinking logically, flexibly, and critically.
7. foster the student's potential to contribute to and participate in a rapidly changing technological society.
8. provide a campus climate where our diverse student population is encouraged to respect the value of all people and to deal with social issues and responsibilities as members of our campus community and society.
9. encourage students to develop pride in the quality of their work.
10. create an appreciation for both the importance and joy of learning.
11. be environmentally responsible in the development and maintenance of its campus and to include environmentally responsible technologies in its curriculum.

## Educational Philosophy

New England Institute of Technology is a private, non-profit, technical university whose mission is to provide undergraduate and graduate degree programs for students from diverse educational backgrounds and with differing levels of ability. The university's mission evolved from the principle that all persons, regardless of age, gender, disability, socioeconomic circumstances, religious, racial or ethnic background, should have access to career opportunities through a quality technical education. To achieve this purpose, NEIT is first and foremost an institution committed to teaching.

At NEIT, we believe and affirm that every student can learn; we recognize that different students may learn in different ways with differing levels of ability; and we recognize the importance of creating a learning environment in each classroom and laboratory that both challenges and supports each of our students.

## Definition of an Educated Person

The New England Institute of Technology philosophy of education described in its Educational Philosophy is embraced firmly by faculty and staff. This philosophy is guided and sustained by the NEIT Statement of Mission and Objectives. It is intrinsic to the culture of the university and it is manifest in how and what the faculty teach and in what they expect of NEIT graduates as educated persons.

NEIT's graduates achieve technical competence and develop the values and standards of professional and ethical behavior that can serve them well in both the workplace and in our democratic society. These values include responsible citizenship, an appreciation of and respect for cultural diversity, and an informed worldview.

NEIT anticipates that its graduates know how to observe and to read carefully, to analyze and evaluate facts and ideas, to reach valid and well-supported conclusions, and to communicate clearly. The university expects also that its graduates appreciate other fields of knowledge – science, the arts and humanities, and the social sciences – and that they are able to integrate what they have learned from these subjects within their technical and professional fields.

The faculty strive to instill in their students the belief that knowledge coupled with experience leads to wisdom, and that education does not end with a degree, but continues throughout one's lifetime. In the process, NEIT graduates may discover the joy to be found in learning, the hallmark of an educated person.

## Charter

New England Institute of Technology operates under a charter from the State of Rhode Island and is empowered by the State to confer associate and baccalaureate degrees and such other degrees as are usually conferred by colleges and universities.

## Accreditation

New England Institute of Technology is accredited by the New England Commission of Higher Education.

Accreditation of an institution of higher education by the Commission indicates that it meets or exceeds criteria for the assessment of institutional quality periodically applied through a peer review process. An accredited college or university is one which has available the necessary resources to achieve its stated purposes through appropriate educational programs, is substantially doing so, and gives reasonable evidence that it will continue to do so in the foreseeable future. Institutional integrity is also addressed through accreditation.

Accreditation by the Commission is not partial but applies to the institution as a whole. As such, it is not a guarantee of every course or program offered, or the competence of individual graduates. Rather, it provides reasonable assurance about the quality of opportunities available to students who attend the institution.

Inquiries regarding the accreditation status by the Commission should be directed to the administrative staff of the institution. Individuals may also contact:

New England Commission of Higher Education  
301 Edgewater Place, Suite 210, Wakefield, MA 01880  
(781) 425-7785  
E-Mail: [info@neche.org](mailto:info@neche.org)



NECHE is listed by the U.S. Department of Education as a nationally recognized accrediting agency under the provisions of Chapter 33, Title 38, U.S. Code, and subsequent legislation.

The programs listed below have specialized professional accreditations/certifications. Please check the program descriptions in the Curriculum section for details.

- Automotive Technology (A.S.)
- Electrical Engineering Technology, B.S.
- Marine Technology (A.S.)
- Mechanical Engineering Technology, B.S.
- Medical Laboratory Technician, A.S.
- Nursing, A.S.
- Nursing, M.S. (candidate for initial accreditation)
- Occupational Therapy Assistant, A.S.
- Occupational Therapy, M.S.
- Paramedic Technology, A.S.
- Physical Therapist Assistant, A.S.
- Respiratory Care, A.S.
- RN to BSN, B.S.
- Surgical Technology, A.S.
- Veterinary Technology, A.S.

Inquiries regarding the status of NEIT's accreditation by these organizations should be directed to the Office of Teaching and Learning.

Complaints concerning NEIT related to fraud or advertising, approval to operate, quality of education or accreditation requirements, may be directed to the Rhode Island Office of the Attorney General, 150 South Main Street, Providence, RI 02903.

## Campuses

New England Institute of Technology has three campuses in Rhode Island, two in Warwick and a 220-acre campus in East Greenwich, Rhode Island, all a short distance south of the state's capital, Providence.

The main campus in East Greenwich, opened in 2010, consists of two buildings: one containing 312,854 square feet of office, classroom, and laboratory space, and a residence hall. Located on 220 wooded acres in a scenic New England town, this campus is headquarters to all administrative departments. Starting in 2016, the university embarked upon an expansion program including more than 300,000 square feet of new facilities; expanded classroom space, with a further emphasis on information technology capability; a new student dining area; expanded amenities for students, including a fitness center; and the development of a university green open space area.

The four-story, 400-bed residence hall includes student lounges, study rooms, a game room, a lounge with a fireplace and multi-purpose common spaces. NEIT's main building in East Greenwich includes a Student Center dining facility, a café, fireplace, pool and ping pong tables, foosball, a video gaming area, large screen TVs, and a variety of sitting areas and lounges for students to gather. The 8,000 sq. ft. fitness center includes a multi-purpose room for group classes along with a combination of aerobic and fitness equipment and a weight area. An outdoor patio area rounds out the expansion.

The Julian B. Gouse Campus, located at 2500 Post Road, Warwick, consists of two buildings containing more than 120,000 square feet of faculty and administrative offices, classroom and laboratory space, as well as a student lounge and an eating area. The Gouse Campus is named after the late trustee and benefactor of the university. Julian B. Gouse was a member of the original Board of Directors of the

National Association of Trade and Technical Schools; a trustee of New England Institute of Technology; and, for twenty years, president of one of America's leading technical schools, Massachusetts Trade Shop School.

The nearby Access Road Campus in Warwick consists of four buildings containing more than 114,000 square feet of office, classroom, and laboratory space featuring a custom-designed 53,000 square-foot facility dedicated exclusively to the training of automotive technicians which opened in April 2005. The Access Road Campus receives power from a 156-foot wind turbine and an array of 135 solar panels. In addition, the automotive laboratory utilizes both energy recovery and geothermal technologies to supply pre-heated and pre-cooled fresh air into the facility.

All buildings on the Gouse, Access Road, and East Greenwich campuses were either originally designed or extensively remodeled to serve the institutional needs of the university, its mission and purposes. Laboratories have been conceived for the technology of the 21st century and they equal or surpass industry standards. Spacious and well-lighted, many of these combined classroom/laboratories have been custom-built to faculty and staff specifications. These facilities integrate computers into a highly functional setting for the technological training that is necessary to prepare students for successful applications in the workplace.

The university requires that all students be prepared to take classes and receive services at any of NEIT's locations where the appropriate classes and services are offered. It may not be possible for a student to take an entire program, including liberal arts courses, at one location.

## **Class Size**

The usual size of technical classes at New England Institute of Technology is about 15 students. The average size of a liberal arts class is about 20 students. Smaller and larger class sizes are found from time to time in all programs.

## **Feinstein Enriching America Program**

New England Institute of Technology is the recipient of a grant from the Feinstein Foundation. The objective of the Feinstein Enriching America Program is to promote the theme and values of caring, compassion, and community involvement. All students are encouraged to participate in this program which involves community-based volunteerism and may include academic credit.

## **Annual Security Report**

NEIT distributes an annual security report to all current students and employees. Prospective students and employees may obtain a copy of the current report from the Business Office. The report includes campus policies regarding various security and emergency matters as well as statistics concerning the occurrence on campus of reported criminal offenses. In its 2022 report, NEIT had minimal incidents to report.

## **Student Consumer Information**

Information about the institution and its administration of Title IV programs is provided to all current students and upon request to prospective students. Current information can be found at: <https://www.neit.edu/about/public-disclosure> under "Student Consumer Information."

# ADMISSION POLICIES

The admission of students to New England Institute of Technology is competitive. Each applicant's file is carefully reviewed by the Office of Admissions. New England Institute of Technology is a rolling admissions school, which means that while applications and deposits may be received past the deadlines outlined below, they are accepted only on a space-available basis.

Please refer to the website for current information at <https://www.neit.edu/admissions-aid>.

## Undergraduate Admissions

Current information can be found at <https://www.neit.edu/admissions-aid/undergraduate-admissions/>.

## Graduate Admissions

Current information can be found at <https://www.neit.edu/admissions-aid/graduate-admissions/>.

This page includes specific information for the following programs:

Master of Science Degree Programs:

- Construction Management
- Cybersecurity Defense
- Engineering Management
- Information Technology
- Nursing
- Occupational Therapy
- Public Health

Doctoral Degree Program:

- Occupational Therapy

## Advanced Standing Admission

Current information can be found at <https://www.neit.edu/about/public-disclosure> under "Transfer of Credit."

## Life, Military and Work Experience Credit

New England Institute of Technology allows technical and liberal arts credit for military, life, and work experience providing this experience is college-level, is related to the student's educational objectives, and can be properly documented and verified through the submission of a portfolio. Students desiring more information about credit for life and work experience should contact the Office of Teaching and Learning.

## Transfer of Credit Policy

Current information can be found at <https://www.neit.edu/about/public-disclosure> under "Transfer of Credit."



## Portfolio Credit

New England Institute of Technology may accept portfolio credit for experiential or non-collegiate learning. Portfolio credit may be considered for military or past work experience which represents skills or competencies that are comparable in breadth, depth and quality to the respective program's course-level work and educational objectives. Experiential or non-collegiate learning must be properly documented and verified through the submission of a portfolio. Portfolio credit is reviewed and approved by the respective Program Director. NEIT accepts transfer and portfolio credit on a strictly limited basis to preserve the integrity of the degree awarded. In the review of credits, the Program Director shall ensure the proportion of intermediate and mastery level coursework within the academic program is not compromised. For transfer and portfolio credits, a maximum of 4 quarter credits (one course) are accepted for a master's degree program. No portfolio credits are accepted for doctoral programs.

This may vary, to a lesser amount, in accordance with specific accredited program requirements.

## Associate Degree in Applied Technical Studies

The Associate Degree in Applied Technical Studies is designed for students who have previously gained skills and knowledge in specific occupations. The flexible curriculum for this degree is tailored to meet the student's professional and career goals and is chosen from selected technical courses by the student and the Assistant Provost. Admission to the program is limited to adult learners with work or military experience. Students desiring more information about the degree should contact the Office of Teaching and Learning.

## Non-Degree Seeking Students

Current information can be found at <https://www.neit.edu/admissions-aid>, under "Admissions Policies, Non-Degree Seeking Students."

# TUITION AND FEES

## TUITION

### Full-Time Students

Normally, for purposes of tuition assessment, NEIT defines a full-time course load as 2-19 credits per term. The tuition for these terms will remain at the full-time tuition rate. Student's taking less than 12 course credits in a term will be assessed \$700.00 per credit for tuition. Students taking more than 19 course credits in a term will be assessed the at the full-time tuition rate plus an additional tuition of \$700.00 per credit hour for credits exceeding 19. All term fees will also be applicable. Please contact the Student Accounts Office for further information on tuition.

### Non-Matriculated Status

Students who have not enrolled in a program of study but wish to take individual courses will pay the cost-per-credit rate in effect at the time they enroll for the course.

## FEES

### Registration and Administrative Fees

Current information can be found at <https://www.neit.edu/about/public-disclosure> under "Fees, Charges and Refunds."

### Student and Technology Fee

Current information can be found at <https://www.neit.edu/about/public-disclosure> under "Fees, Charges and Refunds."

### Laboratory Fees

Current information can be found at <https://www.neit.edu/about/public-disclosure> under "Fees, Charges and Refunds."

### Other Fees

Current information can be found at <https://www.neit.edu/about/public-disclosure> under "Fees, Charges and Refunds."

### Cancellation Policy

Current information can be found at <https://www.neit.edu/about/public-disclosure> under "Fees, Charges and Refunds."

## Institutional Tuition and Fees Refund Policy

Current information can be found at <https://www.neit.edu/about/public-disclosure> under “Fees, Charges and Refunds.”

## Return of Funds

Current information can be found at <https://www.neit.edu/about/public-disclosure> under “Fees, Charges and Refunds.”

## Auditing a Course

Current information can be found at <https://www.neit.edu/admissions-aid/tuition-fees/tuition-policies> under “Auditing a Course.”



# FINANCIAL ASSISTANCE

Financial aid at New England Institute of Technology is available from a variety of sources: non-repayable grants, scholarships, work study programs, student loans, and NEIT's own tuition payment plan. Applicants may receive aid through any or all of these programs, depending on their financial need.

A financial aid officer will review the availability of grants and loans and can provide assistance in completing the required financial aid applications.

## Types of Financial Aid

Current information can be found at <https://www.neit.edu/admissions-aid/financial-aid-scholarships/types-of-financial-aid>

## Veterans Benefits

Current information can be found at <https://www.neit.edu/admissions-aid/financial-aid-scholarships/military-veteran-benefits>.

## Financial Aid Awarding Policy

Current information can be found at <https://www.neit.edu/about/public-disclosure> under "Availability of Financial Aid."

## Application Requirements

Current information can be found at <https://www.neit.edu/admissions-aid/financial-aid-scholarships/>

## Federally Defined Full-Time Status

For the purposes of determining a student's eligibility for financial aid, NEIT's Satisfactory Academic Progress Policy defines an undergraduate student as "full-time" if the student is taking a minimum of 12 academic credits. Students taking fewer than 12 academic credits may be defined as three-quarter, half time or less than half time. See the Financial Aid Office for additional information.

## Satisfactory Academic Progress Policy

Federal requirements require that each postsecondary educational institution participating in federal student financial aid assistance programs establish, publish and apply standards of satisfactory academic progress for those students receiving federal student financial assistance. Students receiving federal student financial aid assistance are expected to maintain satisfactory academic progress (SAP) throughout their program in order to continue their eligibility for federal student financial aid assistance. The measurement of SAP requires an evaluation of the student's quantitative progress and qualitative progress. The qualitative measure requires that the student maintain a specific cumulative grade point average throughout his or her program of study. The quantitative measure (pace) requires that the student complete the program within 150 percent of the normal length as measured in terms

of attempted credits versus successfully completed credits. The Satisfactory Academic Progress Policy for student financial aid recipients is at least as strict as the policy used for non-financial aid recipients.

The evaluation for both the qualitative and the quantitative measures will be conducted at the end of every third term from the student's initial enrollment at New England Institute of Technology (NEIT).

If, at the end of that period, the student does not meet the minimum requirements established in the chart in number 4 below, the student will not be eligible for federal student financial aid assistance but may continue attending NEIT using his or her own sources of funding.

## **Requirements for Maintaining Satisfactory Academic Progress**

### **Maximum Time to Complete**

A student may attempt a maximum of 150% of the published length of the program in order to maintain his/her eligibility for federal student financial assistance. After a student has attempted 150% of the published length of the program, the student will no longer qualify for federal student financial assistance.

The published length of an associate degree program is the minimum number of credits required to graduate from an associate degree program. For example, if 98 credits are required for graduation from the associate degree program, a student may attempt a total of 147 credits (98 X 150%).

The published length of a bachelor's degree program is the minimum number of credits required to graduate from a bachelor's degree program. For example, if 92 credits are required for graduation from the bachelor's degree program, a student may attempt a total of 138 credits (92 X 150%).

The published length of a master's degree program is the minimum number of credits required to graduate from a master's degree program. For example, if 45 credits are required for graduation from the master's degree program, a student may attempt a total of 68 credits (45 X 150%).

The published length of a post-professional doctoral program is the minimum number of credits required to graduate from the post-professional doctoral degree program. For example, if 38 credits are required for graduation, a student may attempt a total of 57 credits (38 X 150%).

### **Successful Completion (Pace) of the Program**

At the end of every third term of the student's program, including attendance in the summer term, students will be expected to complete a specified minimum percentage of attempted credits as described in the chart on the next page.

Attempted credits include the published number of credits for all courses for which the student receives a grade of A, A-, B+, B, B-, C+, C, C-, D+, D, F, W, P, INC, IPR, and TR while the student is enrolled in a program of study at NEIT (see Academic Regulations in the Office of Teaching and Learning section of the catalog for further clarification of grades). With the exception of developmental courses, all credits the student attempts are used in computing SAP, including credits for repeated courses.

Successfully completed credits include the published number of credits for which the student receives a grade of A, A-, B+, B, B-, C+, C, C-, D+, D, P, and TR.



### Qualitative Measure

At the end of every third term of a student's program students will be expected to maintain a minimum cumulative grade point average (CGPA) as described in the chart in section 4.

The cumulative grade point average is based on credits attempted in all courses which carry credit toward graduation. Courses, which carry grades of W, P, INC, IPR, or TR, are not included in a student's CGPA. When a course is repeated, only the higher grade is included in the cumulative grade point average.

Developmental courses carry grades of Satisfactory (S) and Unsatisfactory (U) and are not included in a student's GPA. A student may repeat a developmental course in which he/she receives a U but cannot repeat a developmental course in which he/she receives an S.

### Minimum Satisfactory Academic Progress Standards Required for Continued Eligibility for Financial Aid Assistance

<b>If at the end of three terms the total number of credits you have attempted is:</b>	<b>Then you will be required to have a minimum cumulative GPA of:</b>	<b>And to have successfully completed the minimum percentage of total attempted credits:</b>
<b>0-16 (A.S. Degree or certificate only)</b>	1.7	30%
<b>17-35 (A.S. Degree or certificate only)</b>	1.7	40%
<b>36-54 (A.S. Degree or certificate only)</b>	1.8	50%
<b>55-71 (A.S. Degree or certificate only)</b>	1.8	60%
<b>72 and above (A.S. Degree or certificate only)</b>	2.0	67%
<b>Bachelor's Degree</b>	2.0	67%
<b>Masters or Doctoral Degree</b>	3.0	67%
<b>Doctoral Degree</b>	3.0	67%

### Loss of Eligibility for Financial Aid Assistance

Students who fail to achieve the minimum requirements for satisfactory academic progress at the end of a third term measurement will not be eligible for financial aid assistance unless they can, through the appeal process set forth below, demonstrate special circumstances which impeded their ability to successfully achieve satisfactory academic progress. Students who are not meeting the minimum standards are notified by letter when they are no longer eligible for financial aid assistance.

### Appeal Process and Continued Eligibility for Financial Aid Assistance

A student who is no longer eligible for financial aid due to his or her failure to maintain satisfactory academic progress may appeal to the Financial Aid Office. If the student is able to demonstrate through documentation, to the satisfaction of the Financial Aid Office, that his/her failure to make satisfactory academic progress was due to special circumstances which impeded the student's ability to successfully achieve satisfactory academic progress, the student will be allowed to continue his or her eligibility for financial aid assistance for one term of Financial Aid Probation. Special circumstances include injury or illness, the death of a relative, or other special circumstances. The appeal must explain why the student failed to make satisfactory academic progress and what has changed in his/her situation that will allow the student to make satisfactory academic progress at the next evaluation. Documentation supporting the appeal is recommended. If the appeal is approved and it is determined that a

student will require more than one term to meet the minimum standards of satisfactory academic progress, the student may be placed on Financial Aid Probation and an Academic Plan for one or more terms. This continued eligibility is subject to the student's achieving specified conditions set forth in the Academic Plan developed with the student and his/her Student Advisor to ensure that the student is able to meet the institution's satisfactory academic progress standards at a specific point in time. While on Financial Aid Probation and on an Academic Plan, if applicable, the student is eligible to receive financial aid assistance.

If the student meets the minimum satisfactory academic progress standards at the end of Financial Aid Probation or after the term(s) when the student was on an Academic Plan, the student will be considered to meet the satisfactory academic progress standards.

### **Re-Establishment of Eligibility for Financial Aid Assistance**

A student who is no longer eligible for financial aid assistance due to failure to maintain satisfactory academic progress will again be eligible for financial aid assistance when and if the student achieves the cumulative grade point average and percentage of courses successfully completed listed on the chart above. During the student's period of disqualification for financial aid assistance, the student may continue his or her program of study at the institution using his or her own sources of funding as long as the student meets the requirements of academic achievement or is on Academic Probation.

### **Refunds to Federal Aid Programs (Title IV)**

Current information can be found at <https://www.neit.edu/about/public-disclosure> under "Fees, Charges and Refunds."

### **Institutional Financial Aid Policy**

Institutional grants and scholarships for students who withdraw from NEIT will be prorated and refunded as outlined in the institutional "Tuition and Fees Refund Policy" in the Tuition and Fees section of the catalog.

### **Books and Equipment Policy**

NEIT publishes a list of books and equipment that each student will be required to purchase for each course. Books and equipment may be purchased at NEIT's bookstore (bookstore@neit.edu), or from an online vendor.

# STUDENT SERVICES

## **The Career Services Office**

Current information can be found at <https://www.neit.edu/about/public-disclosure> under “Support Services.”

## **Office of Student Support Services**

Current information can be found at <https://www.neit.edu/about/public-disclosure> under “Support Services.”

## **Student Activities**

Current information can be found at <https://www.neit.edu/campus-student-life/student-activities-recreation/student-activities>.

## **On-Campus Housing**

Current information can be found at <https://www.neit.edu/campus-student-life/housing-dining/on-campus-housing>.

## **Off-Campus Housing**

Current information can be found at <https://www.neit.edu/campus-student-life/housing-dining/off-campus-housing>.

## **Students’ Rights and Responsibilities**

Current information can be found at <https://www.neit.edu/about/public-disclosure> under “Student Conduct.”

## **Student Conduct**

Current information can be found at <https://www.neit.edu/about/public-disclosure> under “Student Conduct.”

## **Students’ Right to Privacy and Access to Records**

New England Institute of Technology complies with the provisions of the Family Educational Rights and Privacy Act of 1974 (FERPA). A “Notification to Students on Rights to Privacy” is emailed to students annually and published in the Student Handbook. Copies of the university’s notification are available in the Registrar’s Office.

## **Student Conduct Policy and Disciplinary Procedures**

Current information can be found at <https://www.neit.edu/about/public-disclosure> under “Student Conduct.”

# THE OFFICE OF TEACHING AND LEARNING

The Office of Teaching and Learning is responsible for the overall quality control and management of all curricula, faculty and academic staff, academic support services, class scheduling, classroom and laboratory instruction, and academic records management. The Office of Teaching and Learning includes:

- The Office of the Senior Vice President and Provost
- The Registrar's Office
- The Library and Information Commons
- The Academic Skills Center
- The Feinstein Enriching America Program
- Department Chairs
- Faculty
- Office for Institutional Effectiveness

The Office of Teaching and Learning is managed by the Senior Vice President and Provost (the chief academic officer of the university) and the Assistant Provosts. All inquiries concerning the Office of Teaching and Learning should be directed to (401) 739-5000, Ext. 3438.

## Academic Regulations

Current information can be found at <https://www.neit.edu/about/public-disclosure> under "Academic Policies and Procedures."

## Grade Point Average

Current information can be found at <https://www.neit.edu/about/public-disclosure> under "Academic Policies and Procedures."

## Credit Hour

A credit hour is central to the preparation of curricula at New England Institute of Technology. The number of credit hours assigned to coursework is related to the academic time a student is expected to spend in direct faculty instruction and out-of-class work.

A credit hour reasonably approximates not less than: One hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately ten weeks to earn one credit; or at least an equivalent amount of work for other academic activities as established by NEIT including laboratory work, internships, practica, studio work, and other academic work, such as study and exam preparation time, leading to the award of credits.

## Academic Probation

Current information can be found at <https://www.neit.edu/about/public-disclosure> under "Academic Policies and Procedures."

## **Required Levels of Academic Achievement**

Current information can be found at <https://www.neit.edu/about/public-disclosure> under “Academic Policies and Procedures.”

## **Appeal of Dismissal**

Current information can be found at <https://www.neit.edu/about/public-disclosure> under “Academic Policies and Procedures.”

## **Dean’s List and Honors**

At the end of each term, the Office of Teaching and Learning publishes a Dean’s List for students enrolled in associate and bachelor’s degree programs. This list recognizes students who have earned at least 10 matriculating credits and a grade point average (GPA) of at least 3.6. The grades of P, S, U, and W are not considered in the GPA calculation for Dean’s List. Graduates with a cumulative GPA of 3.6 or better are identified as having “Honors” in the commencement program.

## **Alpha Chi Honor Society**

Current information can be found at <https://www.neit.edu/campus-student-life/student-activities-recreation/clubs-organizations> under “Alpha Chi Honor Society.”

## **Phi Theta Kappa**

Current information can be found at <https://www.neit.edu/campus-student-life/student-activities-recreation/clubs-organizations> under “Phi Theta Kappa.”

## **Graduation with a Certificate**

Current information can be found at <https://www.neit.edu/about/public-disclosure> under “Degrees.”

## **Graduation with an Associate Degree**

Current information can be found at <https://www.neit.edu/about/public-disclosure> under “Degrees.”

## **Graduation with a Bachelor’s Degree**

Current information can be found at <https://www.neit.edu/about/public-disclosure> under “Degrees.”

## **Graduation with a Master’s Degree**

Current information can be found at <https://www.neit.edu/about/public-disclosure> under “Degrees.”

## **Graduation with a Doctoral Degree**

Current information can be found at <https://www.neit.edu/about/public-disclosure> under “Degrees.”

## **Dual Degree Policy**

Current information can be found at <https://www.neit.edu/about/public-disclosure> under “Degrees.”

## General Graduation Information

The formal graduation ceremony is limited to students who complete all requirements for a degree on or before the end of the Spring Term.

## Transcripts and Letters of Technical Proficiency

Students may request an official transcript from the Registrar's Office listing courses and grades earned. Any student who completes the core courses of a program or a specific segment (e.g., the Plumbing portion of the Plumbing and Heating Technology associate degree) may request a Letter of Technical Proficiency from the Registrar's Office. This letter will document the student's grades earned and courses completed in a program. Transcripts and Letters of Technical Proficiency are issued only for students who have fulfilled all financial obligations to the university.



## Drop and Add Policy

Students may add or drop courses after the start of classes in compliance with the procedures described in NEIT's Drop and Add Policy which is published in the Student Handbook.

**PLEASE NOTE:** Dropping a course and reducing the credit load may adversely affect financial aid eligibility and ability to graduate within the anticipated time frame. It is strongly recommended that students meet with a representative of the Student Accounts Office to discuss the potential impact on their financial aid status and with their student advisor to discuss the impact on their ability to complete their degree within the anticipated time frame.

## Class Attendance

Regular and prompt attendance at all classes is expected of all students. Each course syllabus clearly states the attendance policy and the makeup policy for that class. All work missed by reason of absence or tardiness, regardless of the cause, must be made up to the satisfaction of the instructor. Students who know that they will be absent are expected to obtain assignments from instructors in advance so that the necessary work will be completed before they leave or immediately upon their return. Attendance for online courses is determined based upon weekly activity in the course.

## Schedule of Classes

Day classes are held Monday through Friday between 7:30 a.m. and 5:35 p.m. Night classes are held Monday through Friday between 5:45 p.m. and 10:40 p.m. Some courses are also offered on Saturday between 8:00 a.m. and 4:30 p.m.

## Library and Information Commons

Current information can be found at <https://www.neit.edu/about/public-disclosure> under “Support Services” or visit the library website at <https://library.neit.edu/>.

## Academic Skills Center

Current information can be found at <https://www.neit.edu/about/public-disclosure> under “Support Services.”

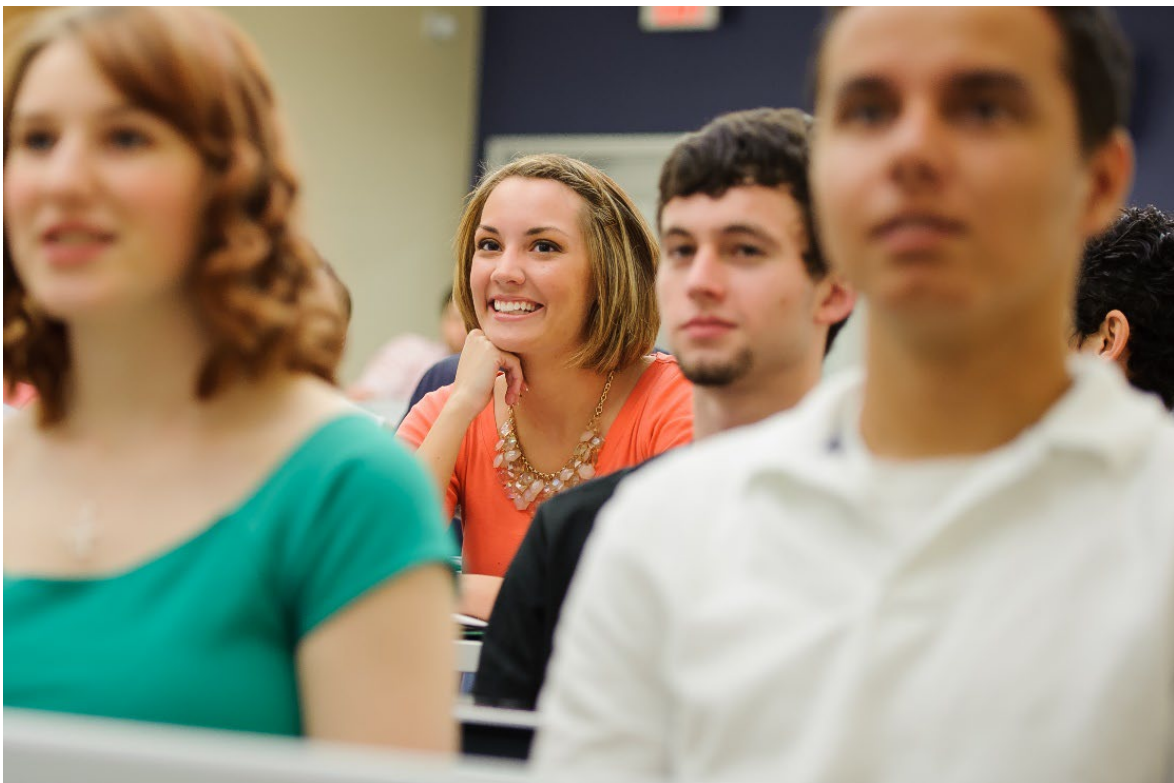
## Technical Advisory Committees

Each academic department has a Technical Advisory Committee. The Technical Advisory Committee consists of representatives from many of the industries and businesses that provide employment opportunities for NEIT graduates.

Department chairs and faculty consult with the committees and with individual committee members frequently throughout the year on curriculum issues.

Through input from its Technical Advisory Committees, NEIT is able to ensure that its programs, in addition to being academically sound, are educating graduates who meet the needs of industry.

A list of committee membership is available in the Office of Teaching and Learning.



## PROGRAMS OF STUDY

All students are enrolled in college credit programs. Degrees are awarded after the satisfactory completion of both technical and liberal arts requirements of each program.

### Academic Programs

Current information can be found at <https://www.neit.edu/academics>.

### Plus-Two Bachelor's Degree Division

With the exception of the two direct-entry bachelor's degree programs (Cybersecurity and Network Engineering and Mechanical Engineering Technology), after two years of study at NEIT, students may continue their preparation for more demanding career opportunities. Plus-Two means that a student's education at NEIT takes place in two, two-year academic segments, each terminating in a degree: the associate degree followed by the bachelor's degree.

The bachelor's degree is an advanced, upper-division program that builds on the foundation of the associate degree. In each program, courses are planned in a coherent sequence that more fully develops the student's understanding of the theoretical basis of the field, while continuing to expand and broaden the student's ability to integrate concepts with their practical application in laboratory experiences. Some bachelor's programs culminate in a senior project, in which the student develops an individual research project appropriate to the major.

The senior project requires students to synthesize all aspects of the bachelor's degree program. Students must not only bring together both theoretical and practical applications of the technical subject but must also make use of appropriate mathematics and physics. In addition, students must present the project in both written and oral form, using the communications skills gained in liberal arts courses.

Students in some associate degree programs may continue on for a Bachelor of Science degree within their program. In addition, graduates of any NEIT associate degree program may continue for a Bachelor of Science Degree in Business Management. This program is available with concentrations in Automotive Service/Transportation Management or Healthcare Management with Respiratory Care. In some cases, students may need additional coursework to meet the prerequisites of the bachelor's program.

A student must earn at least a 2.0 grade point average in the associate division to enroll in NEIT's bachelor's division; some programs may have additional requirements. A student must earn at least a 2.5 grade point average in the bachelor's division to apply for admission to a master's program. For additional information, please consult with the Office of Teaching and Learning or the Office of Student Support Services.



## Curriculum Requirements and Liberal Arts Core

All programs, both those leading to associate degrees and those leading to bachelor's degrees, must meet certain minimum requirements in both the technical major and in the liberal arts. Individual departments have specific requirements and may require more than the minimum number of credits. A list of all the courses in each program and each core is available in this catalog.

### Minimum Requirements for an Associate in Science Degree\*/Standard Distribution of Credits

Courses in the Major .....	60 credits
Mathematics/Science Core .....	8 credits
Communications Core .....	8 credits
Humanities, Arts/Foreign Language Core .....	8 credits
Social Sciences Core .....	8 credits
Total Minimum Requirement .....	92 credits

### Minimum Requirements for a Bachelor of Science Degree\*/Standard Distribution of Credits (in addition to associate degree totals)

Courses in the Major .....	60 credits
Mathematics/Science Core .....	8 credits
Communications Core .....	8 credits
Social Sciences Core .....	4 credits
Humanities Core .....	4 credits
Social Sciences, Humanities, or Arts/Foreign Language Core .....	4 credits
Total Minimum Requirement .....	88 credits

\*NOTE: These are minimum requirements; distribution of credits may vary between departments. Consult descriptions of each program in this catalog for more complete information.



## Liberal Arts Core Requirements

### Humanities and Social Sciences

The Humanities and Social Sciences Department is an integral part of the curriculum in every major offered at NEIT. There are three primary core disciplines within the department: Communications, Humanities and Social Sciences. These courses help students to develop communication and problem-solving skills as well as an expanded worldview that complement the technical expertise achieved through their majors.

The Communications core focuses on writing, oral communication, and critical thinking skills. Communications classes are tailored to meet the needs of all majors. All students begin in the freshman-level English and then follow up with a second Communications core course tailored to their field of study. At the bachelor level, students take either Technical Communications or Writing in the Health Sciences at the 400 level to give them a competitive edge in their respective careers.

In the Humanities core, students may choose from electives relating to film, philosophy, languages, literature, music and the arts. Many Humanities electives have been designed for specific majors, providing a perspective beyond technical skills.

Social Sciences offerings include psychology, sociology, history and economics. Again, numerous Social Science electives are offered to help augment the skills of students in specific majors such as criminal justice and many of the health sciences.

Underlying both the Humanities and Social Sciences courses is a concern with issues of human values, and with the social problems and responsibilities of our global community; and all are designed to help make the student a concerned citizen and a valuable member of their professional career teams.

Specific degree requirements in Communications, the Humanities, and Social Sciences ensure that graduates gain a competitive edge by having the knowledge and skills necessary to become contributing members to both their professions and the communities around them.

### Mathematics and Sciences

The Mathematics and Sciences Department plays a crucial role for all of the technical majors in the university, giving students the background they need to understand their programs.

The mathematics portion of the curriculum includes courses ranging from non-credit developmental courses for those who need to brush up on math skills, to a series of advanced calculus courses. Science courses are offered in chemistry, physics and physical science.

The mathematics and science courses have two important purposes. The first is to provide students with the mathematical tools required to function successfully in their chosen programs. The mathematics and science courses offered in each program have been chosen for their usefulness and applicability to that field.

The second purpose of the mathematics and science courses is to provide students with a progressive, linear thought-processing capability that will help them to work out solutions to problems in situations

for which they have not been specifically trained. The study of sciences provides an understanding of the physical and natural laws governing technical applications, while mathematics offers a problem-solving approach to thinking.

Complete details about curriculum requirements in mathematics and science can be found in the Curriculum section of the catalog.

## Starting Dates

Students may register and begin a program of study in the Fall, Winter, Spring, or Summer Term, although in most cases, beginning courses in the major in any particular term cannot be guaranteed.

## Cancellation of Courses

Courses offered each term are listed online. NEIT reserves the right to cancel courses or change the scheduled location of classes as necessary due to insufficient enrollments, classroom availability or other mitigating factors.

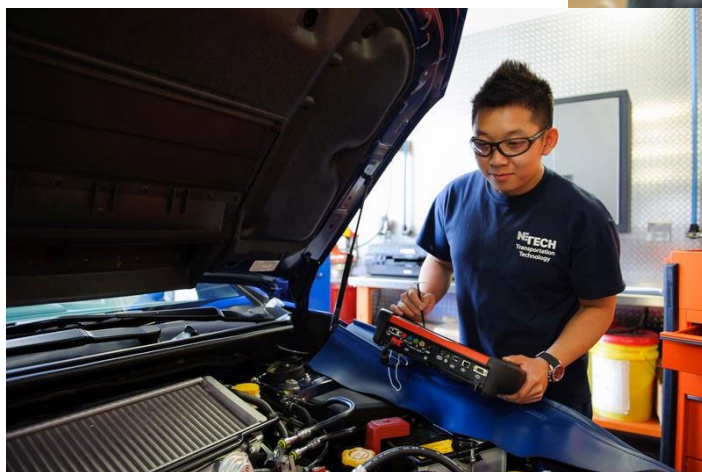
## Choice of Curriculum

Students are required to state their choice of curriculum on their application for admission. The choice may be changed prior to registration by consulting an admissions officer. After classes have started, changes may be made only by consultation with the student advisor and may require the department chair's approval. A student will receive guidance in the development of a program of study; however, the final responsibility for selecting a student's program of study is with the student.

The following pages list the courses required to complete degree requirements in each of the programs offered at NEIT. The order in which a student takes the required courses may vary from the listed order as long as prerequisites for individual courses are met.



# CURRICULUM



## Architectural Building Engineering Technology Associate in Science Degree

The Associate in Science degree in Architectural Building Engineering Technology is offered through the Department of Design + Architectural Building Technology.

The Architectural Building Engineering Technology Program is based upon the premise that buildings are designed and built using a team concept. As an integral member of that team, the architectural engineer must have the ability to create and construct buildings that will answer the economic, safety, technical, sustainability, and aesthetic requirements of a project. The associate degree program allows students to develop these necessary abilities by emphasizing the fundamentals of architectural design, structural engineering, environmental systems, sustainability, and construction technology. The program is also designed to instill within students a sense of professionalism and a desire to serve and contribute to society.

In the associate degree program, students also develop basic skills in drafting, graphic communications, three-dimensional theory, computer-aided drafting (CAD), construction documents, construction techniques, green technology, and building materials. Upon successful completion of the associate degree program, students can continue into either the NEIT Bachelor of Science in Architectural Building Engineering Technology degree program or the Bachelor of Science in Construction Management degree program.

### Curriculum

Term I					
Course No.		Course Title	C	L	T
ABT	111	Introduction to Building Science	1	0	1
ABT	112	Technical Drafting and Graphic Communications	2	2	3
ABT	114	Introduction to Computer-Aided Drafting (CAD)	2	4	4
ABT	115	Introduction to Structures	2	0	2
<b>CHOOSE ONE</b> (depending upon Math placement)					
MA	105	Basic College Math with Lab (MA/SCI Core)	4	2	5
MA	110	Introduction to College Math (MA/SCI Core)	4	0	4
ELECTIVE		100-200 Level Math/Science, Humanities, Social Sciences, or Arts/Foreign Language Core	4	0	4
			11	6/8	14/15

Term II					
Course No.		Course Title	C	L	T
ABT	122	Two- and Three-Dimensional Design Theory	3	0	3
ABT	124	Construction Methods & Materials	3	0	3
ABT	125	Building Design & Technology I	2	4	4
MA	125	Technical Math I (MA/SCI Core)	4	0	4
EN	100	Introduction to College Writing (COM Core)	4	0	4
			16	4	18

Term III					
Course No.		Course Title	C	L	T
ABT	135	Building Design & Technology II	2	8	6
ABT	137	Introduction to Environmental Systems	3	0	3
ABT	138	Surveying & Civil Technology	1	2	2
MA	210	Technical Math II (MA/SCI Core)	4	0	4
EN	200	Workplace Communications (COM Core)	4	0	4
			14	10	19

Term IV					
Course No.		Course Title	C	L	T
ABT	126	Presentation Techniques	2	2	3
ABT	218	Building Information Modeling I (BIM I)	2	4	4
ABT	236	Building Codes	2	0	2
ID	212	Programming	2	0	2
HI	235	Architectural History (SS Core)	4	0	4
			12	6	15

Term V					
Course No.		Course Title	C	L	T
ABT	221	Visualization Studies I	2	2	3
ABT	223	Structures I	3	0	3
ABT	225	Building Design & Technology III	4	6	7
ELECTIVE	100-200 Level Humanities (or Arts/Foreign Language) Core		4	0	4
			13	8	17

Term VI					
Course No.		Course Title	C	L	T
ABT	127	Introduction to Construction Estimating	3	0	3
ABT	232	Structures II	3	0	3
PHY	200	Physics I & Lab (MA/SCI Core)	3	2	4
<b>CHOOSE (depending on BS degree choice)</b>					
ABT	235	Building Design & Technology IV (for ABT-BS)	4	6	7
<b>Or both below</b>					
ENG	263	Commercial Utilization of Drones/UAVs (for CMT-BS)	3	2	4
CET	231	Surveying II (for CMT-BS)	2	2	3
			13/14	8	17

Total Quarter Credit Hours = 100/101

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 105/110 must still take 32 credits of core courses.

## Architectural Building Engineering Technology Bachelor of Science Degree

The Bachelor of Science degree in Architectural Building Engineering Technology is offered through the Department of Design + Architectural Building Technology.

The Architectural Building Engineering Technology Program continues to build upon the premise that buildings are designed and built using a team concept. The bachelor's program allows students to build upon the fundamentals learned in the associate degree program and expand their knowledge base of architectural design, engineering, and building science.

In the bachelor's program, students also study advanced topics in structural engineering using wood, steel, masonry, and concrete, advanced environmental and mechanical systems, sustainability, LEED certification of buildings, site planning, contracts and specifications, and construction law. The program culminates with a Senior Thesis course. In this final term, students must demonstrate their understanding of and ability to utilize and synthesize the technical and engineering concepts they developed throughout their New England Tech experience.

Students who wish to pursue professional registration must pursue graduate studies at other institutions in the United States. Other students may pursue careers in associated fields within the design and building industry. Upon completion of this program, students may also choose to continue into the NEIT Master of Science in Construction Management degree program.

## Curriculum

<b>Term VII</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
ABT	314	Construction Contracts & Specifications	3	0	3
ABT	315	Structural Wood Design	2	4	4
ABT	324	Masonry Construction & Detailing	2	2	3
<i>PHY</i>	<i>300</i>	<i>Physics II &amp; Lab (MA/SCI Core)</i>	<i>3</i>	<i>2</i>	<i>4</i>
<i>ELECTIVE</i>		<i>300-400 Level Humanities or 200 Level Foreign Language Core</i>	<i>4</i>	<i>0</i>	<i>4</i>
			14	8	18

<b>Term VIII</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
ABT	325	Soil Mechanics & Foundation Design	3	0	3
ABT	328	Structural Steel Design	2	4	4
ABT	337	Building Information Modeling II (BIM II)	2	4	4
<i>EN</i>	<i>322</i>	<i>Argumentative Research Writing (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			11	8	15

<b>Term IX</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
ABT	331	Advanced Environmental Systems	3	0	3
ABT	334	Site Engineering & Planning	2	2	3
ABT	338	Reinforced Concrete Design	4	0	4
ABT	340	Laser Scanning & Point Clouds	2	2	3
<i>MA</i>	<i>310</i>	<i>Calculus I (MA/SCI Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			15	4	17

<b>Term X</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
ABT	410	Building Design & Technology V (Low Rise)	4	6	7
ABT	412	Sustainability in Construction	3	0	3
ABT	416	Portfolio Development	3	0	3
<i>EN</i>	<i>421</i>	<i>Technical Communications (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			14	6	17

<b>Term XI</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
ABT	420	Building Design & Technology VI (High Rise)	4	6	7
ABT	421	Acoustics & Lighting	3	0	3
ABT	427	Senior Thesis Proposal & Research	2	0	2
<i>ELECTIVE</i>		<i>300-400 Level Humanities, Social Sciences, or 200 Level Foreign Language Core</i>	<i>4</i>	<i>0</i>	<i>4</i>
			14	6	16



Term XII					
Course No.		Course Title	C	L	T
ABT	430	Senior Thesis	2	6	5
ABT	433	Construction Law	3	0	3
MGM	340	Engineering Finance	2	2	3
<i>ELECTIVE</i>		<i>300-400 Level Social Sciences Core</i>	<i>4</i>	<i>0</i>	<i>4</i>
			11	8	15
<i>Total Quarter Credit Hours = 98</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All bachelor's degree students are required to take 28 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses.

Subject to change.

## Automotive Collision Repair Technology Certificate (with A.S. Completion Option)

The Automotive Technology Department provides in-depth study and application of the most current trends in the automotive field.

The Certificate in Automotive Collision Repair Technology (ACR-C) offers a broad study of auto body technology, collision repair, and refinishing. Students are provided theory and practice in sheet metal repair and replacement, repair of body damage, frames and unibody, glass installation, and paint refinishing techniques.

Students also learn the aspects of automotive technology (such as brakes, suspension, electrical systems, heating, and air conditioning) which are important for a thorough understanding of auto body and collision repair.

Graduates are prepared for skilled entry-level employment in the Automotive Collision Repair industry.

### ACCREDITATION STATUS

NEIT's Automotive Collision Repair Technology program has received Damage Analysis/Estimating/Customer Service Accreditation by the ASE Education Foundation, 1503 Edwards Ferry Rd., NE, Suite 401, Leesburg, VA 20176, (703) 669-6650 • [www.ASEeducationfoundation.org](http://www.ASEeducationfoundation.org).



**Accredited  
Training Program**  
Powered by ASE Education Foundation

## Curriculum

<b>Term I</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
AUB	203	Introduction to Fabrication, Repair and Refinishing	2	0	2
AUB	204	Introduction to Fabrication, Repair and Refinishing Lab	0	6	3
AUB	217	Basic Welding	1	3	2
AUB	236	Paints & Refinishing Equipment	2	0	2
AUB	237	Paints & Refinishing Equipment Lab	0	6	3
			6	15	12

<b>Term II</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
AUB	227	Introduction to Airbrushing	1	4	3
AUB	260	OSHA Safety Practices	2	0	2
AUB	268	Advanced Paint Applications	2	0	2
AUB	269	Advanced Paint Applications Lab	0	6	3
AUB	270	Custom Fabrication	2	4	3
			7	14	13

<b>Term III</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
AUB	122	Brakes & Suspension Systems for Collision Students	4	0	4
AUB	123	Brakes & Suspension Systems for Collision Students Lab	0	4	1
AUB	131	Basic Electricity for Collision Repair	3	0	3
AUB	132	Basic Electricity for Collision Repair Lab	0	3	1
AUB	261	Assessing Damage & Estimating Repairs	3	0	3
			10	7	12

<b>Term IV</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
AUB	145	Glass and Non-Structural Panel Replacement	3	0	3
AUB	146	Glass and Non-Structural Panel Replacement Lab	0	3	1
AUB	152	Introduction to Structural Repairs & Component Replacement	4	0	4
AUB	153	Introduction to Structural Repairs & Component Replacement Lab	0	8	2
AUT	285	Automotive Heating & Air Conditioning	2	4	3
			9	15	13
<i>Total Quarter Credit Hours = 50</i> <i>Total Contact Hours = 820</i>					

## AS COMPLETION OPTION

<b>ACRA (Term V)</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
WEL	151	Industrial Welding I (SMAW)	1	4	3
MGM	230	Planning Your Financial Future	2	2	3
EN	106	<i>Service Industry Communications (COM Core)</i>	5	0	5
MA	105	<i>Basic College Math (MA/SCI Core)</i>	4	2	5
HU	289	<i>Racing Through Film (recommended) or other Humanities Core Elective</i>	4	0	4
			16	8	20

<b>ACRA (Term VI)</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
WEL	152	Industrial Welding II (Advanced SMAW)	1	4	3
EN	100	<i>Introduction to College Writing (COM Core)</i>	4	0	4
MA	200	<i>Applied Math for Business (MA/SCI Core)</i>	4	0	4
HU	242	<i>The Automobile and American Culture (recommended) or other Humanities Core Elective</i>	4	0	4
BU	236	<i>Small Business and the Law (SS Core)</i>	4	0	4
			17	4	19
<i>Total Quarter Credit Hours = 89</i>					
<i>Total Contact Hours 1270</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

## **Advanced Automotive Technology – with Fabrication & Refinishing – with High Performance Associate in Science Degree**

The Automotive Technology Department provides in-depth study and application of the most current trends in the automotive field.

The department offers five automotive associate degree programs: Automotive Technology and Advanced Automotive Technology, Automotive Technology with High Performance, Advanced Automotive Technology with High Performance, and Advanced Automotive Technology with Fabrication and Refinishing. While all programs cover the same topics, the Advanced Automotive Technology degrees include more in-depth study.

Students learn the design, theory of operation, and servicing techniques of the many systems and system components of today's automobiles. Training in engine construction and design, engine repair, electricity, electronics, suspension, steering, brakes, transmissions, heating and air conditioning systems, fuel systems, ignition systems, and emission controls is provided to assure maximum coverage. A final engine performance course covers computerized engine controls, fuel injection systems, and exhaust emissions diagnosis. NEIT uses the latest industry standards, up-to-date diagnostic equipment, and Automotive Service Excellence approved curriculum in its training program.

The High Performance degree programs offer an additional term of study in high performance vehicle modification and testing.

The Fabrication and Refinishing degree program offers two additional terms of study in the fabrication and refinishing of metal and fiberglass structural surfaces.

New England Institute of Technology participates in the Ford Maintenance and Light Repair (MLR) program which includes Ford Service Technician Specialty Training (STST) in the following areas: Electrical Systems, Climate Control, Brake Systems, Steering and Suspension, Tire, Chassis & Maintenance. Upon graduation, students will have completed the necessary requirements for the Ford MLR certification.

NEIT also participates in the Mopar Career Automotive Program (CAP) LOCAL curriculum, designed and developed by Fiat Chrysler Automotive (FCA) Performance Institute. The curriculum includes a variety of self-study web-based and instructor-led courses. The curriculum covers two levels: Level 0 provides the basics that every technician needs to know, includes the role of the technician in the dealership, new vehicle prep, FCA online systems and use of diagnostic scan tools; Level 1 adds increasingly more complex courses such as engine repair and performance, automatic transmissions, driveline, chassis systems and electrical and body systems. Upon completion, students are qualified to work on a variety of repair needs in Chrysler, Jeep, Dodge, and Ram dealerships.

These intensive programs prepare students for entry-to-industry-level technical capability and offer skills needed for rapid advancement. Graduates of this program are eligible to continue on for a Bachelor of Science Degree in Business Management with an Automotive Service/Transportation Management (MGTT) concentration.

## CERTIFICATION STATUS

NEIT's Automotive Technology program has received Master Automobile Service Technology Accreditation by the ASE Education Foundation, 1503 Edwards Ferry Rd., NE, Suite 401, Leesburg, VA 20176, (703) 669-6650 • [www.ASEeducationfoundation.org](http://www.ASEeducationfoundation.org).



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## Curriculum

<b>Term I</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
TT	106	Introduction to Vehicle Maintenance	2	2	3
AUT	103	Automotive Engines	7	0	7
AUT	104	Automotive Engines Lab	0	8	2
			9	10	12

<b>Term II</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
AUT	105	Automotive Electricity and Electronics	7	0	7
AUT	106	Automotive Electricity and Electronics Lab	0	8	2
AUT	114	Oxy and Electric Welding and Cutting	0	3	1
<i>EN</i>	<i>106</i>	<i>Service Industry Communications (COM Core)</i>	<i>5</i>	<i>0</i>	<i>5</i>
			12	11	15

<b>Term III</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
AUT	107	Automotive Brakes, Suspension and Steering	8	0	8
AUT	109	Automotive Brakes, Suspension and Steering Lab	0	8	4
<i>EN</i>	<i>100</i>	<i>Introduction to College Writing (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			12	8	16

<b>Term IV</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
AUT	209	Automotive Fuel and Ignition Systems	8	0	8
AUT	210	Automotive Fuel and Ignition Systems Lab	0	12	4
AUT	285	Automotive Heating and Air Conditioning Systems	2	4	3
<b>CHOOSE ONE (depending upon placement)</b>					
<i>MA</i>	<i>105</i>	<i>Basic College Math with Lab (MA/SCI Core)</i>	<i>4</i>	<i>2</i>	<i>5</i>
<i>MA</i>	<i>110</i>	<i>Introduction to College Math (MA/SCI Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			14	16/18	19/20

<b>Interession</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
<i>HU</i>	<i>289</i>	<i>Racing Through Film (recommended) or other Humanities Core Elective</i>	<i>4</i>	<i>0</i>	<i>4</i>
			4	0	4

Term V					
Course No.		Course Title	C	L	T
AUT	211	Automotive Powertrains	8	0	8
AUT	219	Automotive Powertrains Lab	0	8	2
<b>CHOOSE ONE</b>					
AUT	251	Internship/Practical Experience	0	20	4
ELECTIVE		Technical Elective	1	3	2
<b>CHOOSE ONE (depending on future program choice)</b>					
PHY	126	Applied Physics & Lab (MA/SCI Core)	3	2	4
MA	200	Applied Math for Business (MA/SCI Core) (for MGT/BS Students)	4	0	4
			11/13	11/30	16/18

Technical Electives (Term V)					
Course No.		Course Title	C	L	T
AUT	263	NVH Principles & Diagnostics	1	3	2
AUT	265	OEM Factory Seminar	1	3	2
AUT	276	Light Duty Diesel Diagnostics and Repair	1	3	2
AUT	277	Vehicle Service Practices with Career Preparation	1	3	2
AUT	280	Advanced Troubleshooting	1	3	2

Term VI					
Course No.		Course Title	C	L	T
AUT	221	Advanced Technologies/Hybrid	8	0	8
AUT	222	Advanced Technologies/Hybrid Lab	0	12	4
BU	236	Small Business and the Law (SS Core)	4	0	4
HU	242	The Automobile and American Culture (recommended) or other Humanities Core Elective	4	0	4
			16	12	20
Total Quarter Credit Hours = 102-103 for AAUT (Standard Option) Students					
Total Quarter Credit Hours = 104-105 for AAUT (Internship Option) Students					

### ADDITIONAL TERM FOR HIGH PERFORMANCE

Term VII (AAHP Term)					
Course No.		Course Title	C	L	T
AUT	271	Introduction to High Performance Vehicles	6	0	6
AUT	278	Introduction to High Performance Vehicles Lab	4	4	6
			10	4	12

## ADDITIONAL TERMS FOR FABRICATION AND REFINISHING

<b>Term VII (AAFR Term I)</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
AUB	203	Introduction to Fabrication, Repair and Refinishing	2	0	2
AUB	204	Introduction to Fabrication, Repair and Refinishing Lab	0	6	3
AUB	236	Paints & Refinishing Equipment	2	0	2
AUB	237	Paints & Refinishing Equipment Lab	0	6	3
<b>CHOOSE ONE</b>					
AUB	217	Basic Welding	1	3	2
WEL	151	Industrial Welding 1 (SMAW)	1	4	3
			6	14/15	12/13

<b>Term VIII (AAFR Term II)</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
AUB	227	Introduction to Airbrushing	1	4	3
AUB	260	OSHA Safety Practices	2	0	2
AUB	268	Advanced Paint Applications	2	0	2
AUB	269	Advanced Paint Applications Lab	0	6	3
AUB	270	Custom Fabrication	2	4	3
			7	14	13

*Total Quarter Credit Hours = 114-115 for AAHP (Standard Option) Students*  
*Total Quarter Credit Hours = 116-117 for AAHP (Internship Option) Students*  
*Total Quarter Credit Hours = 127-129 for AAFR (Standard Option) Students*  
*Total Quarter Credit Hours = 129-131 for AAFR (Internship Option) Students*

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 106 or MA 105/110 must still take 32 credits of core courses.

Subject to change.

## **Building Construction Technology Associate in Science Degree**

The Associate in Science degree program in Building Construction Technology has two tracks: Building Construction and Cabinetmaking and Building Construction and Design, and is designed to cover topics in the residential, commercial building, cabinetmaking, and design trades. It also focuses on the role of computers in the estimating, design, and manufacturing components of the industry.

Construction topics include site work and framing procedures for floors, walls, rafters, dormers, and stair systems. Interior installation treatments include drywall installation, taping, and spackling; finished openings, casing, baseboard and molding. The applicable building codes are viewed extensively. Methods of sizing all components are stressed, as are the design considerations mandated by the code. Students who successfully complete the OSHA class receive an OSHA10 card. Students who successfully complete the Lead-Safe Remodeler/Renovator Training course are recognized as certified Lead Renovators by virtue of their training certificate.

The construction and cabinetmaking components of the program include manual and computer-assisted drafting (CAD), print reading, and manual and computer-aided estimating. The use of computers is emphasized to make students better prepared for these fast-paced industries.

Internships are available as options in the curriculum. It is the responsibility of the student to secure the internship site.

### **Building Construction and Cabinetmaking (BCM)**

The cabinetmaking component includes the study of machinery and tools, wood as a material, cabinetmaking joints and assembly. Cabinets are built and completed in the lab. The cabinetmaking portion also includes the set-up, programming, and operation of a Computerized Numerical Control (CNC) router. Graduates of this program are eligible to continue on for a Bachelor of Science Degree in Business Management.

### **Building Construction and Design (BCD)**

The design program combines elements of Building Construction and Architectural Engineering. Graduates of the Building Construction and Design curriculum are eligible to enter the Bachelor of Science Degree program in Construction Management (CMT).



## Core Curriculum

Term I					
Course No.		Course Title	C	L	T
CR	114	Technical Fundamentals of Building Construction	5	0	5
CR	116	Tool and Site Work Lab	0	8	2
CR	117	Introduction to Blueprint Reading	2	0	2
MGM	104	Computer Skills – Word and Excel	0	2	1
<i>EN</i>	<i>100</i>	<i>Introduction to College Writing (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			11	10	14

Term II					
Course No.		Course Title	C	L	T
CR	122	House Framing I	5	0	5
CR	121	House Framing I Lab	0	6	2
CR	126	Introduction to Building Codes	2	0	2
ELY	135	OSHA Construction Safety and Health	2	0	2
<i>EN</i>	<i>200</i>	<i>Workplace Communications (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
<b>CHOOSE ONE</b> (depending upon Math placement)					
MA	105	<i>Basic College Math with Lab (MA/SCI Core)</i>	<i>4</i>	<i>2</i>	<i>5</i>
MA	110	<i>Introduction to College Math (MA/SCI Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
ELECTIVE	<i>100-200 Level Math/Science Core</i>		<i>4</i>	<i>0</i>	<i>4</i>
			17	6/8	19/20

## Building Construction and Cabinetmaking Concentration (BCM)

Term III					
Course No.		Course Title	C	L	T
CR	118	SketchUp 1	3	2	4
<i>BU</i>	<i>236</i>	<i>Small Business and the Law (SS Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
<b>CHOOSE ONE</b>					
MA	125	<i>Technical Math I (MA/SCI Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
MA	200	<i>Applied Math for Business (MA/SCI Core) (BS* Students)</i>	<i>4</i>	<i>0</i>	<i>4</i>
<b>CHOOSE ONE SET</b>					
CR	222	Introduction to Computerized Numerical Control (CNC) Programming	3	0	3
CR	223	Introduction to Computerized Numerical Control (CNC) Lab	0	2	1
CR	236	Introduction to Finishing and Spraying	2	3	3
<b>-or-</b>					
CR	131	House Framing II	4	0	4
CR	132	House Framing II Lab	0	6	2
			15/16	7/8	18/19

Term IV					
Course No.		Course Title	C	L	T
CR	120	SketchUp 2	2	2	3
CR	212	Cabinetmaking I	4	0	4
CR	211	Cabinetmaking I Lab	0	6	2
CR	217	Professional Seminar	1	0	1
<b>ELECTIVE</b>		<i>100-200 Level Humanities (or Arts/Foreign Language) Core</i>	4	0	4
			11	8	14

Term V					
Course No.		Course Title	C	L	T
CR	230	Cabinetmaking II	4	0	4
CR	231	Cabinetmaking II Lab	0	8	4
<b>ELECTIVE</b>		<i>100-200 Level Humanities (or Arts/Foreign Language) Core</i>	4	0	4
<b>CHOOSE ONE</b>					
CR	250	Internship I	0	15	3
CR	210	Lead-Safe Remodeler/Renovator Training	2	0	2
			8/10	8/23	14/15

Term VI					
Course No.		Course Title	C	L	T
<b>ELECTIVE</b>		<i>100-200 Level Social Sciences Core</i>	4	0	4
<b>Choose a Tech Group and a "Choose One"</b>					
<b>Group One</b>					
CR	237	Cabinetmaking III	4	0	4
CR	238	Cabinetmaking III Lab	0	8	2
CR	242	Kitchen and Bath Design and Installation	2	0	2
CR	243	Kitchen and Bath Design and Installation Lab	0	3	1
<b>Group Two</b>					
ABT	137	Introduction to Environmental Systems	3	0	3
ABT	138	Surveying & Civil Technology	1	2	2
<b>ELECTIVE</b>		Business Management Elective (See List Below)	2-4	0-2	3/4
<b>CHOOSE ONE</b>					
CR	226	Sustainable Design and Construction Methods	3	0	3
CR	254	Internship II	0	15	3
			10/ 15	2-26	15/ 16
<i>Total Quarter Credit Hours = 94-98</i>					

Business Management Electives					
Course No.		Course Title	C	L	T
MGM	133	Principles of Management	4	0	4
MGM	210	Marketing Communications	3	2	4
MGM	230	Planning Your Financial Future	2	2	3
MGM	243	Career Development	4	0	4
MGM	277	Leadership in Action	4	0	4

### Building Construction and Design Concentration (BCD)

Term III					
Course No.		Course Title	C	L	T
CR	131	House Framing II	4	0	4
CR	132	House Framing II Lab	0	6	2
CR	208	Introduction to CAD for Construction	5	0	5
MA	125	Technical Math I (MA/SCI Core)	4	0	4
ELECTIVE		100-200 Level Social Sciences Core	4	0	4
			17	6	19

Term IV					
Course No.		Course Title	C	L	T
CR	136	Introduction to Computer Estimating	3	0	3
CR	217	Professional Seminar	1	0	1
CR	226	Sustainable Design and Construction Methods	3	0	3
CR	242	Kitchen and Bath Design and Installation	2	0	2
CR	243	Kitchen and Bath Design and Installation Lab	0	3	1
MA	210	Technical Math II (MA/SCI Core)	4	0	4
			13	3	14

Term V					
Course No.		Course Title	C	L	T
ABT	138	Surveying & Civil Technology	1	2	2
CR	210	Lead-Safe Remodeler/Renovator Training	2	0	2
ABT	223	Structures I	3	0	3
ELECTIVE		100-200 Level Social Sciences Core	4	0	4
<b>CHOOSE ONE</b>					
ABT	124	Construction Methods & Materials	3	0	3
CR	250	Internship I	0	15	3
			10/13	2/17	14

Term VI					
Course No.		Course Title	C	L	T
ABT	137	Introduction to Environmental Systems	3	0	3
ABT	232	Structures II	3	0	3
<i>ELECTIVE</i>		<i>100-200 Level Humanities (or Arts/Foreign Language) Core</i>	4	0	4
<b>CHOOSE ONE</b>					
CR	254	Internship II	0	15	3
ABT	112	Technical Drafting & Graphic Communications	2	2	3
			10/12	2/15	13
<i>Total Quarter Credit Hours = 93-94</i>					

### Legend

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T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 105/110 must still take 32 credits of core courses.

Subject to change.

## Business Management Associate in Science Degree

The Business Management Department offers two academic programs: an Associate in Science in Business Management (MGT AS) and a Bachelor of Science in Business Management (MGT BS). The associate degree curriculum includes management, accounting, finance, and marketing current practices, office productivity software, and interpersonal skills essential for initial employment in business. The bachelor's degree curriculum builds on the education that the associate degree program provides, preparing students for a career in management, and providing the entrepreneurial skills to start and manage a small business.

Both the associate degree and bachelor's degree in Business Management emphasize a blend of technical, analytical and people skills, practicing what students will be doing in the typical workplace, integrating material across courses and functional areas of business, and becoming a lifelong learner, in particular in the areas of technology and management. AS Business Management courses, reflecting today's workplace, combine primarily face-to-face with online learning experiences.

Students in the Business Management associate degree program learn the basics of management, accounting, finance, marketing, and interpersonal relationship principles that are then applied in laboratory exercises, simulations, and cases. Hands-on training is provided for management skills, such as analyzing data, working effectively in teams, or making presentations, as well as building technical skills in Office Suite software including spreadsheets, databases, presentation and publishing software, and word processing. Students also become used to adapting to new technology, especially online. Communication skills, including writing and speaking, are refined; students practice their verbal skills by making various presentations and preparing for employment interviews.

Graduates of the Business Management Associate in Science Degree program may be qualified to work in many industries in a variety of positions such as customer, sales, or service associate, operations supervisor, business analyst, accounting clerk, executive assistant, office manager, and management trainee. In addition, graduates of this program are eligible to continue on for a Bachelor of Science Degree in Business Management.

## Curriculum

<b>Term I</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
MGM	105	Effective Teams and Projects	2	2	3
MGM	108	Introduction to Business	4	0	4
MGM	111	Workplace Technology	2	2	3
<i>EN</i>	<i>100</i>	<i>Introduction to College Writing (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			12	4	14

<b>Term II</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
MGM	133	Principles of Management	4	0	4
MGM	135	Business Analysis with Spreadsheets	3	2	4
<i>EN</i>	<i>200</i>	<i>Workplace Communications (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
<b>CHOOSE ONE (depending upon Math placement)</b>					
<i>MA</i>	<i>105</i>	<i>Basic College Math with Lab (MA/SCI Core)</i>	<i>4</i>	<i>2</i>	<i>5</i>
<i>MA</i>	<i>110</i>	<i>Introduction to College Math (MA/SCI Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
<i>MA</i>	<i>121</i>	<i>Business Math (MA/SCI Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
<i>MA</i>	<i>200</i>	<i>Applied Math for Business (MA/SCI Core) (BS* Students)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			15	2/4	16/17

Term III					
Course No.		Course Title	C	L	T
MGM	130	Accounting Fundamentals	3	2	4
MGM	134	Business Communication	3	2	4
MGM	158	International Business	4	0	4
<b>CHOOSE ONE</b> (depending upon Term II)					
MA	121	Business Math (MA/SCI Core)	4	0	4
MA	200	Applied Math for Business (MA/SCI Core) (BS* Students)	4	0	4
<i>ELECTIVE</i>		100-200 Level Mathematics/Science Core	4	0	4
			14	4	16

Term IV					
Course No.		Course Title	C	L	T
MGM	210	Marketing Communications	3	2	4
MGM	232	Database Fundamentals	3	2	4
MGM	270	Business Accounting	3	2	4
<i>ELECTIVE</i>		100-200 Level Social Sciences Core	4	0	4
			13	6	16

Term V					
Course No.		Course Title	C	L	T
MGM	230	Planning Your Financial Future	2	2	3
MGM	243	Career Development	4	0	4
MGM	258	Management Simulation	3	2	4
BU	236	Small Business and the Law (SS Core)	4	0	4
<i>ELECTIVE</i>		100-200 Level Humanities (or Arts/Foreign Language) Core	4	0	4
			17	4	19

Term VI					
Course No.		Course Title	C	L	T
MGM	264	Sales and Customer Service	2	2	3
MGM	288	Project Planning	3	2	4
<i>ELECTIVE</i>		100-200 Level Humanities (or Arts/Foreign Language) Core	4	0	4
<b>CHOOSE ONE</b>					
MGM	277	Leadership in Action	4	0	4
MGM	296	Associate Internship	2	10	4
MGE	101	Introduction to Esports Management	3	2	4
			11/13	4/14	15
<i>Total Quarter Credit Hours = 96-97</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 105/110 must still take 32 credits of core courses.

\*For students intending to enroll in the bachelor's program in Business Management upon completion of the associate degree program.

Subject to change.

## **Business Management – with Automotive Service/Transportation Management – with Healthcare Management/Respiratory Care Bachelor of Science Degree**

The Bachelor of Science Degree in Business Management (MGTB) program is designed to prepare students with an associate degree in any field to acquire a broad range of knowledge and skills needed to be successful managers or small business owners in a variety of fields.

The BS program in Business Management emphasizes a blend of technical, analytical and people skills. Students practice real skills they will be doing in the typical workplace, with particular focus on technology and interpersonal communication. Courses are delivered in a flexible, hybrid model in which online conferencing is combined with face-to-face options, reflecting today's workplace. Students participate in courses in the way that suits their schedule best and may complete courses fully online.

The program provides education and hands-on training in management and leadership, accounting, finance, marketing, operations and project management. Students improve their skills in teamwork and presenting information effectively, and participate in simulations to practice negotiation, customer service and sales, and employee supervision. An emphasis on technical skills, such as analyzing data, includes exploring the latest applications for organizational productivity. Students develop entrepreneurial skills needed to start and manage a small business.

The BS program in Business Management also provides opportunities for students in specific fields – automotive service/transportation, or healthcare/respiratory care – to concentrate on management topics specific to those fields through a set of courses focused on these industries.

Graduates of the Business Management (MGTB) program may be qualified to work in positions such as business analyst, accounting or operations analyst, project manager, department supervisor, marketing analyst, customer service manager, or business owner.

Graduates of the Business Management program with the Automotive Service/Transportation Management (MGTT) concentration will be prepared to seek entry- to mid-level positions such as

general service manager, sales manager, service writer, parts manager, warranty administrator, fleet manager, collision repair production manager, and marina and boatyard manager.

Graduates of the Business Management program with the Healthcare Management/Respiratory Care (MGTH) concentration will prepare for leadership and managerial roles in the health care field, for advanced clinical practice, or for graduate study.

## Business Management (MGTB) Curriculum

Term VII					
Course No.		Course Title	C	L	T
MGM	333	Organizational Behavior	3	2	4
MA	301	<i>Math for Management Studies (MA/SCI Core)</i>	4	0	4
EN	322	<i>Argumentative Research Writing (COM Core)</i>	4	0	4
<b>CHOOSE ONE</b>					
MGM	336	Data Analysis with Spreadsheets (Non-MGT AS grads)	3	2	4
MGM	338	Advanced Data Analysis (MGT AS grads)	3	2	4
			14	4	16

Term VIII					
Course No.		Course Title	C	L	T
MGM	310	Product and Service Marketing	3	2	4
MGM	320	Business Presentations	3	2	4
MA	300	<i>Statistics (MA/SCI Core)</i>	4	0	4
<b>CHOOSE ONE</b>					
MGM	315	Accounting and Financial Reporting (Non-MGT AS grads)	3	2	4
ELECTIVE		Management or Technical Elective* (MGT AS grads)	1-4	0-4	3/4
			11-14	4-8	15/16

Term IX					
Course No.		Course Title	C	L	T
MGM	330	Managerial Accounting	2	2	3
MGM	332	Customer Relations and Sales	3	2	4
MGM	346	Project Management	3	2	4
EN	421	<i>Technical Communications (COM Core)</i>	4	0	4
			12	6	15

Term X					
Course No.		Course Title	C	L	T
MGM	313	Human Resource Management	3	2	4
MGM	422	Small Business Management	3	2	4
MGM	445	Negotiation	2	2	3
EC	301	<i>The Global Economy (SS Core)</i>	4	0	4
			12	6	15



Term XI					
Course No.		Course Title	C	L	T
MGM	426	Operations Management	3	2	4
MGM	430	Financial Management	3	2	4
MGM	467	Entrepreneurship	3	2	4
<b>ELECTIVE</b>		<b>300-400 Level Humanities Core</b>	<b>4</b>	<b>0</b>	<b>4</b>
			13	6	16

Term XII					
Course No.		Course Title	C	L	T
MGM	450	Career Leadership	3	2	4
MGM	490	Strategic Management	3	2	4
<b>ELECTIVE</b>		<b>300-400 Level Humanities, Social Sciences, or 200 Level Foreign Language Core</b>	<b>4</b>	<b>0</b>	<b>4</b>
<b>CHOOSE ONE</b>					
<b>ELECTIVE</b>		<b>Management Elective*</b>	<b>2-4</b>	<b>0/2</b>	<b>3/4</b>
MGM	496	Bachelor Internship	2	10	4
			12/14	4/14	15/16
<i>Total Quarter Credit Hours = 92-94</i>					

Management Elective Choices for Term VIII or XII**					
Course No.		Course Title	C	L	T
AUT	302	Service Management Operations	3	2	4
AUT	306	Environmental Health and Safety	3	0	3
AUT	404	Legal Issues and the Dealership	3	0	3
AUT	415	Warranty Administration and Parts Inventory	4	0	4
DMP	322	Digital Production for Business Management	1	4	3
HCM	312	Introduction to Healthcare Management	3	2	4
HCM	411	Healthcare Finance and Budgeting	3	2	4
HCM	435	Healthcare Ethics and Leadership	4	0	4
MGM	348	Managing Health in Organizations	4	0	4
MGM	375	Information Systems Management	3	2	4
MGM	460	Investments	2	2	3
MGM	487	Non-Profit Management	4	0	4
MGM	488	Management Seminar	4	0	4
MGM	493	Strategic Research	4	0	4

\*\*All electives listed above are not offered every term.

## Automotive Service/Transportation Management Concentration (MGTT) Curriculum

Term VII					
Course No.		Course Title	C	L	T
AUT	302	Service Management Operations	3	2	4
MGM	333	Organizational Behavior	3	2	4
MGM	336	Data Analysis with Spreadsheets	3	2	4
MA	301	<i>Math for Management Studies (MA/SCI Core)</i>	4	0	4
			13	6	16

Term VIII					
Course No.		Course Title	C	L	T
AUT	321	Industry Software Applications	3	2	4
MGM	315	Accounting and Financial Reporting	3	2	4
MGM	445	Negotiation	2	2	3
EN	322	<i>Argumentative Research Writing (COM Core)</i>	4	0	4
			12	6	15

Term IX					
Course No.		Course Title	C	L	T
AUT	306	Environmental Health and Safety	3	0	3
MGM	330	Managerial Accounting	2	2	3
MGM	332	Customer Relations and Sales	3	2	4
EN	421	<i>Technical Communications (COM Core)</i>	4	0	4
			12	4	14

Term X					
Course No.		Course Title	C	L	T
AUT	415	Warranty Administration and Parts Inventory	4	0	4
MGM	310	Product and Service Marketing	3	2	4
MGM	422	Small Business Management	3	2	4
MA	300	<i>Statistics (MA/SCI Core)</i>	4	0	4
			14	4	16

Term XI					
Course No.		Course Title	C	L	T
AUT	404	Legal Issues and the Dealership	3	0	3
MGM	313	Human Resource Management	3	2	4
<i>ELECTIVE</i>		<i>300-400 Level Humanities Core</i>	4	0	4
<b>CHOOSE ONE</b>					
MGM	346	Project Management	3	2	4
MGM	467	Entrepreneurship	3	2	4
			13	4	15

Term XII					
Course No.		Course Title	C	L	T
MGM	450	Career Leadership	3	2	4
EC	301	<i>The Global Economy (SS Core)</i>	4	0	4
ELECTIVE		300-400 Level Humanities, Social Sciences, or 200 Level Foreign Language Core	4	0	4
<b>CHOOSE ONE</b>					
AUT	410	Senior Internship	0	20	5
ELECTIVE		Management Elective*	1-4	0-4	3/4
			11-15	2-22	15-17
<i>Total Quarter Credit Hours = 91-93</i>					

Management Elective Choices for Term XII**					
Course No.		Course Title	C	L	T
DMP	322	Digital Production for Business Management	1	4	3
MGM	320	Business Presentations	3	2	4
MGM	346	Project Management	3	2	4
MGM	348	Managing Health in Organizations	4	0	4
MGM	375	Information Systems Management	3	2	4
MGM	460	Investments	2	2	3
MGM	467	Entrepreneurship	3	2	4
MGM	487	Non-Profit Management	4	0	4
MGM	490	Strategic Management	3	2	4
MGM	493	Strategic Research	4	0	4

\*\*All electives listed above are not offered every term.

## Healthcare Management Concentration with Respiratory Care Option (MGTH) Curriculum

Term VII					
Course No.		Course Title	C	L	T
HCM	312	Introduction to Healthcare Management	3	2	4
MGM	333	Organizational Behavior	3	2	4
MA	301	<i>Math for Management Studies (MA/SCI Core)</i>	4	0	4
<b>CHOOSE ONE</b>					
MGM	336	Data Analysis with Spreadsheets (Non-MGT AS grads)	3	2	4
MGM	338	Advanced Data Analysis (MGT AS grads)	3	2	4
			13	6	16

Term VIII					
Course No.		Course Title	C	L	T
MGM	310	Product and Service Marketing	3	2	4
MA	300	Statistics (MA/SCI Core)	4	0	4
<b>CHOOSE ONE</b>					
MGM	315	Accounting and Financial Reporting (Non-MGT AS grads)	3	2	4
ELECTIVE		Management or Technical Elective (MGT AS grads)*	1-4	0/2	3/4
<b>CHOOSE ONE</b>					
EN	322	Argumentative Research Writing (COM Core)	4	0	4
EN	331	Research Writing in the Social Sciences (COM Core)*	4	0	4
			12-15	2-4	15/16

\*Recommended if preparing for graduate study

Term IX					
Course No.		Course Title	C	L	T
HCM	411	Healthcare Finance and Budgeting	3	2	4
MGM	332	Customer Relations and Sales	3	2	4
MGM	346	Project Management	3	2	4
<b>CHOOSE ONE</b>					
EN	421	Technical Communications (COM Core)	4	0	4
EN	422	Writing in the Health Sciences (COM Core)	4	0	4
			13	6	16

Term X					
Course No.		Course Title	C	L	T
MGM	313	Human Resource Management	3	2	4
MGM	422	Small Business Management	3	2	4
MGM	445	Negotiation	2	2	3
ELECTIVE		300-400 Level Social Sciences Core	4	0	4
			12	6	15

Term XI					
Course No.		Course Title	C	L	T
HCM	435	Healthcare Ethics and Leadership	4	0	4
ELECTIVE		300-400 Level Humanities Core	4	0	4
<b>CHOOSE ONE</b>					
RC	426	Advanced Cardiopulmonary Management 1 (RC only)	4	0	4
MGM	467	Entrepreneurship	3	2	4
ELECTIVE		Management or Technical Elective*	1-4	0-4	3/4
			9-12	0-4	11/12

Term XII					
Course No.		Course Title	C	L	T
MGM	487	Non-Profit Management	4	0	4
<i>ELECTIVE</i>		<i>300-400 Level Humanities, Social Sciences, or 200-Level Foreign Language Core</i>	4	0	4
<b>CHOOSE TWO</b>					
RC	436	Advanced Cardiopulmonary Management 2 (RC only)	4	0	4
MGM	496	Bachelor Internship	2	10	4
ELECTIVE		Management or Technical Elective*	1-4	0-4	3/4
			11-16	0-14	15/16
<i>Total Quarter Credit Hours = 88-91</i>					

\* Recommended if preparing for graduate study

Management and Technical Elective Choices for Term XI or XII**					
Course No.		Course Title	C	L	T
DMP	322	Digital Production for Business Management (can only be used in T12)	1	4	3
MGM	320	Business Presentations	3	2	4
MGM	330	Managerial Accounting (can only be used in T12)	2	2	3
MGM	348	Managing Health in Organizations	3	2	4
MGM	375	Information Systems Management	3	2	4
MGM	430	Financial Management	3	2	4
MGM	450	Career Leadership	3	2	4
MGM	460	Investments (can only be used in T12)	2	2	3
MGM	467	Entrepreneurship	3	2	4
MGM	488	Management Seminar	4	0	4
MGM	493	Strategic Research	4	0	4

\*\*All electives listed above are not offered every term.

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All bachelor's degree students are required to take a minimum of 28 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses.

*Subject to change.*

## Construction Management Bachelor of Science Degree

The Bachelor of Science Degree in Construction Management prepares students to be proficient in the process and methodology of constructing the built environment relative to design, technology, engineering, building science, sustainability, and social responsibility. It is based upon the premise that the construction management professional must possess a core knowledge which allows them to integrate design, engineering, and technology into the process of construction.

The program allows students to develop the necessary skills by emphasizing the theoretical and practical concepts of design, building systems, components, engineering, and construction practices. Additional areas of study include principles of construction management, project management, advanced estimating and scheduling, construction contract administration, and construction law. The program is also designed to instill within students a sense of professionalism and a desire to serve and contribute to society through solving its problems in technically, environmentally, and socially acceptable ways.

Students may enter the Construction Management program after earning their associate degree in Architectural/Building Engineering Technology or Building Construction and Design Technology at the New England Institute of Technology, or they may transfer from other comparable college programs. The program culminates with a Senior Thesis course. In this final term, students must demonstrate their understanding of and ability to utilize and synthesize the technical, engineering, and management concepts they developed throughout their New England Tech experience.

Graduates of the Construction Management program will be qualified for a wide range of exciting employment opportunities in several fields in the public and private sector, including construction management, building engineering, real estate, land development, construction sales, and facilities management. Upon completion of this program, students may also choose to continue into the NEIT Master of Science in Construction Management degree program.

### Curriculum

<b>Term VII</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
ABT	314	Construction Contracts & Specifications	3	0	3
ABT	315	Structural Wood Design	2	4	4
CMT	313	Introduction to Construction Management	3	0	3
<i>ELECTIVE</i>		<i>300-400 Level Math/Science Core</i>	4	0	4
<i>EN</i>	322	<i>Argumentative Research Writing (COM Core)</i>	4	0	4
			16	4	18

Term VIII					
Course No.		Course Title	C	L	T
ABT	325	Soil Mechanics & Foundation Design	3	0	3
ABT	328	Structural Steel Design	2	4	4
CMT	329	Revit for Construction Managers	3	0	3
MGM	347	Project Management Applications	4	0	4
<i>ELECTIVE</i>		<i>300-400 Level Humanities Core</i>	4	0	4
			16	4	18

Term IX					
Course No.		Course Title	C	L	T
ABT	331	Advanced Environmental Systems	3	0	3
ABT	338	Reinforced Concrete Design	4	0	4
CMT	331	Specifications & Quality Control	3	0	3
<i>ELECTIVE</i>		<i>300-400 Level Math/Science Core</i>	4	0	4
<b>CHOOSE ONE (depending on AS program)</b>					
ABT	340	Laser Scanning & Point Clouds	2	2	3
ABT	127	Introduction to Construction Estimating (only for students entering from the ELY-AS program)	3	0	3
			16/17	0/2	17

Term X					
Course No.		Course Title	C	L	T
ABT	412	Sustainability in Construction	3	0	3
CMT	410	Project Scheduling	3	0	3
CMT	412	Construction Practice	3	0	3
CMT	415	Construction Estimating II	3	0	3
EN	421	Technical Communications (COM Core)	4	0	4
			16	0	16

Term XI					
Course No.		Course Title	C	L	T
OSH	030	Construction Safety and Health Training	4	0	4
CMT	423	Construction Estimating III	3	0	3
CMT	427	Senior Thesis Proposal & Research	2	0	2
MGM	445	Negotiation	2	2	3
<i>ELECTIVE</i>		<i>300-400 Level Social Sciences Core</i>	4	0	4
			15	2	16

Term XII					
Course No.		Course Title	C	L	T
ABT	433	Construction Law	3	0	3
CMT	434	Ethics & the Construction Industry	3	0	3
CMT	435	Senior Thesis	2	6	5
MGM	340	Engineering Finance	2	2	3
<i>ELECTIVE</i>		<i>300-400 Level Humanities, Social Sciences, or 200-Level Arts/Foreign Language Core</i>	4	0	4
			14	8	18
<i>Total Quarter Credit Hours = 103</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All bachelor's degree students are required to take 28 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses.

*Subject to change.*

## Construction Management Master of Science Degree

The master's program in Construction Management (MSCM) at New England Institute of Technology is designed for construction professionals who desire to advance their technical and managerial knowledge in the construction industry. The program emphasizes the relevance of continuous learning to personal and professional growth through the combination of advanced traditional construction management courses and an integrated management core.

The MSCM program is designed to equip current or aspiring construction managers with the necessary tools to make thoughtful decisions that affect an organization's management needs. The program's mission is built around central themes that drive modern construction industry operations: best practices of leaders and management professionals in the construction industry, construction project accounting and finance, environmental and health and safety policy, construction law, and the software applications that support the construction management profession.

Successful graduates may be able to advance their careers by qualifying for positions such as project managers, project executives, directors of construction operations, and comparable leadership roles in construction safety, quality control, and estimating/scheduling.



## Curriculum

Term I					
Course No.		Course Title	C	L	T
MGM	533	Advanced Project Management	4	0	4
CM	511	Construction Delivery Methods	4	0	4
			8	0	8

Term II					
Course No.		Course Title	C	L	T
CM	520	Effective Projects and Teams	4	0	4
CM	521	Risk Management	4	0	4
			8	0	8

Term III					
Course No.		Course Title	C	L	T
CM	531	Construction Health & Safety	4	0	4
MGM	504	Managerial Finance	4	0	4
<b>Optional</b>					
CPT	591	Workplace Practicum I	0	20	1
			8	0/20	8/9

Term IV					
Course No.		Course Title	C	L	T
CM	541	Lean Construction Principles & Practices	4	0	4
<b>CHOOSE ONE</b>					
CM	542	Building Information Modeling (On Campus)	4	0	4
CM	543	Infrastructure Planning & Development	4	0	4
<b>Optional</b>					
CPT	592	Workplace Practicum II	0	20	1
			8	0/20	8/9

Term V					
Course No.		Course Title	C	L	T
CM	512	Construction and the Environment	4	0	4
CM	513	Relationship & Dispute Management	4	0	4
<b>Optional</b>					
CPT	593	Workplace Practicum III	0	20	1
			8	0/20	8/9

Term VI					
Course No.		Course Title	C	L	T
CM	540	CM Master's Project	5	0	5
<b>Optional</b>					
CPT	594	Workplace Practicum IV	0	20	1
			5	0/20	5/6
<i>Total Quarter Credit Hours = 45-49</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

Subject to change.

## **Criminal Justice Associate in Science Degree**

The Associate in Science Degree in Criminal Justice provides dynamic and intensive instruction in all aspects of the criminal justice system. The first term focuses on core foundational criminal justice courses like Criminal Justice, Corrections and the Court System. Starting in the second term and continuing into the sixth term, students are exposed to various specialized disciplines under the criminal justice umbrella and will gain valuable hands-on experience in a variety of topics, including financial and cyber-crimes; police operations and report writing; criminal procedure; forensic science; firearm skills; drugs; and terrorism, gang and organized crime issues.

Criminal Justice students will utilize the skills and knowledge acquired to participate in an all-encompassing Criminal Justice (CJ) Portfolio beginning in the second term and continuing until graduation. The CJ Portfolio is a life-like investigative assignment starting with the commission of a mock crime event, gathering of victim and witness statements, processing a crime scene, and collecting evidence. This realistic process will culminate with the presentation of testimony in a Moot Court/Mock Trial scenario during which students present a portfolio that they have constructed and maintained during the entire investigative process.

In the sixth term, students may have the option to participate in a Criminal Justice Internship where they will work with criminal justice professionals in the community. During this Internship, students will have opportunities to apply classroom training to real-life situations in various police departments, courts, correctional facilities, and investigative agencies and gain first-hand knowledge of the Criminal Justice system. In addition, graduates of this program are eligible to continue on for a Bachelor of Science Degree in Criminal Justice.

Graduates of this program will be qualified to seek entry-level employment in a number of challenging criminal justice professions, such as police officer, state trooper, correctional officer, court officer, criminal justice counselor, federal law enforcement officer, private security officer, crime scene investigator, corporate loss prevention, and insurance claims investigator. (Please note: a criminal record may affect a graduate's ability to qualify for some law enforcement positions.)

## Curriculum

Term I					
Course No.		Course Title	C	L	T
CJ	110	Criminal Justice	4	0	4
CJ	112	Corrections	4	0	4
CJ	114	The Court System	3	2	4
			11	2	12

Term II					
Course No.		Course Title	C	L	T
CJ	120	Forensics I	4	2	5
CJ	122	Criminal Law	4	2	5
EN	100	Introduction to College Writing (COM Core)	4	0	4
<b>CHOOSE ONE</b> (depending upon Math placement)					
MA	105	Basic College Math with Lab (MA/SCI Core)	4	2	5
MA	110	Introduction to College Math (MA/SCI Core)	4	0	4
ELECTIVE	100-200 Level Math/Science Core		4	0	4
			16	4/6	18/19

Term III					
Course No.		Course Title	C	L	T
CJ	130	Forensics II/Portfolio Management	2	4	4
CJ	134	Report Writing	2	4	4
CJ	244	Drugs & the Law	3	2	4
ELECTIVE	100-200 Level Social Sciences Core		4	0	4
			11	10	16

Term IV					
Course No.		Course Title	C	L	T
CJ	132	Criminal Procedure	4	2	5
CJ	240	Interviewing & Investigation Techniques	2	2	3
CJ	258	Contemporary Criminal Justice Issues	3	0	3
EN	211	Oral Communications (COM Core) (preferred) or Humanities Core Elective	4	0	4
			13	4	15

Term V					
Course No.		Course Title	C	L	T
CJ	250	Police Operations/Simulated Firearms Skills	3	2	4
CJ	254	Sentencing – Probation & Parole	3	2	4
CJ	256	Portfolio Prep & Management	0	3	1
EN	200	Workplace Communications (COM Core)	4	0	4
ELECTIVE	100-200 Level Math/Science Core		4	0	4
			14	7	17

Term VI					
Course No.		Course Title	C	L	T
CJ	260	Moot Court/Mock Trial	2	2	3
CJ	266	Gangs & Organized Crime	4	0	4
<i>ELECTIVE</i>		<i>100-200 Level Humanities (or Arts/Foreign Language) Core</i>	4	0	4
<i>ELECTIVE</i>		<i>100-200 Level Social Sciences Core</i>	4	0	4
<b>CHOOSE ONE</b>					
CJ	241	Introduction to Digital Forensics	2	4	4
CJ	262	Internship	1	10	3
ERD	210	Introduction to Drone/UAV Technology	1	2	2
			15-16	4-12	17-19
<i>Total Quarter Credit Hours = 95-98</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 105/110 must still take 32 credits of core courses.

Subject to change.

## Criminal Justice Bachelor of Science Degree

The Bachelor of Science Degree in Criminal Justice provides dynamic and intensive instruction in all aspects of the Criminal Justice system. The program expands upon the core knowledge and skills attained by students in the Associate in Science Degree in Criminal Justice.

The program exposes students to more rigorous study of criminal justice topics like Case Studies in Criminal Forensics, Domestic and Family Law Issues, Integration of Criminal Law and Criminal Procedure, and Contemporary Issues in Corrections. Students are also provided with the opportunity to choose courses that focus on digital forensics or more traditional criminal justice topics in designated terms.

Students are exposed to various specialized disciplines in criminal justice such as domestic terrorism, ethics, financial and white-collar crimes, corporate and private security, and administrative issues. Students will also study police operations, including traffic enforcement, report writing, use of force issues, critical incident tactics and advanced investigation techniques.

Bachelor of Science Degree in Criminal Justice students will utilize the skills and knowledge acquired in each term to participate in a challenging multi-session Criminal Justice Senior Capstone in their final term. The Criminal Justice Senior Capstone Project is a real-time investigative assignment beginning with a mock crime event and involves gathering information from victims and/or witnesses, processing the crime scene and culminates with drafting a comprehensive report and evidence portfolio that will be presented to a panel of law enforcement professionals.

In the final term, students may have the option to participate in a Criminal Justice Senior Internship where they will work with criminal justice professionals in the community. During this Senior Internship, students will have opportunities to apply classroom training to real-life situations in various police departments, courts, correctional facilities, and investigative agencies and gain first-hand knowledge of the criminal justice system.

Graduates of this program will be qualified to seek entry-level employment in a number of challenging criminal justice professions, such as police officer, state trooper, correctional officer, court officer, criminal justice counselor, federal law enforcement officer, private security officer, crime scene investigator, corporate loss prevention, and insurance claims investigator. (Please note: a criminal record may affect a graduate's ability to qualify for some law enforcement positions.)

## Curriculum

<b>Term VII</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
CJ	371	Evidence and the Law	4	0	4
CJ	372	Case Studies in Criminal Forensics	3	2	4
CJ	374	Domestic and Family Law Issues	2	2	3
EN	322	<i>Argumentative Research Writing (COM Core)*</i>	4	0	4
			13	4	15

<b>Term VIII</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
CJ	380	Criminal Justice and the Media	3	2	4
CJ	382	Integration of Criminal Law and Criminal Procedure	2	2	3
CJ	384	Contemporary Issues in Corrections	2	2	3
<i>ELECTIVE</i>		<i>300-400 Level Social Sciences Core</i>	4	0	4
<i>ELECTIVE</i>		<i>300-400 Level Math/Science Core</i>	4	0	4
			15	6	18

<b>Term IX</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
CJ	389	Mobile Device Forensics	2	4	4
CJ	393	Advanced Report Writing Skills	4	0	4
CJ	394	Issues of Diversity in Criminal Justice	2	2	3
<i>ELECTIVE</i>		<i>300-400 Level Humanities Core</i>	4	0	4
			12	6	15

Term X					
Course No.		Course Title	C	L	T
CJ	400	Ethics and the Criminal Justice Professional	3	0	3
CJ	404	Digital Forensics Investigations and Applications	4	0	4
CJ	410	Advanced Techniques in Criminal Forensics	4	0	4
<i>ELECTIVE</i>		<i>300-400 Level Math/Science Core</i>	4	0	4
			15	0	15

Term XI					
Course No.		Course Title	C	L	T
CJ	402	Use of Force and the Consequences	4	0	4
CJ	412	Critical Incident Response and Tactics	2	2	3
CJ	414	Corporate and Private Security	3	0	3
CJ	418	Capstone Investigation and Preparation	1	5	2
<i>ELECTIVE</i>		<i>300-400 Level Communications Core</i>	4	0	4
			14	7	16

Term XII					
Course No.		Course Title	C	L	T
CJ	420	Criminal Justice Administration Issues	3	0	3
CJ	421	Women and Crime	4	0	4
CJ	424	Senior Capstone	2	2	3
CJ	430	Career Preparation for the Criminal Justice Professional	2	0	2
<i>ELECTIVE</i>		<i>300-400 Level Humanities, Social Sciences, or 200 Level Foreign Language Core</i>	4	0	4
<b>CHOOSE ONE</b>					
CJ	419	From the Street to the Courtroom	4	0	4
CJ	426	Senior Internship	1	10	3
			16/19	2/12	19/20
<i>Total Quarter Credit Hours = 98/99</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All bachelor's degree students are required to take 28 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses.

Subject to change

## Cybersecurity and Network Engineering Associate in Science Degree

The Associate in Science in Cybersecurity and Network Engineering degree introduces core concepts in hardware, software, and networking fundamentals layered on a foundation of cybersecurity concepts. Students apply practical cybersecurity theory to real-life cyber incidents and computer system issues in hands-on scenarios. The curriculum focuses on providing students the skillset they need to properly deploy and secure information technology systems in a wide range of environments. Students will learn how operating systems like Linux and Windows along with core networking technology play a critical role in cyber operations. Students are introduced to the current cyber threat landscape and taught how to assess and plan for threats in both the business and personal realms.

From multi-national corporations to local small businesses, cybersecurity defense is an integral piece of an organization's strategy. Information and the technology infrastructure it resides on are two of an organization's most valuable assets and these are often continuously threatened or under active attack. Successful defense and protection of these assets requires a trained cybersecurity professional who not only understands the technical aspects, but also is aware of strategic business interests. An internship course is available in Term VI during which students work off-campus in an organization where they will practice and enhance their technical skills. Students will be prepared to take Microsoft MCP, Microsoft Technology Associate (MTA) Security Fundamentals, CCNA Cyber Ops, and the CompTIA+ exams.

Graduates of this program are prepared for entry-level positions as computer security specialists, information security analysts, and systems administrators. Associate degree graduates can continue in the NEIT's bachelor's degree programs in Cybersecurity and Network Engineering or Business Management.

Through input from a Technical Advisory Committee, professional cybersecurity organizations and local businesses, this program was developed to meet the current cybersecurity needs and those that may arise in the next several years.

### Curriculum

Term I					
Course No.		Course Title	C	L	T
IT	121	IT Visual Communications	2	2	3
NE	115	Computer and Networking Fundamentals	2	2	3
SE	116	Programming Essentials Using Python	2	4	4
<b>CHOOSE ONE</b> (depending upon Math placement) *					
MA	105	Basic College Math with Lab (MA/SCI Core)	4	2	5
MA	110	Introduction to College Math (MA/SCI Core)	4	0	4
<b>ELECTIVE</b>		100-200 Level Humanities, Social Sciences, or Arts/ Foreign Language Core	4	0	4
			10	8/10	14/15

Term II					
Course No.		Course Title	C	L	T
CYB	123	Cybersecurity Threats and Defense	2	2	3
NE	121	Windows Networking Essentials	2	4	4
SE	111	HTML and JavaScript	2	4	4
EN	100	Introduction to College Writing (COM Core)	4	0	4
			10	10	15

Term III					
Course No.		Course Title	C	L	T
NE	131	Networking for Small Businesses	2	2	3
NE	247	Windows Server	2	4	4
NE	255	Linux Fundamentals	2	2	3
MA	121	Business Math (MA/SCI Core)	4	0	4
EN	200	Workplace Communications (COM Core)	4	0	4
			14	8	18

Term IV					
Course No.		Course Title	C	L	T
CYB	241	Security of the Internet of Things	2	2	3
CYB	242	Information Assurance, Policy & Compliance	3	0	3
NE	245	Introduction to Networks	2	4	4
MA	125	Technical Math I (MA/SCI Core)	4	0	4
			11	6	14

Term V					
Course No.		Course Title	C	L	T
CYB	252	Cyber Scenarios	0	2	1
NE	249	Troubleshooting Fundamentals	2	4	4
NE	257	Routing and Switching Essentials	2	4	4
ELECTIVE		100-200 Level Humanities (or Arts/Foreign Language) Core	4	0	4
PHY	200	Physics I & Lab (MA/SCI Core)	3	2	4
			11	12	17

Term VI					
Course No.		Course Title	C	L	T
NE	263	Introduction to Azure Administration	2	4	4
NE	265	AS Capstone Project	3	2	4
ELECTIVE		100-200 Level Social Sciences Core	4	0	4
<b>CHOOSE ONE</b>					
IT	260	Internship	0	15	3
ERD	212	Microprocessor Control Systems	3	2	4
MGE	101	Introduction to Esports Management	3	2	4
MGM	105	Effective Teams and Projects	2	2	3
MGM	133	Principles of Management	4	0	4
MGM	135	Introduction to Business Analysis and Reporting	3	2	4
MGM	210	Marketing Communications	3	2	4
MGM	230	Planning Your Financial Future	2	2	3
MGM	243	Career Development	4	0	4
MGM	264	Sales and Customer Service	2	2	3



MGM	277	Leadership in Action	4	0	4
SE	126	Intermediate Programming Using Python	2	4	4
			9-12	6-21	15-16
<i>Total Quarter Credit Hours = 93-95</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 105/110 must still take 32 credits of core courses.

Subject to change.

## Cybersecurity and Network Engineering Bachelor of Science Degree

The Cybersecurity and Network Engineering program, offered by the Information Technology Department, is designed to prepare graduates for careers in the networking and cybersecurity industries. Through input from a Technical Advisory Committee, professional cybersecurity organizations and local businesses, this program was developed to meet the current cybersecurity needs and those that may arise in the next several years.

From multi-national corporations to local small businesses, cybersecurity defense is an integral piece of an organization's strategy. Information and the technology infrastructure it resides on are two of an organization's most valuable assets and these are often continuously threatened or under active attack. Successful defense and protection of these assets requires a trained cybersecurity professional who not only understands the technical aspects, but also is aware of strategic business interests.

Students begin by studying introductory core concepts in hardware, software, and networking fundamentals layered on a foundation of cybersecurity concepts. Students apply practical cybersecurity theory to real-life cyber incidents and computer system issues in hands-on scenarios. The curriculum focuses on providing students the skillset they need to properly deploy and secure information technology systems in a wide range of environments. Students will learn how operating systems like Linux and Windows along with core networking technology play a critical role in cyber operations. Students are introduced to the current cyber threat landscape and taught how to assess and plan for threats in both the business and personal realms.

In the upper-level courses, students get more extensive experience in the management of Local Area Networks (LANs), intranets, Wide Area Networks (WANs) and exposure to configuring and managing

web servers. The curriculum includes core topics in the realm of cybersecurity, such as: computer systems, mobile and network forensics, Windows and Linux security and incident response.

An internship course is available in Term VI, during which students work off-campus in an organization where they will practice and enhance their technical skills. In their senior year, students have an additional opportunity to choose between additional coursework or a cooperative learning experience in their final two terms. In the senior project, each student works with a faculty member to develop and present a project that focuses in depth on a particular topic and allows students to bring together knowledge gained throughout the program. The cooperative learning experience, based on industry demand and with the approval of the IT Department Chair, may be available during the final two terms of the program. These experiences, which may be paid or unpaid, allow students to receive college credit and to work off campus. Typically, and when available, students will work in the same organization for the final two terms of the bachelor's degree program.

Graduates of this program will be eligible to take such internationally recognized certification exams as the CompTIA A+, Security+ and Network+ exams; the Cisco Certified Network Associate Certification (CCNA) and CCNA Cyber Ops; Microsoft MCP, Microsoft Technology Associate (MTA) Security Fundamentals, and the Microsoft Certified System Administrator (MCSA).

Upon completion of their degrees, graduates can compete for positions like systems operations and maintenance professional, network security specialist, digital forensics and incident response specialist, vulnerability analyst, and LAN managers. Positions in law enforcement will also be attainable. While the emphasis of the program is on network security, graduates are qualified for positions advertised as network administrators, network engineers and network analysts. Upon successful completion of this program, students can also continue into the NEIT Master of Science in Cybersecurity Defense degree program.

## Curriculum

Term I					
Course No.		Course Title	C	L	T
IT	121	IT Visual Communications	2	2	3
NE	115	Computer and Networking Fundamentals	2	2	3
SE	116	Programming Essentials Using Python	2	4	4
<b>CHOOSE ONE</b> (depending upon Math placement) *					
MA	105	Basic College Math with Lab (MA/SCI Core)	4	2	5
MA	110	Introduction to College Math (MA/SCI Core)	4	0	4
<b>ELECTIVE</b>		100-200 Level Humanities, Social Sciences, or Arts/Foreign Language Core	4	0	4
			10	8/10	14/15

Term II					
Course No.		Course Title	C	L	T
CYB	123	Cybersecurity Threats and Defense	2	2	3
NE	121	Windows Networking Essentials	2	4	4
SE	111	HTML and JavaScript	2	4	4
EN	100	Introduction to College Writing (COM Core)	4	0	4
			10	10	15

Term III					
Course No.		Course Title	C	L	T
CYB	132	Introduction to Linux with Raspbian and Pi	2	2	3
NE	131	Networking for Small Businesses	2	2	3
NE	247	Windows Server	2	4	4
MA	121	<i>Business Math (MA/SCI Core)</i>	4	0	4
EN	200	<i>Workplace Communications (COM Core)</i>	4	0	4
			14	8	18

Term IV					
Course No.		Course Title	C	L	T
CYB	241	Security of the Internet of Things	2	2	3
CYB	242	Information Assurance, Policy & Compliance	3	0	3
NE	245	Introduction to Networks	2	4	4
MA	125	<i>Technical Math I (MA/SCI Core)</i>	4	0	4
			11	6	14

Term V					
Course No.		Course Title	C	L	T
CYB	252	Cyber Scenarios	0	2	1
NE	249	Troubleshooting Fundamentals	2	4	4
NE	257	Routing and Switching Essentials	2	4	4
<i>ELECTIVE</i>	<i>100-200 Level Humanities (or Arts/Foreign Language) Core</i>		4	0	4
PHY	200	<i>Physics I &amp; Lab (MA/SCI Core)</i>	3	2	4
			11	12	17

Term VI					
Course No.		Course Title	C	L	T
NE	263	Introduction to Azure Administration	2	4	4
NE	265	AS Capstone Project	3	2	4
<i>ELECTIVE</i>	<i>100-200 Level Social Sciences Core</i>		4	0	4
<b>CHOOSE ONE</b>					
IT	260	Internship	0	15	3
ERD	212	Microprocessor Control Systems	3	2	4
MGE	101	Introduction to Esports Management	3	2	4
MGM	105	Effective Teams and Projects	2	2	3
MGM	133	Principles of Management	4	0	4
MGM	135	Introduction to Business Analysis and Reporting	3	2	4
MGM	210	Marketing Communications	3	2	4
MGM	230	Planning Your Financial Future	2	2	3
MGM	243	Career Development	4	0	4
MGM	264	Sales and Customer Service	2	2	3
MGM	277	Leadership in Action	4	0	4
SE	126	Intermediate Programming Using Python	2	4	4
			9-12	6-21	15-16

Term VII					
Course No.		Course Title	C	L	T
IT	379	Cloud Foundations	4	0	4
NE	381	Design and Implementation of an Active Directory Network	2	4	4
NE	385	Linux System Administration	2	4	4
EN	322	<i>Argumentative Research Writing (COM Core, preferred)</i>	4	0	4
			12	8	16

Term VIII					
Course No.		Course Title	C	L	T
CYB	394	Windows Security	2	4	4
CYB	408	Linux Security	2	4	4
NE	411	Microsoft 365	2	2	3
MA	210	<i>Technical Math II (MA/SCI Core)**</i>	4	0	4
			10	10	15

Term IX					
Course No.		Course Title	C	L	T
CYB	373	Ethical Hacking	2	2	3
NE	371	Network Scripting	2	2	3
NE	415	Scaling Networks	2	2	3
<i>ELECTIVE</i>		<i>300-400 Level Communications Core</i>	4	0	4
			10	6	13

Term X					
Course No.		Course Title	C	L	T
IT	374	IT Project Management	3	0	3
NE	406	Router Security and Firewall Management	2	2	3
NE	407	Virtualization	2	2	3
<i>ELECTIVE</i>		<i>300-400 Level Humanities or 200 Level Foreign Language Core</i>	4	0	4
<i>ELECTIVE</i>		<i>300-400 Level Math/Science Core</i>	4	0	4
			15	4	17

Term XI					
Course No.		Course Title	C	L	T
CYB	409	Web Application Security	2	2	3
CYB	412	Network Security	2	4	4
NE	418	Network Analysis and Design	2	2	3
<i>ELECTIVE</i>		<i>300-400 Level Social Sciences Core</i>	4	0	4
			10	8	14

OR Term XI					
Course No.		Course Title	C	L	T
IT	415	Cooperative Learning I*	0	18	6
<i>ELECTIVE</i>		<i>300-400 Level Social Sciences Core</i>	4	0	4
<b>CHOOSE ONE</b>					
CYB	409	Web Application Security	2	2	3
CYB	412	Network Security	2	4	4
NE	418	Network Analysis and Design	2	2	3
			6	20/22	13/14

Term XII					
Course No.		Course Title	C	L	T
NE	425	Network Engineering Senior Project	0	6	3
<i>ELECTIVE</i>		<i>300-400 Level Humanities, Social Sciences, or 200 Level Foreign Language Core</i>	4	0	4
<b>CHOOSE ONE SET</b>					
CYB	423	Incident Response	2	2	3
CYB	426	Advanced Information Security	1	4	3
<b>-or-</b>					
IT	425	Cooperative Learning II*	0	21	7
			4/7	12/27	13/14
<i>Total Quarter Credit Hours = 180-184</i>					

\*The cooperative learning experience replaces two courses and may be taken with the approval of the IT Department Chair.

\*\*Note: If you had MA 210 in your AS program, you will need to take a Humanities/Social Sciences Core elective in its place.

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All bachelor's degree students are required to take 28 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses.

Subject to change.

## Cybersecurity Defense Master of Science Degree

The Master of Science degree in Cybersecurity Defense at the New England Institute of Technology is designed for technology professionals with experience in networking, cybersecurity or software engineering who desire to advance their leadership and cybersecurity skills as a precursor to a leadership role. From multi-national corporations to local small businesses, cybersecurity defense is an integral piece of an organization's strategy. Information and the technology infrastructure it resides on are two of an organization's most valuable assets and these are often continuously threatened or under active attack. Successful defense and protection of these assets requires a trained cybersecurity professional who not only understands the technical aspects, but also is aware of strategic business interests. An effective cybersecurity leader requires a blend of operational and technical expertise, leadership and management of projects and teams, and a solid foundation in the principles of cybersecurity.

The MSCD degree blends technical knowledge and essential cybersecurity skills with business management and enterprise leadership principles that drive organizations today. The program weaves technical topics such as penetration testing and digital forensics with project management, leadership and risk assessment.

While the bachelor's degree in Cybersecurity and Network Engineering prepares graduates to secure, design, and implement networks, databases and applications, the master's program provides graduates with the ability to analyze business scenarios and assess risk, anticipate and respond to a continuously changing environment, address post-incident business impacts and effectively assign resources to the entities that comprise the enterprise information systems.

The program emphasizes the relevance of continuous learning to personal and professional growth through the combination of advanced technical courses and an integrated management core. Employment opportunities may include positions such as Chief Information Security Officer (CISO), Project Manager, Incidence Response or Forensics Team Lead, Director of Software Security Engineering, Chief Information Officer (CIO), or Chief Technical Officer (CTO).

The MSCD program's mission is to prepare information technology professionals to be workplace and community leaders in cybersecurity, able to identify and assess cybersecurity vulnerabilities under their responsibility, to develop viable, actionable plans to address those vulnerabilities and to implement, monitor and respond in accordance with those plans. The mission and program are built around the components of the CISSP (Certified Information Systems Security Professional) Certification, which is often required for a cybersecurity professional to advance in the field and the requirements for an NSA Center for Academic Excellence in Cyber Defense (NSA CAE CD). The program is not directly designed to prepare graduates for certification, instead program and course objectives are closely aligned with the CISSP knowledge areas and CAE CD knowledge areas.

## Curriculum

<b>Term I</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
IT	544	Cloud Computing	4	0	4
MGM	533	Advanced Project Management	4	0	4
			8	0	8

<b>Term II</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
IT	524	Information Systems Security	4	0	4
MGM	514	Leadership	4	0	4
			8	0	8

<b>Term III</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
CYB	536	Network and System Information Assurance	4	0	4
CYB	538	Security Auditing and Risk Management	4	0	4
<b>Optional</b>					
CPT	591	Workplace Practicum I	0	20	1
			8	0/20	8/9

<b>Term IV</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
CYB	542	Ethical Hacking in Defense of the Enterprise	4	0	4
CYB	552	Digital Forensics & Breach Investigations	4	0	4
<b>Optional</b>					
CPT	592	Workplace Practicum II	0	20	1
			8	0/20	8/9

<b>Term V</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
CYB	548	Robust Incident Response Planning	4	0	4
CYB	558	Secure Software Development	4	0	4
<b>Optional</b>					
CPT	593	Workplace Practicum III	0	20	1
			8	0/20	8/9

<b>Term VI</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
IT	556	Master's Project	5	0	5
<b>Optional</b>					
CPT	594	Workplace Practicum IV	0	20	1
			5	0/20	5/6
<i>Total Quarter Credit Hours = 45-49</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

Subject to change.

## Digital Media Production Associate in Science Degree

The Digital Media Production program is characterized by the use of a project-oriented approach with an emphasis on program development and team-building skills that are required by these industries. Students are exposed to broadcast-quality equipment while acquiring both theoretical and practical knowledge.

Upon completion of the Associate in Science Degree in Digital Media Production, students will be qualified to obtain employment in the following industries: broadcast/non-broadcast television, radio and audio recording. Students are prepared for careers in video production which include director, technical director, lighting director, camera operator, master control operator, videographer, video editor, producer, and production assistant.

Opportunities in audio and radio production include recording technician, board director, editor, video and radio producer, copywriter, and on-air talent.

Graduates of this program are eligible to continue on for a Bachelor of Science Degree in Digital Media Production or in Business Management.

### Curriculum

Term I					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
DMP	101	Video Techniques/Studio 1	2	6	5
DMP	103	Audio Design	1	2	2
DMP	105	Visual Design	2	2	3
<i>EN</i>	<i>100</i>	<i>Introduction to College Writing (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			9	10	14



Term II					
Course No.		Course Title	C	L	T
DMP	106	Motion Graphics 1	2	4	4
DMP	125	Field Shooting and Editing	2	4	4
DMP	127	Lighting	2	2	3
EN	200	Workplace Communications (COM Core)	4	0	4
<b>CHOOSE ONE</b> (depending upon Math placement)					
MA	105	Basic College Math with Lab (MA/SCI Core)	4	2	5
MA	110	Introduction to College Math (MA/SCI Core)	4	0	4
MA	121	Business Math (MA/SCI Core)	4	0	4
			14	10/12	19/20

Term III					
Course No.		Course Title	C	L	T
DMP	137	Field Audio	2	2	3
DMP	206	Motion Graphics 2	1	4	3
DMP	215	Corporate Media	2	4	4
EN	211	Oral Communications (COM Core)	4	0	4
<b>CHOOSE ONE</b> (depending upon Math placement)					
MA	121	Business Math (MA/SCI Core)	4	0	4
ELECTIVE	100-200 Level Math/Science Core		4	0	4
			13	10	18

Term IV					
Course No.		Course Title	C	L	T
DMP	134	Studio Production	2	6	5
DMP	146	Audio Recording 2	2	2	3
DMP	217	From Pre to Post	2	2	3
AR	207	Introduction to Applied Music (AR/FL Core)	4	0	4
			10	10	15

Term V					
Course No.		Course Title	C	L	T
DMP	228	Color Grading	1	4	3
DMP	234	Podcasting	2	2	3
DMP	235	Digital Filmmaking	2	4	4
ELECTIVE	100-200 Level Social Sciences Core		4	0	4
			9	10	14

Term VI					
Course No.		Course Title	C	L	T
DMP	237	Radio	2	4	4
DMP	250	Portfolio	2	2	3
<i>ELECTIVE</i>		<i>100-200 Level Social Sciences Core</i>	4	0	4
<b>CHOOSE ONE</b>					
DMP	232	Independent Production	1	4	3
DMP	240	Internship	1	10	3
			9	10/16	14
<i>Total Quarter Credit Hours = 94/95</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

5 Field Hours = 1 Quarter Credit Hour

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 105/110 must still take 32 credits of core courses.

Subject to change.

## Digital Media Production Bachelor of Science Degree

The bachelor's program in Digital Media Production builds on the foundational skills gained in the associate degree program in Digital Media Production. In addition, graduates of the Graphics, Multimedia and Web Design program are also able to enter this degree program by means of alternate seventh term courses. The curriculum's emphasis on the electronic media industry allows students to attain a high level of digital production expertise.

Digital Media Production video courses are designed to develop professional level skills in broadcast, non-broadcast, client-based and new media programs. Audio courses enhance students' abilities in multi-track studio recording and mixing techniques. Students will also be introduced to remote location recording, sound reinforcement, and mixing for digital film.

Experience in multi-camera location shooting, visual design, commercial, news, documentary, music video, and audio productions offer students opportunities to apply their creative talents and broaden their career options. Throughout the curriculum, students are challenged to apply real-world management-level problem-solving techniques within their production teams and when dealing with clients.

The capstone project focuses on developing and producing a video or audio program for an outside client's product or service. Acting as freelance producers, students work to their predefined budgets, production schedules, and scripts to deliver their finished programs on time while meeting client expectations.

## Curriculum

<b>Term VII – (For graduates of the associate degree in Digital Media Production)</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
DMP	305	Digital Editing 2	1	4	3
DMP	307	Visual Design 2	3	2	4
DMP	325	Remote Radio Production (5 weeks)	1	2	2
DMP	328	Music Recording Techniques (5 weeks)	1	2	2
<i>EN</i>	<i>322</i>	<i>Argumentative Research Writing (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			10	10	15

-OR-

<b>Term VII – (For graduates of the associate degree in Graphics, Multimedia and Web Design)</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
DMP	302	Introduction to Digital Audio (5 Weeks)	1	2	2
DMP	305	Digital Editing 2	1	4	3
DMP	321	Digital Production Techniques	2	4	4
DMP	328	Music Recording Techniques (5 Weeks)	1	2	2
<i>EN</i>	<i>322</i>	<i>Argumentative Research Writing (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			9	12	15

<b>Term VIII</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
DMP	331	News Production	1	4	3
DMP	336	Multi-Track Recording	2	2	3
DMP	338	Music Video Pre-Production (5 Weeks)	2	0	2
DMP	357	Field Audio Production	2	4	4
DMP	409	MIDI (5 Weeks)	1	2	2
<i>SS</i>	<i>304</i>	<i>Digital Media &amp; the Law (SS Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			12	12	18

<b>Term IX</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
DMP	309	Documentary Pre-Production	1	0	1
DMP	381	Visual Effects	0	4	2
DMP	410	Sound for Picture	1	2	2
DMP	421	Music Video Production	0	4	2
DMP	447	Mixdown 1	2	4	4
<i>EN</i>	<i>421</i>	<i>Technical Communications (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			8	14	15

Term X					
Course No.		Course Title	C	L	T
DMP	337	Sound Reinforcement 1	1	4	3
DMP	401	Documentary Filmmaking	3	4	5
DMP	423	Advertising	2	2	3
<i>ELECTIVE</i>		<i>300-400 Level Math/Science Core</i>	4	0	4
<i>ELECTIVE</i>		<i>300-400 Level Humanities Core</i>	4	0	4
			14	10	19

Term XI					
Course No.		Course Title	C	L	T
DMP	402	Capstone Project Pre-Production	3	0	3
DMP	426	Commercial Production	1	2	2
DMP	431	Remote Production	2	4	4
DMP	449	Mixdown 2	2	2	3
<i>ELECTIVE</i>		<i>300-400 Level Math/Science Core</i>	4	0	4
			12	8	16

Term XII					
Course No.		Course Title	C	L	T
DMP	445	Sound Reinforcement 2	1	4	3
DMP	452	Preparing for Your Career	4	2	5
DMP	455	Capstone Project *	0	6	3
<i>ELECTIVE</i>		<i>300-400 Level Humanities, Social Sciences, or 200 Level Foreign Language Core</i>	4	0	4
			9	12	15
<i>Total Quarter Credit Hours = 98</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All bachelor's degree students are required to take 28 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses.

\*The following course may be used in place of DMP 455 under certain circumstances.

DMP	416	Production Practicum (Department Chair Permission)	1	4	3
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Subject to change.

## Electrical Engineering Technology Bachelor of Science Degree

The Bachelor of Science Degree in Electrical Engineering Technology (ELT) is designed primarily for those students who already possess an associate degree in fields related to Electronics or Electrical Technology. The ELT program at NEIT emphasizes the hands-on, practical approach to the mastery of Electrical Engineering Technology. This approach is supplemented in the ELT program with increasing levels of electronics and electrical theory, industrial controls, mathematics, and physics. In addition to the normal laboratory performance and theory testing, participants in the ELT program are also expected to demonstrate competence in using both oral and written skills. This program is designed both to educate and to provide the personal skills for self-directed learning throughout the student's professional life.

The ELT program is a unique combination of two traditional electronic and electrical topics. The study of electronic components, electronic subsystems and programming of microprocessor systems is combined with that of automation systems or advanced industrial controls, energy management and process control. ELT students are presented with applications of complex automation controllers, network communications, data acquisition, process manufacturing and microcontroller systems in order to develop an increased level of understanding which enhances their professional value to prospective employers. At the conclusion of the ELT program, the students are expected to develop and synthesize their own design project demonstrating the applied skills acquired throughout the program or find an internship in a related field. The "hybrid" approach of the ELT program that combines traditional electronic and electrical skill sets provides students with a unique knowledge base that will allow them to pursue careers under the direction of an engineering staff but above that of the traditional electrical worker.

Graduates of this program are qualified for positions in product development, operations, or technical service. The engineering technologist works with a professional engineer or scientist in converting scientific knowledge and craftsmanship into products and techniques. Upon completion of this program, students may also choose to continue into the NEIT Master of Science in Engineering Management degree program.

### ACCREDITATION STATUS

The Bachelor of Science Degree program in Electrical Engineering Technology is accredited by the Engineering Technology Accreditation Commission of ABET, <http://www.abet.org>.



## Curriculum

<b>Term VII</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
ELT	310	Programmable Automation Controllers and Lab	3	2	4
ELT	314	C++ Programming	3	2	4
<i>EN</i>	<i>322</i>	<i>Argumentative Research Writing (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
<i>MA</i>	<i>310</i>	<i>Calculus I (MA/SCI Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			14	4	16

<b>Term VIII</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
ELT	320	SCADA and Communication Systems and Lab	3	2	4
ELT	364	Digital Circuit Design	3	2	4
<i>MA</i>	<i>320</i>	<i>Calculus II (MA/SCI Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
<i>EN</i>	<i>421</i>	<i>Technical Communications (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			14	4	16

<b>Term IX</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
ELT	360	Embedded Microcontrollers	4	0	4
ELT	362	Embedded Microcontrollers Lab	0	4	2
ELT	374	Circuit Analysis I	3	2	4
<i>PHY</i>	<i>300</i>	<i>Physics II (MA/SCI Core)</i>	<i>3</i>	<i>2</i>	<i>4</i>
			10	8	14

<b>Term X</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
ELT	384	Circuit Analysis II	3	2	4
ELT	410	Electrical Design and Energy Management & Lab	3	2	4
ELT	463	Sensors and Signal Conditioning	3	2	4
<i>CHM</i>	<i>300</i>	<i>Chemistry I &amp; Lab (MA/SCI Core)</i>	<i>3</i>	<i>2</i>	<i>4</i>
			12	8	16

<b>Term XI</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
ELT	475	Automation and Process Control & Lab	3	2	4
ELT	486	LabVIEW Programming	3	2	4
ENG	400	Microsoft Applications for Engineers	3	0	3
ENG	489	Introduction to Senior Capstone	2	0	2
<i>EC</i>	<i>301</i>	<i>The Global Economy (SS Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			15	4	17

Term XII					
Course No.		Course Title	C	L	T
ENG	499	Senior Capstone	4	2	5
<i>HU</i>	<i>331</i>	<i>Ethics and Technology (HU Core)</i>	4	0	4
<b>CHOOSE ONE</b>					
ENG	481	Senior Engineering Internship	0	20	4
ELECTIVE		Technical Elective (see chart below)	2-4	0-2	3/4
			8-12	2-22	12/13
<i>Total Quarter Credit Hours (59-60 Technical Credits 32 Credits Liberal Arts) = 91-92</i>					

Technical Elective Choices for Term XII					
Course No.		Course Title	C	L	T
ENG	300	Imagineering: Human Centered Design	3	2	4
ENG	450	Special Topics in Engineering	0	10	4
IT	374	IT Project Management	3	0	3
MCT	115	Computer-Aided Design I	3	2	4
MCT	235	Industrial Robotic Automation	3	2	4
MCT	239	Quality	3	2	4
MCT	322	Fluid Power	3	2	4
MCT	416	Operations Management	4	0	4
SE	126	Intermediate Programming Using Python	2	4	4
Business Management Courses (as space is available)					
MGM	310	Product and Service Marketing	3	2	4
MGM	313	Human Resource Management	3	2	4
MGM	320	Business Presentations	3	2	4
MGM	332	Customer Relations and Sales	3	2	4
MGM	333	Organizational Behavior	3	2	4
MGM	336	Data Analysis with Spreadsheets	3	2	4
MGM	346	Project Management	3	2	4
MGM	375	Information Systems Management	3	2	4
MGM	445	Negotiation	2	2	3
MGM	450	Career Leadership	3	2	4

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All bachelor's degree students are required to take 28 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses.

Subject to change

## **Electrical Technology With Renewable Energy Associate in Science Degree**

The Electrical Technology program trains students for entry-level careers in the electrical industry. Construction electrician, maintenance electrician, solar electric installer, automation technician, power system technician, field service engineering technician, electrical research technician, electrical distribution sales, electro-mechanical technician, electrical technical support, and entry-level controls engineer are some of the diverse careers open to graduates.

The curriculum integrates electrical theory and practical application to give students not only the manual skills to wire and install electrical systems and apparatus but also the mathematical and practical knowledge to support, explain and troubleshoot each application. Computer programs are integrated into the coursework to allow for practice of circuit calculations, to create working models that simulate real circuit conditions and to support classroom lectures and demonstrations. Of current interest, topics explored include renewable energy sources and energy conservation practices. Of equal importance is the thorough study of the safety rules, protocols, and procedures laid out in the National, Massachusetts and Rhode Island Electrical Codes as well as the OSHA standards for the construction and general industries. All current codes and standards as mandated by individual state legislature are followed. Through continuous connections being shown between the electrical codes and class/lab work, students become proficient and more willing to research electrical industry standards to support their work.

Laboratory projects provide hands-on experience to develop wiring techniques and to simulate actual job conditions in residential, commercial and industrial environments. The projects range from elementary breadboard experiments to advanced control circuits utilizing programmable automation controllers. Students install lighting, power, network, and control devices used in residential, commercial and industrial environments.

Upon completion of the Associate in Science Degree in Electrical Technology, graduates are qualified to seek employment in entry-level careers in the electrical industry. With a background in the science of electricity, mastery of fundamental mathematical principles, and the knowledge of safety rules and procedures laid out in the National Electrical Code, new graduates are qualified to work as an apprentice electrician or technician skilled in the basic foundation upon which an employer can build. Associate degree graduates can also continue in the NEIT Bachelor of Science in Electrical Engineering Technology, Construction Management or Business Management programs.

For those interested in careers in the sustainable renewable energy fields such as solar photovoltaic arrays, wind generation (turbine), tidal generation and fuel cell technologies, an additional term specifically addresses these careers as well as the unique techniques and standards students must learn to become competent not only as electricians or technicians but as “green” electricians or technicians. Upon successful completion, ELY students may earn an additional Associate in Science degree in Electrical Technology with a concentration in Renewable Energy. Additionally, as the “Green Term” is



certified by the North American Board of Certified Energy Practitioners (NABCEP), students, upon passage of the program, would be eligible to sit for the NABCEP Associate certification.

The “Green Term” is available not only for current Electrical Technology students, but also for Electrical Technology graduates as well as for non-NEIT students provided certain requirements are met (i.e., electrical licensing, electrical contractor, and electrical engineer).

## Curriculum

<b>Term I</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
ELY	112	Electrical Foundations I & Lab	5	2	6
ELY	116	Introduction to Residential Wiring/NEC I	3	0	3
ELY	117	Basic Wiring Techniques Lab	0	2	1
ELY	135	OSHA Construction Safety & Health	2	0	2
<b>CHOOSE ONE</b>					
MA	105	<i>Basic College Math with Lab (MA/SCI Core)</i>	4	2	5
MA	110	<i>Introduction to College Math (MA/SCI Core)</i>	4	0	4
			14	4/6	16/17

<b>Term II</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
ELY	122	Electrical Foundations II & Lab	6	2	7
ELY	126	Residential Wiring/NEC II	1	0	1
ELY	127	Residential Wiring Lab II	0	4	2
MA	125	<i>Technical Math I (MA/SCI Core)</i>	4	0	4
EN	100	<i>Introduction to College Writing (COM Core)</i>	4	0	4
			15	6	18

<b>Term III</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
ELY	132	Transformers & Lab	2	2	3
ELY	138	Advanced Wiring/NEC III	4	0	4
ELY	139	Advanced Wiring III Lab	0	4	2
MA	210	<i>Technical Math II (MA/SCI Core)</i>	4	0	4
EN	200	<i>Workplace Communications (COM Core)</i>	4	0	4
			14	6	17

<b>Term IV</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
ELY	212	Motor Theory	4	0	4
ELY	213	Motor Controls & Lab	1	8	5
ELY	217	AutoCAD Electrical	1	2	2
ELY	218	Building Construction & Environmental Systems for Electricians	4	0	4
PHY	200	<i>Physics I &amp; Lab (MA/SCI Core)</i>	3	2	4
			13	12	19

Term V					
Course No.		Course Title	C	L	T
ELY	224	Industrial Controls	5	0	5
ELY	225	Industrial Controls Lab	0	4	2
ENG	210	Introduction to Programmable Automation Controllers & Lab	3	4	5
<b>ELECTIVE</b>		<b>100-200 Level Humanities Core</b>	<b>4</b>	<b>0</b>	<b>4</b>
<i>Only for students who wish to go into the CMT/BS Program</i>					
ABT	223	Structures I (CMT/BS)	3	0	3
			12/15	8	16/19

Term VI					
Course No.		Course Title	C	L	T
ELY	244	Electronic Motor Drive Systems	6	0	6
ELY	245	Advanced Industrial Controls Lab	0	6	3
<b>CHOOSE ONE</b>					
<i>PS</i>	<i>210</i>	<i>Human Relations in the Workplace (SS Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
<i>BU</i>	<i>236</i>	<i>Small Business &amp; the Law (SS Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
<b>CHOOSE ONE</b>					
ELY	250	Low Voltage Systems and Fiber Optics (ELY/ELRE or MGT/BS)	2	2	3
ABT	223	Structures I (CMT/BS)	3	0	3
ERD	212	Microprocessor Control Systems (*ELT/BS)	3	2	4
			12-13	6/8	16/17
<i>Total Quarter Credit Hours for ELY or MGT/BS = 102-103</i>					
<i>Total Quarter Credit Hours for CMT/BS = 105-106</i>					
<i>Total Quarter Credit Hours for ELT/BS = 103-104</i>					

Term VII* (Additional Term for Renewable Energy)					
Course No.		Course Title	C	L	T
ELY	283	Photovoltaic Systems & Lab	4	4	6
ELY	290	Wind Turbine Technology & Other Renewable Energy Sources	4	0	4
<i>SCI</i>	<i>110</i>	<i>Environmental Science (MA/SCI Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			12	4	14
<i>Total Quarter Credit Hours for ELRE or MGT/BS = 116-117</i>					
<i>Total Quarter Credit Hours for CMT/BS = 119-120</i>					
<i>Total Quarter Credit Hours for ELT = 117-118</i>					

\*ERD 212 must be taken to enter the Electrical Engineering Technology bachelor's degree program.

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 105/110 must still take 32 credits of core courses.

\*Students in Electrical Technology who wish to take Electrical Technology with Renewable Energy (ELRE) must hold their OSHA card prior to entering the seventh (ELRE) term of the program.

Subject to change.

## **Electronics, Robotics & Drones Technology Associate in Science Degree**

The Associate in Science Degree in Electronics, Robotics and Drones Technology (ERD) provides education and training in some of the most robust, emerging fields of the 21st Century. The use of robots and drones will drive structural changes in our economy and everyday life in areas ranging from driverless cars and medical procedures to automated manufacturing processes and aerial product delivery. Beginning with electronic foundation core courses and culminating in drone, robotics and automation systems, the curriculum provides the knowledge required to succeed in these modern high-tech fields. Technical elective courses provide the opportunity for in-depth study in areas including drone engineering, renewable energy systems, computer networking, CAD and manufacturing quality.

Laboratory projects highlighted in ERD courses include active hands-on experiences with robotic control systems and drone applications, data acquisition/control/communication, digital electronics, microprocessor control, and programmable automation controllers (PACs). Lab projects have been developed to simulate actual job conditions. Drone-specific courses prepare students to sit for the Federal Aviation Administration's (FAA) Section 107 Commercial Small Unmanned Aircraft System (SUAS) exam for pilot certification.

Graduates of this program are qualified to seek entry-level employment in several emerging areas such as drone mission programming, research and development, new product design, product testing, field service, controls engineering, manufacturing of complex electronic assemblies and systems, installation, marketing, and customer service. Associate degree graduates can also continue in the NEIT Bachelor of Science in Electrical Engineering Technology program.

### Curriculum

Term I					
Course No.		Course Title	C	L	T
ERD	110	Fundamentals of Electronics	4	2	5
ENG	118	Introduction to Engineering Technology and Lab	2	2	3
<i>EN</i>	<i>100</i>	<i>Introduction to College Writing (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
<b>CHOOSE ONE</b> (depending upon Math placement)					
<i>MA</i>	<i>105</i>	<i>Basic College Math with Lab (MA/SCI Core)</i>	<i>4</i>	<i>2</i>	<i>5</i>
<i>MA</i>	<i>110</i>	<i>Introduction to College Math (MA/SCI Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
<i>MA</i>	<i>125</i>	<i>Technical Math I (MA/SCI Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			14	4/6	16/17

Term II					
Course No.		Course Title	C	L	T
ERD	111	Electronic Circuit Construction	3	2	4
ERD	115	Computer and Networking Fundamentals for Engineering	3	2	4
ERD	122	Introduction to Robotic Control Systems	3	2	4
<b>CHOOSE ONE</b> (depending upon Q1 MA selection)					
MA	125	Technical Math I (MA/SCI Core)	4	0	4
MA	210	Technical Math II (MA/SCI Core)	4	0	4
			13	6	16

Term III					
Course No.		Course Title	C	L	T
ERD	120	Digital Concepts	4	2	5
ERD	131	Advanced Circuits and Semiconductors	4	2	5
EN	200	Workplace Communications (COM Core)	4	0	4
<b>CHOOSE ONE</b>					
MA	210	Technical Math II (MA/SCI Core)	4	0	4
ELECTIVE	100-200 Level Humanities (or Arts/Foreign Language) Core		4	0	4
			16	4	18

Term IV					
Course No.		Course Title	C	L	T
ERD	210	Introduction to Drone / UAV Technology	1	2	2
ERD	212	Microprocessor Control Systems	3	2	4
ERD	242	Electro-Mechanical Systems & Industrial Controls	3	2	4
ERD	246	Data Acquisition Systems	3	2	4
PHY	200	Physics I & Lab (MA/SCI Core)	3	2	4
			13	10	18

Term V					
Course No.		Course Title	C	L	T
ERD	250	Data Communications & The Internet of Things (IoT)	3	2	4
ENG	259	Commercial Drone / UAV Certification	2	2	3
MCT	235	Industrial Robotic Automation	3	2	4
PS	210	Human Relations in the Workplace (SS Core)	4	0	4
ELECTIVE	100-200 Level Humanities (or Arts/Foreign Language) Core		4	0	4
			16	6	19

Term VI					
Course No.		Course Title	C	L	T
ENG	210	Introduction to Programmable Automation Controllers	3	4	5
ENG	263	Commercial Utilization of Drones / UAVs	3	2	4
ENG	283	Capstone Project	3	2	4
<b>CHOOSE ONE</b>					
ENG	281	Engineering Internship	0	20	4
ELECTIVE	Technical Elective (see list below)		2/3	2	3/4
			7-10	10/28	14/15
<i>Total Quarter Credit Hours =101-103</i>					

Technical Electives (Term VI)					
Course No.		Course Title	C	L	T
ELY	217	AutoCAD Electrical	1	2	2
ENG	100	Imagineering: Creative Prototyping	3	2	4
ENG	289	Drone/UAV Engineering	3	2	4
MCT	115	Computer Aided Design I	3	2	4
MCT	239	Quality	3	2	4
SE	116	Programming Essentials Using Python	2	4	4

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 105/110 must still take 32 credits of core courses.

Subject to change.

## Engineering Management Master of Science Degree

The master's program in Engineering Management (MSEM) at New England Institute of Technology is designed for engineering professionals who desire to advance their technical and managerial knowledge in the engineering industry. The program emphasizes the relevance of continuous learning to personal and professional growth through the combination of advanced traditional engineering management courses and an integrated management core.

The MSEM program is designed to equip current or aspiring engineering managers with the necessary tools to make thoughtful decisions that affect an organization's management needs. The program's mission is built around central themes that drive modern engineering industry operations: best practices of leaders and management professionals in the engineering industry, engineering project accounting and finance, engineering law, and the software applications that support the engineering management profession.

Successful graduates may be able to advance their careers by qualifying for positions such as project managers, project executives, directors of engineering operations, and comparable leadership roles in the engineering management field.

## Curriculum

<b>Term I</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
EMG	512	Systems Engineering	4	0	4
MGM	533	Advanced Project Management	4	0	4
			8	0	8

<b>Term II</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
EMG	511	Human Centered Design Thinking	4	0	4
MGM	514	Leadership	4	0	4
			8	0	8

<b>Term III</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
EMG	522	Quantitative Business Analysis	4	0	4
MGM	504	Managerial Finance	4	0	4
<b>Optional</b>					
CPT	591	Workplace Practicum I	0	20	1
			8	0/20	8/9

<b>Term IV</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
EMG	502	Emerging Technologies	4	0	4
MGM	534	Technology and the Law	4	0	4
<b>Optional</b>					
CPT	592	Workplace Practicum II	0	20	1
			8	0/20	8/9

<b>Term V</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
EMG	544	Decision Models	4	0	4
MGM	546	Ethical Decision Making	4	0	4
<b>Optional</b>					
CPT	593	Workplace Practicum III	0	20	1
			8	0/20	8/9

<b>Term VI</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
EMG	556	Master's Capstone	5	0	5
<b>Optional</b>					
CPT	594	Workplace Practicum IV	0	20	1
			5	0/20	5/6
<i>Total Quarter Credit Hours = 45-49</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

Subject to change.

## Esports Management Associate in Science Degree

The Associate in Science Degree in Esports Management (MGEA) is offered by the Business Management Department for students with a passion for esports and a desire to work in the field. The curriculum draws on the expertise of faculty throughout the university to offer students an interdisciplinary experience in management, information technology, and digital media production. While learning skills in these areas, students will explore their career options within esports and affiliated organizations.

This curriculum includes courses in management, game design, audio and video production, marketing, and incorporates the computer and interpersonal skills essential for initial employment in business, event, and esports positions. Courses incorporate a blend of technical, analytical and people skills necessary for real world success. Students gain these skills by practicing what they will be doing in the typical workplace and developing lifelong learning habits to ensure continued growth in their careers. Reflecting today's workplace, the associate degree in Esports Management combines primarily face-to-face instruction with online learning experiences. Hands-on training is key to the program.

Graduates of the Associate in Science degree program in Esports Management may be qualified to work in a variety of positions including esports marketing representative or social media content creator, event coordinator or promoter, fan engagement or client relations representative, communications coordinator, or esports team organizer. In addition, graduates of this program are eligible to continue for a Bachelor of Science degree in Business Management.

### Curriculum

Term I					
Course No.		Course Title	C	L	T
DMP	100	Introduction to Digital Shooting and Editing	0	2	1
MGE	101	Introduction to Esports Management	4	0	4
MGM	108	Introduction to Business	4	0	4
MGM	111	Workplace Technology	2	2	3
EN	100	Introduction to College Writing (COM Core)	4	0	4
			13	4	16

Term II					
Course No.		Course Title	C	L	T
MGE	121	Esports Competition Lab	0	2	1
MGM	135	Business Analysis with Spreadsheets	3	2	4
DMP	125	Field Shooting and Editing	2	4	4
DMP	127	Lighting	2	2	3
CHOOSE ONE (depending upon Math placement)					
MA	105	Basic College Math (MA/SCI Core)	4	2	5
MA	110	Introduction to College Math (MA/SCI Core)	4	0	4
MA	121	Business Math (MA/SCI Core)	4	0	4
MA	200	Applied Math for Business* (MA/SCI Core)	4	0	4
			11	10/12	16/17

Term III					
Course No.		Course Title	C	L	T
MGM	105	Effective Teams and Projects	2	2	3
MGM	130	Accounting Fundamentals	3	2	4
DMP	103	Audio Design	1	2	2
VGD	114	Introduction to Game Development	2	2	3
EN	200	Workplace Communications (COM Core)	4	0	4
			12	8	16

Term IV					
Course No.		Course Title	C	L	T
MGM	133	Principles of Management	4	0	4
MGM	232	Database Fundamentals	3	2	4
PS	210	Human Relations in the Workplace (SS Core)	4	0	4
CHOOSE ONE (depending upon Term II)					
MA	121	Business Math (MA/SCI Core)	4	0	4
MA	200	Applied Math for Business* (MA/SCI Core)	4	0	4
ELECTIVE	100-200 Level Math/Science Core		4	0	4
			15	2	16

Term V					
Course No.		Course Title	C	L	T
MGM	230	Planning Your Financial Future	2	2	3
GDS	111	HTML & JavaScript	2	4	4
BU	236	Small Business and the Law (SS Core)	4	0	4
ELECTIVE	100-200 Level Humanities (or Arts/Foreign Language) Core		4	0	4
			12	6	15



Term VI					
Course No.		Course Title	C	L	T
MGM	210	Marketing Communications	3	2	4
MGM	288	Project Planning	3	2	4
<i>ELECTIVE</i>		<i>100-200 Level Humanities (or Arts/Foreign Language) Core</i>	4	0	4
CHOOSE ONE					
MGM	264	Sales and Customer Service	2	2	3
MGM	277	Leadership in Action	4	0	4
MGM	296	Associate Internship	2	10	4
			12/14	4-14	15/16
<i>Total Quarter Credit Hours = 94-96</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 105/110 must still take 32 credits of core courses.

\*For students intending to enroll in the bachelor's program in Business Management upon completion of the associate degree program.

Subject to change.

## Facilities Management Associate in Science Degree

New England Institute of Technology's Associate in Science in Facilities Management program emphasizes the development of real-world knowledge and hands-on skills required by today's facility and building managers. Through a comprehensive academic and laboratory environment, students will understand the theory and best practices applied in today's facilities management industry.

The program provides a broad spectrum of coursework ranging from plumbing, pipefitting, heating, refrigeration, air conditioning, electrical and wiring systems to health and safety standards, and basic computer software used in industry. Upon graduation, students will receive an Associate in Science Degree in Facilities Management.

Graduates of the Facilities Management program are prepared for several types of industry positions

including facility manager, real estate and property manager, project manager, regulatory compliance officer, stadium manager, and superintendent of operations and maintenance. In addition, graduates of this program are eligible to continue on for a Bachelor of Science in Business Management.

## Curriculum

<b>Term I</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
ELY	112	Electrical Foundations and Lab	5	2	6
ELY	116	Introduction to Residential Wiring/NEC	3	0	3
ELY	117	Basic Wiring Techniques Lab	0	2	1
ELY	135	OSHA Construction Safety and Health	2	0	2
<i>MA</i>	<i>105</i>	<i>Basic College Math with Lab (MA/SCI Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			14	4	16

<b>Term II</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
ELY	122	Electrical Foundations II and Lab	6	2	7
ELY	126	Residential Wiring/NEC II	1	0	1
ELY	127	Residential Wiring Lab II	0	4	2
ELY	218	Building Construction & Environmental Systems for Electricians	4	0	4
<i>MA</i>	<i>125</i>	<i>Technical Math I</i>	<i>4</i>	<i>0</i>	<i>4</i>
			15	6	18

<b>Term III</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
PL	114	Pipe Fitting Basics	4	0	4
PL	119	Pipe Fitting Basics Lab	0	6	3
PL	118	Blueprint Reading and Drafting	3	0	3
MGM	104	Computer Skills – Word and Excel	0	2	1
<i>EN</i>	<i>100</i>	<i>Introduction to College Writing</i>	<i>4</i>	<i>0</i>	<i>4</i>
			11	8	15

<b>Term IV</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
PL	124	Drainage Waste and Vent Design	4	0	4
PL	127	Drainage Waste and Potable Water Systems Lab	0	6	3
PL	126	Potable Water Piping Design	3	0	3
MGM	264	Sales and Customer Service	2	2	3
<i>EN</i>	<i>200</i>	<i>Workplace Communications</i>	<i>4</i>	<i>0</i>	<i>4</i>
			13	8	17

Term V					
Course No.		Course Title	C	L	T
AH	114	Refrigeration Systems Fundamentals	4	0	4
AH	116	Refrigeration Systems Fundamentals Lab	0	6	3
<i>ELECTIVE</i>		<i>100-200 Level Humanities Core</i>	4	0	4
<i>ELECTIVE</i>		<i>100-200 Level Social Science Core</i>	4	0	4
			12	6	15

Term VI					
Course No.		Course Title	C	L	T
AH	126	Electricity for Refrigeration & Air Conditioning	4	0	4
AH	128	Electricity for Refrigeration & Air Conditioning Lab	0	6	3
AH	212	Refrigeration Technician Certification	2	0	2
<i>ELECTIVE</i>		<i>100-200 Level Humanities Elective</i>	4	0	4
<i>ELECTIVE</i>		<i>100-200 Level Social Science Elective</i>	4	0	4
			14	6	17
<i>Total Quarter Credit Hours = 98</i>					

#### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 105/110 must still take 32 credits of core courses.

Subject to change.

## Game Development and Simulation Programming Bachelor of Science Degree

The Bachelor of Science in Game Development and Simulation Programming will prepare students for careers in game programming and software engineering. The program builds on the foundations established in the associate degree program with emphasis placed on acquiring the technical skills necessary to implement games on a variety of platforms including phones, handheld devices, and Xbox.

Through studying and applying key principles of software design as well as specific game algorithms and techniques, students will learn to design and implement games of increasing size and complexity.

Class work is centered on developing games in small teams, an approach which allows students to acquire both the technical and interpersonal skills necessary for the game and simulation industry.

A key feature of the program is the senior capstone project where students will bring together knowledge gained throughout the program. Under the supervision of a faculty member, students in teams of two to four will design and develop a game over a period of six months. The project work will be evaluated by a team of three faculty members.

Graduates from this program will be eligible for positions such as game designer, level designer, game developer, quality assurance engineer, software engineer, and game programmer.

## Curriculum

<b>Term VII*</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
GDS	373	Advanced Algorithms and API	2	4	4
GDS	375	Simulation and Serious Games	2	2	3
GDS	383	2D Game Console Programming	2	4	4
MA	315	<i>Math for Game Developers (MA/SCI Core)</i>	4	0	4
			10	10	15

<b>Term VIII*</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
GDS	371	2D Game Engine and Tool Development	2	4	4
GDS	381	Software Testing and Quality Assurance	2	2	3
GDS	388	Web API for Games	2	4	4
EN	322	<i>Argumentative Research Writing (COM Core)</i>	4	0	4
			10	10	15

<b>Term IX*</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
GDS	370	Advanced Game Design	2	2	3
GDS	399	3D Game Console Programming I	2	4	4
SE	402	Design Patterns	2	4	4
MA	310	<i>Calculus I (MA/SCI Core)</i>	4	0	4
			10	10	15

<b>Term X*</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
GDS	404	Artificial Intelligence	2	4	4
GDS	405	3D Game Console Programming II	2	4	4
VGD	417	Introduction to Virtual Reality Development	2	4	4
EN	421	<i>Technical Communications (COM Core)</i>	4	0	4
			10	12	16

Term XI*					
Course No.		Course Title	C	L	T
GDS	410	Introduction to Senior Project	2	6	5
<i>ELECTIVE</i>		<i>300-400 Level Humanities (or Arts/Foreign Language) Core</i>	4	0	4
<i>ELECTIVE</i>		<i>300-400 Level Humanities or Social Sciences Core</i>	4	0	4
<b>Choose One Option</b>					
SE	408	Programming Mobile Devices	2	4	4
IT	415	Cooperative Learning I	0	18	6
			10/12	10/24	17/19

Term XII*					
Course No.		Course Title	C	L	T
GDS	420	Senior Project	2	8	6
<i>ELECTIVE</i>		<i>300-400 Level Social Sciences Core</i>	4	0	4
<b>Choose One Option</b>					
GDS	422	Emerging Technologies in Game Development	2	4	4
IT	425	Cooperative Learning II	0	21	7
			6/8	12/29	14/17
<i>Total Quarter Credit Hours = 92-97</i>					
<b>*Substitution Course</b>					
Course No.		Course Title	C	L	T
VGD	422	Special Projects Lab	0	12	4
With the permission of the Department Chair and recommendations from two discipline faculty members, students may substitute this special project course for another technical course.					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All bachelor's degree students are required to take 28 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses.

Subject to change

## Graphics, Multimedia and Web Design Associate in Science Degree

The Graphics, Multimedia and Web Design associate degree program prepares students for entry-level positions in a variety of graphics, web, and multimedia production environments. Students create graphic solutions for business and marketing needs. The key goal of visual creativity is central to all of the technological coursework, and each student will design and produce a personal “brand” to package and promote their online portfolios.

Starting with the core skills of digital photography, design, and computer graphics, students receive hands-on, project-oriented instruction in web design, graphic design, e-publishing, interactive multimedia, and branding. A wide variety of Adobe and other industry standard software is used.

Upon completion of the Associate in Science Degree in Graphics, Multimedia and Web Design, students will have the opportunity to matriculate to the Bachelor of Science Degree in Graphics, Multimedia and Web Design.

### Curriculum

Term I					
Course No.		Course Title	C	L	T
GMW	100	Digital Photography I	2	4	4
GMW	112	Digital Graphics I	2	2	3
GMW	123	Design I	2	2	3
EN	100	Introduction to College Writing (COM Core)	4	0	4
			10	8	14

Term II					
Course No.		Course Title	C	L	T
GMW	110	Introduction to Web Design	2	4	4
GMW	205	Digital Photography II	2	4	4
GMW	223	Design II	2	2	3
AR	203	Introduction to Drawing (HU or AR/FL Core)	4	0	4
EN	200	Workplace Communications (COM Core)	4	0	4
			14	10	19

Term III					
Course No.		Course Title	C	L	T
GMW	102	Digital Illustration	2	2	3
GMW	122	HTML	2	2	3
GMW	201	Introduction to Typography	2	2	3
EN	211	Oral Communications (COM Core)	4	0	4
<b>CHOOSE ONE</b> (depending upon Math placement)					
MA	105	Basic College Math with Lab (MA/SCI Core)	4	2	5
MA	110	Introduction to College Math (MA/SCI Core)	4	0	4
ELECTIVE	100-200 Level Math/Science Core		4	0	4
			14	6/8	17/18

Term IV					
Course No.		Course Title	C	L	T
GMW	141	Design III	2	2	3
GMW	212	Digital Graphics II	2	2	3
GMW	231	Digital Publishing I	2	4	4
MA	121	<i>Business Math (MA/SCI Core)</i>	4	0	4
SO	220	<i>Internet and Society (SS Core)</i>	4	0	4
			14	8	18

Term V					
Course No.		Course Title	C	L	T
GMW	215	Web Content Management with WordPress	4	2	5
GMW	220	UI/UX Design	2	2	3
GMW	232	Digital Publishing II	2	4	4
GMW	233	Package Design I	2	2	3
HU	240	<i>Modern Art and Design (HU or AR/FL Core)</i>	4	0	4
			14	10	19

Term VI					
Course No.		Course Title	C	L	T
GMW	129	Project Planning and Estimating	2	2	3
GMW	272	Associate Portfolio	2	2	3
<i>ELECTIVE</i>		<i>100-200 Level Social Sciences Core</i>	4	0	4
<b>CHOOSE ONE</b>					
GMW	251	Special Topics: GMW	2	2	3
GMW	280	Cooperative Work Experience	0	15	3
			8/10	6/19	13
<i>Total Quarter Credit Hours = 100/101</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 105/110 must still take 32 credits of core courses.

Subject to change.

## Graphics, Multimedia and Web Design Bachelor of Science Degree

Graphics Multimedia and Web Design (GMW) students combine their imagination and creativity to produce marketing-driven designs, animations, and web content. Students learn to produce creative visual content for business needs.

Building upon the core design and technical skills developed in the associate degree program, the Graphics, Multimedia and Web Design bachelor's degree program further prepares students for positions in a wide variety of emerging new media careers. Students will develop interdisciplinary skills combining web content management systems, e-publishing, branding, logo design, packaging design, search engine optimization, web video, animation, and social media marketing. Integrated media delivery via ePub and mobile devices will be emphasized. Creative content development, media literacy, marketing, SEO writing, and UI/UX design, will support each student's "branded" portfolio and personalized career path.

The dynamic combination of skills obtained in the Bachelor of Science Degree in Graphics, Multimedia and Web Design can be employed in a wide variety of fields, including advertising and promotion, public relations, packaging design, web design, content management systems, e-publishing, social media, and other visually creative career paths.

### Curriculum

Term VII					
Course No.		Course Title	C	L	T
GMW	301	3D Modeling	2	4	4
GMW	302	Concept Development	2	2	3
GMW	305	Web Asset Production	2	4	4
<i>EN</i>	322	<i>Argumentative Research Writing (COM Core)</i>	4	0	4
			10	10	15

Term VIII					
Course No.		Course Title	C	L	T
GMW	310	Digital Editing I	2	4	4
GMW	311	Motion Graphics I	2	4	4
GMW	312	Motion Graphics Design	2	2	3
<i>ELECTIVE</i>		<i>300-400 Level Social Sciences Core</i>	4	0	4
			10	10	15



Term IX					
Course No.		Course Title	C	L	T
GMW	320	Digital Editing II	2	2	3
GMW	321	Motion Graphics II	2	4	4
GMW	322	Typography II	2	2	3
EN	421	<i>Technical Communications (COM Core)</i>	4	0	4
			10	8	14

Term X					
Course No.		Course Title	C	L	T
GMW	400	Digital Publishing III	2	4	4
GMW	401	Marketing and Brand Strategy	2	2	3
GMW	402	Package Design II	2	2	3
<i>ELECTIVE</i>		<i>300-400 Level Math/Science Core</i>	4	0	4
			10	8	14

Term XI					
Course No.		Course Title	C	L	T
GMW	411	Project Management	2	2	3
GMW	412	Social Media Marketing	2	2	3
GMW	413	Augmented Reality Marketing	2	2	3
<i>ELECTIVE</i>		<i>300-400 Level Math/Science Core</i>	4	0	4
<i>ELECTIVE</i>		<i>300-400 Level Humanities Core</i>	4	0	4
			14	6	17

Term XII					
Course No.		Course Title	C	L	T
GMW	423	Content Management Systems II	2	2	3
GMW	424	Senior Portfolio	4	2	5
<i>ELECTIVE</i>		<i>300-400 Level Humanities, Social Sciences, or 200 Level Foreign Language Core</i>	4	0	4
<b>CHOOSE ONE</b>					
GMW	422	Special Topics	2	2	3
GMW	480	Cooperative Work Experience	0	15	3
			10/12	6/19	15
<i>Total Quarter Credit Hours = 90</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All bachelor's degree students are required to take 28 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses.

Subject to change.

## Health Science Associate in Science Degree

The Associate in Science in Health Science curriculum is designed to introduce students to health sciences and prepare them to transfer into several degree-granting health science programs at NEIT. The program introduces students to fundamental concepts in the sciences and acquaints them with healthcare disciplines and the many skills that are germane to each discipline; and, it better prepares students to enter into the following associate-level Health Sciences programs:

- Medical Laboratory Technician
- Nursing
- Occupational Therapy Assistant
- Paramedic Technology
- Physical Therapist Assistant
- Respiratory Care
- Veterinary Technology

The program includes studies in core curriculum courses in anatomy and physiology, biology, medical terminology, and electronic medical records. Students will take courses that expose them to the experiences of healthcare providers among many specialties.

At the end of the second and third term, students will have the foundational knowledge to assist them to transfer into another NEIT associate degree health science program. For those students who do not transfer into another major at the end of term three, may continue in the Health Science associate degree program.

Upon completion of one of the associate degree granting health science programs, graduates are prepared for positions in a variety of healthcare settings, medical offices or to continue their education in one of our health science bachelor's programs.

### Curriculum

Term I					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
HS	104	Survey of Anatomy	4	0	4
HS	105	Successful Study Skills for Healthcare Professionals	1	2	2
HS	107	Medical Terminology	2	0	2
<i>EN</i>	<i>100</i>	<i>Introduction to College Writing (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			11	2	12

Term II					
Course No.		Course Title	C	L	T
HS	121	Assessment and Pharmacology	3	2	4
MA	100	Introduction to College Math with Lab (MA/SCI Core)	2	4	4
<b>ELECTIVE</b>		<b>100-200 Level Humanities Core</b>	<b>4</b>	<b>0</b>	<b>4</b>
<b>CHOOSE ONE COURSE/COMBINATION</b> (depending upon program choice)					
BIO	100	Anatomy & Physiology I	4	0	4
BIO	101	Anatomy & Physiology I Lab	0	4	2
<b>Required for future NUR students</b>					
BIO	107	Comprehensive Anatomy & Physiology I and Lab	4	4	6
<b>Or, for future VET students*</b>					
BIO	116	Introduction to Biology	3	2	4
			12/13	8/10	16/18
*Students that have met the grade requirements for the Veterinary Technology program will transfer into that program at the end of Term II. Students who do not meet the VET requirements may continue in the HSA program.					

Term III					
Course No.		Course Title	C	L	T
AHS	201	Introduction Medical Ethics and Bioethics	3	0	3
MGM	105	Effective Teams and Projects	2	2	3
EN	110	Healthcare Communications (COM Core)	4	0	4
<b>CHOOSE ONE COURSE/COMBINATION</b> (depending upon program choice)					
BIO	120	Anatomy & Physiology II	4	0	4
BIO	121	Anatomy & Physiology II Lab	0	4	2
<b>Or, for future NUR students**</b>					
BIO	127	Comprehensive Anatomy & Physiology II and Lab	4	4	6
			13	6	16
**For potential Nursing students, you may take the Kaplan assessment in midterm, having met the transfer grade course requirements. Those students that do not meet the requirements to transfer into a program of choice, they may continue in the HSA program.					

Term IV					
Course No.		Course Title	C	L	T
HS	241	Medical Office Administration and Management	2	2	3
HS	262	Electronic Health Records	4	2	5
MGM	133	Principles of Management	4	0	4
MA	121	Business Math (MA/SCI Core)	4	0	4
			14	4	16

Term V					
Course No.		Course Title	C	L	T
HS	251	Medical Insurance	3	2	4
HS	252	Fundamentals of Pathophysiology	4	0	4
HS	254	Introduction to Research in the Health Sciences	3	2	4
PS	210	Human Relations in the Workplace (SS Core)	4	0	4
			14	4	16

Term VI					
Course No.		Course Title	C	L	T
HS	261	Medical Office Practice Management	3	2	4
HS	263	Externship	1	12	5
PS	202	<i>Psychology of Healthcare (SS Core)</i>	4	0	4
ELECTIVE		<i>100-200 Level Humanities Core</i>	4	0	4
			12	14	17
<i>Total Quarter Credit Hours = 93-95</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 109 must still take 32 credits of core courses.

Subject to change.

## Heating, Ventilation and Air Conditioning Technology

### Associate in Science Degree

The Associate in Science Degree in Heating, Ventilation and Air Conditioning Technology (HVAC) is a comprehensive program designed to train students as entry-to-industry level technicians. The program offers a curriculum combining two distinct but interrelated areas dealing with heat energy and its transfer. The curriculum includes both the theoretical and practical aspects of heating and cooling.

The course content of the program includes the basic theory of heat flow and its control and the methods used to make heat flow to either cool or heat a specific area. Instruction in the refrigeration and air conditioning field begins with the basic domestic refrigerator and progresses to the most complex commercial refrigeration and air conditioning systems over the course of three ten-week terms. Topics in ground source geothermal and the use of heat pumps are also offered.

In the heating portion of the program (distributed over three terms), various heating systems are examined such as steam, warm air, and forced hot water. Also presented are the burners used in conjunction with these systems and their associated control circuitry. Special consideration is given to electrical wiring, heat loss calculations and system design as they relate to a residential and commercial application. Included in the Heating Program are courses in the installation of heating systems, gas technology, and introduction to welding.

All parts of the HVAC program contain intensive instruction in the mechanical and electrical control

devices used in heating and cooling systems. Students receive comprehensive training in troubleshooting and service call procedures for both the heating and refrigeration/air conditioning portions of the program.

Graduates are prepared for positions as technicians in the refrigeration, air conditioning, and heating fields. In addition, graduates of this program are eligible to continue on for a Bachelor of Science degree in Business Management.

## Curriculum

<b>Term I</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
AH	101	Introduction to the P-HVAC Industry	1	0	1
AH	114	Refrigeration Systems Fundamentals	4	0	4
AH	116	Refrigeration Systems Fundamentals Lab	0	6	3
AH	125	Basic Electricity	2	0	2
AH	118	Basic Electricity Lab	0	4	2
ELY	135	OSHA Construction Safety & Health	2	0	2
			9	10	14

<b>Term II</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
AH	126	Electricity for Refrigeration & Air Conditioning	4	0	4
AH	128	Electricity for Refrigeration & Air Conditioning Lab	0	6	3
AH	212	Refrigeration Technician Certification	2	0	2
AH	214	Air Conditioning	3	0	3
AH	215	Air Conditioning Lab	0	6	3
			9	12	15

<b>Term III</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
AH	134	Commercial and Industrial Refrigeration	3	0	3
AH	138	Commercial and Industrial Refrigeration Lab	0	6	3
AH	140	System Electrical Controls I	1	0	1
AH	141	System Electrical Controls I Lab	0	2	1
MA	105	<i>Basic College Math with Lab (MA/SCI Core)</i>	4	2	5
			8	10	13

Term IV					
Course No.		Course Title	C	L	T
AH	144	System Electrical Controls II	2	0	2
AH	143	System Electrical Controls II Lab	0	2	1
AH	234	Modern Heating Systems	4	0	4
AH	235	Modern Heating Systems Lab	0	4	2
MA	125	<i>Technical Math I (MA/SCI Core)</i>	4	0	4
EN	106	<i>Service Industry Communications (COM Core)</i>	5	0	5
			15	6	18

Term V					
Course No.		Course Title	C	L	T
AH	238	Gas Heating Systems	4	0	4
AH	242	Gas Heating Systems Lab	0	6	3
AH	240	Blueprints, Pipe Fitting and Duct Layout	4	0	4
AH	241	Blueprints, Pipe Fitting and Duct Layout Lab	0	4	2
WEL	114	OFC/OAW, Electric Welding and Cutting	1	3	2
EN	100	<i>Introduction to College Writing (COM Core)</i>	4	0	4
			13	13	19

Term VI					
Course No.		Course Title	C	L	T
BU	236	<i>Small Business and the Law (SS Core)</i>	4	0	4
<i>ELECTIVE</i>		<i>100-200 Level Humanities Core</i>	4	0	4
<i>ELECTIVE</i>		<i>100-200 Level Humanities Core</i>	4	0	4
<b>CHOOSE ONE SET</b>					
AH	244	Oil Heating Systems	4	0	4
AH	246	Oil Heating Systems Lab	0	6	3
or					
AH	250	Renewable Energy Systems	4	0	4
AH	251	Renewable Energy Systems Lab	0	6	3
			16	6	19
<b>Total Quarter Credit Hours = 98</b>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 105/110 must still take 32 credits of core courses.

Subject to change.

## Information Technology Master of Science Degree

The Master of Science degree in Information Technology is designed for IT professionals who want to advance their knowledge in the information technology field as a precursor for management in the IT industry. Information Technology has become crucial to success in virtually every kind of enterprise, and IT professionals are responsible for the complex technical environment the enterprise depends on. To be an effective IT leader requires a blend of operational and technical expertise, leadership and management of projects and teams, and a solid foundation in the principles of general management.

The MSIT degree melds technical knowledge and essential enterprise IT skills with the contemporary business management principles that drive 21st century organizational performance. The program weaves technical topics such as network architecture, cloud computing and data analytics with finance, law, project management and leadership.

The program is designed using a whole-systems approach. While the bachelor's degree in Information Technology focuses on preparing graduates to secure, design, and implement applications, databases and networks, the master's program provides graduates with the ability to analyze business scenarios, anticipate and respond to a continuously changing environment and effectively assign resources to the components that make up the organization's information system.

The MSIT program's goal is to create inspiring IT leaders with strong leadership and technical skills. The master's degree program is designed to provide graduates with the ability to analyze business scenarios, anticipate and respond to a continuously changing environment and effectively assign resources to the components that make up the organization's information system. Our graduates can take these skills and apply them strategically to develop a long-term IT vision that is in line with an organization's goals and mission.

The program emphasizes the relevance of continuous learning to personal and professional growth through the combination of advanced technical courses and an integrated management core. Employment opportunities may include positions such as Project Manager, Chief Information Officer (CIO), Chief Technical Officer (CTO), Chief Information Security Office (CISO), Network Manager and Systems Integrator.

The program is designed to equip the current or aspiring IT manager with the necessary tools to make deliberate decisions that affect an organization's informational needs. The program's mission is built around the components that make up the informational infrastructure: the software applications that support the business processes, the information and data sources used to store the data, the processes used to secure the data, the network used to access data and applications, and the people who design, manage and implement the applications, data and the network.

## Curriculum

Term I					
Course No.		Course Title	C	L	T
IT	512	Network Infrastructure and Design	4	0	4
MGM	533	Advanced Project Management	4	0	4
			8	0	8

Term II					
Course No.		Course Title	C	L	T
IT	524	Information Systems Security	4	0	4
MGM	514	Leadership	4	0	4
<b>Optional</b>					
CPT	591	Workplace Practicum I	0	20	1
			8	0/20	8/9

Term III					
Course No.		Course Title	C	L	T
IT	522	Software Architecture and User Interface Design	4	0	4
MGM	504	Managerial Finance	4	0	4
<b>Optional</b>					
CPT	592	Workplace Practicum II	0	20	1
			8	0/20	8/9

Term IV					
Course No.		Course Title	C	L	T
IT	502	Data Warehousing and Data Analytics	4	0	4
MGM	534	Technology and the Law	4	0	4
<b>Optional</b>					
CPT	593	Workplace Practicum III	0	20	1
			8	0/20	8/9

Term V					
Course No.		Course Title	C	L	T
IT	544	Cloud Computing	4	0	4
IT	546	IT Professional Ethics	4	0	4
<b>Optional</b>					
CPT	594	Workplace Practicum IV	0	20	1
			8	0/20	8/9

Term VI					
Course No.		Course Title	C	L	T
IT	556	Master's Project	5	0	5
<b>Optional</b>					
CPT	595	Workplace Practicum V	0	20	1
			5	0/20	5/6
<i>Total Quarter Credit Hours = 45-50</i>					



### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

Subject to change.

## **Interior Design** **Associate in Science Degree**

The Associate in Science degree in Interior Design is offered through the Department of Design + Architectural Building Technology.

Interior Design is an exciting, sophisticated, and multifaceted profession. It is a process in which creative and technical solutions are applied within a structure to develop a built interior environment which responds to human needs. The practice of interior design requires the designer to understand this process as well as human response to color, light, fabric, texture, and volumetric space.

Interior design is not interior decorating. The sophistication of the interior design profession now requires the practitioner to possess a fundamental knowledge of building science and technology. It is essential that today's designer is able to integrate science and technology into the creative design process.

The Interior Design program at New England Institute of Technology offers a curriculum specifically developed to meet the needs of today's demanding interior design profession. The associate degree curriculum provides students with the fundamental skills to function as a team member in the development of interior design projects. Additional areas of study include space planning, three-dimensional theory, building systems, and construction methods. The program is also designed to instill within students a sense of professionalism and social responsibility.

Students are introduced to the basic elements and theories of design, color and spatial composition that form the foundation of creative design. They are also, through specific courses, introduced to both manual and computer-aided drafting (CAD) skills. Theory and technical courses will familiarize students with the fundamentals of interior design including the design attributes of materials, textiles, building codes, and building systems. Studio courses require students to incorporate the learned theoretical and technical knowledge into a comprehensive design based upon specific program requirements. Studio project types include residential, office, and retail.

Upon successful completion of the associate degree program, students can continue into the NEIT Bachelor of Science in Interior Design degree program.

## Curriculum

Term I					
Course No.		Course Title	C	L	T
ID	114	Introduction to Interior Design	1	2	2
ID	134	Color & Composition	3	0	3
ABT	111	Introduction to Building Science	1	0	1
ABT	112	Technical Drafting and Graphic Communications	2	2	3
ABT	126	Presentation Techniques	2	2	3
<b>CHOOSE ONE</b> (depending upon Math placement)					
MA	105	Basic College Math with Lab (MA/SCI Core)	4	2	5
MA	110	Introduction to College Math (MA/SCI Core)	4	0	4
<b>ELECTIVE</b>	100-200 Level Humanities, Social Sciences, or Arts/Foreign Language Core		4	0	4
			13	6/8	16/17

Term II					
Course No.		Course Title	C	L	T
ID	124	Interior Methods, Materials, & Structures	3	0	3
ABT	114	Introduction to Computer-Aided Drafting (CAD)	2	4	4
ABT	122	Two- & Three-Dimensional Design Theory	3	0	3
MA	125	Technical Math I (MA/SCI Core)	4	0	4
EN	100	Introduction to College Writing (COM Core)	4	0	4
			16	4	18

Term III					
Course No.		Course Title	C	L	T
ID	132	Interior Design Studio I – Residential	2	6	5
ID	135	Introduction to Lighting & Acoustics	3	0	3
ID	138	3D Modeling & Post Production	2	2	3
ID	226	Finish & Materials I	3	0	3
EN	200	Workplace Communications (COM Core)	4	0	4
			14	8	18

Term IV					
Course No.		Course Title	C	L	T
ID	212	Programming	2	0	2
ID	213	Kitchen & Bath Design Studio	2	2	3
ID	225	History of Interior Design I	3	0	3
ABT	218	Building Information Modeling I (BIM I)	2	4	4
ABT	236	Building Codes	2	0	2
<b>ELECTIVE</b>	100-200 Level Humanities, Social Sciences, or Arts/Foreign Language Core		4	0	4
			15	6	18

Term V					
Course No.		Course Title	C	L	T
ID	228	Interior Design Studio II – Retail	2	6	5
ID	232	Professional Practice for Interior Designers	3	0	3
ABT	137	Introduction to Environmental Systems	3	0	3
<i>ELECTIVE</i>		<i>100-200 Level Humanities, Social Sciences, or Arts/ Foreign Language Core</i>	4	0	4
HI	235	<i>Architectural History (SS Core)</i>	4	0	4
			16	6	19

Term VI					
Course No.		Course Title	C	L	T
ID	235	Interior Design Studio III – Office	2	6	5
ID	237	Portfolio	2	2	3
ID	238	Building Code Applications	1	2	2
<i>ELECTIVE</i>		<i>100-200 Level Humanities Core</i>	4	0	4
			9	10	14
<i>Total Quarter Credit Hours = 103/104</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 105/110 must still take 32 credits of core courses.

Subject to change.

## Interior Design Bachelor of Science Degree

The Bachelor of Science degree in Interior Design is offered through the Department of Design + Architectural Building Technology.

The role of the Interior Designer in the building process is expanding. The interior design profession now requires the practitioner or design team manager to possess an advanced knowledge of building science and technology. It is essential that today's designer is able to integrate the advances in building science and technology into the creative design process.

The Interior Design degree program at New England Institute of Technology offers a curriculum specifically developed to meet the needs of today's demanding interior design profession. The Bachelor of Science degree in Interior Design allows students to build upon the fundamentals learned in the associate degree program and expand their knowledge base of design and building science. Students study advanced concepts of interior design and building science through a unique combination of theoretical and practical courses and design studios. These courses cover advanced topics including finishes and materials, textiles, history, estimating and scheduling, contracts and specifications, construction law, acoustics and lighting, and interior construction documentation. The studio courses allow students to incorporate their learned knowledge and skills in a practical application. Studio project types include space planning, hospitality, commercial, and institutional.

A unique component of the Interior Design bachelor's degree is the common core courses shared with the architecture and construction management curriculums. These common courses provide the interior design student with the essential knowledge of building science and technological skills which are crucial in today's interior design profession. This cross-curricular approach to interior design creates graduates uniquely qualified to succeed in today's demanding design profession.

As in the Associate in Science degree in Interior Design, the program strives to instill within each student an awareness of and desire to contribute to the profession and society at large through the development of a professional personal ethic that demands technically, environmentally, and socially responsible decision-making. The bachelor's curriculum culminates with a senior thesis project in which students must demonstrate competency and understanding of the technical and design concepts developed throughout their NEIT experience. Upon completion of this program, students may also choose to continue into the NEIT Master of Science in Construction Management degree program.

## Curriculum

<b>Term VII</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
ID	313	Finishes & Materials II	3	0	3
ID	314	History of Interior Design II	3	0	3
ID	315	Interior Construction Documents	2	2	3
ABT	337	Building Information Modeling II (BIM II)	2	4	4
<i>EN</i>	322	<i>Argumentative Research Writing (COM Core)</i>	4	0	4
			14	6	17

<b>Term VIII</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
ID	320	Interior Design Studio IV – Space Planning	2	6	5
ID	322	Textiles	3	0	3
ID	331	Furniture, Fixtures & Equipment	3	0	3
ELECTIVE		Technical Elective*	2/3	2	3/4
<i>ELECTIVE</i>		<i>300-400 Level Humanities or 200 Level Foreign Language Core</i>	4	0	4
			14/15	8	18/19

Term IX					
Course No.		Course Title	C	L	T
ID	330	Interior Design Studio V – Hospitality	2	6	5
ELECTIVE		Technical Elective	2/3	0/2	3/4
ELECTIVE		300-400 Level Math/Science Core	4	0	4
ELECTIVE		300-400 Level Social Sciences Core	4	0	4
			12/13	6/8	16/17

Term X					
Course No.		Course Title	C	L	T
ID	324	Advanced Lighting	3	0	3
ID	410	Interior Design Studio VI – Institutional	2	6	5
ELECTIVE		300-400 Level Math/Science Core	4	0	4
ELECTIVE		300-400 Level Humanities or 200 Level Foreign Language) Core	4	0	4
			13	6	16

Term XI					
Course No.		Course Title	C	L	T
ID	420	Project Estimating & Scheduling	2	2	3
ID	421	Portfolio Review	2	2	3
ABT	314	Construction Contracts & Specifications	3	0	3
ABT	427	Senior Thesis Proposal & Research	2	0	2
ELECTIVE		300-400 Level Communications Core	4	0	4
			13	4	15

Term XII					
Course No.		Course Title	C	L	T
ID	430	Interior Design Studio VII – Senior Thesis	2	6	5
ID	431	Professional Issues in Interior Design	3	0	3
ABT	433	Construction Law	3	0	3
ELECTIVE		Technical Elective*	2-3	2	3/4
			10/11	8	14/15
<i>Total Quarter Credit Hours = 96-99</i>					

**\* ID Technical Electives List**

Course No.		Course Title	C	L	T
ABT	127	Introduction to Construction Estimating	3	0	3
ABT	221	Visualization Studies I	2	2	3
ENG	300	Imagineering: Human Centered Design	3	2	4
MGM	105	Effective Teams and Projects	2	2	3
MGM	130	Accounting Fundamentals	3	2	4
MGM	210	Marketing Communications	3	2	4
MGM	264	Sales and Customer Service	2	2	3
MGM	310	Product and Service Marketing	3	2	4
MGM	313	Human Resource Management	3	2	4

MGM	320	Business Presentations	3	2	4
MGM	445	Negotiation	2	2	3
MGM	450	Career Leadership	3	2	4

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All bachelor's degree students are required to take 28 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses.

Subject to change.

## Marine Technology Certificate (with A.S. Completion Option)

The Marine Technology department offers associate degrees in Marine Technology and Advanced Marine Technology and a Certificate in Marine Technology. The Marine Technology department provides in-depth study and application of the most current trends in the marine maintenance and repair field.

The Certificate in Marine Technology offers a broad study of marine mechanics, marine business concepts, marine electricity, and marine systems installation, repair and service are the thrust of the program. Hands-on practical skills in installation, service, and repairs to mechanical, electrical, electronic, and hydraulic systems utilized by both recreational and commercial vessels are stressed throughout the curriculum to reinforce the in-depth theory classes. In addition, marine business procedures are taught using computerized learning methods with marine-specific software.

Graduates of the certificate program are skilled technicians ready for entry-level positions in such areas as marina/boatyard operations, vessel manufacturing, engine repair, support services for commercial vessels, engine room staff aboard commercial vessels, marine electronics installation, and marine wholesale/retail product sales.

### ACCREDITATION STATUS

NEIT's Certificate in Marine Technology program is an ABYC (American Boat and Yacht Council) Marine League of Schools member. The Marine League of Schools is comprised of post-secondary schools offering marine trade programs that provide ABYC standards-based educational programming. The Marine Technology program is conditionally accredited by the Marine Trades Accreditation Program, ABYC Foundation, 613 Third Street, Annapolis, MD 21146, 410-990-4460, ext. 200, MTAPs@abycinc.org.



## Curriculum

<b>Term I</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
MT	105	Introduction to Marine Technology	2	0	2
MT	116	Introduction to Engine Theory	3	0	3
MT	117	Introduction to Engine Lab	0	4	1
MT	118	Introduction to Electricity Fundamentals	3	0	3
MT	119	Introduction to Electricity Fundamentals Lab	0	4	1
AUB	260	OSHA Safety Practices	2	0	2
			10	8	12

<b>Term II</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
MT	120	Advanced Marine Electricity & Electronics Installation	4	6	7
MT	127	Marine Engine Applications	2	2	3
WEL	114	OFC / OAW, Electric Welding and Cutting	1	3	2
			7	11	12

<b>Term III</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
MT	138	Outboard Engine Overhaul and Systems Diagnosis	4	8	8
MT	217	Diesel Engine Service and Maintenance	2	6	4
MT	218	Marine Systems	2	2	3
			8	16	15

<b>Term IV</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
MT	215	Fuel Systems Theory and Introduction to EFI Applications	4	4	5
MT	216	Marine Drive Systems Theory and Service	4	4	5
MT	258	Elements of Marine Surveying	1	3	2
			9	11	12
			<b>34</b>	<b>46</b>	<b>51</b>
<i>Total Quarter Credits = 51</i> <i>Total Contact Hours = 800</i>					

## AS COMPLETION OPTION

<b>ACRA (Term V)</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
WEL	151	Industrial Welding I (SMAW)	1	4	3
MGM	230	Planning Your Financial Future	2	2	3
EN	106	<i>Service Industry Communications (COM Core)</i>	5	0	5
MA	105	<i>Basic College Math (MA/SCI Core)</i>	4	2	5
HU	289	<i>Racing Through Film (recommended) or other Humanities Core Elective</i>	4	0	4
			16	8	20

<b>ACRA (Term VI)</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
WEL	152	Industrial Welding II (Advanced SMAW)	1	4	3
EN	100	<i>Introduction to College Writing (COM Core)</i>	4	0	4
MA	200	<i>Applied Math for Business (MA/SCI Core)</i>	4	0	4
HU	242	<i>The Automobile and American Culture (recommended) or other Humanities Core Elective</i>	4	0	4
BU	236	<i>Small Business and the Law (SS Core)</i>	4	0	4
			17	4	19
<i>Total Quarter Credit Hours = 90</i>					
<i>Total Contact Hours 1250</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

## Mechanical Engineering Technology Associate in Science Degree

Students at the Associate in Science level of the Mechanical Engineering Technology program concentrate on product design. They study the design of products by learning design principles, sketching, problem-solving, and how both the engineering materials and manufacturing processes and machines are selected and scheduled. Students gain a wide background of knowledge in such areas as electricity and electronics, metrology and the measurements of products, manufacturing processes, and tool design.

Design is emphasized utilizing the latest in computer drafting technology (CAD). Product design also affords an opportunity to work in an area of special interest such as a hobby. Graduates could work in the design of recreational equipment such as wing surfers or bicycles, or possibly automotive design or even toy design. Product design can be an extremely exciting and rewarding career.



Every item that we buy today has been the result of a product design development process. Today's product designer works as a member of a product design and development team. Cross-functional product design and development teams are responsible for bringing a product from initial conception to product launch when it becomes available to the public. They also work to continually improve products after product launch. Graduates of the Mechanical Engineering Technology program are prepared for several types of design and technologist positions on these teams, including positions such as product designer, CADD designer, tool designer, R&D technician, or manufacturing technician.

Graduates with an Associate in Science in Mechanical Engineering Technology are eligible to continue on for a Bachelor of Science in Mechanical Engineering Technology.

## Curriculum

Term I					
Course No.		Course Title	C	L	T
ENG	118	Introduction to Engineering Technology and Lab	2	2	3
MCT	115	Computer-Aided Design I	3	2	4
MCT	212	Metrology	2	2	3
<b>CHOOSE ONE</b> (depending upon Math placement)					
MA	105	Basic College Math with Lab (MA/SCI Core)	4	2	5
MA	110	Introduction to College Math (MA/SCI Core)	4	0	4
MA	125	Technical Math I (MA/SCI Core)	4	0	4
			11	6/8	14/15

Term II					
Course No.		Course Title	C	L	T
MCT	124	Computer-Aided Design II	3	2	4
MCT	125	Manufacturing Processes	3	2	4
EN	100	Introduction to College Writing (COM Core)	4	0	4
<b>CHOOSE ONE</b> (depending upon Term I)					
MA	125	Technical Math I (MA/SCI Core)	4	0	4
MA	210	Technical Math II (MA/SCI Core)	4	0	4
			14	4	16

Term III					
Course No.		Course Title	C	L	T
MCT	113	Design Principles	2	2	3
MCT	134	Computer-Aided Design III	3	2	4
PHY	200	Physics I & Lab (MA/SCI Core)	3	2	4
<b>CHOOSE ONE</b> (depending upon Term II)					
MA	210	Technical Math II (MA/SCI Core)	4	0	4
ELECTIVE	100-200 Level Math/Science Core		4	0	4
			12	6	15

Term IV					
Course No.		Course Title	C	L	T
MCT	130	Engineering Materials	3	2	4
MCT	215	Statics	3	2	4
ERD	110	Fundamentals of Electronics	4	2	5
<i>EN</i>	<i>200</i>	<i>Workplace Communications (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			14	6	17

Term V					
Course No.		Course Title	C	L	T
MCT	224	Mechanics of Materials	3	2	4
MCT	239	Quality	3	2	4
ERD	246	Data Acquisition Systems	3	2	4
<i>PHY</i>	<i>300</i>	<i>Physics II &amp; Lab (MA/SCI Core)</i>	<i>3</i>	<i>2</i>	<i>4</i>
			12	8	16

Term VI					
Course No.		Course Title	C	L	T
MCT	235	Industrial Robotic Automation	3	2	4
MCT	237	Design Project	3	2	4
<i>ELECTIVE</i>		<i>100-200 Level Humanities, Social Sciences or Arts/Foreign Language Core</i>	<i>4</i>	<i>0</i>	<i>4</i>
<b>CHOOSE ONE</b>					
AUT	234	Automotive Engineering	3	2	4
ENG	100	Imagineering: Creative Prototyping	3	2	4
ENG	281	Engineering Internship	0	20	4
MCT	221	AutoCAD Essentials	3	2	4
MCT	240	Manufacturing Planning	4	0	4
MCT	241	Machining Fundamentals & CNC	2	2	3
MGM	133	Principles of Management	4	0	4
MGM	230	Planning Your Financial Future	2	2	3
MGM	243	Career Development	4	0	4
MGM	277	Leadership in Action	4	0	4
WEL	114	OFC / OAW, Electric Welding and Cutting	1	3	2
			10-14	6/24	14/16
<i>Total Quarter Credit Hours = 92-95</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 105/110 must still take 32 credits of core courses.

Subject to change.

## Mechanical Engineering Technology Bachelor of Science Degree

Manufacturing in the United States had its start in New England, where it has been the cornerstone of the economy. Today, New England has many new small manufacturing companies creating a job market for today's engineers and designers.

The Bachelor of Science in Mechanical Engineering Technology, which focuses on product and process design, addresses today's job market emphasizing product design, tool and machine design, and manufacturing methods, as well as supporting engineering professions such as development engineers, application engineers, CAD engineering specialties, and basic engineering problem-solvers. Students begin by studying the design of products by learning design principles, sketching, problem-solving, and how both the engineering materials and manufacturing processes and machines are selected and scheduled. Students gain a wide background of knowledge in such areas as electricity and electronics, metrology and the measurements of products, manufacturing processes, and tool design. Higher-level courses allow students to link the design aspect of product development to the production phase and facilitate delivery to the customer. Students learn the theory and application of hydraulics, pneumatics, dynamics, instrumentation, thermodynamics and heat transfer, and machine design. Additionally, students gain knowledge in mechatronics, materials and inventory control, and plastics design.

Near the end of the program, students are required to complete a capstone course, which provides an excellent opportunity to tie the coursework together into a comprehensive senior project.

Graduates are well prepared for employment opportunities in research and development, as well as the design and problem-solving professions in manufacturing and design departments. The opportunities for design professionals are diverse and they are needed for virtually every conceivable type of manufactured product, including those less obvious process-intensive product types such as clothing and foodstuffs. Product design offers exceptional opportunities for those especially creative individuals in such fields as machine design, specialized or customized product design, packing or container design, and toy design. Graduates are also prepared for employment opportunities as technologists in the area of production, quality, processes, automation, and tooling.

Upon completion of this program, students may also choose to continue into the NEIT Master of Science in Engineering Management degree program.

### ACCREDITATION STATUS

The Bachelor of Science Degree program in Mechanical Engineering Technology is accredited by the Engineering Technology Accreditation Commission (ETAC) of ABET, <http://www.abet.org>.



## Curriculum

Term I					
Course No.		Course Title	C	L	T
ENG	118	Introduction to Engineering Technology and Lab	2	2	3
MCT	115	Computer-Aided Design I	3	2	4
MCT	212	Metrology	2	2	3
<b>CHOOSE ONE</b> (depending upon Math placement)					
MA	105	Basic College Math with Lab (MA/SCI Core)	4	2	5
MA	110	Introduction to College Math (MA/SCI Core)	4	0	4
MA	125	Technical Math I (MA/SCI Core)	4	0	4
			11	6/8	14/15

Term II					
Course No.		Course Title	C	L	T
MCT	124	Computer-Aided Design II	3	2	4
MCT	125	Manufacturing Processes	3	2	4
EN	100	Introduction to College Writing (COM Core)	4	0	4
<b>CHOOSE ONE</b> (depending upon Term I)					
MA	125	Technical Math I (MA/SCI Core)	4	0	4
MA	210	Technical Math II (MA/SCI Core)	4	0	4
			14	4	16

Term III					
Course No.		Course Title	C	L	T
MCT	113	Design Principles	2	2	3
MCT	134	Computer-Aided Design III	3	2	4
PHY	200	Physics I & Lab (MA/SCI Core)	3	2	4
<b>CHOOSE ONE</b> (depending upon Term II)					
MA	210	Technical Math II (MA/SCI Core)	4	0	4
ELECTIVE		100-200 Level Math/Science Core	4	0	4
			12	6	15

Term IV					
Course No.		Course Title	C	L	T
MCT	130	Engineering Materials	3	2	4
MCT	215	Statics	3	2	4
ERD	110	Fundamentals of Electronics	4	2	5
EN	200	Workplace Communications (COM Core)	4	0	4
			14	6	17

Term V					
Course No.		Course Title	C	L	T
MCT	224	Mechanics of Materials	3	2	4
MCT	239	Quality	3	2	4
ERD	246	Data Acquisition Systems	3	2	4
PHY	300	Physics II & Lab (MA/SCI Core)	3	2	4
			12	8	16

Term VI					
Course No.		Course Title	C	L	T
MCT	235	Industrial Robotic Automation	3	2	4
MCT	237	Design Project	3	2	4
<b>ELECTIVE</b>		<i>100-200 Level Humanities, Social Sciences or Arts/Foreign Language Core</i>	4	0	4
<b>CHOOSE ONE</b>					
AUT	234	Automotive Engineering	3	2	4
ENG	100	Imagineering: Creative Prototyping	3	2	4
ENG	281	Engineering Internship	0	20	4
MCT	221	AutoCAD Essentials	3	2	4
MCT	240	Manufacturing Planning	4	0	4
MCT	241	Machining Fundamentals & CNC	2	2	3
MGM	133	Principles of Management	4	0	4
MGM	230	Planning Your Financial Future	2	2	3
MGM	243	Career Development	4	0	4
MGM	277	Leadership in Action	4	0	4
WEL	114	OFC / OAW, Electric Welding and Cutting	1	3	2
			10-14	6/24	14/16

Term VII					
Course No.		Course Title	C	L	T
MCT	300	Applications of Kinematics	3	2	4
MCT	314	Mechatronics	3	2	4
EN	322	<i>Argumentative Research Writing (COM Core)</i>	4	0	4
MA	310	<i>Calculus I (MA/SCI Core)</i>	4	0	4
			14	4	16

Term VIII					
Course No.		Course Title	C	L	T
MCT	310	Programmable Automation Controller Essentials	3	2	4
MCT	322	Fluid Power	3	2	4
EN	421	<i>Technical Communications (COM Core)</i>	4	0	4
MA	320	<i>Calculus II (MA/SCI Core)</i>	4	0	4
			14	4	16

Term IX					
Course No.		Course Title	C	L	T
MCT	317	CAD/CAM in Design and Manufacturing	3	2	4
MCT	336	Dynamics	3	2	4
MCT	422	Manufacturing Processes II	3	2	4
EC	301	<i>The Global Economy (SS Core)</i>	4	0	4
			13	6	16

Term X					
Course No.		Course Title	C	L	T
MCT	418	Advanced Computer Applications	2	2	3
MCT	424	Design with Plastics	3	2	4
MCT	431	Machine Design	3	2	4
ELT	475	Automation and Process Control & Lab	3	2	4
			11	8	15

Term XI					
Course No.		Course Title	C	L	T
MCT	324	Design for Manufacture and Assembly	3	2	4
ENG	400	Microsoft Applications for Engineers	3	0	3
ENG	489	Introduction to Senior Capstone	2	0	2
MGM	340	Engineering Finance	2	2	3
CHM	300	Chemistry & Lab (MA/SCI Core)	3	2	4
			13	6	16

Term XII					
Course No.		Course Title	C	L	T
MCT	433	Thermal Energy Analysis	3	2	4
ENG	499	Senior Capstone	4	2	5
<b>CHOOSE ONE</b>					
HU	315	Cultural Competence in the Workplace (HU Core)	4	0	4
HU	331	Ethics and Technology (HU Core)	4	0	4
SS	303	Communication in the Global Workplace (SS Core)	4	0	4
<b>CHOOSE ONE</b>					
MCT	416	Operations Management	4	0	4
ABT	124	Construction Methods & Materials	3	0	3
AUT	234	Automotive Engineering	3	2	4
ENG	259	Commercial Drone / UAV Certification	2	2	3
ENG	263	Commercial Utilization of Drones / UAVs	3	2	4
ENG	300	Imagineering: Human Centered Design	3	2	4
ENG	450	Special Topics in Engineering	0	10	4
ENG	481	Senior Engineering Internship	0	20	4
ERD	115	Computer and Networking Fundamentals for Engineering	3	2	4
IT	374	IT Project Management	3	0	3
MGM	310	Product and Service Marketing	3	2	4
MGM	313	Human Resource Management	3	2	4
MGM	332	Customer Relations and Sales	3	2	4
MGM	333	Organizational Behavior	3	2	4
MGM	445	Negotiation	2	2	3
MGM	450	Career Leadership	3	2	4
MGM	467	Entrepreneurship	3	2	4
WEL	114	OFC / OAW, Electric Welding and Cutting	1	3	2
WEL	151	Industrial Welding I (SMAW)	1	4	3
			11-15	4-24	15-17
<i>Total Quarter Credit Hours = 186-191</i>					

## Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All bachelor's degree students are required to take 28 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses.

Subject to change.

## Medical Laboratory Technician Associate in Science Degree

The Associate in Science in Medical Laboratory Technician prepares students as entry-level medical laboratory technicians. Medical laboratory technicians use basic and specialized laboratory skills, computer technology, and knowledge of the human body to provide accurate and precise laboratory results requested by the physician to help diagnose, treat, and monitor disease. Medical laboratory technicians must also demonstrate ethical and moral attitudes and principles. An attitude of respect for the patient and confidentiality of the patient's record and diagnoses must be maintained at all times.

The MLT curriculum offers courses in basic sciences (biology, chemistry, anatomy and physiology), mathematics, social sciences, and the humanities as well as both didactic (including student laboratories) and clinical experience courses in the areas of hematology, coagulation, microbiology, immunohematology, chemistry, parasitology, immunology, and urinalysis.

Upon completion of the program, students are eligible to sit for a national certification examination, passage of which is required for state licensure. The certification of choice for most employers is through the American Society of Clinical Pathology (ASCP) Board of Certification. Completion of the MLT Program is not contingent upon passage of any external certification examination.

### ACCREDITATION STATUS

The Medical Laboratory Technician program at New England Institute of Technology is accredited by the National Accrediting Agency of Clinical Laboratory Sciences (NAACLS), [www.naacls.org](http://www.naacls.org).

National Accrediting Agency for Clinical Laboratory Sciences  
5600 N. River Road, Suite 720  
Rosemont, IL 60018-5119  
(847) 939-3597  
(773) 714-8886 (FAX)  
info@naacls.org  
<http://www.naacls.org>

The logo for the National Accrediting Agency of Clinical Laboratory Sciences (NAACLS). It features the acronym "NAACLS" in a bold, black, sans-serif font. The letters are set against a light blue, semi-transparent circular background that has a subtle gradient and a slight shadow effect, giving it a three-dimensional appearance.

In accordance with the 2019 Reauthorization of the Higher Education Act, New England Institute of Technology hereby discloses only that the curriculum for this program meets the educational requirements for licensure as Medical Laboratory Technicians in the State of Rhode Island. The applicable licensing board in Rhode Island may impose additional requirements on candidates prior to granting a license, we encourage you to investigate those requirements. NEIT has not determined whether the curriculum for this program meets the educational requirements for licensure in any other states or territories and we encourage you to investigate the requirements in your state or territory prior to accepting an offer of admission at NEIT.

## Curriculum

Term I					
Course No.		Course Title	C	L	T
MLT	110	Introduction to Medical Laboratory Technology	2	2	4
BIO	100	Anatomy & Physiology I	4	0	4
BIO	101	Anatomy & Physiology I Lab	0	4	2
<i>MA</i>	<i>109</i>	<i>Math for Life Science (MA/SCI Core)</i>	4	0	4
<i>EN</i>	<i>100</i>	<i>Introduction to College Writing (COM Core)</i>	4	0	4
			14	6	18

Term II					
Course No.		Course Title	C	L	T
MLT	120	Urinalysis and Body Fluids	2	4	4
MLT	121	Immunology	4	0	4
BIO	120	Anatomy & Physiology II	4	0	4
BIO	121	Anatomy & Physiology II Lab	0	4	2
<i>CHM</i>	<i>101</i>	<i>Life Science Chemistry (MA/SCI Core)</i>	3	2	4
			13	10	18

Term III					
Course No.		Course Title	C	L	T
MLT	130	Hematology I	2	4	4
MLT	131	Medical Microbiology I	2	4	4
MLT	132	Clinical Chemistry I	2	4	4
<i>EN</i>	<i>110</i>	<i>Healthcare Communications (COM Core)</i>	4	0	4
			10	12	16

Term IV					
Course No.		Course Title	C	L	T
MLT	240	Hematology II	2	4	4
MLT	241	Medical Microbiology II	2	4	4
MLT	242	Clinical Chemistry II	2	4	4
<i>ELECTIVE</i>		<i>100-200 Level Social Sciences Core</i>	4	0	4
			10	12	16



Term V					
Course No.		Course Title	C	L	T
MLT	250	Immunohematology	2	4	4
MLT	252	Clinical Practicum I	0	21	5
<i>ELECTIVE</i>		<i>100-200 Level Humanities Core</i>	4	0	4
			6	25	13

Term VI					
Course No.		Course Title	C	L	T
MLT	260	Medical Laboratory Technology Seminar	2	0	2
MLT	262	Clinical Practicum II	0	12	4
<i>ELECTIVE</i>		<i>100-200 Level Humanities Core</i>	4	0	4
<i>ELECTIVE</i>		<i>100-200 Level Social Sciences Core</i>	4	0	4
			10	12	14
<i>Total Quarter Credit Hours = 95</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory / practicum hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take a minimum of 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 109 must still take 32 credits of core courses.

Subject to change.

## Nursing Certificate

The Practical Nurse Certificate program prepares students with the knowledge and skills to become a Licensed Practical Nurse (LPN) with strong foundational knowledge to further their career in associate nursing education. Graduates of the program are eligible to take the National Council Licensing Examination for Practical Nurses (NCLEX-PN). The role of the LPN is to provide care for the physical, mental, spiritual, and emotional needs of their patients. LPNs are advocates and health educators for patients, families, and communities. The nursing profession is ultimately about caring for people. Today's nurse must also possess critical thinking, and clinical decision-making skills to provide quality, safe patient care. Student learning is immersed in didactic clinical, simulation, and interprofessional experiences in a variety of health care settings. In addition, students are prepared for real-world practice in our new, fully equipped labs with the latest nursing simulation technologies, where they develop confidence with clinical decision-making, communication, teamwork, and leadership. This five-term program may

be completed in as little as 12 months. Graduates are prepared to work in a wide variety of healthcare settings, including home health, skilled facilities, long-term care, rehabilitation, healthcare clinics, and outpatient care. Graduates, upon obtaining LPN licensure, are encouraged to continue into the Associate of Science Degree in Nursing (AS) at NEIT while working as a Licensed Practical Nurse.

## ACCREDITATION STATUS

Effective October 8, 2021, this nursing program is a candidate for initial accreditation by the Accreditation Commission for Education in Nursing. This candidacy status expires on October 8, 2023.

Accreditation Commission for Education in Nursing (ACEN)  
3343 Peachtree Road NE, Suite 850  
Atlanta, GA 30326  
(404) 975-5000  
<http://www.acenursing.com/candidates/candidacy.asp>

Note: Upon granting of initial accreditation by the ACEN Board of Commissioners, the effective date of initial accreditation is the date on which the nursing program was approved by the ACEN as a candidate program that concluded in the Board of Commissioners granting initial accreditation.

## Curriculum

<b>Term I</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
NRP	110	Foundations of Practical Nursing I	4	0	4
NRP	111	Foundations of Practical Nursing I Clinical	0	14	3
HS	104	Survey of Human Anatomy	4	0	4
<i>EN</i>	<i>100</i>	<i>Introduction to College Writing (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			12	14	15

<b>Term II</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
NRP	120	Foundations of Practical Nursing II	4	0	4
NRP	121	Foundations of Practical Nursing II Clinical	0	14	3
<i>BIO</i>	<i>107</i>	<i>Comprehensive Anatomy &amp; Physiology I &amp; Lab</i>	<i>4</i>	<i>4</i>	<i>6</i>
<i>MA</i>	<i>109</i>	<i>Math for Life Science (MA/SCI Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			12	18	17

<b>Term III</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
NRP	130	Practical Nursing Medical/Surgical I	4	0	4
NRP	131	Practical Nursing Medical/Surgical I Clinical	0	10	2
NRP	134	Practical Nursing Psychiatric/Mental Health	4	0	4
NRP	135	Practical Nursing Psychiatric/Mental Health Clinical	0	10	2
<i>PS</i>	<i>201</i>	<i>Introduction to Psychology (SS Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			12	20	16

Term IV					
Course No.		Course Title	C	L	T
NRP	240	Practical Nursing Care of Child and Family	4	0	4
NRP	241	Practical Nursing Care of Child and Family Clinical	0	10	2
NRP	242	Practical Nursing Care of Woman and Newborn	4	0	4
NRP	243	Practical Nursing Care of Woman and Newborn Clinical	0	10	2
<i>BIO</i>	<i>133</i>	<i>Pharmacology for the Practical Nurse</i>	<i>4</i>	<i>0</i>	<i>4</i>
			12	20	16

Term V					
Course No.		Course Title	C	L	T
NRP	250	Practical Nursing Medical/Surgical II	8	0	8
NRP	251	Practical Nursing Medical/Surgical II Clinical	0	18	3
NRP	259	Practical Nursing Leadership and Management	4	0	4
			12	18	15
<i>Total Quarter Credit Hours =79 (Total nursing credits=53, Technical HS= 4, Total gen eds credits=22)</i> <i>Total clinical/simulation/skills/hours= 900 Total Program hours=1500</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

Subject to change.

## Nursing Associate in Science Degree

The Associate in Science Degree in Nursing program prepares students with the knowledge and skills needed to begin a rewarding career as a Registered Nurse as well a strong foundation for baccalaureate education and lifelong learning. Graduates of the program are eligible to take the National Council Licensing Examination for Registered Nurses (NCLEX-RN). Registered Nurses (RNs) provide for the physical, mental, spiritual, and emotional needs of their patients. RNs are advocates and health educators for patients, families, and communities.

The nursing profession is ultimately about caring for people. Today's nurse must also possess high-tech and decision-making skills required to provide high quality, safe patient care. At New England Tech, students get hands-on experience in a variety of health care settings. In addition, students are prepared for real-world practice in our new, fully equipped labs with the latest nursing simulation technologies, where they develop confidence with clinical decision-making, communication, teamwork, and leadership.

This six-term program may be completed in as little as 18 months. Qualifying LPN applicants from the Nursing (LPN to Associate in Science Degree) Articulation Program Option will enter Term 2 of the AS Nursing Program and will complete a course titled LPN to RN Transition to Practice as part of the first term.

Graduates of the Associate in Science Degree in Nursing program are eligible to take the NCLEX-RN. Graduates are prepared to work in a wide variety of healthcare settings, including hospitals, home health, long-term care, healthcare clinics, and outpatient care. Graduates are prepared and encouraged to continue on for a Bachelor of Science Degree in Nursing (RN to BSN) at NEIT while working as a Registered Nurse.

## ACCREDITATION STATUS

The associate nursing program at New England Institute of Technology at the East Greenwich campus located in East Greenwich, Rhode Island, is accredited by the:

Accreditation Commission for Education in Nursing (ACEN)  
3390 Peachtree Road NE, Suite 1400 Atlanta, GA 30326  
(404) 975-5000

The most recent accreditation decision made by the ACEN Board of Commissioners for the associate nursing program is Continuing Accreditation.

View the public information disclosed by the ACEN regarding this program at <http://www.acenursing.us/accreditedprograms/programSearch.htm>

In accordance with the 2019 Reauthorization of the Higher Education Act, New England Institute of Technology hereby discloses only that the curriculum for this program meets the educational requirements for licensure as RNs and APRNs in the State of Rhode Island. The applicable licensing board in Rhode Island may impose additional requirements on candidates prior to granting a license, we encourage you to investigate those requirements. NEIT has not determined whether the curriculum for this program meets the educational requirements for licensure in any other states or territories and we encourage you to investigate the requirements in your state or territory prior to accepting an offer of admission at NEIT.

## Curriculum

Term I*					
Course No.		Course Title	C	L	T
NUR	112	Foundations of Nursing Practice	4	0	4
NUR	113	Foundations of Nursing Practice Clinical	0	4	2
BIO	107	Comprehensive Anatomy & Physiology I and Lab	4	4	6
MA	109	<i>Math for Life Science (MA/SCI Core)</i>	4	0	4
			12	8	16

\*Qualified graduates of a Practical Nurse Certificate Program who are Licensed Practical Nurses may enter this program in Term II.

Term II					
Course No.		Course Title	C	L	T
NUR	124	Fundamentals of Medical/Surgical Nursing	4	0	4
NUR	125	Fundamentals of Medical/Surgical Nursing Clinical	0	8	2
BIO	127	Comprehensive Anatomy & Physiology II and Lab	4	4	6
<b>CHOOSE ONE</b> (depending upon entrance into the program)					
<i>EN</i>	<i>100</i>	<i>Introduction to College Writing (COM Core)</i>	4	0	4
NUR	128	LPN to RN Transition to Practice (for qualified LPNs who are graduates of a Practical Nurse Certificate Program)	4	0	4
			12	12	16

Term III					
Course No.		Course Title	C	L	T
NUR	133	Psychiatric and Mental Health Nursing	4	0	4
NUR	134	Psychiatric and Mental Health Nursing Clinical	0	8	2
<i>EN</i>	<i>110</i>	<i>Healthcare Communications (COM Core)</i>	4	0	4
<i>SO</i>	<i>203</i>	<i>Social Problems (SS Core)</i>	4	0	4
			12	8	14

Term IV					
Course No.		Course Title	C	L	T
NUR	240	Medical Surgical Nursing	5	0	5
NUR	241	Medical Surgical Nursing Clinical	0	8	3
<i>BIO</i>	<i>122</i>	<i>Microbiology</i>	3	2	4
<i>BIO</i>	<i>243</i>	<i>Pharmacology for the Registered Nurse</i>	4	0	4
			12	10	16

Term V					
Course No.		Course Title	C	L	T
NUR	282	Nursing Care of the Child and Family	4	0	4
NUR	283	Nursing Care of the Child and Family Clinical	0	8	2
NUR	284	Nursing Care of the Woman and Newborn	4	0	4
NUR	285	Nursing Care of the Woman and Newborn Clinical	0	8	2
<i>PS</i>	<i>140</i>	<i>Life-Span Development (SS Core)</i>	4	0	4
			12	16	16

Term VI					
Course No.		Course Title	C	L	T
NUR	258	Advanced Medical Surgical Nursing	8	0	8
NUR	259	Advanced Medical Surgical Nursing Clinical	0	8	4
<i>ELECTIVE</i>		<i>100-200 Level Humanities Core</i>	4	0	4
			12	8	16

\*\*\* Total Quarter Credit Hours = 94 Quarter Credits Hours/60 Semester Credit Hours

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week\*

T = Total Quarter Hours where each lecture hour per week is one credit and each pair of laboratory hours or every three clinical hours per week is one credit.

\*3 Clinical Hours = 1 Quarter Hour Credit. 2 Laboratory Hours (with pre- and post-lab work) = 1 Quarter Hour Credit.

*Please note: All liberal arts core courses are listed in italics.*

All associate degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 109 must still take 32 credits of core courses.

Subject to change.

## Nursing – RN to BSN Bachelor of Science Degree

The RN to BSN program at NEIT allows the Registered Nurse with an earned associate degree or nursing diploma and an active unencumbered license, to continue their education and earn a Bachelor of Science Degree in Nursing (BSN) entirely online. Baccalaureate-prepared nurses advance the profession of nursing, improve the quality of patient care, and contribute to the well-being of the community. Reasons for pursuing the baccalaureate degree vary. Students who decide to pursue a BSN may be ready to assume more professional responsibility, pursue a position that requires a BSN or to prepare for graduate school. Whatever the reason, the RN to BSN program at NEIT is designed to help students reach their professional goals.

Material covered integrates clinical decision-making and healthcare informatics with the role of the registered nurse. Courses include the theory and research-based knowledge in the provision of care to the client, family, and community in a global society with flexibility to adapt to the changing nature of healthcare and healthcare roles. Students also learn how to integrate care across multiple settings, managing the interactions between and among components of the integrated network of healthcare services. Graduates will be prepared for positions in primary care, community health settings, acute care, rehabilitation and long-term care facilities. Upon completion of this program, students may also choose to continue into the NEIT Master of Science in Nursing degree program.

### ACCREDITATION STATUS

The baccalaureate nursing program at New England Institute of Technology located in East Greenwich, Rhode Island, is accredited by the:

Accreditation Commission for Education in Nursing (ACEN)  
3390 Peachtree Road NE, Suite 1400 Atlanta, GA 30326  
(404) 975-5000

The most recent accreditation decision made by the ACEN Board of Commissioners for the baccalaureate nursing program is Continuing Accreditation.

View the public information disclosed by the ACEN regarding this program at <http://www.acenursing.us/accreditedprograms/programSearch.htm>

## Curriculum

### *Sample Part-Time Plan of Study*

The RN to BSN program may be completed in two years of part-time study

Course Schedule subject to change

<b>Term VII</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
NUR	377	Concepts of Professional Nursing	4	10	9
EN	331	<i>Research Writing in the Social Sciences (COM Core)</i>	4	0	4
			8	10	13

<b>Term VIII</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
NUR	387	Quality and Safety	4	10	9
BIO	376	<i>Pathophysiology: A Clinical Approach for Nurses (MA/SCI Core)</i>	4	4	6
			8	14	15

<b>Term IX</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
NUR	397	Health Assessment Across the Lifespan	4	10	9
PS	410	<i>Applied Research Statistics (SS Core)</i>	4	0	4
			8	10	13

<b>Term X</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
NUR	407	Principles of Prevention and Population Health	4	10	9
EN	422	<i>Writing in the Health Sciences (COM Core)</i>	4	0	4
			8	10	13

<b>Intersession</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
<i>ELECTIVE</i>		<i>300-400 Level Humanities Core</i>	4	0	4
<i>ELECTIVE</i>		<i>300-400 Level Social Sciences, Humanities or 200 Level Foreign Language Core</i>	4	0	4
			8	0	8

Term XI					
Course No.		Course Title	C	L	T
NUR	417	Nursing Research and Evidence-Based Practice	6	6	9
NUR	447	Capstone	6	12	12
			12	18	21
<i>Total Quarter Credit Hours = 83 + 5 (NUR 381) Credits for active RN license</i>					
<i>Total Program Credits = 88 Quarter Credit Hours</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory/clinical hours per week

T = Total Quarter Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

Please Note: NUR 377 is the required first nursing course and NUR 447 must be the last course taken.

The remaining courses may be taken in any sequence with the following exceptions:

- EN 331 Research Writing must be taken no later than the second term.

Subject to change.

## Nursing Master of Science Degree

The Master of Science Degree in Nursing (MSN) (Family Nurse Practitioner) program at NEIT allows the Registered Nurse with an earned bachelor's degree (BS) and an active unencumbered license, to continue their education and earn an MSN. The master's-prepared nurse advances the profession of nursing, improves the quality of patient care, and contributes to the well-being of the community. Reasons for pursuing the MSN degree vary. Students who decide to pursue an MSN may be ready to assume a more professional responsibility as an Advanced Practice Registered Nurse (APRN).

**Family Nurse Practitioners** serve as the primary health care providers in many settings. The Family Nurse Practitioner (FNP) Program focuses on developing the knowledge and skills necessary to deliver nursing care throughout the lifespan, including diverse and under-served areas. This program will prepare students with the academic knowledge and clinical skills to be a leader in health promotion, disease prevention, assessment, and management of common acute and chronic illnesses across the health continuum. Upon completion of this program, graduates from the FNP program are eligible to take the Family Nurse Practitioner certification exam given by the American Nurses Credentialing Center (ANCC), or the American Academy of Nurse Practitioners (AANP).

*\* This program includes a rigorous curriculum integrating the 3 Ps – Advanced Pathophysiology, Physical Assessment and Pharmacology, as recommended by the American Association of Colleges of Nursing Essentials of Master's Education in Nursing programs (AACN, 2011).*



## ACCREDITATION STATUS

The master's nursing program at New England Institute of Technology located in East Greenwich, Rhode Island is accredited by the: Accreditation Commission for Education in Nursing (ACEN), 3390 Peachtree Road NE, Suite 1400 Atlanta, GA 30326 (404) 975-5000.

The most recent accreditation decision made by the ACEN Board of Commissioners for the master's nursing program is Initial Accreditation.

View the public information disclosed by the ACEN regarding this program at <http://www.acenursing.us/accreditedprograms/programSearch.htm>

In accordance with the 2019 Reauthorization of the Higher Education Act, New England Institute of Technology hereby discloses only that the curriculum for this program meets the educational requirements for licensure as RNs and APRNs in the State of Rhode Island. The applicable licensing board in Rhode Island may impose additional requirements on candidates prior to granting a license, we encourage you to investigate those requirements. NEIT has not determined whether the curriculum for this program meets the educational requirements for licensure in any other states or territories and we encourage you to investigate the requirements in your state or territory prior to accepting an offer of admission at NEIT.

## Curriculum

Term I					
Course No.		Course Title	C	L	T
NUR	500	Theoretical Foundations for Nursing Practice	4	0	4
NUR	505	Advanced Pathophysiology	4	0	4
			8	0	8

Term II					
Course No.		Course Title	C	L	T
NUR	515	Pharmacology for Advanced Practice Nurses	4	0	4
NUR	520	Advanced Physical Assessment	4	0	4
			8	0	8

Term III					
Course No.		Course Title	C	L	T
PH	520	Epidemiology	4	0	4
PH	530	Research/Methods	4	0	4
NUR	555	Clinical Immersion (30 clinical hours)	2	0	2
			10	0	10

Term IV					
Course No.		Course Title	C	L	T
NUR	600	Women's Health	4	0	4
NUR	601	Women's Health Practicum (144 clinical hours)	4	0	4
			8	0	8

Term V					
Course No.		Course Title	C	L	T
NUR	605	Primary Care of the Infant, Child, and Adolescent	4	0	4
NUR	606	Primary Care of the Infant, Child, and Adolescent Practicum (144 clinical hours)	4	0	4
			8	0	8

Term VI					
Course No.		Course Title	C	L	T
NUR	610	Primary Care of the Adult I	4	0	4
NUR	611	Primary Care of the Adult I Practicum (144 clinical hours)	4	0	4
			8	0	8

Term VII					
Course No.		Course Title	C	L	T
NUR	615	Primary Care of the Adult II	4	0	4
NUR	616	Primary Care of the Adult II Practicum (144 clinical hours)	4	0	4
			8	0	8

Term VIII					
Course No.		Course Title	C	L	T
NUR	620	Primary Care of the Adult III	4	0	4
NUR	621	Primary Care of the Adult III Practicum (144 clinical hours)	4	0	4
			8	0	8
<i>Total Quarter Credit Hours = 66</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory /clinical hours per week

T = Total Quarter Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

*Subject to change.*

## Occupational Therapy Assistant Associate in Science Degree

The Occupational Therapy Assistant (OTA) associate degree program prepares students to help a variety of people in many different environments. OTAs assist people of all ages, with varying abilities or handicaps, to gain independence in their day-to-day activities. The primary focus of occupational therapy practice is to enhance participation in meaningful occupations for all people of all ages, regardless of the type of limitation which interferes with participation in life activities. Occupational therapy is a

hands-on career, which literally involves working to change people's lives for the better. Because every client has a unique set of circumstances, OTAs help to develop and carry out an individualized plan of care for each client.

Graduates of the OTA Associate in Science degree program work not only in traditional medical environments but also work in community-based settings, work environments, schools and other agencies addressing the needs of individuals with disabilities. In the field, the OTA works cooperatively with a registered occupational therapist (OTR) who is responsible for all aspects of occupational therapy care. Most of the time, however, the OTA works independently with individual clients or groups. In the associate degree program, students learn to act as part of the rehabilitation team, collecting data needed for the client's initial evaluation, carrying out treatment plans, using technology to help people overcome disabilities, and designing activities to help people reach their goals.

After completion of all classroom training on campus and Level I Fieldwork off campus, students enter the community for Level II Fieldwork. The two Level II Fieldwork experiences give students many opportunities to apply classroom training to real life situations. Upon successful completion of all degree requirements, students will be eligible to sit for the National Certification Examination for Occupational Therapy Assistants. Employment is available in a wide variety of settings in the areas of physical disabilities, pediatrics, and geriatrics, as well as in mental health and wellness programs. In addition, graduates of this program are eligible to continue on for a Bachelor of Science Degree in Rehabilitation Sciences or apply for entry to the Master of Science Degree in Occupational Therapy.

### ACCREDITATION STATUS

The Occupational Therapy Assistant Program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 6116 Executive Boulevard, Suite 200, North Bethesda, MD 20852-4929. ACOTE's telephone number, c/o AOTA is (301) 652-AOTA and the website is [www.acoteonline.org](http://www.acoteonline.org). Graduates of the program will be



able to sit for the national certification examination for the occupational therapy assistant administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of this exam, the individual will be a Certified Occupational Therapy Assistant (COTA). Most states, including Rhode Island, require licensure in order to practice. State licensure is usually based on the results of the NBCOT Certification Examination. A felony conviction may affect a graduate's ability to sit for the NBCOT certification examination or attain state licensure.

*ACOTE® accredited occupational therapy and occupational therapy assistant educational programs satisfy the states' educational requirements in all states, the District of Columbia, and Puerto Rico. Students graduating from an ACOTE® accredited occupational therapy and occupational therapy assistant educational program are eligible to take the National Board for Certification in Occupational Therapy (NBCOT) certification exam and apply for licensure in all states, the District of Columbia, and Puerto Rico. For more information regarding state qualifications and licensure requirements, please refer to the [AOTA State Licensure](#) webpage.*

## Curriculum

<b>Term I</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
OTA	110	Foundations of Occupational Therapy Assistant Practice	4	0	4
OTA	111	Foundations of Occupational Therapy Assistant Practice Lab	0	4	2
BIO	100	<i>Anatomy and Physiology I</i>	4	0	4
BIO	101	<i>Anatomy and Physiology I Lab</i>	0	4	2
AHS	120	<i>Medical Terminology I</i>	1	0	1
EN	100	<i>Introduction to College Writing (COM Core)</i>	4	0	4
			13	8	17

<b>Term II</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
OTA	122	Development of Human Occupation Across the Lifespan	4	0	4
OTA	137	Mental Health Populations and Practice for Occupational Therapy	3	4	5
OTA	138	Level I Fieldwork – Mental Health	0	3	1
BIO	120	<i>Anatomy and Physiology II</i>	4	0	4
BIO	121	<i>Anatomy and Physiology II Lab</i>	0	4	2
AHS	123	<i>Medical Terminology II</i>	1	0	1
			12	11	17

<b>Term III</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
OTA	123	Functional Kinesiology	2	4	4
OTA	132	Pediatric Populations	4	0	4
OTA	133	Pediatric Practice for Occupational Therapy	3	4	5
EN	110	<i>Healthcare Communications (COM Core)</i>	4	0	4
			13	8	17

<b>Term IV</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
OTA	238	Level I Fieldwork – Adult Rehab	0	3	1
OTA	242	Adult Populations	4	0	4
OTA	243	Adult Practice for Occupational Therapy	3	6	6
OTA	250	Gerontology Practice for Occupational Therapy	3	0	3
<b>CHOOSE ONE</b> (depending upon Math placement)					
MA	100/ 110	<i>Introduction to College Math (MA/SCI Core)</i>	4	0	4
ELECTIVE	<i>100-200 Level Math/Science Core</i>		4	0	4
			14	9	18

Term V					
Course No.		Course Title	C	L	T
OTA	255	Practice Issues for the Occupational Therapy Assistant	0	4	2
OTA	258	Level II Fieldwork* I	0	30	10
			0	34	12

Term VI					
Course No.		Course Title	C	L	T
OTA	263	Senior Capstone and Practice Development Seminar	4	0	4
OTA	268	Level II Fieldwork* II	0	30	10
			4	30	14

Intersession (This will vary depending upon the start date)					
Course No.		Course Title	C	L	T
<i>ELECTIVE</i>		<i>100-200 Level Social Sciences Core</i>	4	0	4
<i>ELECTIVE</i>		<i>100-200 Level Humanities (or Arts/Foreign Language) Core</i>	4	0	4
			8	0	8
<i>Total Quarter Credit Hours = 103</i>					

**Students with no college credits will need to take at least one course during intersession.**

#### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

\* 3 Fieldwork hours = 1 quarter credit hour

Level I Fieldwork offered in Terms 2 and 4 for a total of 60 hours. The first Level II Fieldwork begins in Term 5 during the 3<sup>rd</sup> week of the term. The second Level II Fieldwork begins in Term 6. Each Fieldwork includes full-time placement in a facility for 8 weeks for each placement; for a total of 16 weeks.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 100/110 must still take 32 credits of core courses.

**PLEASE NOTE:** Students in this program are required to maintain a minimum grade of C+ in all OTA courses.

Subject to change.

## Occupational Therapy Master of Science Degree

The Master of Science in Occupational Therapy (MSOT) program at NEIT allows certified occupational therapy assistants to expand on their academic and clinical experience to become leaders in their profession. This program is designed to be a bridge for professionals to move to the next level of responsibility as registered occupational therapists. The program is offered in a weekend format that requires students to be on campus five (5) weekends in each ten-week academic term and to participate online during alternate weeks. A student following the MSOT program as outlined may complete the program in ten (10) terms. Registered occupational therapists (OTRs) assist people of all ages, with varying abilities or handicaps, to become independent in their day-to-day activities. Because every client has a unique set of circumstances, OTRs evaluate, develop, and help carry out a unique treatment plan for each one.

As an OTR, graduates can work in traditional medical environments or in any setting where people need to learn new ways to live satisfying and productive lives. In the field, OTRs often supervise occupational therapy assistants and other personnel. Students learn to use a variety of assessment techniques to identify a client's functional problems as well as their underlying physical, mental, and psychosocial problem areas. The OTR takes the lead in using pertinent personal information as well as theoretical and scientific evidence to establish appropriate intervention plans for individual clients or groups. The OTR acts as part of the rehabilitation team, participating in various interdisciplinary meetings and assuring that all occupational therapy intervention meets the legal, ethical, and fiscal requirements that apply to various medical and community-based settings.

After completion of all classroom training on campus, and Level I Fieldwork off campus, students enter the community for Level II Fieldwork. Two full-time twelve-week Level II Fieldwork experiences give students many opportunities to apply classroom training in real-life situations. Upon successful completion of all degree requirements, students will be eligible to sit for the National Certification Examination for Occupational Therapists. Those who complete the program and pass the exam are awarded the title of Occupational Therapist Registered. Employment is available in a wide variety of settings in the areas of physical disabilities, pediatrics, and geriatrics, as well as in mental health and wellness programs.

### ACCREDITATION STATUS

The entry-level occupational therapy master's degree program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE), of the American Occupational Therapy Association (AOTA), located at 6116 Executive Boulevard, Suite 200, North Bethesda, MD 20852-4929. ACOTE's telephone number, c/o AOTA is (301) 652-AOTA and the website is [www.acoteonline.org](http://www.acoteonline.org).

Graduates of the program will be eligible to sit for the national certification examination for the occupational therapist administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of this exam, the individual will be an Occupational Therapist, Registered (OTR). In addition, most states require licensure in order to practice; however, state licenses are usually based on the results of the NBCOT



Certification Examination. A felony conviction may affect a graduate's ability to sit for the NBCOT certification examination or attain state licensure.

*ACOTE® accredited occupational therapy and occupational therapy assistant educational programs satisfy the states' educational requirements in all states, the District of Columbia, and Puerto Rico. Students graduating from an ACOTE® accredited occupational therapy and occupational therapy assistant educational program are eligible to take the National Board for Certification in Occupational Therapy (NBCOT) certification exam and apply for licensure in all states, the District of Columbia, and Puerto Rico. For more information regarding state qualifications and licensure requirements, please refer to the [AOTA State Licensure](#) webpage.*

## Curriculum

<b>Summer Term</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
<i>EN</i>	331	<i>Research Writing (COM Core)*</i>	4	0	4

\*EN 331 can be taken during the summer term before the start of the program in October.

<b>Term I</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
<i>OT</i>	310	<i>Service Delivery Models in Occupational Therapy</i>	4	0	4
<i>ELECTIVE</i>		<i>300-400 Level Math/Science Core</i>	4	0	4
<b>CHOOSE ONE</b>					
<i>EN</i>	422	<i>Writing in the Health Sciences (COM Core) (preferred)</i>	4	0	4
<i>EN</i>	421	<i>Technical Communications (COM Core)</i>	4	0	4
			12	0	12

<b>Term II</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
<i>BIO</i>	440	<i>Functional Neuroscience (MA/SCI Core)</i>	4	0	4
<i>OT</i>	320	<i>Theoretical and Clinical Reasoning in Occupational Therapy</i>	4	0	4
<i>ELECTIVE</i>		<i>300-400 Level Humanities Core</i>	4	0	4
			12	0	12

<b>Term III</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
<i>OT</i>	325	<i>Kinesiology</i>	2	2	3
<i>PS</i>	410	<i>Applied Research Statistics (SS Core)</i>	4	0	4
<i>ELECTIVE</i>		<i>300-400 Level Social Sciences Core</i>	4	0	4
			10	2	11

<b>Term IV</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
<i>OT</i>	410	<i>Critical Analysis of Scientific Literature</i>	4	0	4
<i>OT</i>	530	<i>Service Management in Mental Health</i>	4	2	5
<i>OT</i>	536	<i>Level I A Fieldwork</i>	0	3	1
			8	5	10

Term V					
Course No.		Course Title	C	L	T
OT	540	Service Management in Pediatrics	4	2	5
OT	545	Leadership and Advocacy	4	0	4
			8	2	9

Term VI					
Course No.		Course Title	C	L	T
OT	548	Research Design	4	0	4
OT	550	Service Management for Adult Rehabilitation	4	2	5
OT	556	Level I C Fieldwork	0	3	1
			8	5	10

Term VII					
Course No.		Course Title	C	L	T
OT	560	Service Management in Geriatrics	4	2	5
OT	575	Wellness, Participation and Practicum in Population-Based OT Services	4	4	6
			8	6	11

Term VIII					
Course No.		Course Title	C	L	T
OT	670	Practice Issues for the Occupational Therapist Seminar	6	0	6
OT	673	Capstone Project	2	4	4
			8	4	10

Term IX					
Course No.		Course Title	C	L	T
OT	688	Level II A Fieldwork – full time (12 weeks)	0	35	12
			0	35	12

Term X					
Course No.		Course Title	C	L	T
OT	698	Level II B Fieldwork – full time (12 weeks)	0	35	12
			0	35	12
<i>Total Quarter Credit Hours = 113</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

Subject to change.



## Occupational Therapy Post-Professional Doctoral Degree

The Post-Professional Occupational Therapy Doctorate degree at New England Institute of Technology allows registered occupational therapists to expand on their academic and clinical experience to become global citizens promoting health, wellness and participation in diverse populations. This program is designed to elevate professionals to a higher level of responsibility as leaders in the profession. The curriculum assumes enrolled students enter the program as practicing occupational therapists who are interested in pursuing an advanced degree in the field.

The design of the proposed PP-OTD program is forward-thinking and focused on the completion of the student individualized doctoral project. Students of this program represent individuals already practicing within the profession who aspire to be leaders within their focused area of practice. The PP-OTD program will provide students with a comprehensive program that is supportive and individualized and that utilizes their unique background and experience as well as the collective experience of their classmates, instructors and mentors.

The program is offered fully online. Students participate in an engaging online learning environment throughout a ten-week academic term. This model provides the flexibility required by working professionals who may study at their convenience in an asynchronous learning environment.

### Curriculum

Term I					
Course No.		Course Title	C	L	T
OT	902	Quantitative Analysis	4	0	4
OT	903	Reflective Practice	4	0	4
			8	0	8

Term II					
Course No.		Course Title	C	L	T
OT	901	Post-Professional Doctoral Project I	4	0	4
OT	905	Qualitative Analysis	4	0	4
			8	0	8

Term III					
Course No.		Course Title	C	L	T
OT	904	Doctoral Project II: Project Design and Proposal	4	0	4
OT	906	Wellness, Participation and Health Promotion	4	0	4
			8	0	8

Term IV					
Course No.		Course Title	C	L	T
OT	907	Doctoral Project III: Project Implementation	4	0	4
OT	908	Entrepreneurship	3	0	3
			7	0	7

Term V					
Course No.		Course Title	C	L	T
OT	909	Issues with Contemporary and Future Practice	3	0	3
OT	910	Doctoral Project IV: Doctoral Project Completion and Defense	4	0	4
			7	0	7
<i>Total Quarter Credit Hours = 38</i>					

If Needed					
Course No.		Course Title	C	L	T
OT	990	Doctoral Project Continuation	1	0	1

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*Subject to change.*

## Paramedic Technology Associate in Science Degree

The Associate in Science Degree in Paramedic Technology provides entry-level opportunities for students to pursue a career as pre-hospital care providers. Paramedics work in the fast-paced world of emergency medicine in rescue vehicles and emergency rooms as well as in doctors' offices and other health care facilities. Paramedics provide for the needs of their patients and are advocates and health educators for patients, families and communities. They educate people to take proactive measures to ensure they live a healthier life. The goal of the program is "to prepare competent entry-level Paramedics in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains with or without exit points at the Advanced Emergency Medical Technician and/or Emergency Medical Technician, and/or Emergency Medical Responder levels."

This paramedic program prepares licensed Emergency Medical Technician (EMT) professionals to provide care for diverse populations within the community. In order to do so, students need to acquire paramedic knowledge, clinical skills, highly-developed communication and clinical reasoning and judgment skills. Students without an EMT license are able to prepare for the license in a separate preliminary term and must pass the licensure exam by the third term of the Paramedic Technology program.

Throughout the curriculum, students engage in clinical and laboratory experiences to complement classroom learning.

Graduates of the NEIT Associate in Science in Paramedic Technology program are prepared to work in a wide variety of emergency settings, as well as hospitals, home health care, long-term care,

healthcare clinics, public health, and outpatient care, and are eligible to take the National Registry of Emergency Medical Technician paramedic level exam.

## ACCREDITATION STATUS

The New England Institute of Technology Paramedic Technology program has been issued a Letter of Review by the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP Executive Office). This letter is NOT a CAAHEP accreditation status, it is a status signifying that a program seeking initial accreditation has demonstrated sufficient compliance with the accreditation Standards through the Letter of Review Self Study Report (LSSR) and other documentation. Letter of Review is recognized by the National Registry of Emergency Medical Technicians (NREMT) for eligibility to take the NREMT's Paramedic credentialing examination(s). However, it is NOT a guarantee of eventual accreditation.

To contact CoAEMSP Executive Office:

8301 Lakeview Parkway

Suite 111-312

Rowlett, TX 75088

(214) 703-8445

FAX: (214) 703-8992

[www.coaemsp.org](http://www.coaemsp.org)

In accordance with the 2019 Reauthorization of the Higher Education Act, New England Institute of Technology hereby discloses only that the curriculum for this program meets the educational requirements for licensure as Paramedics in the State of Rhode Island. The applicable licensing board in Rhode Island may impose additional requirements on candidates prior to granting a license, we encourage you to investigate those requirements. NEIT has not determined whether the curriculum for this program meets the educational requirements for licensure in any other states or territories and we encourage you to investigate the requirements in your state or territory prior to accepting an offer of admission at NEIT.

## Curriculum

<b>EMT Pre-Req Term</b> (for students without an EMT License)					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
PAR	100	Basic EMT	6	2	7
PAR 100 credits do not apply towards the Paramedic degree program.			6	2	7

<b>Term I</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
PAR	110	Introduction to Advanced Pre-Hospital Care	3	3	4
EN	100	Introduction to College Writing (COM Core)	4	0	4
MA	109	Math for Life Science (MA/SCI Core)	4	0	4
			11	3	12

Term II					
Course No.		Course Title	C	L	T
PAR	115	Pharmacology for Advanced Pre-Hospital Care	3	3	4
BIO	107	Comprehensive Anatomy and Physiology I & Lab	4	4	6
EN	110	Healthcare Communications (COM Core)	4	0	4
			11	7	14

Term III					
Course No.		Course Title	C	L	T
PAR	120	Cardiology and Advanced Cardiac Life Support	4	4	6
BIO	127	Comprehensive Anatomy and Physiology II and Lab	4	4	6
			8	8	12

Term IV					
Course No.		Course Title	C	L	T
PAR	123	Advanced Pre-Hospital Care	4	2	5
PAR	130	Patient Assessment and Human Systems	4	2	5
			8	4	10

Term V					
Course No.		Course Title	C	L	T
PAR	242	Trauma Management	5	2	6
SP	203	Spanish for Healthcare Workers (AR/FL Core)	4	0	4
PS	140	Lifespan Development (SS Core) (Online)	4	0	4
			13	2	14

Term VI					
Course No.		Course Title	C	L	T
PAR	247	Clinical I (off campus)	0	16	4
PAR	250	Topics in Advanced Life Support	3	2	4
ELECTIVE		100-200 Level Humanities Core	4	0	4
			7	18	12

Term VII					
Course No.		Course Title	C	L	T
PAR	254	OB/Pediatrics	4	2	5
PAR	257	Clinical II (off campus)	0	16	4
PS	201	Introduction to Psychology (SS Core) (Online)	4	0	4
			8	18	13

Term VIII					
Course No.		Course Title	C	L	T
PAR	262	Transport Special Considerations	4	2	5
PAR	267	Capstone Project (off campus)	0	16	4
<i>ELECTIVE</i>		<i>100-200 Level Math/Science Core</i>	4	0	4
			8	18	13
<i>Total Quarter Credit Hours = 100</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory/clinical hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take (or transfer) 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 109 must still take 32 credits of core courses.

Subject to change.

## Physical Therapist Assistant Associate in Science Degree

The Physical Therapist Assistant (PTA) associate degree program prepares students to help a variety of people in diverse settings. PTAs assist people of all ages with various movement disorders to become independent in their day-to-day functions. Physical therapy is a hands-on career, which literally involves working to change people's lives for the better. Because every client has a unique set of circumstances, PTAs help to carry out a unique treatment plan for each one, under the direction and supervision of a physical therapist.

As a PTA, graduates can work in traditional medical environments or in settings where people need to learn new ways to prevent injury or to promote health, wellness, and fitness. In the field, the PTA is supervised by a licensed physical therapist (PT). The PTA works with individual clients or groups under the direction of a PT. In the associate degree program, students learn to act as part of the rehabilitation team, collecting data to determine the effectiveness of patient interventions, carrying out selected physical therapy interventions outlined in the PT treatment plans, using technology to help people overcome disabilities, and designing activities to help people reach their goals.

After completion of all classroom training on campus and Level I Clinical Education off campus, students enter the community for Level II Clinical Education. The two Level II Clinical Education experiences give students many opportunities to apply classroom training to real-life situations. Upon successful completion of all degree requirements, students will be eligible to sit for the National Physical Therapy Examination for Physical Therapist Assistants. Employment is available in a wide variety of

settings in the areas of physical disabilities, pediatrics, and geriatrics, as well as in athletic facilities and wellness programs. In addition, after completing certain prerequisites\*, graduates of this program are eligible to continue on for a Bachelor of Science Degree in Rehabilitation Sciences or Business Management with a Healthcare Management/Respiratory Care (MGTH) concentration.

## ACCREDITATION STATUS



The Physical Therapist Assistant Program at New England Institute of Technology is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE) of the American Physical Therapy Association, 3030 Potomac Ave., Suite 100, Alexandria, Virginia 22305-3085; telephone: (703) 706-3245; email: [accreditation@apta.org](mailto:accreditation@apta.org); website: <http://www.capteonline.org>. If needing to contact the program/institution directly, please call (401) 739-5000 x3507 or email [lminer@neit.edu](mailto:lminer@neit.edu).

*The program has determined that its curriculum meets the state educational requirements for licensure or certification in all states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands secondary to its accreditation by the Commission on Accreditation in Physical Therapy Education, based on the following: CAPTE accreditation of a physical therapist or physical therapist assistant program satisfies state educational requirements in all states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands. Thus, students graduating from CAPTE-accredited physical therapist and physical therapist assistant education programs are eligible to take the National Physical Therapy Examination and apply for licensure in all states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands. For more information regarding state qualifications and licensure requirements, refer to the Federation of State Boards of Physical Therapy website at <https://www.fsbpt.org/>.*

## Curriculum

Term I					
Course No.		Course Title	C	L	T
PTA	102	Introduction to Kinesiology	0	2	1
PTA	111	Foundations of Physical Therapy	4	0	4
PTA	112	Foundations of Physical Therapy Lab	0	4	2
BIO	107	Comprehensive Anatomy & Physiology I and Lab	4	4	6
AHS	110	Applied Medical Terminology	0	2	1
MA	100/ 110	Introduction to College Math (MA/SCI Core)	4	0	4
			12	12	18

Term II					
Course No.		Course Title	C	L	T
PTA	123	Data Collection Skills	1	4	3
PTA	124	Clinical Kinesiology	2	0	2
PTA	125	Clinical Kinesiology Lab	0	4	2
BIO	127	Comprehensive Anatomy & Physiology II and Lab	4	4	6
PHY	126	Applied Physics & Lab (MA/SCI Core)	3	2	4
			10	14	17

Term III					
Course No.		Course Title	C	L	T
PTA	138	Physical Agents & Lab	2	4	4
PTA	139	Advanced Data Collection Skills	0	4	2
PTA	143	Pathophysiology for the PTA	1	2	2
PTA	144	Clinical Education Seminar and Service Learning	0	6	2
PTA	145	Principles of Musculoskeletal Physical Therapy Intervention & Lab	0	8	4
EN	100	Introduction to College Writing (COM Core)	4	0	4
			7	24	18

Term IV					
Course No.		Course Title	C	L	T
PTA	237	Level I Clinical Education	0	6	2
PTA	240	Principles of Neuromuscular Physical Therapy Intervention and Lab	4	4	6
PTA	242	Principles of Cardiopulmonary Physical Therapy Intervention and Lab	4	4	6
EN	211	Oral Communications (COM Core)	4	0	4
			12	14	18

Term V					
Course No.		Course Title	C	L	T
PTA	253	Practice Issues for the Physical Therapist Assistant	2	4	4
PTA	258	Level II Clinical Education A	0	24	8
			2	28	12

Term VI					
Course No.		Course Title	C	L	T
PTA	260	Senior Capstone	2	4	4
PTA	268	Level II Clinical Education B	0	24	8
			2	28	12

Intersession (This will vary depending on the start date)					
Course No.		Course Title	C	L	T
ELECTIVE		100-200 Level Humanities (or Arts/Foreign Language) Core	4	0	4
PS	201	Introduction to Psychology (SS Core)	4	0	4
			8	0	8
Total Quarter Credit Hours = 103					

**Legend**

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

\*\* 3 Clinical Education Hours =1 Quarter Credit Hour

Level I Clinical Education offered in Term 4 for a total of 60 hours. The first Level II Clinical Education begins in Term 5 during the 5<sup>th</sup> week of the term. The second Level II Clinical Education begins in Term 6. Each Clinical Education experience includes full-time placement in a facility for 6 weeks for each placement; for a total of 12 weeks.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 100/110 must still take 32 credits of core courses.

\*Students considering a Bachelor of Science Degree in Rehabilitation Sciences are encouraged to take Technical Math I (MA 125) or its equivalent either during their associate degree program or during a prerequisite term. See your student advisor to schedule this course.

PLEASE NOTE: Students in the Physical Therapist Assistant program must achieve a grade of C+ or better in all required PTA, BIO, and AHS courses, a grade of C or better in all liberal arts courses, and a cumulative grade point average of at least 2.33 throughout the program in order to be in good standing.

Subject to change.

## **Plumbing and Heating Technology Associate in Science Degree**

The Associate in Science Degree in Plumbing and Heating is a program offered jointly through the Plumbing Department and the Heating Department.

Plumbing/Heating is a comprehensive program designed to train students as entry-to-industry level technicians. Students are taught the basic theory and practices of plumbing and heating and receive hands-on experience in a laboratory setting. The program offers a curriculum combining two distinct but interconnected areas: heating in residential structures and plumbing in residential, commercial, and industrial structures.

The four-term plumbing portion of the program includes the study of basic tools; methods of fabrication; fitting identification and usage; drainage; waste and venting; water piping methods and design; sewage disposal and treatment; water sources and distribution; and household and industrial maintenance. Sustainability issues using rainwater harvesting and gray water technology are stressed.

In the heating portion of the program (distributed over two terms), various heating systems are examined such as steam, warm air, and forced hot water. Also presented are the burners used in conjunction with these systems and their associated control circuitry. Special consideration is given to electrical wiring, heat loss calculations, and system design as they relate to a residential and commercial application. Included in the Heating Program are courses in the installation of heating systems, gas technology, solar heating systems, and introduction to welding.

The theory and lab experience include the design, installation, troubleshooting, and servicing of a vast array of heating units.



Graduates are prepared for technician positions in the plumbing and heating industry. In addition, graduates of this program area are eligible to continue on for a Bachelor of Science Degree in Business Management.

## Curriculum

<b>Term I</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
PL	114	Pipe Fitting Basics	4	0	4
PL	119	Pipe Fitting Basics Lab	0	6	3
PL	118	Blueprint Reading and Drafting	3	0	3
AH	101	Introduction to the P-HVAC Industry	1	0	1
ELY	135	OSHA Construction Safety & Health	2	0	2
			10	6	13

<b>Term II</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
PL	124	Drainage, Waste and Vent Design	4	0	4
PL	127	Drainage, Waste, Vent and Potable Water Systems Lab	0	6	3
PL	126	Potable Water Piping Design	3	0	3
MA	105	<i>Basic College Math with Lab (MA/SCI Core)</i>	4	2	5
			11	8	15

<b>Term III</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
PL	230	Plumbing Fixture, Appliance and Appurtenance	4	0	4
PL	235	Plumbing System Design and Fixture Install Lab	0	6	3
PL	232	Troubleshooting and Repair	1	2	2
AH	125	Basic Electricity	2	0	2
AH	118	Basic Electricity Lab	0	4	2
MA	125	<i>Technical Math I (MA/SCI Core)</i>	4	0	4
			11	12	17

<b>Term IV</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
PL	240	Pump System Design	4	0	4
PL	245	Pump System Design Lab	0	6	3
PL	246	Final Project	2	0	2
<i>ELECTIVE</i>		<i>100-200 Level Humanities Core</i>	4	0	4
EN	106	<i>Service Industry Communications (COM Core)</i>	5	0	5
			15	6	18

Term V					
Course No.		Course Title	C	L	T
AH	234	Modern Heating Systems	4	0	4
AH	235	Modern Heating Systems Lab	0	4	2
AH	238	Gas Heating Systems	4	0	4
AH	242	Gas Heating Systems Lab	0	6	3
<i>EN</i>	<i>100</i>	<i>Introduction to College Writing (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			12	10	17

Term VI					
Course No.		Course Title	C	L	T
AH	240	Blueprints, Pipe Fitting and Duct Layout	4	0	4
AH	241	Blueprints, Pipe Fitting and Duct Layout Lab	0	4	2
WEL	114	OFC/OAW, Electric Welding and Cutting	1	3	2
<i>BU</i>	<i>236</i>	<i>Small Business and the Law (SS Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
<i>ELECTIVE</i>	<i>100-200 Level Humanities Core</i>		<i>4</i>	<i>0</i>	<i>4</i>
			13	7	16
<i>Total Quarter Credit Hours = 96</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 105/110 must still take 32 credits of core courses.

Subject to change.

## Public Health Master of Science Degree

The fully online Master of Public Health (MPH) program at New England Institute of Technology (NEIT) is designed for working professionals seeking career advancement in public health. The program provides an interdisciplinary approach to training in the ten essential public health services along with critical management principles. This unique approach of core public health curriculum, along with leadership and management proficiency will prepare you to successfully practice public health in a

supervisory/management role and oversee, plan, evaluate and improve population health programs and initiatives.

Students can complete our interdisciplinary 100% online MPH program in less than two years (seven terms), taking 2 courses in each term. To meet graduation requirements, a minimum of 56 quarter credits (equivalent to 38 semester credits) is required, including a 50-hour field experience in a public health or closely aligned entity, where students would work with a preceptor in a pre-determined project, prepare a Portfolio, a Capstone paper and present to a Committee.

An MPH graduate can work in a variety of public health settings, including local, state and federal public health agencies. Opportunities also exist in many other settings such as community health organizations; in foundations; coalitions or advocacy groups working in support of chronic diseases (diabetes, cancer, asthma), environmental concerns (water, food, asbestos), allied entities (Medicaid, program evaluation agencies, health insurers), policy issues (municipalities, legal and environmental justice groups, regulatory bodies); and also on college campuses, private non-profit agencies and business in wellness and employee assistance programs.

With the interdisciplinary MPH degree from New England Institute of Technology, graduates will be well-rounded professionals to practice public health and promote population health outcomes.

## ACCREDITATION STATUS

New England Institute of Technology is an applicant for accreditation by the Council on Education for Public Health ([www.ceph.org](http://www.ceph.org)). The accreditation review will address the MPH generalist degree program included in the accreditation unit, as defined in the Council's letter accepting the application. Other degrees and areas of study offered by this institution will not be included in the unit of accreditation review.

The date of initial accreditation will be whichever of the two dates occur later: either 1) the date on which our application was accepted by the Council (6/16/2018) or 2) the date on which the most recent extension of applicant status was granted, if applicable. The Council assigns the date of initial accreditation during the Council meeting at which the accreditation decision is made. Entry into the process and acceptance of an application are not a guarantee of initial accreditation.

## Curriculum

Term I					
Course No.		Course Title	C	L	T
PH	516	Fundamentals of Public Health	4	0	4
PH	535	Social Marketing and Communications	4	0	4
			8	0	8

Term II					
Course No.		Course Title	C	L	T
PH	510	Statistics for Public Health	4	0	4
PH	550	Public Health Policy and Planning	4	0	4
			8	0	8

Term III					
Course No.		Course Title	C	L	T
PH	520	Epidemiology	4	0	4
PH	551	Health Equity and Ethics	4	0	4
			8	0	8

Term IV					
Course No.		Course Title	C	L	T
PH	552	Program Funding and Evaluation	4	0	4
MGM	514	Leadership	4	0	4
			8	0	8

Term V					
Course No.		Course Title	C	L	T
PH	545	Environmental Health	4	0	4
PH	571	Capstone Prep	0	12	4
			4	12	8

Term VI					
Course No.		Course Title	C	L	T
PH	530	Research/Methods	4	0	4
PH	561	Equity Practicum	0	12	4
			4	12	8

Term VII					
Course No.		Course Title	C	L	T
PH	580	Public Health Seminar	4	0	4
PH	581	Capstone	0	12	4
			4	12	8
<i>Total Quarter Credit Hours = 56</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

Subject to change.

## Rehabilitation Sciences Bachelor of Science Degree

A Bachelor of Science degree in Rehabilitation Sciences (BS in RS) provides students with expanded knowledge of contemporary rehabilitation practice. Highlighting the use of assistive technology interventions, this innovative inter-professional program allows students from various backgrounds, such

as the health sciences, engineering, and education, to support individuals with disabilities to regain functional independence. Individuals of all ages affected by a disability are interested in achieving their life goals and re-engaging in meaningful activities in their lives. Students will be able to effect change in the lives of individuals through the analysis of physical, cognitive, and perceptual skills and provide interventions using clinical reasoning and advanced analytical processes. Students will engage in hands-on learning to maximize an individual's engagement in activities within their home, work, school and community environments.

The National Center for Education Statistics, Institute for Education Sciences, describes rehabilitation sciences as "a program that focuses on human function, disability, and rehabilitation from the perspectives of the health sciences, social sciences, psychology, engineering, and related fields." Students with an earned associate degree in engineering, architectural or interior design, video game development, occupational therapy assistant, physical therapist assistant and other healthcare and related fields may apply in order to broaden job opportunities within the health and wellness community and disability population across the lifespan.

Students will enjoy the advantage of working with inter-professional team members as they advance their knowledge in disability and assistive technology use and design. A degree in Rehabilitation Sciences prepares students for career advancement in healthcare related fields, disability rights, patient advocacy, or graduate studies in occupational therapy, or engineering-related fields. Individuals who have obtained certification as an Occupational Therapy Assistant may be eligible for advanced standing in the MSOT program offered at NEIT upon partial completion of the BS in RS program.

One unique feature of this degree program is a partnership with TechACCESS, a leader in Assistive Technology located nearby in Warwick, Rhode Island. Labs are offered on-site at TechACCESS. Another feature is the hybrid format, allowing students to attend courses on campus, early evenings, a few days per week. The remainder of the program is offered online. Working professionals will enjoy the hybrid format allowing students to engage in their education with a schedule that meets their needs.

## Curriculum

<b>Term VII (For graduates of Health Sciences AS programs)</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
RS	370	Introduction to Rehabilitation Sciences	4	0	4
RS	375	Introduction to Assistive Technology	3	2	4
<i>EN</i>	<i>331</i>	<i>Research Writing in the Social Sciences (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
<i>BIO</i>	<i>374</i>	<i>Pathophysiology: A Clinical Approach</i>	<i>4</i>	<i>0</i>	<i>4</i>
			15	2	16

- OR -

<b>Term VII (For graduates of all other AS programs)</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
RS	370	Introduction to Rehabilitation Sciences	4	0	4
RS	375	Introduction to Assistive Technology	3	2	4
<i>EN</i>	<i>331</i>	<i>Research Writing in the Social Sciences (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
<i>BIO</i>	<i>310</i>	<i>Survey of Human Anatomy and Physiology</i>	<i>4</i>	<i>0</i>	<i>4</i>
			15	2	16

Term VIII					
Course No.		Course Title	C	L	T
RS	395	Clinical Reasoning in Rehabilitation	4	0	4
RS	413	Assistive Technology in the Classroom	3	2	4
EN	422	<i>Writing in the Health Sciences (COM Core)</i>	4	0	4
PS	410	<i>Applied Research Statistics (SS Core)</i>	4	0	4
			15	2	16

Term IX					
Course No.		Course Title	C	L	T
RS	390	Functional Biomechanics	3	2	4
RS	415	Environmental Accessibility	3	2	4
<i>ELECTIVE</i>		<i>300-400 Level Social Sciences Core</i>	4	0	4
BIO	440	<i>Functional Neuroscience</i>	4	0	4
			14	4	16

Term X					
Course No.		Course Title	C	L	T
RS	400	Exercise Physiology I and Lab	3	2	4
RS	405	Seating and Mobility	3	2	4
MGM	310	Product and Service Marketing	3	2	4
<i>ELECTIVE</i>		<i>300-400 Level Humanities or Social Sciences Core or 200 Level Foreign Language Core</i>	4	0	4
			13	6	16

Term XI					
Course No.		Course Title	C	L	T
RS	380	Assessment Practices in Assistive Technology	3	2	4
RS	385	Health and Wellness	4	0	4
MGM	420	Business Planning and Financial Management	3	2	4
MGM	487	Non-Profit Management	4	0	4
			14	4	16

Term XII					
Course No.		Course Title	C	L	T
RS	450	Capstone in Assistive Technology	4	0	4
MGM	313	Human Resource Management	3	2	4
<i>ELECTIVE</i>		<i>300-400 Level Humanities Core</i>	4	0	4
			11	2	12
<i>Total Quarter Credit Hours = 92</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All bachelor's degree students are required to take 28 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses.

Subject to change.

## **Respiratory Care Associate in Science Degree**

The Associate in Science degree program in Respiratory Care prepares students to pursue a career as a highly-skilled, critical thinking Respiratory Therapist (RT). RTs assess, treat, and monitor patients with disorders of the cardiopulmonary system. Practicing under the guidance of a physician, RTs perform a wide array of diagnostic and therapeutic procedures on adult, pediatric, and newborn patients.

Typical responsibilities for an RT include interviewing and examining patients with breathing problems, performing diagnostic studies such as obtaining and analyzing arterial blood gases, pulmonary function testing, hemodynamic monitoring, and polysomnography. RTs administer aerosolized medications, initiate mechanical ventilation, perform bronchopulmonary hygiene, maintain airway patency, and provide cardiopulmonary resuscitation.

RTs play an integral role in the development and monitoring of a patient's cardiopulmonary treatment plan. RTs utilize evidence-based medicine to educate patients, families, and the community regarding cardiopulmonary wellness, disease prevention and management.

RTs work in a variety of healthcare environments such as hospitals, long-term care facilities, rehabilitation centers, skilled nursing facilities, homecare agencies, sleep disorder centers, clinical transport operations, physicians' offices, wellness clinics, educational institutions, traveling agencies, and medical equipment sales and service providers.

Through the combination of classroom, laboratory, and hands-on clinical experiences, students will be provided the opportunity to apply their knowledge and create real-world understanding. Students who complete the Associate in Science in Respiratory Care program are eligible to sit for the National Board for Respiratory Care (NBRC) credentialing examinations. The NBRC examinations objectively measure essential knowledge, skills, and abilities required of respiratory therapists for entry into practice. Graduates who have passed the NBRC credentialing examinations can apply it to the state board of respiratory care in the state they choose to practice (currently 49 states require licensure). The NBRC exams do not need to be taken again once a student has passed the exam as long as the minimum number of Continuing Respiratory Care Education (CRCE) hours are maintained as required by the NBRC and state licensure boards. In addition, graduates of this program are eligible to continue on for a Bachelor

of Science Degree in Business Management with a Healthcare Management/Respiratory Care (MGTH) concentration.

## ACCREDITATION STATUS

The Respiratory Care program at New England Institute of Technology, CoARC program number 200599, at the associate degree level and campus located at One New England Tech Boulevard, East Greenwich, Rhode Island is accredited by the Commission on Accreditation for Respiratory Care ([www.coarc.com](http://www.coarc.com)). CoARC's outcomes webpage <https://coarc.com/students/programmatic-outcomes-data/>. CoARC accredits respiratory therapy education programs in the United States. To achieve this end, it utilizes an 'outcomes based' process. Programmatic outcomes are performance indicators that reflect the extent to which the educational goals of the program are achieved and by which program effectiveness is documented.

Commission on Accreditation  
For Respiratory Care  
264 Precision Boulevard  
Telford, TN 37690  
(817) 283-2835



In accordance with the 2019 Reauthorization of the Higher Education Act, New England Institute of Technology hereby discloses only that the curriculum for this program meets the educational requirements for licensure as Certified Respiratory Therapists in the State of Rhode Island. The applicable licensing board in Rhode Island may impose additional requirements on candidates prior to granting a license, we encourage you to investigate those requirements. NEIT has not determined whether the curriculum for this program meets the educational requirements for licensure in any other states or territories and we encourage you to investigate the requirements in your state or territory prior to accepting an offer of admission at NEIT.

## Curriculum

Term I					
Course No.	Course Title	C	L	T	
RC 110	Foundations of Respiratory Care	3	2	4	
RC 111	Introduction to Respiratory Care Clinical	1	2	2	
BIO 100	Anatomy & Physiology I	4	0	4	
BIO 101	Anatomy & Physiology I Lab	0	4	2	
MA 100/110	Introduction to College Math (MA/SCI Core)	4	0	4	
		12	8	16	

Term II					
Course No.	Course Title	C	L	T	
RC 120	Principles of Cardiopulmonary Physiology	3	0	3	
RC 121	Respiratory Care Pharmacology	1	2	2	
BIO 120	Anatomy & Physiology II	4	0	4	
BIO 121	Anatomy & Physiology II Lab	0	4	2	
EN 100	Introduction to College Writing (COM Core)	4	0	4	
		12	6	15	



Term III					
Course No.		Course Title	C	L	T
RC	130	Theory & Application of Respiratory Care I & Lab	3	4	5
RC	131	Respiratory Care Clinical I	0	12	4
RC	132	Respiratory Care Pathophysiology I	3	0	3
BIO	122	<i>Microbiology and Lab (MA/SCI Core)</i>	3	2	4
EN	110	<i>Healthcare Communications (COM core)</i>	4	0	4
			13	18	20

Interession					
Course No.		Course Title	C	L	T
PS	202	<i>Psychology of Healthcare (SS Core)</i>	4	0	4
ELECTIVE		<i>100-200 Level Humanities (or Arts/Foreign Language) Core</i>	4	0	4
			8	0	8

Term IV					
Course No.		Course Title	C	L	T
RC	240	Theory & Application of Respiratory Care II & Lab	3	4	5
RC	241	Respiratory Care Clinical II	0	12	4
RC	242	Respiratory Care Pathophysiology II	3	0	3
PS	210	<i>Human Relations in the Workplace (SS Core)</i>	4	0	4
ELECTIVE		<i>100-200 Level Humanities (or Arts/Foreign Language) Core</i>	4	0	4
			14	16	20

Term V					
Course No.		Course Title	C	L	T
RC	252	Theory & Application of Respiratory Care III & Lab	3	4	5
RC	253	Respiratory Care Clinical III	0	18	6
RC	254	Specialty Principles & Practice of Respiratory Care	2	0	2
			5	22	13

Term VI					
Course No.		Course Title	C	L	T
RC	261	Theory & Application of Respiratory Care IV & Lab	3	4	5
RC	262	Respiratory Care Clinical IV	0	24	8
			3	28	13
<i>Total Quarter Credit Hours = 105</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory/clinical hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take (or transfer) 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 100/110 must still take 32 credits of core courses.

Subject to change.

## Software Engineering and Web Development Associate in Science Degree

The Information Technology Department offers an Associate in Science degree in Software Engineering and Web Development, the field that has become the backbone of business, technology, and industry. The department has an extensive set of computer labs for student use to gain hands-on experience in all areas of the field, from programming to software applications to network management and administration.

The emphasis of this program is on how specific computer applications solve business issues. The analysis and design of systems is covered to expose students to problems that may be expected on the job. Students learn to program in languages in demand in the workplace. These languages include Python, JavaScript, HTML, ASP.NET and PHP. Students are also introduced to data analytics using different programming languages and current visualization tools such as PowerBI and Tableau.

Software Engineering and Web Development provides depth in business applications, web development and database design. Upon completion of the program, students are qualified to apply for positions in software support, programming, web development, data analysis or a wide range of other entry-level positions or to continue in NEIT's bachelor's degree programs in Software Engineering or Business Management.

### Curriculum

Term I					
Course No.		Course Title	C	L	T
IT	121	IT Visual Communications	2	2	3
NE	115	Computer and Networking Fundamentals	2	2	3
SE	116	Programming Essentials Using Python	2	4	4
<b>CHOOSE ONE</b> (depending upon Math placement)*					
MA	105	Basic College Math with Lab (MA/SCI Core)	4	2	5
MA	110	Introduction to College Math (MA/SCI Core)	4	0	4
MA	125	Technical Math I (MA/SCI Core)	4	0	4
			10	8/10	14/15

Term II					
Course No.		Course Title	C	L	T
NE	121	Windows Networking Essentials	2	4	4
SE	111	HTML and JavaScript	2	4	4
SE	126	Intermediate Programming Using Python	2	4	4
EN	100	Introduction to College Writing (COM Core)	4	0	4
			10	12	16

Term III					
Course No.		Course Title	C	L	T
SE	133	Introduction to Database Management Systems	2	4	4
SE	137	Cascading Style Sheets	2	2	3
SE	245	C#	2	4	4
EN	200	Workplace Communications (COM Core)	4	0	4
			<b>CHOOSE ONE (depending upon Math placement)*</b>		
MA	125	Technical Math I (MA/SCI Core)	4	0	4
MA	121	Business Math (MA/SCI Core)	4	0	4
			14	10	19

Term IV					
Course No.		Course Title	C	L	T
SE	135	Introduction to Data Analytics	2	4	4
SE	251	JavaScript	2	4	4
SE	256	Web Development Using .NET	2	4	4
ELECTIVE		100-200 Level Humanities (or Arts/Foreign Language) Core	4	0	4
			<b>CHOOSE ONE (depending upon Math placement)*</b>		
MA	121	Business Math (MA/SCI Core)	4	0	4
ELECTIVE		100-200 Level Humanities, Social Sciences, or Arts/Foreign Language Core	4	0	4
			14	12	20

Term V*					
Course No.		Course Title	C	L	T
SE	247	Introduction to Data Visualization	2	4	4
SE	266	Web Development Using PHP and MySQL	2	4	4
MGM	130	Accounting Fundamentals	3	2	4
PHY	200	Physics I (MA/SCI Core)	3	2	4
			10	12	16

Term VI*					
Course No.		Course Title	C	L	T
SE	264	User Interface Design	2	2	3
SE	265	AS Capstone Project	0	6	3
ELECTIVE		Technical Elective (choose from list below)*	0-4	0-15	3-5
ELECTIVE		100-200 Level Social Sciences Core	4	0	4
			6-10	8-23	13-15
<i>Total Quarter Credit Hours = 98-101</i>					

Technical Electives*					
Course No.		Course Title	C	L	T
CYB	132	Introduction to Linux with Raspbian and Pi	2	2	3
IT	260	Internship	0	15	3
ERD	212	Microprocessor Control Systems	3	2	4
MGE	101	Introduction to Esports Management	3	2	4
MGM	105	Effective Teams and Projects	2	2	3
MGM	133	Principles of Management	4	0	4
MGM	135	Business Analysis with Spreadsheets	3	2	4
MGM	210	Marketing Communications	3	2	4
MGM	230	Planning Your Financial Future	2	2	3
MGM	243	Career Development	4	0	4
MGM	264	Sales and Customer Service	2	2	3
MGM	277	Leadership in Action	4	0	4
NE	131	Networking for Small Businesses	2	2	3
VGD	244	Unity I	2	4	4
			0-4	0-15	3-5

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 105/110 must still take 32 credits of core courses.

Subject to change.

## Software Engineering Bachelor of Science Degree

The Bachelor of Science Degree in Software Engineering builds upon the knowledge of the associate degree to give students a broader exposure to programming languages, especially object-oriented languages, and deeper experience in database, web and mobile design, development and implementation.

A key feature of this program is a senior project and the choice between additional coursework or a cooperative learning experience in the final two terms. In the senior project, each student works with a faculty member to develop and present a project that focuses in depth on a particular topic and allows students to bring together knowledge gained throughout the program.

The cooperative learning experience based on industry demand and with the approval of the IT Department Chair, may be available during the final two terms of the program. These experiences, which may be paid or unpaid, allow students to receive college credit and to work off campus in an organization

where they will practice and enhance their technical skills. Typically, and when available, students will work in the same organization for the final two terms of the bachelor's degree program.

Upon completion of this program, graduates will be prepared to apply for positions such as system developer, analyst, programmer, database specialist, software engineer, web programmer, planner or developer. Students may also choose to continue into the NEIT Master of Science in Information Technology degree program.

## Curriculum

<b>Term VII</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
IT	379	Cloud Foundations	4	0	4
SE	379	React Programming	2	4	4
SE	385	Java	2	4	4
<i>EN</i>	<i>322</i>	<i>Argumentative Research Writing (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			12	8	16

<b>Term VIII</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
SE	394	Algorithms in Software Engineering	2	4	4
SE	402	Design Patterns	2	4	4
SE	417	Software Security	2	2	3
<i>ELECTIVE</i>		<i>300-400 Level Humanities or 200 Level Foreign Language Core</i>	<i>4</i>	<i>0</i>	<i>4</i>
			10	10	15

<b>Term IX</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
IT	374	IT Project Management	3	0	3
SE	398	Advanced SQL	2	2	3
SE	426	Web Services	3	2	4
<i>MA</i>	<i>210</i>	<i>Technical Math II (MA/SCI Core)*</i>	<i>4</i>	<i>0</i>	<i>4</i>
<i>EN</i>	<i>421</i>	<i>Technical Communications (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			16	4	18

\*If MA 210 has already been taken, a 300-level Math/Science Core course must be taken.

<b>Term X</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
SE	373	Advanced Open Source Web Development	2	4	4
SE	407	Advanced .NET	2	4	4
SE	409	iOS Programming	2	4	4
<i>MA</i>	<i>300</i>	<i>Statistics (MA/SCI Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			10	12	16

Term XI					
Course No.		Course Title	C	L	T
SE	414	Introduction to Senior Project	3	0	3
<i>ELECTIVE</i>		<i>300-400 Level Social Sciences Core</i>	4	0	4
<b>Choose One Option</b>					
SE	377	Cloud-Based Application Development	2	4	4
SE	419	Big Data	2	2	3
<b>-or-</b>					
IT	415	Cooperative Learning I	0	18	6
			7/11	6/18	13/14

Term XII					
Course No.		Course Title	C	L	T
SE	425	Senior Project	0	6	3
<i>ELECTIVE</i>		<i>300-400 Level Humanities or 200 Level Foreign Language Core</i>	4	0	4
<b>Choose One Option</b>					
SE	423	Operating Systems	2	4	4
SE	429	Applied Machine Learning	2	2	3
<b>-or-</b>					
IT	425	Cooperative Learning II	0	21	7
			4/8	12/27	14
<i>Total Quarter Credit Hours = 92/93</i>					

\*The cooperative learning experience based on industry demand and with the approval of the IT Department Chair, may be available during the final two terms of the program.

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All bachelor's degree students are required to take 28 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses.

*Check with your advisor with any questions.*

Note: If you had MA 210 in your AS program, you will need to take a MA/SCI Core Elective in its place.

Subject to change.

## Surgical Technology Associate in Science Degree

The Associate in Science Degree in Surgical Technology prepares practitioners specifically for the operating room scrub role. During operative procedures, the surgical technologist functions as an integral part of the surgical team and works in cooperation with the surgeon, anesthesiologist, and registered nurse performing duties that are vital for the safety and care of surgical patients. Responsibilities include preparation of sterile operative equipment and supplies, instrumentation during operative procedures, and other intra-operative patient care activities. Common duties include operating sterilizers, lights, suction machines, electrosurgical units and laparoscopic equipment as well as preparing the patient's surgical site.

In the Surgical Technology curriculum, theory and practice are integrated through the use of laboratory experiences in a completely equipped, on-campus simulated operating room and in actual operating rooms. Comprehensive background in anatomy and physiology is studied along with the proper medical terminology of the systems. An appreciation of the person having surgery, knowledge of common conditions requiring surgery and the surgical procedure as well as skills of patient care are included in surgical procedures classes. Ethical and legal dimensions of the work and profession of the Surgical Technologist are part of the program. Supervised clinical practice in surgical environments prepares students realistically.

Graduates are prepared for entry-level positions in such areas as hospital operating room departments, obstetrical departments, surgical supply/processing departments, outpatient surgical centers, and surgeon office practices. In addition, graduates of this program are eligible to continue on for a Bachelor of Science Degree in Business Management with a Healthcare Management/Respiratory Care (MGTH) concentration.

### ACCREDITATION STATUS

The Associate in Science in Surgical Technology program of study is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). Upon completion of the program, graduates are eligible to take the National Certification Exam administered by The National Board of Surgical Technology and Surgical Assisting (NBSTSA).



Commission on Accreditation of Allied Health Education Programs (CAAHEP)  
9355 113th St N #7709  
Seminole, FL 33775  
Telephone (727) 210-2350  
<http://www.caahep.org/>

All surgical technology students must take The National Board of Surgical Technology and Surgical Assisting (NBSTSA) Certified Surgical Technologist examination before graduation. As reported in the 2022 Annual Report, during the timeframe of 8/1/2020 - 7/31/2021 the pass rate for first-time candidates of the ST program was 86%, whereas the national pass rate was 66%.

In accordance with the 2019 Reauthorization of the Higher Education Act, New England Institute of Technology hereby discloses only that the curriculum for this program meets the educational requirements for licensure as Surgical Technologists in the State of Rhode Island. The applicable licensing board in Rhode Island may impose additional requirements on candidates prior to granting a license, we encourage you to investigate those requirements. NEIT has not determined whether the curriculum for this program meets the educational requirements for licensure in any other states or territories and we encourage you to investigate the requirements in your state or territory prior to accepting an offer of admission at NEIT.

## Curriculum

<b>Term I</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
ST	101	Introduction to Surgical Technology	2	2	3
MGM	103	Computer Skills – Word and PowerPoint	0	2	1
<i>BIO</i>	<i>100</i>	<i>Anatomy and Physiology I (MA/SCI Core)</i>	4	0	4
<i>BIO</i>	<i>101</i>	<i>Anatomy and Physiology I Lab (MA/SCI Core)</i>	0	4	2
<i>AHS</i>	<i>102</i>	<i>Introduction to Allied Health (MA/SCI Core)</i>	2	0	2
<i>EN</i>	<i>100</i>	<i>Introduction to College Writing (COM Core)</i>	4	0	4
			12	8	16

<b>Term II</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
ST	120	Surgical Instrumentation	1	2	2
BIO	122	Microbiology and Lab	3	2	4
<i>EN</i>	<i>110</i>	<i>Healthcare Communications (COM Core)</i>	4	0	4
<i>BIO</i>	<i>120</i>	<i>Anatomy &amp; Physiology II (MA/SCI Core)</i>	4	0	4
<i>BIO</i>	<i>121</i>	<i>Anatomy &amp; Physiology II Lab (MA/SCI Core)</i>	0	4	2
<b>CHOOSE ONE</b> (depending upon Math placement)					
<i>MA</i>	<i>109</i>	<i>Math for Life Science (MA/SCI Core)</i>	4	0	4
<i>ELECTIVE</i>		<i>100-200 Level Math/Science Core</i>	4	0	4
			16	8	20

<b>Term III</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
ST	130	Surgical Procedures I	4	0	4
ST	131	Surgical Procedures I Lab	0	6	3
BIO	130	Pharmacology	3	0	3
BIO	131	Pathophysiology	2	0	2
<i>PS</i>	<i>201</i>	<i>Introduction to Psychology (SS Core)</i>	4	0	4
			13	6	16

<b>Mandatory Intersession</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
<i>ELECTIVE</i>		<i>100-200 Level Humanities (or Arts/Foreign Language) Core</i>	4	0	4
			4	0	4



Term IV					
Course No.		Course Title	C	L	T
ST	200	Surgical Procedures II	4	0	4
ST	201	Surgical Procedures II Lab (5 weeks)	0	6	3
ST	203	Professional Communication Skills (5 weeks)	1	0	1
ST	204	Operating Room Laboratory I** (5 weeks)	0	12	4
AHS	201	Introduction to Medical Ethics and Bioethics	3	0	3
<i>ELECTIVE</i>		<i>100-200 Level Humanities (or Arts/Foreign Language) Core</i>	<i>4</i>	<i>0</i>	<i>4</i>
			12	18	19

Term V					
Course No.		Course Title	C	L	T
ST	205	Advanced Topics in Surgical Technology	1	0	1
ST	220	Surgical Procedures III	4	0	4
ST	222	Operating Room Laboratory II**	0	24	8
ST	223	Surgical Seminar I	1	0	1
			6	24	14

Term VI					
Course No.		Course Title	C	L	T
ST	230	Operating Room Laboratory III** (5 weeks)	0	12	4
ST	232	Advanced Applications of Surgical Technology	6	0	6
ST	233	Surgical Seminar II (5 weeks)	2	0	2
			8	12	12
<i>Total Quarter Credit Hours = 101</i>					

Optional Courses – To be taken at Department Chair’s Discretion					
<i>The credits for ST 98/ST99 do not count for degree requirements.</i>					
Course No.		Course Title	C	L	T
ST	99	Clinical Review	0	6	3
ST	98	Advanced Clinical Review	0	6	3

**Legend**

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

\*\*3 clinical lab hours = 1 Quarter Hour Credit OR Practicum Hours reflect 60-minute clock hours.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All Associate Degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 109 must still take 32 credits of core courses.

**PLEASE NOTE:**

For all terms, a grade of C+ or better must be attained in BIO and ST courses, and a C or better in AHS 102, in order to advance to the next term. A cumulative grade point average of at least 2.33 in all courses must be maintained throughout the program.

Students are required to complete all of the 1st academic year courses, including liberal arts courses, to progress to the 2nd academic year when actual hospital-based operating room experience begins.

Subject to change.

## Veterinary Technology Associate in Science Degree

The Associate in Science in Veterinary Technology prepares students as entry-level veterinary technicians. These students are provided with the educational foundation necessary to develop the required critical thinking, managerial, and clinical professional skills necessary to perform as effective members of the veterinary healthcare team.

Veterinary technology is the science and art of providing professional support to veterinarians. Veterinary technicians provide professional health care for animals under the supervision of a veterinarian. Examples of areas of responsibility for veterinary technicians include surgical assisting, anesthesiology, radiology, caring for hospitalized patients, administering vaccines and medications, dental prophylaxis, collecting specimens and performing clinical laboratory procedures, client education, physical examination and patient history, and office/hospital management. Veterinary technicians cannot diagnose, prescribe, or perform surgery.

Throughout the curriculum, students are exposed to veterinary team concepts and appropriate modeling of professional and ethical conduct. There are planned laboratory and clinical practice experiences that expand student knowledge and lead to proficiency in task-specific essential and recommended skills for the entry-level veterinary technician.

### ACCREDITATION STATUS

The Veterinary Technology program is fully accredited by the American Veterinary Medical Association (AVMA) as a program for educating veterinary technicians.

American Veterinary Medical Association (AVMA)  
Committee on Veterinary Technician Education and Activities  
(CVTEA)  
Education and Research Division  
1931 N. Meacham Rd., Suite 100  
Schaumburg, IL 60173-4630  
(800) 248-2862 ext. 6624  
[www.avma.org](http://www.avma.org)



In accordance with the 2019 Reauthorization of the Higher Education Act, New England Institute of Technology hereby discloses only that the curriculum for this program meets the educational requirements for licensure as Veterinary Technicians in the State of Rhode Island. The applicable licensing board in Rhode Island may impose additional requirements on candidates prior to granting a license, we encourage you to investigate those requirements. NEIT has not determined whether the curriculum for this program meets the educational requirements for licensure in any other states or territories and we encourage you to investigate the requirements in your state or territory prior to accepting an offer of admission at NEIT.

## Curriculum

<b>Term I</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
VET	110	Introduction to Veterinary Technology	4	0	4
VET	112	Veterinary Anatomy & Physiology I	3	0	3
VET	113	Veterinary Anatomy & Physiology I Lab	0	3	1
BIO	116	Introduction to Biology	3	2	4
<b>CHOOSE ONE</b> <i>(depending upon Math placement)</i>					
MA	109	<i>Math for Life Science (MA/SCI Core)</i>	4	0	4
CHM	101	<i>Life Science Chemistry (MA/SCI Core)</i>	3	2	4
			13/14	5/7	16

<b>Term II</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
VET	121	Animal Management	3	3	4
VET	122	Veterinary Anatomy & Physiology II	3	0	3
VET	123	Veterinary Anatomy & Physiology II Lab	0	3	1
EN	100	<i>Introduction to College Writing (COM Core)</i>	4	0	4
<b>CHOOSE ONE</b> <i>(depending upon Math placement)</i>					
CHM	101	<i>Life Science Chemistry (MA/SCI Core)</i>	3	2	4
ELECTIVE	<i>100-200 Level Math/Science Core</i>		4	0	4
			13/14	6/8	16

<b>Term III</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
VET	131	Veterinary Pharmacology	3	3	4
VET	240	Animal Diseases	4	0	4
BIO	122	Microbiology and Lab	3	2	4
EN	110	<i>Healthcare Communications (COM Core)</i>	4	0	4
			14	5	16

<b>Intersession</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
ELECTIVE	<i>100-200 Level Humanities (or Arts/Foreign Language) Core</i>		4	0	4
ELECTIVE	<i>100-200 Level Social Sciences Core</i>		4	0	4
			8	0	8

Term IV					
Course No.		Course Title	C	L	T
VET	242	Animal Nursing	4	0	4
VET	243	Small Animal Nursing Lab	0	3	1
VET	244	Veterinary Anesthesia and Dentistry Lab	0	3	1
VET	262	Veterinary Clinical Laboratory Procedures	4	0	4
VET	263	Veterinary Clinical Laboratory Procedures Lab	0	3	1
<i>ELECTIVE</i>		<i>100-200 Level Humanities Core</i>	4	0	4
<i>ELECTIVE</i>		<i>100-200 Level Social Sciences Core</i>	4	0	4
			16	9	19

Term V					
Course No.		Course Title	C	L	T
VET	137	Laboratory Animal Technology and Lab	2	3	3
VET	138	Veterinary Practicum I	0	6	2
VET	248	Veterinary Practicum II	0	6	2
VET	250	Large Animal Nursing Laboratory	0	3	1
VET	254	Veterinary Anesthesia and Surgical Nursing and Lab	4	3	5
			6	21	13

Term VI					
Course No.		Course Title	C	L	T
VET	252	Veterinary Imaging	3	0	3
VET	253	Veterinary Imaging Laboratory	0	3	1
VET	258	Veterinary Practicum III	0	6	2
VET	260	Veterinary Management	3	3	4
VET	268	Veterinary Practicum IV	0	6	2
			6	18	12
<i>Total Quarter Credit Hours = 100</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory / practicum hours per week

T = Total Quarter Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take a minimum of 32 credits of liberal arts and math/ science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 109 must still take 32 credits of core courses.

PLEASE NOTE: Students are required to complete all Term 1 through 4 courses, including liberal arts courses, to progress to Term 5 of the curriculum when off-campus practicum experience begins.

Subject to change.

## Veterinary Technology Bachelor of Science Degree

The Bachelor of Science Degree in Veterinary Technology is the final six terms of a 2+2 program. The first step requires successful completion of an Associate in Science Degree in Veterinary Technology from an AVMA-accredited Veterinary Technology program. This online program is ideal for students who wish to earn a bachelor's degree and focus on a deeper understanding of topics learned at the associate level. It can either be completed as a full-time program after obtaining an associate degree, or part-time while working in the field. Although encouraged, it is not necessary for students to have already taken the Veterinary Technician National Exam (VTNE) or be a Certified Veterinary Technician (CVT) to enroll in the program.

Veterinary technology is the science and art of providing professional support to veterinarians. Veterinary technologists provide advanced professional health care for animals under the supervision of a licensed veterinarian. The bachelor program allows students to build upon the fundamentals learned in the associate degree program and expand their knowledge of veterinary medicine to become an effective member of the veterinary team. Veterinary technologists are not allowed to diagnose, prescribe or perform surgery of any kind.

In the bachelor program, students study advanced topics in areas such as practice administration, anesthesiology and pain management, emergency and critical care, nutrition, dentistry, behavior, human-animal bond, exotics, internal medicine and laboratory animal medicine. Courses that deepen the understanding and application of communication and writing will also be offered. The final two terms of the curriculum will require a practicum in the student's special area of advanced interest.

### ACCREDITATION STATUS

Accreditation for the Bachelor of Science program is pending approval. The Associate in Science in Veterinary Technology program is accredited by the American Veterinary Medical Association (AVMA) as a program for educating veterinary technicians.

American Veterinary Medical Association (AVMA)  
Committee on Veterinary Technician Education and Activities (CVTEA)  
Education and Research Division  
1931 N. Meacham Rd., Suite 100  
Schaumburg, IL 60173-4630  
(800) 248-2862 ext. 6624  
[www.avma.org](http://www.avma.org)



## Curriculum

<b>Term VII</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
VET	311	Law and Ethics in Veterinary Medicine	4	0	4
VET	312	Human-Animal Bond	4	0	4
MGM	313	Human Resource Management	3	2	4
<i>EN</i>	<i>331</i>	<i>Research Writing (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			15	2	16

<b>Term VIII</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
VET	322	Small Animal Internal Medicine	4	0	4
VET	331	Animal Behavior	4	0	4
<i>SCI</i>	<i>350</i>	<i>Introduction to Genetics and Evolution (MA/SCI Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
<i>EN</i>	<i>422</i>	<i>Writing in the Health Sciences (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			16	0	16

<b>Term IX</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
VET	332	Emergency Medicine and Critical Care	4	0	4
VET	333	Clinical Animal Nutrition	4	0	4
MGM	332	Customer Relations and Sales	3	2	4
<i>PS</i>	<i>410</i>	<i>Applied Research Statistics (SS Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			15	2	16

<b>Term X</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
VET	410	Public Health in Veterinary Medicine	4	0	4
VET	411	Advanced Anesthesia and Pain Management	4	0	4
VET	412	Practicum Orientation	2	0	2
<i>ELECTIVE</i>	<i>300-400 Level Humanities Core</i>		<i>4</i>	<i>0</i>	<i>4</i>
			14	0	14

<b>Term XI</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
VET	421	Advanced Dentistry	4	0	4
VET	422	Advanced Practicum I (minimum of 120 hours)	0	12	6
VET	423	Practicum Seminar	2	0	2
<i>ELECTIVE</i>	<i>300-400 Level Math/Science Core</i>		<i>4</i>	<i>0</i>	<i>4</i>
			10	12	16

Term XII					
Course No.		Course Title	C	L	T
VET	432	Advanced Practicum II (minimum of 120 hours)	0	12	6
VET	433	Advanced Laboratory Animal Medicine	4	0	4
<i>ELECTIVE</i>		<i>300-400 Level Humanities, Social Sciences, or Arts/ Foreign Language Core</i>	4	0	4
			8	12	14
<i>Total Quarter Credit Hours = 92</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All bachelor's degree students are required to take 28 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses.

Subject to change.

## Video Game Design Associate in Science Degree

The Video Game Development and Design program has two degree tracks: Game Development and Simulation Programming (VDVA) and Video Game Design (VDEA).

### Game Development and Simulation Programming

The associate degree program in Game Development and Simulation Programming (VDVA) will prepare students for entry-level careers in game programming, simulation programming, and software engineering. Graduates will be prepared for entry-level positions in a variety of digital, desktop production environments.

Through a combination of theoretical lessons, hands-on workplace-relevant laboratory experiences and small class sizes led by experienced instructors, the program emphasizes the application of lessons and knowledge to the design and development process of creating games and simulations.

As students prepare for the exciting fields of game development and simulation, they will learn how to design games, will be introduced to the game development process, will hone people skills and communications skills through team-based projects and presentations, will master coding languages such as C++, and will learn the use of industry-standard software packages. An important component of the curriculum is building a portfolio that will include the 2D games

developed by students. Graduates from this program will be eligible for entry-level positions such as junior game designer, quality assurance engineer, and junior programmer. This program also prepares students to further their education in NEIT's bachelor's degree programs in Game Development and Simulation Programming or Business Management.

### Video Game Design

The associate degree program in Video Game Design (VDEA) will prepare students for entry-level careers in game design, animation and visualization as well as for entry-level positions in a variety of digital media production environments.

Through a combination of theoretical lessons, hands-on workplace-relevant laboratory experiences and small class sizes led by experienced instructors, the program emphasizes the application of lessons and knowledge to the design and development process of creating games and simulations.

As students prepare for the exciting fields of game design, they will learn how to design games, will be introduced to the game development process, will hone people skills and communications skills through team-based projects and presentations, will master 2D and 3D animation concepts, and will learn the use of industry-standard software packages. An important component of the curriculum is building a portfolio that will include game assets developed by students. Graduates from this program will be eligible for entry-level positions such as junior game designer, technical artist and level designer. This program also prepares students to further their education in NEIT's bachelor's degree programs in Video Game Design or Business Management.

### Game Development and Simulation Programming (VDVA) Curriculum

Term I					
Course No.		Course Title	C	L	T
GDS	111	HTML and JavaScript	2	4	4
VGD	114	Introduction to Game Development	2	2	3
VGD	115	Digital Graphics for Gaming	2	2	3
<b>CHOOSE ONE</b> (depending upon Math placement)					
MA	105	Basic College Math with Lab (MA/SCI Core)	4	2	5
MA	110	Introduction to College Math (MA/SCI Core)	4	0	4
ELECTIVE	100-200 Level Math/Science Core		4	0	4
			10	8/10	14/15

Term II					
Course No.		Course Title	C	L	T
GDS	110	Introduction to Game Programming	2	4	4
VGD	126	2D Content Creation Tools for Games	2	4	4
VGD	129	Visual & Technical Communications for Game Designers	2	2	3
EN	100	Introduction to College Writing (COM Core)	4	0	4
			10	10	15



Term III					
Course No.		Course Title	C	L	T
GDS	121	Intermediate Game Programming	2	4	4
GDS	137	Game Prototyping	2	4	4
VGD	133	3D Modeling I	2	4	4
<i>ELECTIVE</i>		<i>100-200 Level Social Sciences Core</i>	4	0	4
EN	200	<i>Workplace Communications (COM Core)</i>	4	0	4
			14	12	20

Term IV					
Course No.		Course Title	C	L	T
GDS	131	Advanced Game Programming	2	4	4
GDS	134	Game Persistence	2	2	3
VGD	244	Unity I	2	4	4
MA	125	<i>Technical Math I</i>	4	0	4
			10	10	15

Term V					
Course No.		Course Title	C	L	T
GDS	252	Algorithms and Data Structures	2	4	4
VGD	251	Introduction to Level Design	2	2	3
VGD	256	Unity II	2	4	4
PHY	200	<i>Physics I &amp; Lab (MA/SCI Core)</i>	4	0	4
<i>ELECTIVE</i>		<i>100-200 Level Humanities (or Arts/Foreign Language Core)</i>	4	0	4
			14	10	19

Term VI					
Course No.		Course Title	C	L	T
GDS	268	Game Studio	0	6	3
SE	256	Web Development Using .NET	2	4	4
VGD	261	Game Testing	2	2	3
MA	210	<i>Technical Math II</i>	4	0	4
			8	12	14
<i>Total Quarter Credit Hours = 97/98</i>					

## Video Game Design (VDEA) Curriculum

Term I					
Course No.		Course Title	C	L	T
GDS	111	HTML and JavaScript	2	4	4
VGD	114	Introduction to Game Development	2	2	3
VGD	115	Digital Graphics for Gaming	2	2	3
<b>CHOOSE ONE</b> (depending upon Math placement)					
MA	105	<i>Basic College Math with Lab (MA/SCI Core)</i>	4	2	5
MA	110	<i>Introduction to College Math (MA/SCI Core)</i>	4	0	4
<i>ELECTIVE</i>		<i>100-200 Level Math/Science Core</i>	4	0	4
			10	8/10	14/15

Term II					
Course No.		Course Title	C	L	T
GDS	110	Introduction to Game Programming	2	4	4
VGD	126	2D Content Creation Tools for Games	2	4	4
VGD	129	Visual & Technical Communications for Game Designers	2	2	3
EN	100	Introduction to College Writing (COM Core)	4	0	4
			10	10	15

Term III					
Course No.		Course Title	C	L	T
GDS	121	Intermediate Game Programming	2	4	4
GDS	137	Game Prototyping	2	4	4
VGD	133	3D Modeling I	2	4	4
ELECTIVE		100-200 Level Social Sciences Core	4	0	4
EN	200	Workplace Communications (COM Core)	4	0	4
			14	12	20

Term IV					
Course No.		Course Title	C	L	T
VGD	242	3D Modeling II	2	4	4
VGD	244	Unity I	2	4	4
VGD	259	Storyboard and Design	2	2	3
MA	200	Applied Math for Business	4	0	4
AR	203	Introduction to Drawing (HU Core)	4	0	4
			14	10	19

Term V					
Course No.		Course Title	C	L	T
VGD	251	Introduction to Level Design	2	2	3
VGD	256	Unity II	2	4	4
VGD	268	UI/UX Design Principles	2	2	3
ELECTIVE		100-200 Level Social Sciences Core	4	0	4
			10	8	14

Term VI					
Course No.		Course Title	C	L	T
GDS	268	Game Studio	0	6	3
VGD	261	Game Testing	2	2	3
VGD	264	Introduction to Texture and Lighting	2	4	4
VGD	267	Digital Audio and Video Editing	2	2	3
ELECTIVE		100-200 Level Humanities (or Arts/Foreign Language) Core	4	0	4
			8	14	15
<i>Total Quarter Credit Hours = 97/98</i>					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 105/110 must still take 32 credits of core courses.

Subject to change.

## Video Game Design Bachelor of Science Degree

The bachelor's degree program in Video Game Design will prepare students for entry-level and intermediate level careers in game design, animation and visualization as well as for entry-level and intermediate level positions in a variety of digital media production environments. Building on the skills and knowledge acquired in the associate degree program, students will learn and refine advanced design and development skills utilized in the game industry. Students will be immersed in high-level programs, concepts and design challenges that will aid in their development of communications skills, refine their mastery of 2D and 3D animation concepts and introduce them to new technologies and trends in the industry. An important component of the curriculum is assembling a portfolio that will include game assets developed by students. Graduates from this program will be eligible for entry-level to intermediate level positions such as game designer, character artist, environmental artist, technical artist, level designer, and visual effects animator.

### Curriculum

Term VII*					
Course No.		Course Title	C	L	T
GDS	375	Simulation and Serious Games	2	2	3
VGD	371	Advanced 3D Modeling	2	4	4
VGD	373	Animation I	2	2	3
EN	322	<i>Argumentative Research Writing (COM Core)</i>	4	0	4
			10	8	14

Term VIII*					
Course No.		Course Title	C	L	T
VGD	390	Advanced Animation I	2	4	4
VGD	392	3D Scripting & Advanced Rigging	2	4	4
VGD	404	Advanced Texturing	2	4	4
ELECTIVE	<i>300-400 Level Math/Science Core</i>		4	0	4
			10	12	16

Term IX*					
Course No.		Course Title	C	L	T
GDS	370	Advanced Game Design	2	2	3
VGD	384	Game Engines	2	4	4
VGD	394	Game Analytics	2	2	3
MA	300	Statistics (MA/SCI Core)	4	0	4
ELECTIVE		300-400 Level Humanities Core	4	0	4
			14	8	18

Term X*					
Course No.		Course Title	C	L	T
VGD	380	3D Digital Sculpting	2	4	4
VGD	412	Game Industry Perspectives	2	2	3
EN	421	Technical Communications (COM Core)	4	0	4
<b>CHOOSE ONE</b>					
VGD	417	Introduction to Virtual Reality Development	2	4	4
GDS	422	Emerging Technologies in Game Development	2	4	4
			10	10	15

Term XI*					
Course No.		Course Title	C	L	T
GDS	410	Introduction to Senior Project	2	6	5
ELECTIVE		300-400 Level Humanities, Social Sciences, or 200 Level Foreign Language Core	4	0	4
<b>CHOOSE ONE OPTION</b>					
VGD	408	Virtual Production/Motion Capture	2	2	3
VGD	419	Design Studio I	0	8	4
<b>-or-</b>					
IT	415	Cooperative Learning I	0	18	6
			6/8	16/24	15/16

Term XII*					
Course No.		Course Title	C	L	T
GDS	420	Senior Project	2	8	6
ELECTIVE		300-400 Level Social Sciences Core	4	0	4
<b>CHOOSE ONE</b>					
VGD	429	Design Studio II	0	8	4
IT	425	Cooperative Learning II	0	21	7
			6	16/29	14/17
<i>Total Quarter Credit Hours = 92-96</i>					

<b>*Substitution Course</b>					
<b>Course No.</b>		<b>Course Title</b>	<b>C</b>	<b>L</b>	<b>T</b>
VGD	422	Special Projects Lab	0	9	3
With the permission of the Department Chair and recommendations from two discipline faculty members, students may substitute this special project course for another technical course.					

### Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All bachelor's degree students are required to take 28 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses.

Subject to change.

## Welding Engineering Technology Associate in Science Degree

The Associate in Science in Welding Engineering Technology program emphasizes the development of real-world, hands-on welding skills. Through a comprehensive academic and laboratory environment, students will understand the theory and best practices applied in today's welding industry. The program provides intensive training in oxy-acetylene and air carbon arc cutting, brazing, SMAW, GMAW, FCAW, and GTAW. In addition to welding and pipefitting, students will also take courses in industrial OSHA safety procedures and policy, metallurgy, structural design, blueprint reading, computer-aided design and drafting (CADD), nondestructive testing, and precision measurement. Students also prepare for future certifications through simulated welder qualification tests. While in the program, students are able to sit for the National Institute for Metalworking Skills (NIMS) exam in Measurement, Materials and Safety mid-way through the program; they may sit for the American Society for Quality (ASQ) Six Sigma Yellow Belt certification exam after their fifth term; they may earn their American Welding Society SENSE Level 1 certification after successfully completing WEL 216; and their OSHA 10 card after successfully completing ELY 135.

Upon graduation, students will receive an Associate in Science Degree in Welding Engineering Technology. Graduates of the Welding Engineering Technology program are prepared for several types of industry positions including welding engineering technician, production welder, industrial engineering technician, quality control engineering technician, CADD designer, CADD technician, welding industry salesman, and materials testing technician.

## Curriculum

Term I					
Course No.		Course Title	C	L	T
ENG	118	Introduction to Engineering Technology and Lab	2	2	3
WEL	111	Interpreting Engineering Blueprints	2	2	3
WEL	114	OFC / OAW, Electric Welding and Cutting	1	3	2
WEL	151	Industrial Welding I (SMAW)	1	4	3
<b>CHOOSE ONE</b> (depending upon Math placement)					
MA	105	Basic College Math with Lab (MA/SCI Core)	4	2	5
MA	110	Introduction to College Math (MA/SCI Core)	4	0	4
ELECTIVE	100-200 Level Math/Science Core		4	0	4
			10	11/13	15-16

Term II					
Course No.		Course Title	C	L	T
WEL	152	Industrial Welding II (Advanced SMAW)	1	4	3
MCT	115	Computer-Aided Design I	3	2	4
ELY	135	OSHA Construction Safety & Health	2	0	2
MA	125	Technical Math I (MA/SCI Core)	4	0	4
			10	6	13

Term III					
Course No.		Course Title	C	L	T
WEL	124	CAD with Weldments	3	2	4
WEL	153	Industrial Welding III (GMAW)	1	4	3
MCT	239	Quality	3	2	4
MA	210	Technical Math II (MA/SCI Core)	4	0	4
PHY	200	Physics I & Lab (MA/SCI Core)	3	2	4
			14	10	19

Term IV					
Course No.		Course Title	C	L	T
WEL	131	Materials and Manufacturing Processes	3	2	4
WEL	254	Industrial Welding IV (FCAW)	1	4	3
WEL	271	Pipe Welding I (SMAW)	1	4	3
PHY	300	Physics II & Lab (MA/SCI Core)	3	2	4
EN	100	Introduction to College Writing (COM Core)	4	0	4
			12	12	18

Term V					
Course No.		Course Title	C	L	T
WEL	216	AWS SENSE Level 1	1	4	3
WEL	255	Industrial Welding V (GTAW)	1	4	3
WEL	260	Introduction to Robotic Welding	2	2	3
WEL	272	Pipe Welding II (SMAW/GMAW)	1	4	3
ABT	223	Structures I	3	0	3
<i>EN</i>	<i>200</i>	<i>Workplace Communications (COM Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
			12	14	19

Term VI					
Course No.		Course Title	C	L	T
ABT	232	Structures II	3	0	3
<i>ELECTIVE</i>		<i>100-200 Level Social Sciences Core</i>	<i>4</i>	<i>0</i>	<i>4</i>
<i>ELECTIVE</i>		<i>100-200 Level Humanities Core</i>	<i>4</i>	<i>0</i>	<i>4</i>
<b>CHOOSE ONE</b>					
WEL	259	Capstone Design Project (MCT/BS)	2	4	4
ENG	281	Engineering Internship	0	20	4
<b>CHOOSE ONE</b>					
WEL	242	Destructive & Non-Destructive Testing	2	2	3
MCT	235	Industrial Robotic Automation (MCT/BS)	3	2	4
			13-16	6-24	18-19
<i>Total Quarter Credit Hours = 102-104</i>					

### Legend

C = Number of lecture hours per week

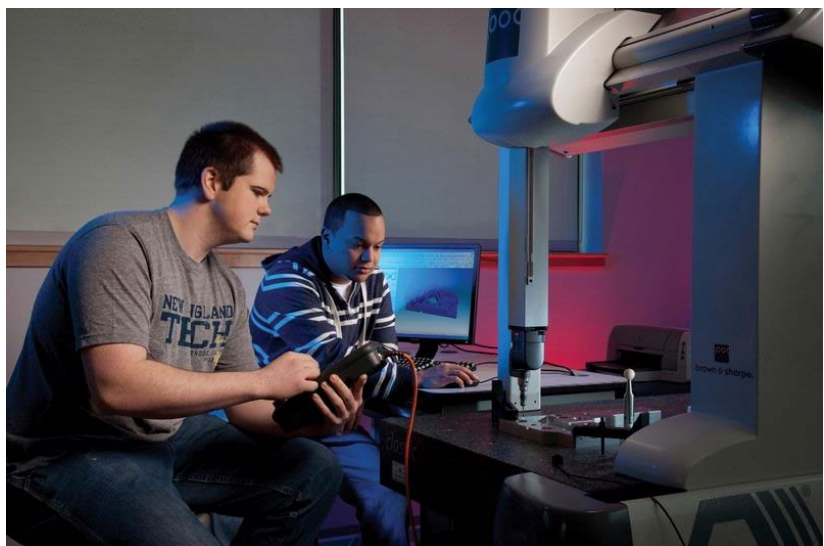
L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

*PLEASE NOTE: All liberal arts core courses are listed in italics.*

All associate degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 105/110 must still take 32 credits of core courses.

Subject to change.



## Liberal Arts Core Electives

All programs must meet certain minimum requirements in both the major and in the liberal arts. Course requirements for each program are listed in each curriculum along with liberal arts selections. Courses listed as “Core Electives” in a curriculum can be chosen by students from one of the several core areas listed below. Each core area provides a variety of courses for student choice. Students must take a minimum of 32 credits in core electives for the associate degree and an additional minimum of 28 credits for the bachelor’s degree. Individual majors have specific requirements and may require more than the minimum number of liberal arts credits or may specify certain courses in a particular core area. All liberal arts core elective courses are 4 credits. Please refer to the curriculum of the major for specific requirements.

### Associate Degree Core Elective Areas<sup>1</sup>

To obtain a minimum of 8 courses (32 credits), students may choose from the following course selections:

- 2 courses (minimum) from the Communications Core
- 2 courses (minimum) from the Math/Science Core
- 1-2 courses from the Humanities Core OR
  - 1 course from the Humanities Core AND/OR
  - 1 course from the Arts/Foreign Language Core
- 1-2 courses from the Social Sciences Core

### Associate Degree Courses by Core<sup>1</sup>

#### Communications Core Electives (Minimum 8 Credits)

EN 100 Introduction to College Writing  
EN 106 Service Industry Communications  
EN 110 Healthcare Communications  
EN 200 Workplace Communications  
EN 211 Oral Communications  
HU 208 Rap/Rock and Poetry

#### Math/Science Core Electives (Minimum 8 Credits)

CHM 101 Life Science Chemistry  
MA 100 Introduction to College Math with Lab  
MA 105 Basic College Math with Lab  
MA 106 Computations and Applications  
MA 109 Math for Life Science  
MA 110 Introduction to College Math  
MA 121 Business Math  
MA 125 Technical Math I  
MA 200 Applied Math for Business  
MA 210 Technical Math II  
PHY 126 Applied Physics & Lab  
PHY 200 Physics I and Lab  
SCI 110 Environmental Science

#### Arts/Foreign Language Core Electives (Maximum of 4 Credits in Place of a Humanities Course)

AR 203 Introduction to Drawing  
AR 206 3D Sculpture: An Adventure in the Third Dimension  
AR 207 Introduction to Applied Music  
AR 209 The Art of Collage



JP 201 Introduction to Japanese  
SP 201 Introduction to Spanish  
SP 203 Spanish for Healthcare Workers

### **Humanities Core Electives (Minimum 4 Credits)**

HU 208 Rap/Rock and Poetry  
HU 211 Introduction to Film  
HU 212 Documentary Film  
HU 215 Popular Culture  
HU 216 Music and the Media  
HU 240 Graphic Design in the 20<sup>th</sup> Century  
HU 242 The Automobile and American Culture  
HU 244 Science Fiction  
HU 289 Racing Through Film  
HU 291 Critical Thinking and Chess

### **Social Sciences Core Electives (Minimum 4 Credits)**

BU 236 Small Business and the Law  
EC 203 Principles of Economics  
HI 201 A History of Video Games and Esports  
HI 231 Contemporary History  
HI 235 Architectural History  
HI 280 The Holocaust  
PS 140 Life-Span Development  
PS 201 Introduction to Psychology  
PS 202 Psychology of Healthcare  
PS 203 Psychology of Happiness  
PS 210 Human Relations in the Workplace  
SO 203 Social Problems  
SO 220 Internet and Society  
SO 231 Crime and Deviance  
SS 140 Criminal Investigations  
SS 201 American Government in Action  
SS 203 Terrorism & National Security  
SS 204 Juvenile Justice System in America  
SS 210 Personal Financial Planning for Wealth and Success  
SS 221 Technology and American Life  
SS 222 Mindful Living

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### **Liberal Arts Core Electives (BS)**

Please refer to the curriculum for each program for specific requirements as some curricula require more than the minimum number of liberal arts core courses. Only the associate-level core electives in the list below can be used to satisfy bachelor's degree core requirements.

### **Bachelor's Degree Core Elective Areas<sup>1</sup>**

**To obtain a minimum of 7 courses (28 credits), students may choose from the following course selections:**

- 2 courses from the Communications Core**
- 2 courses from the Math/Science Core**
- 1 course from the Humanities Core**
- 1 course from the Social Sciences Core**
- 1 course from either the Humanities Core**
  - OR from the Arts/Foreign Language Core**
  - OR from the Social Sciences Core**

## **Bachelor's Degree Courses by Core<sup>1</sup>**

### **Communications Core Electives (Minimum 8 Credits)**

EN 322 Argumentative Research Writing  
EN 331 Research Writing in the Social Sciences  
EN 421 Technical Communications  
EN 422 Writing in the Health Sciences  
SS 303 Communication in the Global Workplace

### **Math/Science Core Electives (Minimum 8 Credits)**

CHM 300 Chemistry I and Lab  
MA 300 Statistics  
MA 301 Math for Management Studies  
MA 310 Calculus I  
MA 315 Math for Game Developers  
MA 320 Calculus II  
PHY 300 Physics II & Lab  
SCI 300 Public Health by Numbers  
SCI 304 Development of Western Science  
SCI 307 Understanding Science Through Photography  
SCI 320 Understanding Flight  
SCI 330 Our History and Future in Space  
SCI 333 Sports Performance Metrics  
SCI 350 Introduction to Genetics and Evolution  
SCI 360 Wellness for Life

### **Arts/Foreign Language Core Electives (Maximum of 4 Credits in Place of a Humanities Course)**

JP 201 Introduction to Japanese  
SP 201 Introduction to Spanish  
SP 203 Spanish for Healthcare Workers

### **Humanities Core Electives (Minimum 4 Credits)**

HU 311 The Art of Film  
HU 315 Cultural Competence in the Workplace  
HU 320 Multicultural Voices  
HU 321 Representations of Gender  
HU 331 Ethics and Technology  
HU 341 World Religions  
HU 350 Literature and Health  
HU 352 History of Rock and Roll  
HU 432 History of Western Art  
HU 433 Encountering 20<sup>th</sup> Century Art  
HU 441 World Literature

### **Social Sciences Core Electives (Minimum 4 Credits)**

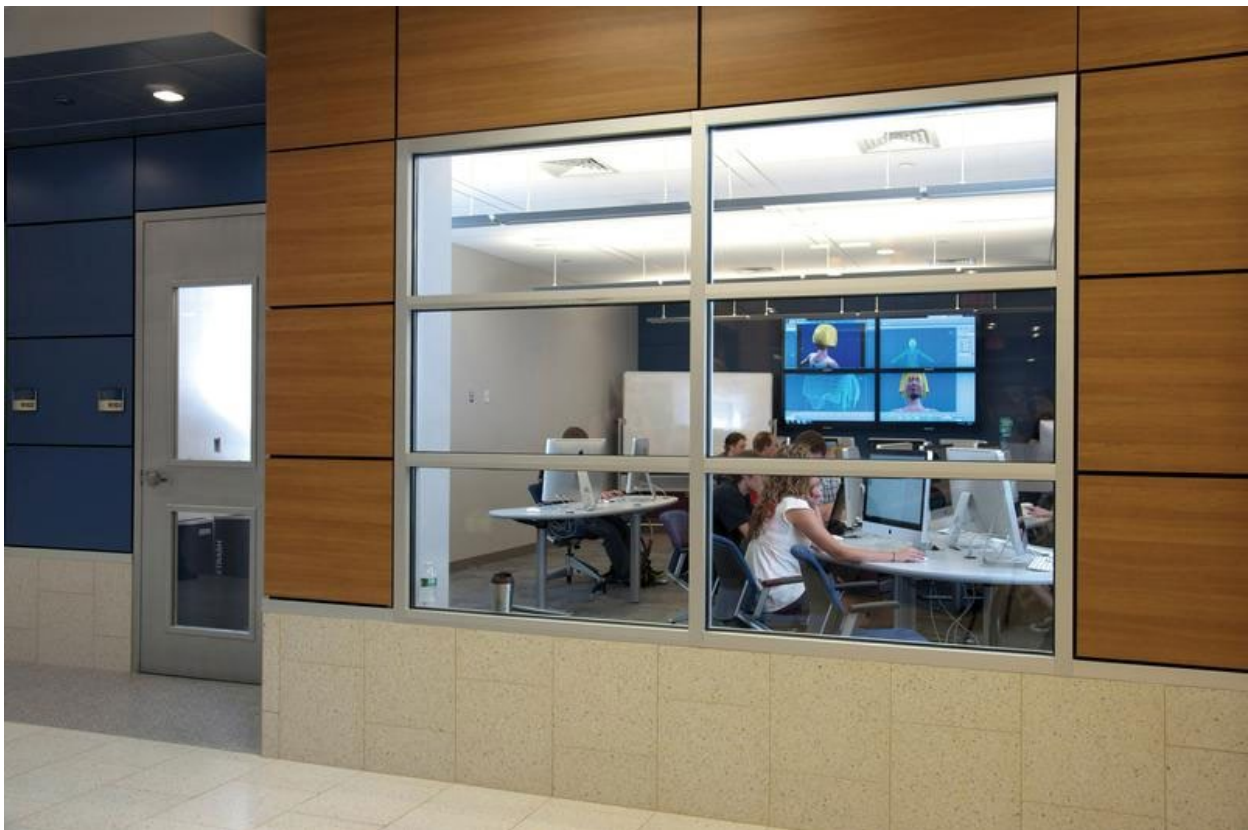
EC 301 The Global Economy  
PS 330 Marriage and the Family  
PS 350 Forensic Psychology  
PS 410 Applied Research Statistics  
PS 440 Developmental Psychology  
SCI 360 Wellness for Life  
SS 303 Communication in the Global Workplace  
SS 304 Digital Media & the Law  
SS 330 Contemporary Social Issues  
SS 350 Everything is a Negotiation

1. Subject to Change

## Course Codes

ABT – Architectural Building Engineering  
AH – Refrigeration/Air Conditioning/Heating  
AHS – Health Sciences  
AR – The Arts  
AS – Academic Skills  
AUB – Automotive Collision Repair (see also AUT)  
AUT – Automotive (see also TT)  
BIO – Biology  
BU – Business  
CE – Community Enrichment  
CHM – Chemistry  
CJ – Criminal Justice  
CM – Construction Management (MS-level)  
CMT – Construction Management (see also ABT & MGT)  
CPT – Career Practicum Training  
CR – Building Construction/Cabinetmaking  
CYB – Cybersecurity  
DMP – Digital Media Production  
EC – Economics  
ELT – Electrical Engineering Technology  
ELY – Electrical Technology  
EMG – Engineering Management  
EN – English  
ENG – Engineering Technology  
ERD – Electronics, Robotics, & Drones Technology  
GDS – Game Development and Simulation Programming (see also GMW & SE)  
GMW – Graphics, Multimedia & Web Design  
HI – History  
HS – Health Science  
HU – Humanities  
ID – Interior Design (see also ABT)  
IT – Information Technology (see also NE & SE)  
JP – Japanese  
MA – Mathematics  
MCT – Mechanical Engineering Technology  
MGE – Esports Management  
MGM – Business Management  
MLT – Medical Laboratory Technician  
MT – Marine Technology  
NE – Network Engineering (see also IT & SE)  
NRP – Practical Nursing  
NUR – Nursing  
OT – Occupational Therapy  
OTA – Occupational Therapy Assistant (see also BIO)  
PAR – Paramedic Technology

PH – Public Health  
PHY – Physics  
PL – Plumbing (see also AH)  
PS – Psychology  
PTA – Physical Therapist Assistant (see also BIO)  
RC – Respiratory Care (see also BIO)  
RS – Rehabilitation Sciences  
SCI – Science  
SE – Software Engineering (see also IT & NE)  
SO – Sociology  
SP – Spanish  
SS – Social Sciences  
ST – Surgical Technology (see also HS, BIO, & IT)  
TT – Transportation Technology (see also AUT)  
VET – Veterinary Technology (see also BIO)  
VGD – Video Game Design (see also GDS, GMW, & SE)  
WEL – Welding Engineering Technology



## ABT – ARCHITECTURAL BUILDING ENGINEERING

### ***ABT 111 Introduction to Building Science***

*1 Class Hour 1 Quarter Credit Hour*

This is a survey course which introduces students to Building Science. Primary topics will include the many professional disciplines and career paths available to graduates. Additional topics will also include the skills and attitudes necessary to the disciplines, professional ethics, relationships with other trades and professions, construction documentation, and LEED.

### ***ABT 112 Technical Drafting and Graphic Communications***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

This course is designed to give students the basic understanding of Technical Drafting and Graphic Communications through the exploration and use of drafting materials and methods using both two- and three-dimensional exercises. The emphasis will be on wood frame construction. Architectural lettering, line work, and standard abbreviations will be covered, as well as the proper use of architectural and civil engineering scales. Basic concepts are introduced including ordering principles, proportion, human scale and the basic elements of architecture and interior design. Students develop their own powers of observation throughout the course as they gain new levels of awareness, understanding, and ability related to design.

### ***ABT 114 Introduction to Computer-Aided Drafting (CAD)***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

This course will provide students with the basics in architectural drafting using the applications of computer-aided design. Students will become familiar with keyboard and mouse functions as they apply to architectural drawings. The emphasis will be on wood frame construction. Topics will include use of the CAD system, the role of drawings in the construction process, and the relationship between the drawings.

### ***ABT 115 Introduction to Structures***

*2 Class Hours 2 Quarter Credit Hours*

This course is a study of basic concepts and terminology used in the design of a building's structural system. The emphasis will be on residential and light commercial construction. Topics covered will include types of loads, load and area calculations, materials, theory of equilibrium, elementary statics, structural components, stair design, foundation design, roof pitches, and the use of span charts found in the Rhode Island State Building Code.

### ***ABT 122 Two- & Three-Dimensional Design Theory***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisite: ABT 112*

In this course, students will explore and develop an understanding of abstraction and conceptualization of two- and three-dimensional design relevant to architecture and interiors. Through a series of assigned studio exercises, students will study ordering principles, color theory, and basic elements and organization of space and form.

### ***ABT 124 Construction Methods & Materials***

*3 Class Hours 3 Quarter Credit Hours*

This course is an introduction to building science relative to the assembly of systems, both structural and non-structural, and to the extensive technical terminology used in the building industry. The main focus of the course will be on commercial construction. Topics will include explanations of major building systems and their assembly, the identification of their components, and the limitations of the systems.

### ***ABT 125 Building Design & Technology I***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: ABT 112, ABT 114, ABT 115*

This course will introduce students to the design process and provide additional knowledge about the preparation of residential design development and construction drawings. Based upon a supplied program and site plan, students will design and execute documents for a single-family residence. Standard techniques of wood frame construction will also be discussed. Topics covered will include design theory, site planning, sequencing of drawings, wood frame terminology, components and their proper assembly, and the content of typical drawings necessary for the construction of a wood framed residence. Also included is an explanation of relevant sections of the building code, the importance of their proper use, and their relationship to wood frame construction.

### ***ABT 126 Presentation Techniques***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

This course is an introduction to effective graphic communication and layout techniques, both manual and computerized, which are utilized by design professionals. Students will also be introduced to the software commonly used in the industry. Through lectures, demonstrations, critiques and assignments, students will learn the basic concepts of perspective drawing and software application.

### ***ABT 127 Introduction to Construction Estimating***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisites: ABT 112, MA 100/110 (or MA 105)*

In this course, students study the estimating procedures and principles used to determine detailed cost estimates in the construction bidding process. The emphasis will be on residential and light commercial construction. Topics covered will include the organization, classification, and quantity surveys of materials and labor costs, subcontracted work, overhead and profit.

**Courses are listed alphabetically by course code.**

### ***ABT 135 Building Design & Technology II***

*2 Class Hours 8 Lab Hours 6 Quarter Credit Hours*

*Prerequisites: ABT 124, ABT 125*

This course will introduce students to commercial design, the integration of the design to building systems, and the documentation necessary to construct them. Based upon a supplied program and predetermined column configuration, students will design and develop drawings and construction documents for a low rise, steel-framed commercial building. Topics will include design theory, enclosure systems, structural systems and their components, circulation, vertical transportation systems, building code requirements and ADA requirements, and the sequencing of and relationships between the documents.

### ***ABT 137 Introduction to Environmental Systems***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisite: ABT 124 or CR 122 or ID 124*

An introduction and qualitative study of typical plumbing, heating, air conditioning, lighting, and electrical systems in buildings. The emphasis will be on light commercial construction.

### ***ABT 138 Surveying & Civil Technology***

*1 Class Hour 2 Lab Hours 2 Quarter Credit Hours*

*Prerequisite: MA 125*

This course introduces and familiarizes students with the science of surveying, applications, equipment, and methods. Topics covered include equipment operation and handling, terminology, leveling, horizontal and vertical measurements, angles, and construction layout. Lab work is supplemented with data plotting and related computations using hand and computer solutions.

### ***ABT 218 Building Information Modeling I (BIM I)***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: (ABT 114 and ABT 135) or (ABT 114 and ID 132)*

This course introduces computer-aided parametric building information modeling as a tool used in the design of buildings and as a means of producing architectural documentation. The primary software product used in this course will be Revit by Autodesk. Topics will include design visualization, bi-directional associativity, interoperability, detailing, intuitive user interface, and parametric components.

### ***ABT 221 Visualization Studies I***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: ABT 218*

This course will cover the primary conceptual and operational aspects of architectural and engineering visualization. Using 3ds Max® Design, the course will explore the program interface and primary command structure. Subjects covered will include geometry, modifiers, materials, linking Revit files, mapping, basic lighting, and rendering.

### ***ABT 223 Structures I***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisite: MA 125*

This course will introduce students to the primary concepts of statics. Topics covered will include concurrent, coplanar and parallel force systems, equilibrium, moment, analysis of statically determinate structures, reactions, and truss analysis using mathematical and graphic methods. Computerized programs for structural analysis will also be introduced.

### ***ABT 225 Building Design & Technology III***

*4 Class Hours 6 Lab Hours 7 Quarter Credit Hours*

*Prerequisites: ABT 135, ABT 137, ABT 218, ID 212*

Students will continue to explore the architectural design process by investigating an existing building, assessing the design and developing an understanding of the subject's spatial, environmental, structural, mechanical and architectural components. Student understanding of this structure will be demonstrated through drawings and models. The analysis will be followed by a building design problem assigned by the instructor. Students will demonstrate their designs and define how the development was informed by the existing building investigations. Topics covered will include drawing, model making, and theory of design, concept formulation and schematic design. Students will make a graphic presentation representing their solution to a jury of critics at the end of the term.

### ***ABT 232 Structures II***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisite: ABT 223*

This course will build upon the skills and theories developed in Structures I and introduces students to the primary concepts of strength of materials. Topics covered will include centroids, moment of inertia, shear and moment diagrams, stresses in beams, stress-strain relationships, deflection, combined loading conditions, and column theory.

### ***ABT 235 Building Design & Technology IV***

*4 Class Hours 6 Lab Hours 7 Quarter Credit Hours*

*Prerequisite: ABT 225*

Students will continue to explore the architectural design process by solving a building design problem assigned by the instructor. The project will begin with programmatic information and a raw site and culminate in the design development phase. Topics covered will include theory of design, programming, concept formulation, selection of structural and mechanical systems, and schematic design and design development drawings. The effects of site, environment, precedent and zoning regulation on the design process will be discussed. Students will make a graphic presentation representing their solution to a jury of critics at the end of the term.

## ***ABT 236 Building Codes***

*2 Class Hours 2 Quarter Credit Hours*

*Prerequisites: ABT 135 or (ABT 114 and ID 132)*

In this course, students study the codes that regulate the building industry. Topics will include code history, their purpose, and how they are organized. Also included will be a review of the International Building Codes, Mechanical Codes, National Fire Protection Code, and the Americans with Disabilities Act as it pertains to the accessibility of buildings.

## ***ABT 314 Construction Contracts & Specifications***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisite: ABT 232 or ID 315*

This course is a study of the procedures used to prepare construction specifications and standard construction contracts. Emphasis will be on commercial construction projects. Topics covered will include the CSI specification format, abbreviated and three-part specifications, party responsibility, liability, and the relationship between contracts and specifications, and contract type versus delivery method.

## ***ABT 315 Structural Wood Design***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

In this course, students study the analysis and design of wood relative to its use as a structural system. Topics will include wood properties, grading rules, allowable working stresses, deflection, connections, flitch beams, framing systems, and loading conditions. Structural differences between solid sawn, laminated, and engineered lumber will be examined as well as the use of computer programs as a design tool.

## ***ABT 324 Masonry Construction & Detailing***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

In this course, students study the technical and mechanical properties of masonry construction relative to its use as a structural and enclosure system. Topics will include shapes and types of masonry block, bond beams, lintels, piers, masonry foundations, typical construction details, brick and stone veneers, integration with other structural systems, and code regulations.

## ***ABT 325 Soil Mechanics & Foundation Design***

*3 Class Hours 3 Quarter Credit Hours*

In this course, students study the engineering properties of soils and the principles of foundation design. Topics covered will include soil classification, stress, settlement, consolidation, slope stability, bearing pressure, and retaining wall and shallow foundation design.

## ***ABT 328 Structural Steel Design***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

In this course, students study the analysis and design of steel relative to its use as a structural system. Topics will include properties of steel, the design of beams, columns, plates and joists, riveted and welded connections, code

compliance, and the use of computer programs as design tools.

## ***ABT 331 Advanced Environmental Systems***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisites: ([ABT 137 or ELY 218] and [ABT 236 or CR 126 or ELY 138]) or AH 220*

This course expands upon the theory, applications, and technology studied in ABT 137 Introduction to Environmental Systems. Topics will include heating and cooling, electrical, and plumbing systems used in high rise and commercial building types. Additional topics will include fire suppression systems, related code issues, and sustainable options.

## ***ABT 334 Site Engineering & Planning***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

A study of the concepts and technology used in the design, planning, and engineering of a site relative to land use and real estate development. The emphasis will be on residential single and multi-family development. Topics will include site analysis and selection, plane surveying, grading, roads, drainage, utilities, density, erosion and sediment control, zoning and environmental regulations, and federal, state and municipal approvals. Students will develop a graphic solution for an assigned real estate development project.

## ***ABT 337 Building Information Modeling II (BIM II)***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

This course expands upon the theory and applications of computer-aided drafting and building information modeling studied in ABT 218 Building Information Modeling I. The emphasis will be on advanced use of Revit by Autodesk and increased productivity techniques.

## ***ABT 338 Reinforced Concrete Design***

*4 Class Hours 4 Quarter Credit Hours*

In this course, students study the analysis and design of reinforced concrete elements relative to their use as a structural system. Topics will include properties of reinforced concrete, the design of beams, columns, and one-way slabs, positive and negative moment and shear reinforcement, pre-stressed concrete, code compliance, and the use of computer programs as design tools.

## ***ABT 340 Laser Scanning & Point Clouds***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: ABT 218, ABT 337 (or CMT 329)*

This course is an introduction to the theory and application of photogrammetry and laser scanning technology. Specific topics will include the operation and use of technology to scan and create point clouds relative to developing floor plans, 3D models of interior and exterior conditions, and topography. Case studies and applications to other applications will also be discussed.

**Courses are listed alphabetically by course code.**

***ABT 410 Building Design & Technology V (Low Rise)***

*4 Class Hours 6 Lab Hours 7 Quarter Credit Hours*

*Prerequisites: ABT 236, ABT 314, ABT 315, ABT 324, ABT 325, ABT 328, ABT 331, ABT 334*

In this course, students will explore the relationship between architectural design and the engineering and technology necessary to bring those designs to fruition. The emphasis will be on low rise buildings. Each student will develop a design solution for an assigned problem including the analysis and integration of the building, structural, and environmental systems. Students will make a graphic presentation representing their solution to a jury of critics at the end of the term.

***ABT 412 Sustainability in Construction***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisite: ABT 331*

In this course, students will study the concepts and applications of sustainability in construction. Topics will include sustainable requirements, sustainable practices in the design and construction of buildings, life cycle analysis, environmental regulations, sustainable global initiatives, and criteria for LEED.

***ABT 416 Portfolio Development***

*3 Class Hours 3 Quarter Credit Hours*

*Co-requisite: ABT 410*

In this course, students will develop a professional portfolio showcasing their personal work developed while attending NEIT. The quality shall be suitable to the interview process. Along with weekly development critiques from the instructor, students will make a final presentation to a review committee at the end of the term.

***ABT 420 Building Design & Technology VI (High Rise)***

*4 Class Hours 6 Lab Hours 7 Quarter Credit Hours*

*Prerequisite: ABT 410*

In this course, students will further explore the relationship between architectural design, engineering, and technology relative to high rise buildings. Each student will develop a design solution for an assigned problem including the analysis and integration of the building, structural, and environmental systems. Students will make a graphic presentation representing their solution to a jury of critics at the end of the term.

***ABT 421 Acoustics & Lighting***

*3 Class Hours 3 Quarter Credit Hours*

In this course, students study the basic concepts, terminology, and technical understanding of acoustics and illumination relative to building and site design, construction, and human comfort. Topics will include noise transmission and control, acoustical properties of materials, STC ratings of assemblies, natural and artificial illumination, lighting calculations, selections of fixtures and systems, and code regulation.

***ABT 427 Senior Thesis Proposal & Research***

*2 Class Hours 2 Quarter Credit Hours*

*This course is a direct preparatory course for ABT 430/ID 430 Senior Thesis.*

The intent of the course is to guide and assist students through the process of initial project selection, site selection, proposal preparation, and the collection, synthesis and publication of a comprehensive research document for the thesis project. Topics will include project selection, site analysis, research, and architectural programming.

***ABT 430 Senior Thesis***

*2 Class Hours 6 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: ABT 410, ABT 420, ABT 421, ABT 427*

This is a direct-studies course in which students must demonstrate to the architectural and construction faculty their understanding of and ability to utilize and synthesize the design, technical and engineering concepts they have developed throughout their university experience. Prior to the commencement of the term, students will submit, in proposal format, a project for review and approval by the faculty. Students will work independently with weekly interaction with a faculty advisor. The term will culminate with a formal presentation to a jury of faculty and critics.

***ABT 433 Construction Law***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisite: ABT 314*

This course examines the aspects of law which are unique or of special interest to the construction and architectural process. Topics will include government regulations, bidding, contracts, formation and interpretation of contract documents, liability, risk management, and dispute resolution.

**AH – REFRIGERATION/AIR  
CONDITIONING/HEATING**

***AH 101 Introduction to the P-HVAC Industry***

*1 Class Hour 1 Quarter Credit Hour*

Students entering the Plumbing, Heating, and Refrigeration trades will be introduced to technology-related personal skill development that affects their employability. They will investigate the daily tasks and career opportunities their chosen trades will present to them, including the physical abilities and requirements associated with these technologies. Students will take an historical look at these technologies to get a better understanding of how these technologies make life better for others, develop an intrinsic satisfaction of working with their hands to perform specialized tasks, and the importance of lifelong learning to develop and apply new skills in these ever-changing technologies.



# COURSE DESCRIPTIONS

## ***AH 114 Refrigeration Systems Fundamentals***

*4 Class Hours 4 Quarter Credit Hours*

This course studies basic refrigeration and air conditioning systems. Topics covered include systems designed as freezers, refrigerators and air conditioning. The course is intended to explain the theory of heat transfer, thermodynamics, and the components used to accomplish the cooling of products. This course is intended for those seeking the knowledge and understanding necessary to advance to a more intense program.

## ***AH 116 Refrigeration Systems Fundamentals Lab***

*6 Lab Hours 3 Quarter Credit Hours*

Areas of hands-on practice in this course include: fabrication of refrigerant lines and connections that join the various refrigeration components together; the service technique as applied to installing manifold gauge sets and temperature measuring devices; removing, adding or replacing refrigerant charges; and proving operational conditions on live, educational and factory-designed equipment.

## ***AH 118 Basic Electricity Lab***

*4 Lab Hours 2 Quarter Credit Hours*

*Pre/Co-requisite: AH 125*

Students work on projects concerned with the use of voltmeters, ammeters, ohmmeters, wattmeters, and capacitor bridges. Other projects include proving the effects of voltage drop, high resistance contacts, shorts and opens, and related preventive maintenance. Students will be exposed to reading wiring diagrams, building circuits from a wiring diagram, and taking readings and testing of the circuits they build to include both line and low voltage devices.

## ***AH 125 Basic Electricity***

*2 Class Hours 2 Quarter Credit Hours*

Basic Electricity is intended to familiarize RACH and PLBH students with the basic theoretical and practical knowledge of electricity they will encounter in their respective technologies, as well as preparing students for more complex wiring commonly found in their technology. Course goals will be achieved through lectures, self-study, and an extensive laboratory experience to draw together the students' skills to master the curriculum. Components of this course are required to prepare students for the Rhode Island "PJF" license exams.

## ***AH 126 Electricity for Refrigeration & Air Conditioning***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: AH 114/116, ELY 135 and (AH 118/125 or ELY 122, ELY 126, ELY 127)*

Students study basic electricity and its relationship to working refrigeration and air conditioning systems. Topics include semi-conductors which serve as a foundation for

more advanced solid-state control systems; procedures required in the use of diverse electrical instruments and how they can be safely employed to diagnose electrical problems; compressor drives, fan motor circuitry and hermetic circuits with their associated starting relays, and motor starting capacitor circuitry.

## ***AH 128 Electricity for Refrigeration & Air Conditioning Lab***

*6 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: AH 114/116, ELY 135 and (AH 118/125 or ELY 122, ELY 126, ELY 127)*

Students work on projects concerned with the use of voltmeters, ammeters, ohmmeters, wattmeters and capacitor bridges. Other projects include proving the effects of voltage drop, high resistance contacts, shorts, opens and related preventive maintenance. Students practice wiring and operation of open and hermetic motors with a variety of control systems, as well as troubleshooting all of the common failures, which can put refrigeration plants in jeopardy of improper and costly operation.

## ***AH 134 Commercial and Industrial Refrigeration***

*3 Class Hours 3 Quarter Credit Hours*

Students will study advanced refrigeration principles involving motor starters and relays, pump-down, safety interlock, oil protection controls and defrost systems. System components and their practical applications in commercial and industrial refrigeration will be examined. Students will study the operation of commercial equipment such as walk-in coolers, freezers, and commercial ice machines.

## ***AH 138 Commercial and Industrial Refrigeration Lab***

*6 Lab Hours 3 Quarter Credit Hours*

Students will apply hands-on practice with advanced refrigeration principles including motor starters and relays, pump-down, safety interlock, oil protection controls and defrost systems. Detailed examination and practical study of system components and their applications, and the operation and troubleshooting of commercial equipment such as walk-in coolers, freezers, and commercial ice machines.

## ***AH 140 System Electrical Controls I***

*1 Class Hour 1 Quarter Credit Hour*

*Prerequisites: AH 126/128, ELY 135*

This course builds on the concepts learned in Basic Electricity and Electricity for Refrigeration, Air Conditioning and Heating. Topics covered are temperature and pressure controls, switches, relays and solenoids. Also discussed are thermocouples, thermistors, overload protection devices and motorized valves and dampers.

### ***AH 141 Systems Electrical Controls I Lab***

*2 Lab Hours 1 Quarter Credit Hour*

*Prerequisites: AH 126/128, ELY 135*

Students obtain hands-on experience wiring electrical controls into circuits, measuring voltages, current and resistance, and troubleshooting problems placed into the circuits by faculty. Projects begin with single controls in each circuit and progress to multiple controls as found in systems in the field.

### ***AH 143 Systems Electrical Controls II Lab***

*2 Lab Hours 1 Quarter Credit Hour*

*Prerequisites: AH 125, ELY 135*

The Electrical Controls and Systems Lab will afford students hands-on opportunities to identify various controls and their functions, build the circuits from a wiring diagram, and explain how all of the various controls and devices operate in conjunction with each other. To develop/build troubleshooting skills, various service situations will be incorporated into their projects, requiring them to troubleshoot using their VOM Meters.

### ***AH 144 System Electrical Controls II***

*2 Class Hours 2 Quarter Credit Hours*

*Prerequisites: AH 125, ELY 135*

This course is designed to illustrate the various electrical safety and operating controls and devices that direct the modern heating system in a safe and efficient manner. Students are exposed to pressure devices, water level controls, hydronic controls, air temperature and humidity control, relays, valves, and how these controls and devices interact with each other to operate the entire system.

### ***AH 212 Refrigeration Technician Certification***

*2 Class Hours 2 Credit Hours*

*Prerequisites: AH 114/116*

This course is intended to familiarize students with the federal laws and regulations involving the use and handling of refrigerants. Students study the effects of CFC and HCFC use on the environment, past and present. Other topics include the Montreal Protocol's reaction to global environmental problems, such as ozone depletion and global warming, and the proper use of equipment that complies with The Clean Air Act of 1990. Students also receive training and certification testing for the safe handling of R-410A refrigerant.

### ***AH 214 Air Conditioning***

*3 Class Hours 3 Quarter Credit Hours*

Topics studied include: air and its properties; psychometric functions of air conditioning systems and an analysis of equipment installation and diagnostic procedures; the fundamentals of liquid chillers, cooling towers and water-cooled condensers with concentration directed to com-

ponents, controls, and overall operation; and heat load calculations and selection of equipment to be installed.

### ***AH 215 Air Conditioning Lab***

*6 Lab Hours 3 Quarter Credit Hours*

Students apply the principles of psychometrics in testing an operating air conditioning system; study the various components that make up the system; trace the many refrigerant and electrical circuits used in domestic and commercial systems; and use air measuring instruments to determine the actual volume and weight of air being circulated.

### ***AH 234 Modern Heating Systems***

*4 Class Hours 4 Quarter Credit Hours*

Plumbing and RAC students will be exposed to the various heating systems they will encounter in their respective technologies. Students will briefly explore the steam plant and its operation and components within the setting of a commercial application. Students will continue their exploration with warm air heating system variations within conventional systems, including heat pumps and hybrid hydro-air systems. The final system studied will be the hydronic systems used in conventional settings. These hydronic systems studies include low mass boilers with hydraulic separators, radiant systems utilizing boilers, water heaters, and solar. Included in this course will be heat loss calculations and hydronic system design, with emphasis on pipe sizing, head pressure calculations, and layout of a series baseboard system.

### ***AH 235 Modern Heating Systems Lab***

*4 Lab Hours 2 Quarter Credit Hours*

*Co-requisite: AH 234*

Students service steam, hot water, and warm air heating systems in the laboratory. Accessories and energy-conservation devices are installed as part of students' lab work. Troubleshooting procedures are analyzed on the burners. Complete combustion testing is done on operational heating units. Students make recommendations to improve the operation of these units.

### ***AH 238 Gas Heating Systems***

*4 Class Hours 4 Quarter Credit Hours*

Gas Technology is designed to give students a practical working knowledge of gas-fired equipment and the associated practices and procedures for the installation, troubleshooting, and servicing of this type of equipment. The objectives for the course are accomplished through the study of gas properties, combustion theory, distribution systems and regulators, various burner designs, control systems, and venting requirements set forth in the National Fuel Gas Code.

## ***AH 240 Blueprints, Pipe Fitting and Duct Layout***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: AH 234/235*

Students will study the requirements and methods for the installation of piping systems and ductwork that would be required in their respective trades. A review of blueprint reading as it pertains to these two courses of study will be presented. Proper piping materials, fittings, techniques, and fabrication will be discussed. Sheet metal design and installation considerations will also be presented. This will include cutting and fabricating ducts, installing plenums, and the installation of trunk work and take-offs.

## ***AH 241 Blueprints, Pipe Fitting and Duct Layout Lab***

*4 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: AH 234/235*

The Lab component will allow the students, from a blueprint, to calculate, cut, and install gas piping, near boiler piping and connections to radiation. Students will also be exposed to radiant floor heating using the newest materials used for this type of system. Students will install piping and duct to create complete operational systems.

## ***AH 242 Gas Heating Systems Lab***

*6 Lab Hours 3 Quarter Credit Hours*

*Co-requisite: AH 238*

Gas Technology Lab students are able to apply the theory learned in class to live units in the lab. The lab experience affords students valuable hands-on application in areas such as testing, troubleshooting, and servicing on the same type of equipment that will be encountered in the field.

## ***AH 244 Oil Heating Systems***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: AH 125*

Various oil burner designs will be studied. Every major oil burner component will be examined as to its function, operational testing, and replacement. Chimneys and alternate venting methods will be presented. Combustion chambers, draft and combustion analysis are studied in detail. Students will study various methods of improving combustion efficiency.

## ***AH 246 Oil Heating Systems Lab***

*6 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: AH 125*

*Co-requisite: AH 244*

This course provides challenging lab projects, giving students hands-on experience in diagnostic testing and analysis, and repair through the installation and replacement of oil burner components.

## ***AH 250 Renewable Energy Systems***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: AH 125/118, AH 143/144, AH 234/235*

The Renewable Energy course will explore the use of solar energy for the production of domestic hot water and heating for a residential application. Instruction will include the use of geo-thermal energy for the same purpose. Included in this course will be discussions of locating true solar south, altitude and azimuth, as well as determining proper panel placement for different types of systems. A discussion of controls, components, and types of piping systems are covered. There will be a component that will cover both passive and active types of systems used in heating buildings.

## ***AH 251 Renewable Energy Systems Lab***

*6 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: AH 125/118, AH 143/144, AH 234/235*

In the lab portion of this course, students will design a solar collector, and determine the proper location and solar altitude for producing the best results for their collectors. The collectors will also be combined to produce heat with the use of a radiant underfloor heating system. Included will be an opportunity for students to design and build a parabolic solar concentrator and take measurements to determine its efficiency. Students will also be able to monitor the production of hot water from our active solar domestic hot water collector system.

## **AHS – ALLIED HEALTH SCIENCES**

### ***AHS 102 Introduction to Allied Health***

*2 Class Hours 2 Quarter Credit Hours*

This course introduces students to the allied health professions offered at New England Institute of Technology. The course covers topics generic to healthcare professionals, including basic skills, language and professional roles and responsibilities.

### ***AHS 110 Applied Medical Terminology***

*2 Lab Hours 1 Quarter Credit Hour*

This course provides students with medical language necessary for health professionals. Case studies will allow students to apply medical terminology using a systems approach.

***Courses are listed alphabetically by course code.***

### ***AHS 120 Medical Terminology I***

*1 Class Hour 1 Quarter Credit Hour*

This is the first of a two-part course which is targeted for students majoring in Health Sciences and is designed to complement other required courses, particularly anatomy, physiology, and pathophysiology. Students will develop basic medical language skills through a study of root words, prefixes and suffixes while focusing on the correct pronunciation, spelling and use of such terms. Learning a new language requires memorization, repetition, and other pertinent skills that build on vocabulary and other knowledge retained from relative courses. The course is comprehensive in nature and, consequently, it is vital that students master each module before moving on.

### ***AHS 123 Medical Terminology II***

*1 Class Hour 1 Quarter Credit Hour*

This is the second part of a two-part course that is targeted for students majoring in Health Sciences and is designed to complement other required courses, particularly anatomy, physiology, and pathophysiology. Students will develop basic medical language skills through a study of root words, prefixes and suffixes while focusing on the correct pronunciation, spelling and use of such terms. Learning a new language requires memorization, repetition, and other pertinent skills that build on vocabulary and other knowledge retained from relative courses. The course is comprehensive in nature and, consequently, it is vital that students master each module before moving on.

### ***AHS 201 Introduction to Medical Ethics and Bioethics***

*3 Class Hours 3 Quarter Credit Hours*

This course is designed for the allied health student who has not been exposed to formal medical ethics or bioethics theory. Purposely broad in nature, it introduces students to important medical ethical issues pertaining to the health care professions such as confidentiality, informed consent, euthanasia, abortion, genetic engineering, and organ allocation. A unique aspect of this course is the focus on current bioethical issues in the news. Topic selection will be driven by current issues in bioethics affecting the healthcare provider as well as the public at large.

**AR - ART (ARTS/FOREIGN LANGUAGE CORE)**

### ***AR 203 Introduction to Drawing***

*4 Class Hours 4 Quarter Credit Hours*

This course introduces students to key concepts and techniques integral to developing basic drawing skills. Class time will be spent discussing, demonstrating and practicing these skills in order to produce a comprehensive body of work specific to the course objectives. Course performance will be evaluated on effort and growth as opposed to

artistic talent.

### ***AR 206 3D Sculpture: An Adventure in the Third Dimension***

*4 Class Hours 4 Quarter Credit Hours*

This course will teach students to think, see and function in 3-dimensional space. They will explore the differences and similarities between 2-dimensional and 3-dimensional representation in composition and design. Students will use a broad range of materials to create sculptures that will help them explore different aspects of 3-dimensional functioning. Class time will be spent in a combination of sculpture design and a discussion of slides of work reflecting the history of three-dimensional works of art from Greek times to the present. No prior experience with art courses is required.

### ***AR 207 Introduction to Applied Music***

*4 Class Hours 4 Quarter Credit Hours*

This course will afford students the opportunity to experience a "hands-on" approach to piano keyboard and composition. Each section of the course will focus on one musical concept through listening, playing and finally application. Because of the computer-assisted nature of the program, all levels of musical and keyboard comprehension can be accommodated and the course can be geared to the individual interests and needs of each student in the class.

### ***AR 209 The Art of Collage***

*4 Class Hours 4 Quarter Credit Hours*

Powerful imagery is a combination of technical skill and imagination. Students will exercise their ability to manipulate composition and color as well as cultivate the power of imagination in this studio class with a focus on collage, a technique where compositions are crafted by adhering various materials to a backing surface. Creativity and the development of ideas will be explored while acquiring a working knowledge of the elements and principles of art. The assemblage process of collage will be the design tool used to investigate, generate and express ideas. Students will research collage as an art form and examine the creative processes of various artistic disciplines. No prior experience is necessary. Students will be evaluated on their effort and creative growth as opposed to artistic talent.

**AS - ACADEMIC SKILLS DEVELOPMENTAL COURSES**

*The following four-credit courses do not count toward degree requirements. Students are registered for these courses based on the results of assessments conducted during the admissions process.*

# COURSE DESCRIPTIONS

## ***AS 044 Reading for a Technology***

*4 Class Hours 4 Quarter Credit Hours*

This course is designed for students who need to build their vocabulary and develop critical reading and thinking skills necessary to succeed in their program courses. The primary focus is on learning strategies to read more quickly with greater comprehension. Students are also introduced to Internet research and oral presentations, and gain practice reading material from Term I textbooks.

## ***EN 030 Basic Writing Skills***

*4 Class Hours 4 Quarter Credit Hours*

This course is for students who need to develop their writing skills before enrolling in EN 100. The focus is on writing short essays that include a main point and supporting evidence. Students learn the organization of the five-paragraph essay, review grammar, and gain skills in editing and revising their work. Placement in this course is based on the results of students' writing assessments.

## ***MA 044 Pre-College Math***

*4 Lab Hours 4 Quarter Credit Hours*

This course is designed for students who need a thorough review of arithmetic including whole numbers, fractions, and decimals. This course will integrate problem-solving related to ratios, proportions and percent. Solving basic equations and operations with signed numbers will be introduced. In addition, this course is intended to familiarize students with the calculator functions related to the applications above.

## ***ENRICHMENT COURSES***

*In addition to the university's regular academic courses, the Academic Skills Center offers a variety of enrichment courses for both personal enrichment and professional development. Each enrichment course is one credit and does not apply toward required graduation credits. For a full listing of the courses offered, please refer to the Web for Students website, speak with your Academic Advisor or contact the Director of Academic Skills.*

## ***AS 011 Information Literacy***

*1 Class Hour 1 Quarter Credit Hour*

This course provides students with a basic set of thinking skills to recognize and determine the nature and extent of information needed for scholarly research. It will provide students the ability to locate or access, evaluate and use information and its sources effectively. It will provide students the means to cite information resources correctly. Discussions of bias, fair use, copyright, and plagiarism will be introduced and incorporated so that students understand legal, social and ethical issues surrounding information and information technology.

## ***AS 015 Academic Skill Building***

*2 Class Hours 2 Quarter Credit Hours*

This enrichment course is designed to help students become active learners and strengthen their college-level writing, critical reading, and study skills. Using college textbooks and materials from their respective programs, participants will engage in activities and assignments that will provide a stronger foundation for their studies and future career.

## ***AS 057 Communication Skills***

*1 Class Hour 1 Quarter Credit Hour*

This course is designed for students who wish to enhance confidence in oral delivery skills. The objective of this course is to provide students with strategies and skills for effective oral communication, which will help them speak with confidence in a variety of speaking situations. The focus is on learning through participation in class. Students will learn through a variety of methods, such as group discussion, role-play, and simulation.

## ***AS 058 Maximize Your Memory Skills***

*1 Class Hour 1 Quarter Credit Hour*

This course improves students' listening skills and shows them how to take effective classroom notes. In addition, students will learn to develop a personal style for recording various types of lectures. The course also provides students with memory and learning strategies they can use to improve their academic performance.

## **AUB – AUTOMOTIVE COLLISION REPAIR**

## ***AUB 100 Introduction to Collision Repair***

*2 Class Hours 2 Quarter Credit Hours*

This course is designed to familiarize incoming students with the operation of the Automotive Collision Repair labs and provide an overview of the program. Students will be introduced to the potential job opportunities and the working environment in the automotive collision repair industry and will become familiar with the tools used in collision repair. Students will study state and federal environmental safety laws and regulations as well as personal and shop safety. Students will also be asked to demonstrate proficiency using shop equipment, measuring tools/charts, crash manuals and computerized information.

***AUB 103 Fundamentals of Auto Body Metal Repair Lab***

*4 Lab Hours 1 Quarter Credit Hour*

*Pre/co-requisite: AUB 104*

In the lab, students will practice the concepts they learned in AUB 101. Students will be assigned an auto body component and will demonstrate their ability to correctly apply refinishing materials using specialized equipment. Students will also practice using hand and power tools specific to the automotive collision repair industry.

***AUB 104 Fundamentals of Auto Body Metal Repair***

*4 Class Hours 4 Quarter Credit Hours*

*Co-requisites: AUB 103, AUB 117*

Students will learn the proper and safe use of hand and power tools specific to the auto body trade. Students will learn the concepts of straightening sheet metal components and practice the proper use of various auto body refinishing materials and equipment.

***AUB 117 Welding for Collision Repair***

*1 Class Hour 3 Lab Hours 2 Quarter Credit Hours*

This course is intended to teach students the fundamentals of using both oxy/acetylene and electric welding equipment. Students will learn the three different classes of welding, safety precautions associated with each class and will practice basic welding, brazing and cutting techniques.

***AUB 122 Brakes and Suspension Systems for Collision Students***

*4 Class Hours 4 Quarter Credit Hours*

*Co-requisite: AUB 123*

This course covers the principles of operation of drum and disc braking systems including the study of hydraulic principles, brake inspection, brake bleeding, brake system flushing and machining practices. In addition, this course introduces students to automotive frame systems, tires, wheels, suspension components and suspension inspection and alignment. Students will study steering system inspection and service and suspension system component identification, removal and repair.

***AUB 123 Brakes and Suspension Systems for Collision Students Lab***

*4 Lab Hours 1 Quarter Credit Hour*

*Co-requisite: AUB 122*

Students will practice drum and disc machining, caliper service and brake inspections in the lab. They will also be introduced to anti-lock braking systems and servicing. Students will practice rebuilding wheel cylinders, calipers and master cylinders to manufacturers' specifications. They will also learn tire dismounting and mounting, balancing and service of run-flat design tires. Students will practice removal and

installation of steering components and will also study suspension system component removal and replacement in the lab; and practice wheel replacement and alignment using a variety of state-of-the-art equipment.

***AUB 127 Introduction to Airbrushing***

*1 Class Hour 3 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: AUB 243/245, AUB 253/254*

This course is designed for the person who has no airbrush experience and for those who have used an airbrush before but want to learn new techniques. Instruction will cover how to handle the airbrush, the hook-up and maintenance procedure for double action brushes, how to render in black, white and color and more. Through a series of pre-printed exercises, students will learn glazing techniques, mixing of products and media and to work with stencils and templates.

***AUB 128 Custom Modifications I***

*2 Class Hours 4 Lab Hours 3 Quarter Credit Hours*

Custom car design and building allows students to express themselves in a creative way. Students will gain minor fabrication skills using sheet metal. Students will be exposed to body kits and their installation. Also, students will learn the art of removing door hardware and installing electric door openers. The installation of Lambo doors and suicide doors will be demonstrated and explained. The course will discuss the art of chopping a roof of an automobile. There is no end to the possibilities of custom car design.

***AUB 129 Advanced Airbrushing Techniques***

*1 Class Hour 3 Lab Hours 2 Quarter Credit Hours*

*Prerequisite: AUB 127*

This course expands on the techniques mastered in AUB 127. Instruction will cover how to render in color and more. Through a series of pre-printed exercises, students will practice glazing techniques, mixing of products and media and to work with stencils and templates. Emphasis will be on illustrations and custom ornate work on large surface areas as well as multi-level illustrations.

***AUB 130 Custom Modifications II***

*2 Class Hours 4 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: AUB 128*

After the completion of sheet metal work and design comes the painting techniques students will use in finishing a custom project. Steps in preparing the panel for custom finishes will be demonstrated and practiced. Students will develop a unique illustration and geometric designs for their project. Specific topics addressed include application of candy finish, how to create traditional and realistic flames. The use of templates and a wide variety of masking techniques to create a custom paint finish will be practiced.

## ***AUB 131 Basic Electricity for Collision Repair***

*3 Class Hours 3 Quarter Credit Hours*

*Co-requisite: AUB 132*

This course covers electrical fundamentals from "What is Electricity?" to basic troubleshooting techniques. Topics covered will be how electricity is produced, types of electricity, Ohm's Law, basic circuit construction, conductors, insulators, induction, battery construction and testing, alternators, starters, lighting systems, electrical testing tools and diagnosis of circuit problems.

## ***AUB 132 Basic Electricity for Collision Repair Lab***

*3 Lab Hours 1 Quarter Credit Hour*

*Co-requisite: AUB 131*

In the lab, students will learn the use of multimeters and other test equipment to diagnose and repair electrical circuits and components including lights, gauges, solenoids, relays, voltage regulators, motors and generators. Students will be instructed in the correct methods of constructing circuits, testing batteries, charging systems and starting systems.

## ***AUB 136 Fundamentals of Paints and Refinishing Equipment Lab***

*4 Lab Hours 1 Quarter Credit Hour*

*Co-requisite: AUB 137*

Students will practice surface preparation such as masking techniques, surface preparation, preparing sprayable materials, spraying different consistencies of paints and primers and cleaning and storing painting equipment and supplies.

## ***AUB 137 Fundamentals of Paints and Refinishing Equipment***

*2 Class Hours 2 Quarter Credit Hours*

*Co-requisite: AUB 136*

Students will learn spray equipment handling, operation and care. Students will practice spraying various consistencies of paints from undercoats to topcoats. Students will learn personal health safety and spray booth operation.

## ***AUB 145 Glass and Non-Structural Panel Replacement***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisites: AUB 103/104 (or AUB 203/204)*

*Co-requisite: AUB 146*

Students will be instructed in the proper methods used in the removal and replacement of auto glass, interior moldings, interior hardware and exterior trim. Demonstrations will include proper installation of exterior panels as well as adjustments on hoods, fenders, doors and deck lids.

## ***AUB 146 Glass and Non-Structural Panel Replacement Lab***

*3 Lab Hours 1 Quarter Credit Hour*

*Prerequisites: AUB 117 (or AUB 217 or WEL 151), AUB 103/104 (or AUB 203/204)*

*Co-requisite: AUB 145*

In the lab, students will practice the concepts they learned in AUB 145. Students will demonstrate the ability to properly install a non-structural panel to manufacturer's specifications. Students will also perform adjustments on hoods, fenders, doors and deck lids to achieve proper fit.

## ***AUB 152 Introduction to Structural Repairs and Component Replacement***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: AUB 117 (or AUB 217 or WEL 151), AUB 103/104 (or AUB 203/204)*

*Co-requisite: AUB 153*

In this course, students will learn vehicle frame and body design from full frames to unibody construction and the proper methods used in the removal and replacement of such structural components as quarter panels and door skins. Demonstrations will include the operation of hydraulic straightening equipment, straightening techniques, straightening structural components and replacement of door skins and/or quarter panels on live vehicles or replacement doors. Students will be instructed in sectioning of stationary mild and H.S.S. steel panels.

## ***AUB 153 Introduction to Structural Repairs and Component Replacement Lab***

*8 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: AUB 117 (or AUB 217 or WEL 151), AUB 103/104, (or AUB 203/204)*

*Co-requisite: AUB 152*

Students will demonstrate the ability to properly operate hydraulic straightening equipment and will practice straightening techniques and straightening structural components in the collision repair lab. Students will be instructed in, and practice sectioning of, stationary mild and H.S.S. steel panels. They will also demonstrate their ability to replace door skins and/or quarter panels on live vehicles or replacement doors.

## ***AUB 154 Major and Minor Frame and Structural Straightening***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: AUB 137/136, AUB 145/146, AUB 152/153*

*Co-requisite: AUB 155*

Students will be instructed in full-frame and unibody straightening on vehicles using the portable and stationary frame straightening equipment. Instruction will also cover the procedures used in the repair of major collision damage, the use and operation of a body and frame bench, and the methods used to verify specifications and measurement. Those skills will be used to repair vehicles with major collision damage using universal measuring systems in the automotive collision repair lab.

***AUB 155 Major and Minor Frame and Structural Straightening Lab***

*8 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: AUB 137/136, AUB 145/146, AUB 152/153*

*Co-requisite: AUB 154*

Students will be asked to demonstrate the knowledge gained in AUB 154 and to perform frame straightening on either unibody or full-frame vehicles. They will also demonstrate their ability to use the universal measuring system to correctly verify specifications and measurement of a vehicle with major collision damage and return a damaged vehicle to factory specification. Vehicle type and design will depend on vehicle availability.

***AUB 156 Plastic Panel and SMC Repair***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisites: AUB 103/104, AUB 137/136, AUB 145/146*

*Co-requisite: AUB 157*

In this course, students will learn the process for repairing various plastic components used on modern automobiles. Students will be instructed in the use of plastic welders and plastic adhesives to perform repairs on both rigid and flexible components to industry standards. Students will also be instructed in the repair and replacement of Sheet Molded Composite (SMC) panels.

***AUB 157 Plastic Panel and SMC Repair Lab***

*3 Lab Hours 1 Quarter Credit Hour*

*Prerequisites: AUB 103/104, AUB 137/136, AUB 145/146*

*Co-requisite: AUB 156*

Students will practice repairing plastic components using plastic welders and special adhesives particular to the automotive industry. Students will also practice replacing SMC components and panels and refinishing them to manufacturer's specifications and industry standards.

***AUB 203 Introduction to Fabrication, Repair and Refinishing***

*2 Class Hours 2 Quarter Credit Hours*

*Co-requisites: AUB 204*

Students will learn the proper and safe use of hand and power tools specific to the auto body trade. Students will learn the concepts of straightening sheet metal components and practice the proper use of various auto body fabrication and refinishing materials and equipment.

***AUB 204 Introduction to Fabrication, Repair and Refinishing Lab***

*6 Lab Hours 3 Quarter Credit Hours*

*Pre/co-requisite: AUB 203*

In the lab, students will be assigned an auto body component and will demonstrate their ability to correctly apply refinishing materials using specialized equipment. Students will also practice using hand and power tools specific to the

automotive repair and refinishing industry.

***AUB 217 Basic Welding***

*1 Class Hour 3 Lab Hours 2 Quarter Credit Hours*

This course is intended to teach students the fundamentals of using both oxy/acetylene and electric welding equipment. Students will learn the three different classes of welding, safety precautions associated with each class and will practice basic welding, brazing and cutting techniques.

***AUB 227 Introduction to Airbrushing***

*1 Class Hour 4 Lab Hours 3 Quarter Credit Hours*

*Co-requisites: AUB 268/269*

This course is designed for the person who has no airbrush experience and for those who have used an airbrush before but want to learn new techniques. Instruction will cover how to handle the airbrush, the hook-up and maintenance procedure for double action brushes, how to render in black, white and color and more. Through a series of pre-printed exercises, students will learn glazing techniques, mixing of products and media and to work with stencils and templates.

***AUB 236 Paints and Refinishing Equipment***

*2 Class Hours 2 Quarter Credit Hours*

*Co-requisite: AUB 237*

Students will learn spray equipment handling, operation and care. Students will practice spraying various consistencies of paints from undercoats to topcoats. Students will learn personal health safety and spray booth operation.

***AUB 237 Paints and Refinishing Equipment Lab***

*6 Lab Hours 3 Quarter Credit Hours*

*Co-requisite: AUB 236*

Students will practice surface preparation such as masking techniques, surface preparation, preparing sprayable materials, spraying different consistencies of paints and primers and cleaning and storing painting equipment and supplies.

***AUB 243 Multi-Stage Paint Applications***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: AUB 103/104, AUB 137/136*

*Co-requisite: AUB 245*

Students will practice mixing two- and three-stage paints using computerized mixing equipment. Students will demonstrate their ability to identify colors using vehicle color codes and determine the type of paint presently on the vehicle.



## ***AUB 245 Multi-Stage Paint Applications Lab***

*4 Lab Hours 1 Quarter Credit Hour*

*Prerequisites: AUB 103/104, AUB 137/136*

*Co-requisite: AUB 243*

Students will demonstrate their ability to mix primers and paints with related additives and apply them to properly prepared vehicle surfaces. To do this, students will be asked to demonstrate their ability to identify colors from vehicle paint codes and mix paints using the computerized mixing equipment and blend newly applied paint into previously painted panels.

## ***AUB 249 Auto/Collision Repair Internship***

*20 Internship Lab Hours 4 Quarter Credit Hours*

This course is designed for students who have completed the majority of their autobody or collision repair studies and wish to hone their skills in the work environment. Employers will be matched with students based on interest/ability levels to assist students to improve their autobody or collision repair skills in the work environment.

## ***AUB 253 Paint and Refinishing Applications***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: AUB 103/104, AUB 137/136*

*Co-requisite: AUB 254*

Students will practice preparing various types of surfaces to accept the application of paint finishes. Students will inspect, clean, and determine the condition and adequacy of spray guns and related material and equipment. Demonstrations will include instruction in the mixing of primers and paints and the use of computerized mixing equipment.

## ***AUB 254 Paint and Refinishing Applications Lab***

*4 Lab Hours 1 Quarter Credit Hour*

*Prerequisites: AUB 103/104, AUB 137/136*

*Co-requisite: AUB 253*

Students will practice mixing primers and single-stage paints for consistency and application. Students will use computerized mixing equipment to obtain proper chemical compounds. Students will also practice the application of primers and paints to vehicle surfaces to achieve a finish consistent with industry standards.

## ***AUB 260 OSHA Safety Practices***

*2 Class Hours 2 Quarter Credit Hours*

This course will provide information about the rights and employer responsibilities. The content focuses on the type of work involved in industrial and transportation operations. Topics covered will be hazard identification, avoidance, control and prevention. Other topics included will be walking and working surfaces; personal protective equipment; fall protection/scaffolding; electrical, confined, and enclosed spaces; fire protection; material handling; blood borne pathogens; machine guarding; ergonomics and proper lifting techniques.

## ***AUB 261 Assessing Damage and Estimating Repairs***

*3 Class Hours 3 Quarter Credit Hours*

This course is designed for students who have completed all aspects of the repair and refinishing portion of their Automotive Collision Repair curriculum. This course prepares students to write estimates of repair using collision crash guides, parts sources, and other available types of literature for various makes of vehicles. Students will also be instructed in the latest software available for the estimation of vehicle repairs.

## ***AUB 268 Advanced Paint Applications***

*2 Class Hours 2 Quarter Credit Hours*

*Prerequisites: AUB 236/237*

*Co-requisite: AUB 269*

Students will practice mixing two- and three-stage paints using computerized mixing equipment. Students will demonstrate their ability to identify colors using vehicle color codes and determine the type of paint presently on the vehicle.

## ***AUB 269 Advanced Paint Applications Lab***

*6 Lab Hours 3 Quarter Credit Hour*

*Co-requisite: AUB 268*

Students will demonstrate their ability to mix primers and paints with related additives and apply them to properly prepared vehicle surfaces. To do this, students will be asked to demonstrate their ability to identify colors from vehicle paint codes and mix paints using the computerized mixing equipment and blend newly applied paint into previously painted panels.

## ***AUB 270 Custom Fabrication***

*2 Class Hours, 4 Lab Hours, 3 Quarter Credit Hours*

Custom car design and building allows students to express themselves in a creative way. Students will gain introductory fabrication skills using sheet metal. Students will be exposed to body kits and their installation. Also, students will learn the art of removing door hardware and installing electric door openers. The installation of Lambo doors and suicide doors will be demonstrated and explained. The course will explore the art of chopping a roof of an automobile. There is no end to the possibilities of custom car design.

***Courses are listed alphabetically by course code.***

## **AUT – AUTOMOTIVE**

### ***AUT 103 Automotive Engines***

*7 Class Hours 7 Quarter Credit Hours*

This course is the study of two- and four-cycle internal combustion engine operation and design. Topics covered are engine identification, internal components, cooling systems, lubrication systems and preliminary diagnosis of internal noises and excessive smoke. The course begins with discussions of internal failures and moves to practice with engine precision measurement and in-car repairs. In-depth discussions will focus on sealing techniques and engine breathing requirements. The course then progresses to in-car repairs including timing belts and water pumps. Students will study engine fasteners and fastening techniques. In-depth discussions will focus on sealing techniques and engine breathing requirements.

### ***AUT 104 Automotive Engines Lab***

*8 Lab Hours 2 Quarter Credit Hours*

Students will practice compression and vacuum testing, oil pressure and cooling system examination. Students will learn to identify different engine configurations through the use of VIN or model numbers and will practice finding specifications in service manuals or by using computerized information systems. Students will practice disassembly of major components and replacement of cylinder head gaskets, water pumps, timing belts and intake manifold gaskets.

### ***AUT 105 Automotive Electricity and Electronics***

*7 Class Hours 7 Quarter Credit Hours*

This course is a study of the fundamental theory and application of electrical and electronic principles in the automotive industry. Topics covered include principles of electricity, electrical test equipment, circuit construction, electrical and electronic components, wiring diagrams, basic troubleshooting techniques, starting and charging systems, gauges and sending units, power accessories and supplemental restraint systems. Upon completion, students will be able to properly use electrical testing equipment, wiring diagrams, diagnose, test, and repair electrical concerns. In addition to the subject matter, this course is designed to encourage teamwork, written and verbal communications and critical thinking skills.

### ***AUT 106 Automotive Electricity and Electronics Lab***

*8 Lab Hours 2 Quarter Credit Hours*

In the lab, students will learn the use of multimeters and other test equipment. Students will also build, diagnose and repair electrical circuits and components. Topics covered include electrical test equipment, circuit construction, electrical and electronic components, wiring diagrams, basic troubleshooting techniques, starting and charging systems, gauges and sending units, power accessories and supplemental restraint systems. Upon

completion, students will be able to properly use electrical testing equipment, wiring diagrams, diagnose, test, and repair electrical concerns. In addition to the subject matter, this course is designed to encourage teamwork, written and verbal communications and critical thinking skills.

### ***AUT 107 Automotive Brakes, Suspension and Steering***

*8 Class Hours 8 Quarter Credit Hours*

This course covers the principles of operation of drum and disc braking systems. Students will study hydraulic principles, brake inspection, brake bleeding, brake system flushing, and machining practices. This course also introduces students to automotive frame systems, tires, wheels, suspension components and suspension inspection and alignment. Students will study steering system inspection and service and suspension system component identification, removal and repair.

### ***AUT 109 Automotive Brakes, Suspension and Steering Lab***

*8 Lab Hours 4 Quarter Credit Hours*

The brake portion of the course covers the principles of operation, servicing and the diagnosing of drum, disc, parking, power assist and anti-lock braking systems. The steering and suspension portion of the course introduces students to automotive frame systems, tires, wheels, suspension components and suspension inspection and alignment. Students will study steering system inspection and service and suspension system component identification, removal and repair.

### ***AUT 114 Oxy and Electric Welding and Cutting***

*3 Lab Hours 1 Quarter Credit Hour*

This course is intended to teach students the fundamentals of using both oxy/acetylene and electric welding equipment. Students will learn the three different classes of welding, safety precautions associated with each class and will practice basic welding, brazing and cutting techniques.

### ***AUT 209 Automotive Fuel and Ignition Systems***

*8 Class Hours 8 Quarter Credit Hours*

*Prerequisites: AUT 103/104, AUT 105/106, TT 106*

*Co-requisite: AUT 210*

Students are introduced to the air and fuel requirements of the internal combustion engine. Storage tanks, lines and fittings, electric/mechanical fuel pumps, electronic fuel injection, and carburetor theory and operation will be discussed as well as all related components. The computer network and scan tool operation as it applies to the fuel system will also be discussed. Students are also introduced to the diagnosis and repair of advanced electronic and computerized ignition systems found on the modern-day internal combustion engine. They will study the components and operation of the engine management system used on today's cars.

# COURSE DESCRIPTIONS

## ***AUT 210 Automotive Fuel and Ignition Systems Lab***

*12 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: AUT 103/104, AUT 105/106, TT 106*

*Co-requisite: AUT 209*

Students will practice fuel tank removal and installation and fuel pump removal and installation. They will also practice the diagnosis and repair of all types of electronic fuel injection. Routine service procedures, i.e. fuel injection cleaning/de-carbonizing, will also be practiced. Students will be required to use state-of-the-art tools and service equipment commonly used in the trade. Students will also practice scan tool operation and use these and other common tools and diagnostic equipment to troubleshoot and service modern ignition and fuel systems.

## ***AUT 211 Automotive Powertrains***

*8 Class Hours 8 Quarter Credit Hours*

*Prerequisites: TT 106 and AUT 105/106*

*Co-requisite: AUT 219*

Students will study the design and theory of operation of automatic and manual front and rear wheel transmissions and transaxles. Students will be able to identify all of the component parts within the transmission as well as be able to demonstrate an ability to correctly explain the operating principles of each assembly.

## ***AUT 219 Automotive Powertrains Lab***

*8 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: TT 106 and AUT 105/106*

*Co-requisite: AUT 211*

Students will practice disassembly and reassembly of front and rear wheel drive automatic transmissions and transaxles. Students will also demonstrate an ability to correctly identify rear end, final drive, driveshaft, and drive axle service and maintenance procedures.

## ***AUT 221 Advanced Technologies/Hybrid***

*8 Class Hours 8 Quarter Credit Hours*

*Prerequisites: TT 105/106, AUT 103/104, AUT 105/106, AUT 209/210*

*Co-requisite: AUT 222*

This course will cover the complete computerized engine management systems (i.e., ignition, fuel, and emissions) and self-diagnostics. OBD II (on-board diagnostics generation 2) and drive-cycle monitors will be discussed, as well as advanced testing procedures using lab scopes, scan tools and other tools and equipment common to the repair and service trade. This course will also cover the theory and operation of hybrid/electric vehicles and advanced technologies, such as start-stop and autonomous driving systems. Safety procedures and common services to hybrid/electric vehicles will be discussed as well as specific tool usage as they pertain to high voltage systems.

## ***AUT 222 Advanced Technologies/Hybrid Lab***

*12 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: TT 105/106, AUT 103/104, AUT 105/106, AUT 209/210*

*Co-requisite: AUT 221*

This course will cover the complete computerized engine management systems (i.e., ignition, fuel, and emissions) and self-diagnostics. OBD II (on-board diagnostics generation 2) and drive-cycle monitors will be discussed, as well as advanced testing procedures using lab scopes, scan tools and other tools and equipment common to the repair and service trade. This course will also cover the theory and operation of hybrid/electric vehicles and advanced technologies, such as start-stop and autonomous driving systems. Safety procedures and common services to hybrid/electric vehicles will be discussed as well as specific tool usage as they pertain to high voltage systems.

## ***AUT 234 Automotive Engineering***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: PHY 126 (or PHY 200)*

This project-based course applies the principles of physics to the major systems of automobiles. Students will use numerical, analytical, and graphical approaches to analyze systems and develop hardware and/or simulations to demonstrate the underlying physics principles.

## ***AUT 251 Internship/Practical Experience***

*20 Internship Lab Hours 4 Quarter Credit Hours*

*Prerequisite: AUT 265*

This course is designed for students who have completed the majority of their automotive studies and wish to hone their skills in the work environment. Employers will be matched with students based on interest/ability levels to assist students to improve their mechanical skill in the work environment.

## ***AUT 263 NVH Principles and Diagnostics***

*1 Class Hour 3 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: TT 106, AUT 103/104, AUT 107/109*

In this course, students will learn to identify and diagnose noise, vibration, and harshness issues as they apply to vehicle ride quality, vehicle operation and customer perception. Students will become proficient using various tools designed to detect noise, vibration, and harshness and determine the corrective repairs.

## ***AUT 265 OEM Factory Training Seminar***

*1 Class Hour 3 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: TT 106, AUT 103/104, AUT 106, AUT 107/109*

Upon completion of this course, students will have the ability to explain and demonstrate maintenance procedures and light repair on Ford, Chrysler or Subaru vehicles in accordance with OEM practices.

***AUT 271 Introduction to High Performance Vehicles***

*6 Class Hours 6 Quarter Credit Hours*

*Prerequisites: AUT 209/210*

This course will cover an introduction to horsepower, air-flow through an engine and exhaust systems. Dynamometer testing of vehicles prior to modification will be discussed and practiced as well as modifications which can be made to most vehicles. Students will practice testing vehicles, making engine, exhaust and suspension modifications and retesting vehicles to measure results.

***AUT 276 Light Duty Diesel Diagnostics and Repair***

*1 Class Hour 3 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: TT 106, AUT 103/104, AUT 105/106*

This course covers the principles of operation of light duty diesel vehicles. The course will focus on basic diesel operation, preventive maintenance, high- and low-pressure fuel systems, high and low pressure lubricating systems, intake and exhaust systems and emission controls. Content learned in the classroom will be applied in the lab.

***AUT 277 Vehicle Service Practices with Career Preparation***

*1 Class Hour 3 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: AUT 103/104, AUT 105/106, AUT 107/109 & Instructor Approval*

This course will review and expand on basic shop skills that entry-level automotive technicians will be expected to perform. Students will review skills taught in previous terms and bring their proficiency up to new levels. While there will be some classroom instruction, the main focus will be hands-on work in the lab.

***AUT 278 Introduction to High Performance Vehicles Lab***

*4 Class Hours 4 Lab Hours 6 Quarter Credit Hours*

*Prerequisites: AUT 209/210*

Students will practice testing vehicles, making engine, exhaust and suspension modifications and retesting vehicles to measure results.

***AUT 280 Advanced Troubleshooting***

*1 Class Hour 3 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: AUT 103/104, AUT 209/210*

This course is designed for students who have completed most of their automotive studies and want to hone their diagnostic skills. This course is lab-based and focuses on automotive drivability problems and will consist of a large amount of hands-on practical problems.

***AUT 285 Automotive Heating and Air Conditioning Systems***

*2 Class Hours 4 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: TT 106 (or AUB 100 or AUB 203/204), AUT 105/106 (or AUB 131/132)*

This course will cover the basic physics concepts of heating, cooling heat transfer and phase changes. It will apply this knowledge to the understanding of engine cooling systems, heating systems and air conditioning systems. Students will apply this knowledge in the lab in the testing and servicing of these systems.

***AUT 302 Service Management Operations***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

High-quality service operations require effective management teams. This course gives students an understanding of management operations of today's high performing dealerships. Students study time management, benchmarking and best practices, internal operations, compensation management and physical operations as well as insurance issues faced in the automotive environment. Students work in teams and role-play to learn the concepts of leadership through motivation.

***AUT 306 Environmental Health and Safety***

*3 Class Hours 3 Quarter Credit Hours*

This course covers the responsibilities of the service department to provide their employees with Right-to-Know training and Hazardous Materials Communication. Students learn the governmental requirements for Right-to-Know training and practice developing a hazard communication plan for a small service business.

***AUT 321 Industry Software Applications***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

Students are introduced to industry software applications such as AutoMate and Mitchell Manager to track work orders, customer service intervals, recalls, and warranty updates. Students practice communications with consumers as well as other departments within the dealership, and create a customer database for mailings, service reminders, and recall information. Students also prepare reports to monitor technician efficiency and profitability. Additionally, students track expenses and performance of the service department.

***AUT 404 Legal Issues & the Dealership***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisite: BU 236*

This course focuses on the legal aspects of running a service department. Such topics as signatures on repair orders, mechanic's liens, and lemon laws are discussed. Students research current practices and develop an outline of service department best practices.

# COURSE DESCRIPTIONS

## ***AUT 410 Senior Internship***

*20 Lab Hours 5 Quarter Credit Hours*

*Prerequisite: Department Chair permission.*

Students spend 20 hours per week at their internship placement honing their skills under the supervision of a job site mentor. Students have an active role in the scheduling of work for technicians and the interaction with the customers. Students meet periodically with the internship advisor to discuss their work experiences. Students complete a writing project evaluating their experiences and will present this report to the faculty and their classmates at the completion of the term.

## ***AUT 415 Warranty Administration and Parts Inventory***

*4 Class Hours 4 Quarter Credit Hours*

Managing the warranty administration process and service parts inventory effectively is critical to customer satisfaction and profitability. Warranty administration requires detailed tracking and conformance to unique manufacturer policies for claims to be approved and paid for by the manufacturer. Attention to detail and strong business to business communication skills are essential to successful claims processing. Effective inventory management requires analysis of just in time purchasing, economic order quantities, and matrix pricing. Warranty administration and inventory management represent significant cost centers and revenue streams for the service department and dealership overall.

## **BIO – BIOLOGY**

## ***BIO 100 Anatomy & Physiology I***

*4 Class Hours 4 Quarter Credit Hours*

This course presents a comprehensive study of the structure and function of the human body as a whole, emphasizing the normal which will serve as a background for the application of scientific principles both in everyday life and in the work of various health disciplines. Systems covered include integumentary, skeletal, muscular, nervous, and endocrine with respect to both histological and gross anatomy.

## ***BIO 101 Anatomy and Physiology I Lab***

*4 Lab Hours 2 Quarter Credit Hours*

Laboratory practice includes the study of tissues by using microscopic examinations and the dissection of animal specimens, along with histological experimentation. Units covered are concerned with general introductory material, the skeletal, muscular, endocrine, and nervous systems.

## ***BIO 107 Comprehensive Anatomy and Physiology I and Lab***

*4 Class Hours 4 Lab Hours 6 Quarter Credit Hours*

This course is a comprehensive study of the anatomy (structure) and physiology (function) of the human body. Based on the interrelationship of related concepts, students will master the complementary nature that anatomy has to physiology. Topics will include orientation to the body as a whole, skin, bones, joints, muscles, nerves and glands. Laboratory practice includes the study of tissues by using microscopic examinations and the dissection of animal specimens, along with histological experimentation. Units covered are concerned with general introductory material, the skeletal, muscular, endocrine, nervous, and sensory systems.

## ***BIO 116 Introduction to Biology***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

This is a survey course intended to provide students with a firm foundation in the scientific method of inquiry. Basic biologic topics presented will include the nature and history of scientific study, diversity of organisms, basic cellular structure and function, evolution, population biology, plant biology, ecology, reproduction/development, and genetics. Scientific literacy will be developed, providing students with an appreciation of and ability to interpret ongoing scientific research.

## ***BIO 120 Anatomy & Physiology II***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: BIO 100*

This course is a continuation of Anatomy & Physiology I, concentrating on the circulatory, respiratory, digestive, urinary, and reproductive systems.

## ***BIO 121 Anatomy and Physiology II Lab***

*4 Lab Hours 2 Quarter Credit Hours*

*Prerequisite: BIO 101*

Emphasis is placed on association, correlation, critical thinking and overview of the body as a whole functioning unit, with units covering circulatory, respiratory, digestive, urinary, and reproductive systems.

## ***BIO 122 Microbiology and Lab***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

The morphology, physiology and pathology of microbial organisms are covered along with dynamics of microbial populations. Emphasis is placed on disease causation and implications for healthcare providers.

**Courses are listed alphabetically by course code.**

### ***BIO 127 Comprehensive Anatomy and Physiology II and Lab***

*4 Class Hours 4 Lab Hours 6 Quarter Credit Hours*

*Prerequisite: BIO 107*

A continuation of Anatomy and Physiology I, this course concentrates on the in-depth coverage of the circulatory, respiratory, digestive, urinary and reproductive systems, from the Nursing perspective. In the laboratory portion of the course, emphasis is placed on association, correlation, critical thinking and overview of the body as a whole functioning unit and of the interrelationship of the systems of the body.

### ***BIO 130 Pharmacology***

*3 Class Hours 3 Quarter Credit Hours*

Presentation of the basic concepts of pharmacology with emphasis on the biological factors affecting the action of drugs, factors modifying drug response, and drug interactions. Basic fundamental principles of chemistry are covered as necessary background material.

### ***BIO 131 Pathophysiology***

*2 Class Hours 2 Quarter Credit Hours*

*Prerequisites: BIO 100/101, BIO 120/121*

An introduction to the process of disease and its effects on the body, and the basic responses of cells, tissues, and organ systems to these disorders. General phenomena such as inflammation, immune response, and carcinogenesis will be considered as well as a survey of disorders common to the clinical setting characteristic of the various organ systems using a system by system approach.

### ***BIO 133 Pharmacology for the Practical Nurse***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: NRP 130, NRP 131, NRP 134, NRP 135, S 201*

*Co-requisites: NRP 240, NRP 241, NRP 242, NRP 243*

This course examines the complex role of the nurse regarding safe and effective medication administration. Pharmacological terms and concepts are introduced as they inform the safe administration of medications. Students calculate drug dosages, explore evidence-based standards for medication administration, and reflect on the legal and ethical implications of drug administration. The quality and safety competencies identified by the Quality and Safety Education for Nurses (QSEN) projects are integrated throughout the course.

### ***BIO 243 Pharmacology for the Registered Nurse***

*4 Class Hours 4 Quarter Credit Hours*

This course examines the complex roles and responsibilities of the registered nurse in the safe and effective administration of medications to patients across the lifespan. The course will use a systems-based approach with the incorporation of pathophysiology, pharmacology, dosage

calculation, and the nursing process. Students will also explore the subject of pharmacology through evidence-based standards of pharmacology and medication administration, QSEN considerations, legal and ethical aspects of safe medication administration, and critical thinking through active clinical application scenarios. There will also be an emphasis on patient safety and monitoring the effects of pharmacotherapeutic agents.

### ***BIO 310 Survey of Human Anatomy and Physiology***

*4 Class Hours 4 Quarter Credit Hours*

This survey course prepares students to enter the Rehabilitation Sciences by providing a basic understanding of how the body functions and adapts. All systems in the human body will be presented, with particular emphasis on those systems most commonly affected by disabilities.

### ***BIO 374 Pathophysiology: A Clinical Approach***

*4 Class Hours 4 Quarter Credit Hours*

This course presents the background and critical thinking skills essential for the holistic model of pathophysiologic principles within a systems framework related to the biological, psychological, social, and spiritual dimensions of health, including cultural and developmental determinants across the lifespan. Its emphasis is focused on the mechanisms and concepts of selected pathological disturbances to the human body and the specific pathological conditions that effect the functioning of the system involved as well as its impact on all other body systems. The application of selected principles from the physical and social sciences are incorporated throughout the course. Emphasis is placed on assisting students to develop clinical reasoning skills that prepare them to provide care safely and with a commitment to quality.

### ***BIO 376 Pathophysiology: A Clinical Approach for Nurses***

*4 Class Hours 4 Lab Hours 6 Quarter Credit Hours*

This course presents the background and critical thinking skills essential for the holistic model of pathophysiologic principles within a systems framework related to the biological, psychological, social, and spiritual dimensions of health and nursing care, including cultural and developmental determinants across the lifespan. Its emphasis is focused on the mechanisms and concepts of selected pathological disturbances to the human body and the specific pathological conditions that effect the functioning of the system involved as well as its impact on all other body systems. The application of selected principles from the physical and social sciences are incorporated throughout the course. Emphasis is placed on assisting students to develop clinical reasoning skills that prepare them to provide nursing care safely and with a commitment to quality.

# COURSE DESCRIPTIONS

## ***BIO 440 Functional Neuroscience***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: BIO 100/101, BIO 120/121 or their equivalent*

This course provides students with an advanced understanding the anatomy and physiology of the central and peripheral nervous systems and how disorders in these systems affect a person's ability to function in everyday life. Topics include special senses, motor control, perceptual and cognitive processing and emotion.

## **BU - BUSINESS (SOCIAL SCIENCES CORE)**

## ***BU 236 Small Business and the Law***

*4 Class Hours 4 Quarter Credit Hours*

This course is designed for those students who intend to start and operate their own small business. This course will focus on the various elements associated with the start-up, acquisition and operation of a small business from the entrepreneurial point of view. Topics to be covered will include business formation, contract negotiations and drafting, financing, employee discrimination issues, customer relations issues, licensing, permits and tax basics. Additionally, students will be asked to complete a legal research assignment and prepare and present a business plan in their major field of study.

## **CE - COMMUNITY ENRICHMENT**

## ***CE 101 Community Enrichment***

*1 Class Hour 1 Quarter Credit Hour*

This online course is offered through the Feinstein Enriching America Program. Weekly assignments include topics such as B Corporations, civic and social responsibility, and Non-Governmental Organizations. A 15-hour community enrichment project is also required. Community engagement six months prior to taking the course may be accepted with proper documentation. Current or prior military service and concurrent clinical experiences are accepted in lieu of the community enrichment project. After successful completion of the course, students are eligible to apply for a Feinstein Scholarship, which is awarded each term.

## ***CE 301 Community Enrichment***

*1 Class Hour 1 Quarter Credit Hour*

This online course is offered through the Feinstein Enriching America Program. Weekly assignments include topics such as B Corporations, civic and social responsibility, and Non-Governmental Organizations. A 15-hour community enrichment project is also required. Community engagement six months prior to taking the course may be

accepted with proper documentation. Current or prior military service and concurrent clinical experiences are accepted in lieu of the community enrichment project. After successful completion of the course, students are eligible to apply for a Feinstein Scholarship, which is awarded each term.

## **CET - CIVIL ENGINEERING**

## ***CET 231 Surveying II***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: ABT 138, MA 125*

Students will study advanced topics in surveying including horizontal and vertical curve layout, earthworks, benchmarks, and establishing property boundary and easement locations. Students will also be introduced to laser leveling, utilization of GPS and total stations.

## **CHM - CHEMISTRY (MATH/SCIENCE CORE)**

## ***CHM 101 Life Science Chemistry***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MA 100/110 or MA 109*

This course provides an introduction to inorganic chemistry and organic chemistry with a focus on life science applications as reflected in the selection of the text. Topics include measurement, units of concentration, the nature of atoms, states of matter, periodicity, bonding, stoichiometry, chemical reactions, thermodynamics and kinetics.

## ***CHM 300 Chemistry I and Lab***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MA 125*

Topics covered include atomic structure, the periodic law, and nature of the chemical bond, chemical reactivity, stoichiometry, and acid base reactions.

## **CJ - CRIMINAL JUSTICE**

## ***CJ 110 Criminal Justice***

*4 Class Hours 4 Quarter Credit Hours*

This is an introductory criminal justice course focusing on the concepts and organization of the criminal justice system. This course will examine the various components of the criminal justice system and analyze their interactive relationships with each other, giving students a detailed overview of the criminal justice system in the United States.

### ***CJ 112 Corrections***

*4 Class Hours 4 Quarter Credit Hours*

This course will focus on the various correctional components and concepts that have been established in our modern-day corrections system. It will expose students to alternative forms of corrections from incarceration to community-based and all the alternatives in between. This course will establish the relationship and importance of corrections in the overall criminal justice system.

### ***CJ 114 The Court System***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

This course teaches the fundamentals of the criminal and civil legal system in America and includes an overview of federal, state and lower courts. It covers the dynamics of courthouse justice, the roles judges, prosecutors, defense attorneys, witnesses, victims and defendants fill, as well as the trial process and sentencing.

### ***CJ 120 Forensics I***

*4 Class Hours 2 Lab Hours 5 Quarter Credit Hours*

This course focuses on basic police science theories and techniques and introduces students to crime scene investigation and the analysis of physical evidence typically found at crime scenes. The focus is on crime scene management, recognition, documentation, collection, preservation and processing of crime scene evidence. Students will work in an actual forensic laboratory and on a simulated crime scene. The laboratory component will allow students to employ practical application skills of the forensic topics studied. Assignments from this course will be incorporated into the student's portfolio.

### ***CJ 122 Criminal Law***

*4 Class Hours 2 Lab Hours 5 Quarter Credit Hours*

This course will cover both theory and practical application of the criminal law. Students will examine the elements of crime, elements of proof and other issues related to criminal law in local, state, and federal jurisdictions. Students will be able to apply the elements of criminal law to real life situations and case studies. Assignments from this course will be incorporated into the student's portfolio.

### ***CJ 130 Forensics II/Portfolio Management***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: CJ 120*

This course studies police science theories and techniques in greater depth. Students will engage in hands-on application of forensic topics, such as obtaining and analyzing fingerprints and impressions of physical evidence, photography, and crime scene identification in the simulated crime scene. Students will then apply the techniques learned in the forensics topics in the laboratory component of the course. In addition, students will be instructed on portfolio management and requirements and add materials to their Criminal Justice portfolio.

### ***CJ 132 Criminal Procedure***

*4 Class Hours 2 Lab Hours 5 Quarter Credit Hours*

*Prerequisite: CJ 122*

This course explores the legal doctrines that constitute the core of criminal procedure created by the United States Supreme Court as it interprets the Constitution. Concentration is on the rules developed for such official action as police searches, taking confessions, and the conduct of criminal trials for the protection of suspects' rights. The classic tension between order (the necessary power of government to ensure public safety by processing suspects through the criminal justice system and convicting the guilty) and liberty (the danger of that power to individual freedoms by the arbitrary exercise of governmental power) will be examined. Assignments from this course will be incorporated into the student's portfolio.

### ***CJ 134 Report Writing***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: EN 100, CJ 122*

This course focuses on developing the student's ability to write brief, accurate and complete reports. The primary goal is to teach effective methods of conveying the facts and circumstances of unusual occurrences through written reports in an objective manner. Assignments from this course will be incorporated into the student's portfolio.

### ***CJ 240 Interviewing & Investigation Techniques***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: CJ 134*

Criminal investigation is an inquiry into allegations that a crime has been committed and the circumstances or relationships that are involved. This course deals with the duties and responsibilities of the investigator/detective/patrol officer in the course of an investigation and emphasizes the policies and procedures employed in the investigation of crime, in addition to present-day tools and techniques available for the law enforcement professional. Topics of recent controversy such as stalking, DNA profiling and the media frenzy that surrounds investigations are also covered. Assignments from this course will be incorporated into the student's portfolio.

### ***CJ 241 Introduction to Digital Forensics***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

This course is an introduction to digital forensics. Topics include: the discussion of various types of computer crime in both the public and private sector; the collection, preservation and investigation of digital evidence; the fundamentals of computer system construction, software and hardware, computer forensics standards and practices; and software ethics. These topics will be reinforced through case studies, hands-on laboratory exercises and video presentations.



## ***CJ 244 Drugs & the Law***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: CJ 122*

This course will examine drug use in America, as well as the influences from other countries. The course will cover drug use from a broad perspective, including the biological, historical, psychological, and sociological aspects of drug use and abuse in our society. The business of drug dealing, diverse drug laws, prevention activities, and treatment programs will be discussed. This course will also provide students with a thorough understanding of the nation's changing drug policy and the criminal justice system's reaction to those changes. Assignments from this course will be incorporated into the student's portfolio.

## ***CJ 250 Police Operations/Simulated Firearms Skills***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

This course is designed to instruct students in the history and purposes of policing, as well as the various methods of contemporary police operations, including community policing. In addition, police equipment, support services, personnel issues, and patrol/investigative techniques used within the law enforcement field are covered. Students will be introduced to firearms through a computer simulation experience. The lawful and unlawful use of weapons under current legal controls, and the legal restrictions concerning firearms, as well as liability issues related to the use of firearms will be covered. Thorough training on decision-making, involving shoot/don't shoot scenarios, will be covered in the lab sessions, in addition to building searches and motor vehicle stops, handcuffing and baton training. Assignments from this course will be incorporated into the student's portfolio.

## ***CJ 254 Sentencing – Probation and Parole***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: CJ 110, CJ 112*

This course focuses on the services delivered to the offender, such as probation, parole, halfway houses, drug-alcohol, mental health, and other social services agencies. A focus on community programs, and programs used in restructuring the correctional client within society will also be covered. An examination of offender supervision philosophies within community correction programs, jail and prison reentry programs, parole and probation agencies, and pretrial supervision environments will be explored. Assignments from this course will be incorporated into the student's portfolio.

## ***CJ 256 Portfolio Prep & Management***

*3 Lab Hours 1 Quarter Credit Hour*

This course will assist Criminal Justice students in the creation of a portfolio that will demonstrate academic

progression and the acquisition of various criminal justice skills. The portfolio will provide a comprehensive snapshot of the individual learning experience and will evaluate proficiency and ability. It typically includes sample reports, completed assignments, submission and evaluation of evidence and materials gathered in Forensics I and II, case studies, skill evaluations and information to be presented during the Moot Court/Mock Trial segment in Term VI.

## ***CJ 258 Contemporary Criminal Justice Issues***

*3 Class Hours 3 Quarter Credit Hours*

This course will explore current events within the criminal justice system utilizing a variety of high-interest issues. Students will be encouraged to discuss and debate recent happenings to develop an understanding of how these issues relate to crime and justice.

## ***CJ 260 Moot Court/Mock Trial***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: Successful completion of all technical courses in Term I through Term V*

The Moot Court/Mock Trial is the culmination of the Criminal Justice program of study. Students will be assigned roles within the criminal investigation studied throughout the program, such as police officer, forensics investigator, expert witness, probation officer, prosecutor or victim, defense attorney or defendant. Students will prepare and present testimony/evidence/opinion in a life-like criminal trial utilizing the contents of their portfolio to demonstrate the knowledge, experience and skills gained from each course the student has completed. The focus will be on the student's ability to organize case materials, properly present convincing testimony/argument, and defend their position/role based on solid legal concepts that have been developed from and documented in their portfolio.

## ***CJ 262 Internship***

*1 Class Hour 10 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: Successful completion of all technical courses in Term I through Term IV*

The optional Internship offers students the opportunity to apply the criminal justice theories learned to practical application in the field. Placement in an appropriate agency is achieved through the approval of the Criminal Justice Department Chair/supervising faculty member. A log of activities and duties performed will be maintained, and the final grade will be based on the log, the assessment provided by the placement agency, and a final comprehensive report detailing the student's experience.

***CJ 266 Gangs & Organized Crime***

*4 Class Hours 4 Quarter Credit Hours*

This course is designed to familiarize students with the structure and organization of traditional and emerging gangs/organized crime operations. It is an exploration of the history, scope, and methods of controlling organized crime and street gangs in America with emphasis on local, regional, and statewide crime control efforts. Research and discussion of federal and state laws aimed at preventing this type of crime will be undertaken. Investigation techniques will be discussed concerning recognizing gang/organized crime activities, graffiti, symbols, and methods of recruitment of new gang/organized crime members.

***CJ 371 Evidence and the Law***

*4 Class Hours 4 Quarter Credit Hours*

This course concentrates on criminal, rather than civil, evidence. The aim of the course is to teach students how to legally obtain evidence, as well as develop the ability to reason about evidence, and encourage them to reflect critically on the ever-changing legal climate. At a more detailed level, we will look at issues such as the standard of proof, asking why the standard of proof in criminal trials is beyond a reasonable doubt and what reasonable doubt means. Students will consider how inferences are drawn from evidence, and how basic ideas of probability can give insights on this process. Examination of how the police gain confessions from suspects and how the law regulates the admissibility of confessions will be reviewed. An important theme of the course relates to questions about what makes a trial fair and whether courts should admit illegally or improperly obtained evidence; it will also ask what the privilege against self-incrimination is and whether it can be justified. The concept of expert evidence will be explored, concentrating on particular examples such as DNA evidence, fingerprint evidence, and modern-day mobile forensic evidence.

***CJ 372 Case Studies in Criminal Forensics***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

This course is designed to explore actual homicide and/or violent crime cases as seen through the eyes of the investigator, using actual crime scene photographs, sketches, photographed evidence and autopsy photographs. A visit to the original outdoor crime scene will be conducted, if possible, with the instructor/investigator on scene for questions. This course will test the knowledge and analytical skills of students and their ability to fully develop the investigative plan needed to move forward in the case analysis. Labs will focus on processing evidence similar to the type seized from the original crime scenes attempting to yield and analyze similar results from the actual cases.

***CJ 374 Domestic and Family Law Issues***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

This course introduces the elements of family law and explores its influence on American social life and contemporary notions of justice. Topics include marriage and parenting implications on the justice system, divorce, custody and support, nontraditional families, and domestic violence. Issues of child abuse and classification of child predators will also be explored.

***CJ 380 Criminal Justice and the Media***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

Prerequisite: EN 322 or EN 331 or permission of Dept. Chair  
An in-depth analysis of the effect of the news media on crime levels and public fear of crime. The relationship between media coverage and public perception, as well as the media's role in crime prevention, is explored. Federal and state legislation related to freedom of the press, privacy protection, and freedom of information requests will also be discussed.

***CJ 382 Integration of Criminal Law and Criminal Procedure***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

This course will build upon the principles and concepts learned in CJ 122 Criminal Law and CJ 132 Criminal Procedure. Students will examine hypothetical and actual cases and identify the strengths and weaknesses of the matter using principles of both statutory and constitutional analysis. Upon completion of the case reviews, students will be expected to furnish an opinion on the merits of the case and the likelihood of a successful prosecution or identify the need for additional investigation and evidence to bring the matter to a resolution.

***CJ 384 Contemporary Issues in Corrections***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

This course looks at the many complex issues that corrections professionals face in a constantly changing environment. Topics include political and social outlooks on corrections, legal liability issues as they pertain to both prisons and jails, use of force, medical needs and rights of prisoners, religious issues, food services, workforce recruitment and retention, administrative and management challenges. Students will use assigned lab time to develop a paper layout and set-up of a small prison/jail, to include addressing construction, security, staffing, emergency protocols and budgeting.

## ***CJ 389 Mobile Device Forensics***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

Students will learn the techniques and methods used in the acquisition and analysis of data from mobile devices; the tools and methods used in the forensic investigation and analysis of mobile devices and SIM cards. Topics include: discussion of cell phones, iPods, iPhones, PDAs and Black-Berry basics; SIM cards; preparation and writing of forensic reports; and preparation of court testimony. These topics will be reinforced through case studies, hands-on laboratory exercises and video presentations.

## ***CJ 393 Advanced Reporting Writing Skills***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 322 (or EN 331)*

This is an advanced course emphasizing gathering, organizing, and preparing information for more complex investigative reports. Topics include communicating facts, information, and ideas effectively in a simple, clear and logical manner for various types of criminal justice system reports, agency memoranda, and administrative reports. Using video scenarios as a basis for the information, students will gain practical experience in field notetaking, report writing and presenting testimony in court-like settings. In addition, students will learn the practical aspects of computer-assisted report writing and the integration of traditional report writing techniques with these types of programs.

## ***CJ 394 Issues of Diversity in Criminal Justice***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

This course explores a broad range of populations as they interact with the criminal justice system. Populations studied include Asian-Americans, gays and lesbians, Latinos, Arab-Americans, Native Americans, and the elderly in addition to the more "traditional" minority groups. Topics include historical development, societal issues, crime and punishment, discrimination, and employment. Students will examine special populations in various roles throughout the criminal justice system to get a more balanced view of the numerous issues facing these particular groups.

## ***CJ 400 Ethics and the Criminal Justice Professional***

*3 Class Hours 3 Quarter Credit Hours*

This course examines ethical questions that can arise during the career of a criminal justice professional. Students will use analytical tools to recognize and address contemporary ethical dilemmas within the American judicial system. Students will also explore issues of morality, virtue, honesty, and ethical decision-making in the United States criminal justice system. Topics include behavior on and off duty, leading by example, corruption and using positions for personal gain. This course will incorporate hypothetical situations as well as real cases so that students can

evaluate and discuss the reasons a case/ethical dilemma developed and possible avoidance techniques that could/should have been employed.

## ***CJ 402 Use of Force and the Consequences***

*4 Class Hours 4 Quarter Credit Hours*

This course will expose students to the legally established use of force standards in our justice system. Students will receive a historical and comprehensive review of U.S. State Supreme Court cases that have established the legal standards pertaining to the use of force. Students will also study the use of force continuum and the civil and criminal consequences if violations of the use of force standards occur.

## ***CJ 404 Digital Forensics Investigations and Applications***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: CJ 382*

This course explores the statutes and court procedures associated with the digital forensic investigation for both the criminal and civil systems. Topics include 4th Amendment implications and protocols, as well as law enforcement practices designed to prevent, investigate and prosecute these crimes. In addition, traits of the "typical" computer hacker, virus writer, and cyber terrorist offender will be explored using review of real-life examples and case studies.

## ***CJ 410 Advanced Techniques in Criminal Forensics***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: CJ 372*

This course is designed for students that have a background in basic crime scene investigation and processing. Students will be assisted in achieving a higher level of proficiency in crime scene investigation and upon completion of this course, will have the necessary skills to process or coordinate the processing of complex crime scenes. Building upon the knowledge and skills obtained in CJ 130 Forensics II/Portfolio Management and CJ 372 Case Studies in Criminal Forensics, students will expand upon the shooting reconstruction and blood spatter analysis instructions. Methods of instruction include: analysis of bloodstain spatter using mathematical formulations and stringing to calculate angles of impact spatter to establish points of origin; expanded shooting reconstruction with the use of lasers and mathematical formulations to calculate bullet trajectory to establish shooter/victim position; and detection and enhancement of blood evidence at crime scenes with a focus on chemical processing of bloody latent fingerprints.

### ***CJ 412 Critical Incident Response and Tactics***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

This course is designed to assist students in analyzing the methods and techniques used by law enforcement professionals as they handle dangerous and stressful situations in a legal, positive manner. This course will present an overview of critical incident management by discussing planning, prevention, response, and post-incident management, as well as inter-agency coordination. Topics include the various types of critical incidents (such as serious accidents, crimes in progress, natural disasters, and terrorist acts), identification and description of the objectives and benefits of a coordinated critical incident response, review of critical incidents and critique of the positive and negative outcomes of critical incident responses. Students will examine critical incident response both pre-9/11 and post-9/11.

### ***CJ 414 Corporate and Private Security***

*3 Class Hours 3 Quarter Credit Hours*

This course looks at the many facets of corporate and private security. Students will examine the historical background of security, as well as an analysis of corporate security methods, advancements in private security technology, camera systems, alarms, and anti-breaching systems. Students will discuss the theory that private security can help be the eyes and ears for law enforcement and if that approach could result in security at less cost to society and the taxpayer.

### ***CJ 418 Capstone Investigation and Preparation***

*1 Class Hour 5 Lab Hours 2 Quarter Credit Hours*

*Prerequisite: Successful completion of all technical courses in Term VII through Term IX*

In this course, students will take part in a multi-session mock crime event and be expected to utilize the skills learned and studied throughout the program as they investigate the event. Students will respond to the mock scene, set up an incident command, and gather evidence and statements. After finishing the on-site investigation, students will analyze evidence in the lab and draft the necessary investigative documents and reports to prepare the case for court. The focus will be on the student's ability to organize and investigate a complex mock crime event and properly present convincing testimony/argument based on the facts they are able to develop during the investigation. This course is graded as pass/fail.

### ***CJ 419 From the Street to the Courtroom***

*4 Class Hours 4 Quarter Credit Hours*

Students will review selected cases from the U.S. Supreme Court, First Circuit Court(s), as well State Supreme/Superior Court and, through a series of assignments and discussions, determine the impact of the various court rulings on

the best practices of law enforcement agencies. Additional discussion will revolve around any possible community reaction and impact from the decisions of the Court.

### ***CJ 420 Criminal Justice Administration Issues***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisite: CJ 400*

This course will identify, analyze, and offer solutions to various contemporary management problems in a criminal justice organization. Students should be prepared to review case studies related to management problem recognition and review the role of supervisors and managers in a typical criminal justice agency. Students will be exposed to civil liability issues at the local, state, and federal law levels and learn proactive methods that may minimize personal and organizational liability risks. Constitutional requirements, court decisions, and legislation (such as EEOC requirements) and their impact on management in criminal justice organizations are discussed.

### ***CJ 421 Women and Crime***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 322 or EN 331 or permission of Dept. Chair*

This course will focus on women's experiences with crime and the criminal justice system in America. The primary areas of study will be women as victims, lawbreakers, prisoners, and professionals in the criminal justice system. Students will explore the problems and issues facing women in the criminal justice system and develop an understanding of these issues and their importance.

### ***CJ 424 Senior Capstone***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: Successful completion of all CJ courses in Term VII through Term XI*

Senior Capstone is the culmination of the Bachelor of Science - Criminal Justice program of study. Students will finalize their investigation of a multi-segmented mock crime event and be expected to utilize the skills learned and studied throughout the program as they present testimony and documents about the event. Students will use their gathered evidence, facts, and statements to complete an analysis of the case and draft the necessary investigative documents and reports to prepare the case for mock court. The focus will be on the student's ability to organize and investigate a complex mock crime event and properly present convincing testimony/argument at a simulated adversarial court hearing event based on the facts they have developed during the investigation.

## ***CJ 426 Senior Internship***

*1 Class Hour 10 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: Successful completion of all CJ courses in Term VII through Term XI*

The Internship offers students the opportunity to apply the criminal justice theories learned to practical application in the field. Placement in an appropriate agency is achieved through the approval of the Criminal Justice Department Chair/supervising faculty member. A log of activities and duties performed will be maintained, and the final grade will be based on the log, the assessment provided by the placement agency, and a final comprehensive report detailing the student's experience.

## ***CJ 430 Career Preparation for the Criminal Justice Professional***

*2 Class Hours 2 Quarter Credit Hours*

Seeking employment within the field of criminal justice can be challenging for many without prior preparation. This course will take an in-depth look into written, physical/agility and psychological testing requirements as applicable, interviewing techniques, professional appearance and resume building. A detailed examination of the background investigation process to include social media activity, credit reporting, criminal activity, polygraph use and other investigative tools will also be undertaken.

## **CM - CONSTRUCTION MANAGEMENT (MS)**

## ***CM 511 Construction Delivery Methods***

*4 Class Hours 4 Quarter Credit Hours*

*Pre/co-requisite: MGM 533*

This course researches the multiple types of contract delivery methods used in the construction industry and the project administration and legal issues associated with each. Topics will include contract type, party responsibility, project documentation, relevant contract law, and dispute resolution.

## ***CM 512 Construction and the Environment***

*4 Class Hours 4 Quarter Credit Hours*

*Pre/co-requisite: MGM 533*

This course will focus on the environmental impact of construction projects. The course will examine best practices to ensure sustainable design and construction of building facilities, site development and infrastructure work. Topics covered will include Environmental Impact Assessment (EIA), Low Impact Design (LID), Leadership in Energy and Environmental Design (LEED), and the Institute for Sustainable Infrastructure (ISI) guidelines among others. Characteristics of successful sustainable projects will be examined through case studies and engagement with industry professionals.

## ***CM 513 Relationship & Dispute Management***

*4 Class Hours 4 Quarter Credit Hours*

*Pre/co-requisite: MGM 533*

This course will focus on building and maintaining effective relationships across the various diverse stakeholders in the construction industry – such owners/executives, employees, general contractors, construction managers, specialty trades, suppliers, and customers. Students also learn conflict and effective conflict management, and the principled negotiation approach through sample application. Students will understand and practice dispute resolution and management. Students will focus on the impact of diversity on relationship and conflict management, negotiation, and dispute resolution.

## ***CM 520 Effective Projects and Teams***

*4 Class Hours 4 Quarter Credit Hours*

*Pre/co-requisite: MGM 533*

In this course, students will learn the unique aspects of teams in the construction industry, the characteristics of highly effective teams, and how to develop and manage such teams. Students will practice teamwork and leading teams through practical application exercises. Students will also explore the impact of labor demographics, job/contract, and the construction industry culture and practices on effective teamwork and performance. Students will understand the connection between teams, project management, and effective performance.

## ***CM 521 Risk Management***

*4 Class Hours 4 Quarter Credit Hours*

*Pre/co-requisite: MGM 533*

In this course, students will study the principles and techniques used in risk analysis and mitigation in the construction industry. Topics will include types and sources of risk, risk analysis tools, risk hierarchy, and strategies to minimize risk impact on a construction project. Through case studies, students will analyze the relationship between risk and project success.

## ***CM 531 Construction Health & Safety***

*4 Class Hours 4 Quarter Credit Hours*

*Pre/co-requisite: MGM 533*

This course will focus on OSHA regulations pertinent to construction field operations. Attention will be directed to the best practices, means, methods and processes to develop and implement safety planning policies and measurement of those policies. Emphasis will be placed on OSHA Standards for the construction industry with special attention to those areas which are of greatest concern to OSHA in field operations, Personal Protection, Fall Protection, Struck by Objects, Electrocutions, Confined Space Entry, and Caught in Between.

**Courses are listed alphabetically by course code.**

### ***CM 540 CM Master's Project***

*5 Class Hours 5 Quarter Credit Hours*

*Prerequisites: MGM 504, MGM 533, CM 511, CM 512, CM 513, CM 520, CM 521, CM 531, CM 541, CM 542 (or CM 543)*

Through the lens of contemporary leadership theory, application and best practices in the construction industry, students will explore and understand their leadership style, and related strengths and challenges. Students will analyze core values, common values and ethical dilemmas in the construction workplace, and how to effectively respond to such dilemmas. Case Studies involving actual construction industry leaders will be used to explore the current challenges and opportunities in the field, such as safety and quality, sustainability, cost management, and labor issues. A final masters project will entail research and correlation of managerial/leadership issues in the construction field to the MS Construction Management program outcomes.

### ***CM 541 Lean Construction Principles & Practices***

*4 Class Hours 4 Quarter Credit Hours*

*Pre/co-requisite: MGM 533*

In this course, students will examine the principles and practices of the philosophy of lean manufacturing as applied to construction. Topics will include case studies, customer value definition, process analysis, waste reduction, value added activities, the use of "pull scheduling," and the need for continuous improvement.

### ***CM 542 Building Information Modeling***

*4 Class Hours 4 Quarter Credit Hours*

*Pre/co-requisite: MGM 533*

THIS COURSE IS DELIVERED ON CAMPUS

This course provides students with an industry view of the application of Building Information Modeling (BIM) to a construction project. Students will study basic computerized modeling technology and analyze its relationship to the development of building information modeling data.

### ***CM 543 Infrastructure Planning & Development***

*4 Class Hours 4 Quarter Credit Hours*

*Pre/co-requisite: MGM 533*

In this course, students will examine public sector infrastructure planning, design and implementation at the local, regional and state level; the policies, procedures and organizations behind the planning and development of infrastructure projects; the funding of public sector infrastructure projects; and the methods for the award of contracts that ultimately lead to active construction projects. Through selected examples, students will investigate the relationship between physical infrastructure systems including roads, public transportation, community facilities, public open space, surface drainage, and electric, gas, water, and waste disposal.

## **CMT – CONSTRUCTION MANAGEMENT (BS)**

### ***CMT 313 Introduction to Construction Management***

*3 Class Hours 3 Quarter Credit Hours*

This course introduces students to the field of construction management relative to construction contracting and the construction industry. Topics will include fundamental relationships between construction costs, resources, scheduling, the concept of scope of work, careers in construction management, qualifications for professional construction managers, and professional organizations within the industry.

### ***CMT 329 Revit for Construction Managers***

*3 Class Hours 3 Quarter Credit Hours*

This course introduces computer-aided parametric building information modeling as a tool used in the construction industry. The primary software product used in this course will be Revit by Autodesk. Topics will include basic program operation and application to building information modeling (BIM).

### ***CMT 331 Specifications and Quality Control***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisites: CMT 313, ABT 314*

In this course, students will continue their study of construction project specifications relative to contract delivery and quality requirements. Students will perform case studies of construction contracts, examine accepted formats and requirements for specifications, and study the legal, social and financial ramifications of adherence to contract specifications. Additional topics will include field monitoring, enforcement and modification of specifications and the resulting impact upon the construction management process.

### ***CMT 410 Project Scheduling***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisite: CMT 313*

This course exposes students to the fundamentals of project scheduling. Topics will include project diagramming, activities and activity relationships, critical path, WBS, and formal schedule preparation using state of the art computer scheduling software. Class projects will include developing and preparing schedules for architectural and/or civil engineering projects.

## ***CMT 412 Construction Practice***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisite: CMT 313*

This course explores business and construction practices related to the management of a construction company. Topics will range from perspectives on the financial and operational side of a construction firm to the management of personnel and customer satisfaction. Students will study the organizational structure of a construction company and focus on the roles and responsibilities of individuals throughout the business. Physical assets of a construction company, both in the field and office, will be introduced. Students will gain an understanding of typical contract administration correspondence including progress reports, meeting minutes, letters of record, change orders and letters of acceptance. The procedure for conducting a field visit, project meeting and public workshop will also be covered.

## ***CMT 415 Construction Estimating II***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisite: ABT 127 or CR 136*

This course expands upon the theory, applications, and technology studied in the prerequisite course. Topics will include the use of general conditions, bonding costs, material take-off methods, subcontractor costs, CSI format, overhead, and profit. The primary reference tool will be the R.S. Means Cost Works book.

## ***CMT 423 Construction Estimating III***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisite: CMT 415*

This course expands upon the theory, applications, and technology studied in CMT 415. Topics will include advanced materials and quantities take-offs, bid strategies, and computer applications.

## ***CMT 427 Senior Thesis Proposal & Research***

*2 Class Hours 2 Quarter Credit Hours*

*This course is a direct preparatory course for CMT 435 Senior Thesis.*

The intent of the course is to guide and assist students through the process of initial project selection, site selection, and proposal preparation, and the collection, synthesis and publication of a comprehensive research document for the thesis project. Topics will include project selection, site analysis, research, and architectural programming.

## ***CMT 434 Ethics and the Construction Industry***

*3 Class Hours 3 Quarter Credit Hours*

In this course, students will examine and formalize the concepts of ethical practices within the construction industry. In both the classroom, team, and roundtable settings, students will analyze and discuss case ethical concepts,

corruption case studies, and the long-term impact to society when illegal activities occur in a profession which has a direct impact on our everyday world. The course will also facilitate presentations by government and private sector officials in a seminar format.

## ***CMT 435 Senior Thesis***

*2 Class Hours 6 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: CMT 410, CMT 422, CMT 423, CMT 427, ABT 315, ABT 325, ABT 328, ABT 331, ABT 338*

This is a direct studies course in which students must demonstrate to the architectural and construction faculty, their understanding of and ability to utilize and synthesize the technical and engineering concepts they have developed throughout their university experience. In CMT 435, students will submit, in proposal format, a project for review and approval by the faculty. Students will work independently with periodic interaction with a faculty member. The term will culminate with a formal presentation to a jury of faculty and critics.

## **CPT – CAREER PRACTICUM TRAINING**

### ***CPT 591 Workplace Practicum I***

*20 Field Hours 1 Quarter Credit Hour*

*Prerequisite: Requires successful completion of four courses in the master's program and approval of the Graduate Program Director or Department Chair*

In this optional course, students will use knowledge gained through previous coursework in the master's program with planned and supervised work experiences in the public or private sector. The course allows students to enhance the practical skills necessary for success by being exposed to the reality of the world of work beyond the boundaries of the campus and enhancing their self-confidence and career direction. Students are required to provide bi-weekly status reports to the Graduate Program Director while enrolled in this course.

### ***CPT 592 Workplace Practicum II***

*20 Field Hours 1 Quarter Credit Hour*

*Prerequisite: CPT 591*

This course is a continuation of the Workplace Practicum begun in CPT 591.

### ***CPT 593 Workplace Practicum III***

*20 Field Hours 1 Quarter Credit Hour*

*Prerequisite: CPT 592*

This course is a continuation of the Workplace Practicum begun in CPT 591 and continued in CPT 592.

**Courses are listed alphabetically by course code.**

### ***CPT 594 Workplace Practicum IV***

*20 Field Hours 1 Quarter Credit Hour*

*Prerequisite: CPT 593*

This course is a continuation of the Workplace Practicum begun in CPT 591 and continued in CPT 593.

### ***CPT 595 Workplace Practicum V***

*20 Field Hours 1 Quarter Credit Hour*

*Prerequisite: CPT 594*

This course is a continuation of the Workplace Practicum begun in CPT 591 and continued in CPT 594.

## **CR – BUILDING CONSTRUCTION**

### ***CR 114 Technical Fundamentals of Building Construction***

*5 Class Hours 5 Quarter Credit Hours*

The basic procedures involved in estimating materials, costs, and critical measurements are studied. Basic construction math and its applications are introduced.

### ***CR 116 Tool and Site Work Lab***

*8 Lab Hours 2 Quarter Credit Hours*

Selected projects are built in the lab with emphasis on safety and proper tool usage. Transit work is performed and its use in the building trade is demonstrated.

### ***CR 117 Introduction to Blueprint Reading***

*2 Class Hours 2 Quarter Credit Hours*

This course is designed to introduce students to architectural blueprints. Types of prints, symbols, dimensions, and lines will be discussed.

### ***CR 118 SketchUp 1***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

This course introduces students to a computer-based system to create and modify drawings. Drawing Tools in SketchUp will be used to create presentation and working drawings for use in cabinetmaking and furniture design.

### ***CR 120 SketchUp 2***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: CR 118*

This course is a continuation of SketchUp 1. Students will use the drawing tools in SketchUp to create presentation and working drawings for use in cabinetmaking and furniture design as well as material lists and plan of procedures for capstone projects.

### ***CR 121 House Framing I Lab***

*6 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: CR 114, CR 116*

Full-size interior treatments are covered. Exercises include drywall work, molding installation and window casing. Stair and rafter layouts are practiced for various construction applications.

### ***CR 122 House Framing I***

*5 Class Hours 5 Quarter Credit Hours*

*Prerequisites: CR 114, CR 116*

Standard framing procedures, wall construction, headers, center beams, floor and ceiling joists, stairs, and common rafters are studied. Blueprint reading and takeoffs resulting in accurate material estimates are emphasized. Sustainable construction methods and materials are emphasized.

### ***CR 126 Introduction to Building Codes***

*2 Class Hours 2 Quarter Credit Hours*

This course is designed to introduce students to the One- and Two-Family Dwelling Code. Comparisons between Rhode Island, Massachusetts and other states will be discussed.

### ***CR 131 House Framing II***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: CR 121, CR 122*

Varied structural problems involved in custom houses are presented. Structural designs and layouts are done from basic prints for a house. Particular attention is paid to proper sizing of structural members and beams for support. Cost estimates of alternate methods are done for comparison. Insulation, exterior and interior treatments are also presented. Sustainable construction methods and materials are emphasized.

### ***CR 132 House Framing II Lab***

*6 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: CR 121, CR 122*

A structure, approximately 8'x10', is built. The building includes roofing, siding, and trim work. Work on a job site may be substituted if appropriate. Sustainable construction methods and materials are emphasized.

### ***CR 136 Introduction to Computer Estimating***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisites: CR 121, CR 122 (may be waived with appropriate experience), CR 208*

Students will study basic computer estimating techniques and develop detailed construction cost estimates from blueprints and/or specifications using the designated software.



## ***CR 208 Introduction to Computer-Aided Design (CAD) for Construction***

*5 Class Hours 5 Quarter Credit Hours*

This is an entry-level theory and lab course introducing students to the basics of computer-aided design. Sustainable construction methods and materials are emphasized.

## ***CR 210 Lead-Safe Remodeler/Renovator Training***

*2 Class Hours 2 Quarter Credit Hours*

This 20-hour course will train students to comply with the RRP requirements for both the EPA and the State of Rhode Island. The course covers all of the lead safe work practices required for both interior and exterior renovations on pre-1978 buildings that have not been certified as lead free.

## ***CR 211 Cabinetmaking I Lab***

*6 Lab Hours 2 Quarter Credit Hours*

Operations are performed, and a project built that involves numerous cabinetmaking joints and assembly procedures. Emphasis is placed on the safe operation and set-up of basic cabinetmaking equipment. Scale drawings are made of selected projects.

## ***CR 212 Cabinetmaking I***

*4 Class Hours 4 Quarter Credit Hours*

Cabinetmaking I discusses the properties of wood, elements of joinery, gluing and clamping, and machining methods. As theory is presented, operations are performed, and projects are built by students to incorporate classroom work into actual practice.

## ***CR 217 Professional Seminar***

*1 Class Hour 1 Quarter Credit Hour*

This course will prepare students to participate in the Internship component of the Building Construction Technology Program. It will benefit all students who are seeking employment upon graduation. The course will include resume preparation, interviewing skills research, job research, and (for those entering internships) documentation of contacts to potential employers to procure a position. Students are responsible for securing their own internship sites. This course is mandatory for all students taking internships and is an option for night students who take labs in lieu of internships.

## ***CR 222 Introduction to Computerized Numerical Control (CNC) Programming***

*3 Class Hours 3 Quarter Credit Hours*

This is an entry-level course to familiarize students with Computerized Numerical Control processes and operations. Set up, operation, and principles of CNC techniques, principally routing, will be discussed and demonstrated.

## ***CR 223 Introduction to Computerized Numerical Control (CNC) Lab***

*2 Lab Hours 1 Quarter Credit Hour*

In a laboratory situation, students demonstrate the set-up, operation and principles learned in CR 222.

## ***CR 226 Sustainable Design and Construction Methods***

*3 Class Hours 3 Quarter Credit Hours*

This course will introduce students to the design, practices and methods of sustainable building. Using the National Green Building Standard, ICC700, students will learn to design to bronze, silver, gold and emerald levels of sustainable design. Various methods of construction choices will be discussed using the 'what if' concept to determine the result of each choice made and how it impacts other design choices.

## ***CR 230 Cabinetmaking II***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: CR 211, CR 212*

Routers and templates, veneering, frame, and panel construction are studied and incorporated in projects. Creating a bill of materials and cut list will also be discussed. Scale drawings are made of selected projects.

## ***CR 231 Cabinetmaking II Lab***

*8 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: CR 211, CR 212*

Projects are built in the lab using prints drawn or prints studied in the classroom. Projects are designed to implement principles, practices, and theory taught in CR 222 and reinforces material from CR 212 and CR 211.

## ***CR 236 Introduction to Finishing and Spraying***

*2 Class Hours 3 Lab Hours 3 Quarter Credit Hours*

Students are introduced to the principles and practices of spray finishes. Both HVLP and conventional HP spray techniques will be used. Both lacquer and water-based products will be studied. Mixing proportions and colors will be discussed as well as the variety of clear finishes available. Students will spray projects built throughout the cabinetmaking curriculum.

## ***CR 237 Cabinetmaking III***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: CR 230*

Radius work, compound angles, and dovetails are studied and incorporated in projects to be built. Factory built kitchen cabinets are discussed and plans are drawn for different kitchen layouts.

**Courses are listed alphabetically by course code.**

### ***CR 238 Cabinetmaking III Lab***

*8 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: CR 230, CR 231*

Advanced projects are built in the lab using prints drawn or supplied in the classroom. Operations studied in all related courses, including CNC if desired, are incorporated in lab assignments.

### ***CR 242 Kitchen and Bath Design and Installation***

*2 Class Hours 2 Quarter Credit Hours*

This course will introduce students to accepted kitchen and bath design from a conceptual, practical and building code perspective. Students will use software to design kitchens and baths using the industry's premier software.

### ***CR 243 Kitchen and Bath Design and Installation Lab***

*3 Lab Hours 1 Quarter Credit Hour*

In the lab course that accompanies CR 242, students will learn various installation techniques whether for new construction or remodeling.

### ***CR 250 Internship I***

*15 Field Hours 3 Quarter Credit Hours*

Students will gain hands-on experience working with an employer under an approved Internship agreement.

### ***CR 254 Internship II***

*15 Field Hours 3 Quarter Credit Hours*

Students will gain hands-on experience working with an employer under an approved Internship agreement.

## **CYB - CYBERSECURITY**

### ***CYB 123 Cybersecurity Threats and Defense***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: NE 115*

This course provides a broad overview of the field of cybersecurity. The course covers history, terminology and strategies involved in securing information assets and serves as a foundation course for more advanced studies in information, network and computer security. General and specific threats to information assets and defensive strategies for protecting those assets are covered. The course employs an integrated system of skill-building lessons, hands-on exercises, and self-assessment tools.

### ***CYB 241 Security of the Internet of Things***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: CYB 132*

In this course, students will explore the network of physical devices, vehicles, home appliances, and other items dubbed the Internet of Things. Students will learn about IOT by making their own networked devices using Raspberry Pi.

The course will focus on highlighting how devices interact, share data and affect everyday life by combing a mixture of hardware, software.

### ***CYB 242 Information Assurance, Policy and Compliance***

*3 Class Hours 3 Quarter Credit Hours*

This course introduces information assurance, cybersecurity policy development, legal compliance and lays a foundation for ethical decision-making by the cybersecurity professional. Students gain experience using non-technical measures to address cybersecurity threats to an organization. Cybersecurity professionals must be familiar with privacy and data protection requirements coming from HIPAA, FERPA, Sarbanes-Oxley, PCA and other federal and industry mandates. To better design penetration test scenarios, students are given the opportunity to work through ethically ambiguous scenarios that revolve around areas such as vulnerability discovery and responsible disclosure.

### ***CYB 252 Cyber Scenarios***

*2 Lab Hours 1 Quarter Credit Hour*

*Prerequisites: CYB 132, NE 121*

This course focuses on the cyber threats landscape. It covers common cyber-attacks and what can be done to prevent them. The course utilizes virtual labs that allow students to examine and apply proper security controls to prevent common cyber-attacks. Students then apply knowledge gained to analyze and audit the result of a typical cyber-attack.

### ***CYB 373 Ethical Hacking***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: CYB 252*

In this course, students will learn how to properly use techniques employed by professional penetration testers to validate information assurance. In addition to validation techniques, students will learn anti-hacking techniques, network reconnaissance tools, buffer overflows, password cracking and other concepts related to testing and validating network defenses.

### ***CYB 394 Windows Security***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: NE 381*

Students will learn how to secure and troubleshoot a Microsoft Windows-based Active Directory network environment through an integrated system of skill-building lessons, hands-on exercises, and self-assessment tools.

## ***CYB 408 Linux Security***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: NE 385*

This course builds on the Linux System Administration course, reacquainting students with administrative concepts and presenting security methodologies as they relate to Linux. It will present logical concepts and provide practical applications related to Linux and the applications and methodologies utilized to secure it. Discussions will include notable hacks, hardening topics and IP Tables, which is an internal firewall feature-set within Linux. Also, the course will present methods for securing both file and file systems. Upon completion of the course, students will have an understanding of Linux subsystems and their relationship to security through successful completion of the following labs: building both a Linux workstation and server; navigating the Linux file system; checking for rootkits; server block encryption; securing Apache; configuring IP tables (Linux Firewall); and hardening the OS.

## ***CYB 409 Web Application Security***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

Students in this course will learn common security pitfalls in web applications as well as how to avoid them. Topics include use of encryption, spoofing, phishing, session management, secure data storage and other techniques related to ensuring the protection of the application and customer data.

## ***CYB 412 Network Security***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: NE 406*

In this course, students will learn the fundamentals and skills related to network security. Topics such as IPSec, Network Access Control, network asset vulnerabilities, encryption techniques used on the Internet, security certificates, phishing, spoofing, browser configuration, network perimeter security and wireless network security are covered.

## ***CYB 423 Incident Response***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: CYB 394*

Students will learn how to use forensic techniques in order to investigate and document system and network intrusions as well as malicious software incidents. System restoration techniques are also covered. Students will become adept at investigating advanced persistent threats, rogue employees, remote data breaches and other security violations.

## ***CYB 426 Advanced Information Security***

*1 Class Hour 4 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: CYB 394, CYB 408*

The Advanced Information Security course is designed to prepare students to take the CompTIA Security Plus (+) certification exam and Test Out Security Pro Certification. In this course, students cover information security best practices that all businesses should adhere to and learn how to implement information security best practices in business environments.

## ***CYB 536 Network and System Information Assurance***

*4 Class Hours 4 Quarter Credit Hours*

*Pre/Co-requisite: MGM 533*

The security threats and risks that govern computer systems and networks can be mitigated by using a variety of security models, mechanisms and protocols. Such mechanisms are used to implement security policies that are defined in a risk management strategy. Designing security architecture is a critical task that includes securing hardware, software and networks. This course introduces security models and the concept of subjects and objects in order to discuss authorization and access control. Case studies of how authentication and access control are implemented in real-life systems are also presented. Security risks that are related to networks are equally important. Students define secure communication channels and present known and established network security protocols (SSH, SSL, IPSec, etc.). Special cases such as wireless and mobile networks are also examined to demonstrate how traditional security architectures can be adapted to facilitate different requirements.

## ***CYB 538 Security Auditing and Risk Management***

*4 Class Hours 4 Quarter Credit Hours*

*Pre/Co-requisite: MGM 533*

In this course, students appraise all standards and information technology (IT) security audit processes, evaluate security controls, and examine governance of compliance and control responsibilities. Most organizations are required to comply with IT security regulations and/or standards resulting from the establishment of the Sarbanes-Oxley Act, General Computing Controls, the Gramm-Leach-Bliley Act (GLBA), the Federal Information Security Management Act (FISMA), and the Payment Card Industry Data Security Standard (PCI DSS) Students will become familiar with these standards and regulations.

**Courses are listed alphabetically by course code.**

### ***CYB 542 Ethical Hacking in Defense of the Enterprise***

*4 Class Hours 4 Quarter Credit Hours*

*Pre/Co-requisite: MGM 533*

An ethical hacker is a security expert who attacks a system on behalf of the system's owners. This course focuses on discovering network vulnerabilities that a malicious hacker can exploit. The course explores penetration testing, footprinting and social engineering, scanning and enumeration, operating system weaknesses, and the methods used to hack web servers and wireless networks. Students perform hands-on projects using state-of-art hacking tools and techniques after extensive planning.

### ***CYB 548 Robust Incident Response Planning***

*4 Class Hours 4 Quarter Credit Hours*

*Pre/Co-requisite: MGM 533*

This course provides students with the background and skills to manage information security incidents to minimize impact on business operations. Topics include detection, investigation, and response to different types of security incidents. Students explore these topics by developing incidence response plans; utilizing industry-standard processes and tools for investigating information security incidents; and recommending processes for incidence response that adhere to legal, regulatory, and organizational compliance. Students who have completed the course have a comprehensive view of cybersecurity incident detection and response.

### ***CYB 552 Digital Forensics & Breach Investigations***

*4 Class Hours 4 Quarter Credit Hours*

*Pre/Co-requisite: MGM 533*

This course explores the expertise required to conduct digital forensic investigations. Topics include investigation methods, problem-solving techniques, current forensics analysis tools, digital evidence acquisition and control, and impact of ongoing technological changes on digital forensics. Student projects include scenario-based investigations in investigating cybersecurity breaches.

### ***CYB 558 Secure Software Development***

*4 Class Hours 4 Quarter Credit Hours*

*Pre/Co-requisite: MGM 533*

Software applications are often characterized as the cement of our times due to the high prevalence of computer systems in all aspects of our lives: banking, health, transportation, retail, even "smart home" systems. As a result, managing application security risks is a quite critical aspect of information security. This course aims to justify the importance of application security, firstly by analyzing how security can be integrated in the software development lifecycle. We demonstrate methods to identify vulnerabilities and discuss techniques that can be used to mitigate

them and improve the overall security of software applications.

## **DMP – DIGITAL MEDIA PRODUCTION**

### ***DMP 100 Introduction to Digital Shooting and Editing***

*2 Lab Hours 1 Quarter Credit Hour*

The Esports Management student will be introduced to basic shooting and editing techniques to create a short video project. Students will create a script and storyboard as well as produce their concept from shooting through to editing.

### ***DMP 101 Video Techniques/Studio 1***

*2 Class Hours 6 Lab Hours 5 Quarter Credit Hours*

Students are introduced to shooting, editing, studio, lighting, and sound principles. A live studio project introduces all roles of studio production and team-building skills. Students write, produce and edit a one-minute montage on a digital edit system and learn the basic skills needed to edit on a digital system.

### ***DMP 103 Audio Design***

*1 Class Hour 2 Lab Hours 2 Quarter Credit Hours*

This introductory course provides students with a foundation for working with digital audio. The primary focus of this course will be on the proper use and selection of recording equipment and microphones, as well as the manipulation of sounds. Students will use Adobe Audition and Avid Pro Tools DAW (Digital Audio Workstation) software. Students will gain a greater understanding of the use and importance of sound in Digital Media Production. The course will explore preparing a soundtrack, mixing multiple audio tracks, and "sweetening" existing tracks using Digital Signal Processing.

### ***DMP 105 Visual Design***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Co-requisite: DMP 101*

Students learn fundamental design principles that apply to all visual art, enabling them to create visuals/graphics that fulfill specified communications requirements. The application of these principles of design will be demonstrated through the analysis of an array of media and by incorporating them in assigned lab projects.

## ***DMP 106 Motion Graphics 1***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: DMP 105*

Eye-catching animated graphics are a growing trend in broadcast and non-broadcast television. Motion Graphics will introduce students to motion design aesthetics and professional animation software programs. This course will focus on designing for specific elements used in video projects – logo, titles, IDs, informational graphics, and symbolic images.

## ***DMP 125 Field Shooting and Editing***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: DMP 101 (or DMP 100 for MGE students)*

*Co-requisite: DMP 127 by section*

This course will focus students' shooting and editing abilities for field production situation. Students will also learn the technical operation of Adobe Premiere as well as some of the basics of the grammar of editing such as sequence building, pacing, and audio manipulation which aids in the establishment of a specified mood or style. A variety of editing approaches will be examined.

## ***DMP 127 Lighting***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: DMP 101 (or DMP 100 for MGE students)*

*Co-requisite: DMP 125 by section*

Students will gain an in-depth knowledge of lighting for film and video production by designing and implementing lighting set-ups for interviews, product shoots as well as narrative productions. Beginning with three-point lighting, the class will continually build on principles of lighting for studio and field applications. An array of lighting and grip equipment will be used to demonstrate the effective shaping and controlling of light to help set the tone for any film or video production.

## ***DMP 134 Studio Production***

*2 Class Hours 6 Lab Hours 5 Quarter Credit Hours*

Students learn about the elements of pre-production involved in live studio work, the technical jobs required to carry out a live production, and the responsibilities of the producer and director. Studio lighting approaches such as 3-point lighting, chroma-key, use of gels, high and low key lighting using the studio lighting grid are discussed. Use of the waveform monitor and vectorscope will be introduced. Students will carry out two studio productions – a talk show and a commercial or PSA. Preparing a script, lighting plot as well as planning for other pre-production elements such as graphics and audio will be covered. Each student will experience the role of the director by directing his/her own talk show as well as participating as a crewmember for other students' productions.

## ***DMP 137 Field Audio***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: DMP 103*

Dialogue, natural sound, sound effects are all critical elements to filmmaking and media productions. In this course, students take on the role of sound engineers for on-location productions. With the growth of portable digital audio recorders, recording quality field audio has never been more important. This course will introduce the students to digital field recorders and microphone techniques and show how they are used effectively in media productions.

## ***DMP 146 Audio Recording***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: DMP 103*

Students will study and apply audio fundamentals, editing, digital signal processing, recording techniques, overdubbing techniques, and mixdown tools. Students will also study audio recording pre-production and production techniques. Concepts will be applied in lab with several audio projects.

## ***DMP 206 Motion Graphics 2***

*1 Class Hour 4 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: DMP 106*

In this course, students will expand on their knowledge of After-Effects, a motion graphics software used in video production to create animated graphics. Emphasis will be placed on analyzing and creating explainer videos. These are used to visualize abstract concepts for informational and promotional media projects. Students will also learn the basics of 3D text/object creation and motion by using a software plug-in for After-Effects. Learning how to create 3D graphs and illustrate 3D processes will develop a student's ability to take content-driven information and make it visually informative and appealing.

## ***DMP 215 Corporate Media***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: DMP 125, DMP 127*

How to take a project from development to execution to evaluation is the objective of this course. Different styles of production will be examined for promotional, educational, and motivational videos. Two productions will be completed based on the approaches discussed in the lecture. Scripting and storyboarding for the projects is a critical factor. Using the shooting and editing skills learned in Term II, students will practice making informative and convincing media.

**Courses are listed alphabetically by course code.**

***DMP 217 From Pre to Post***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: DMP 125, DMP 127*

This course allows students to refine their scriptwriting and formatting skills, while further focusing their pre-production efforts through budgeting and scheduling. With particular emphasis on production value, students will be assigned a short video project, where they will learn how to record using Digital Single Lens Reflex (DSLR) cameras. New post-production software, Final Cut Pro X, will be introduced, where students will edit their projects and practice various methods of media compression.

***DMP 228 Color Grading***

*1 Class Hour 4 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: DMP 125*

*Co-requisite: DMP 235*

The use of color correction software to achieve a unified, color-graded, and color-corrected production while editing is essential in today's digital editing toolset. This course will explore the various techniques to maintain a consistency across shots and add color context within a visual story.

***DMP 232 Independent Production***

*1 Class Hour 4 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: DMP 146, DMP 235*

A video or audio program is produced that exhibits students' abilities in developing a project from concept to completion. A detailed proposal for the project must be submitted for approval to a designated faculty member.

***DMP 234 Podcasting***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: DMP 103*

Podcasting is an exciting medium for immersive and informative storytelling. In this course, students will learn the basics of every aspect of narrative podcasting, from audio interviewing techniques, workflow and organization, construction and structuring an episode, script writing, and post-production mixing. Students will design, build, and launch a private podcast.

***DMP 235 Digital Filmmaking***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: DMP 217*

Examples of personal approaches to storytelling will be analyzed. Elements like story structure, visual and sound style, thematic transitions, and edit pacing are all a part of the narrative style of film. The digital medium is fast becoming a useful tool for visual storytellers whether videographers or filmmakers because of cost, speed and avenues of distribution like the web. Students will become adept at the use of digital effects and apply video post-production tools such as animation, layering, and compositing. Students will

plan and produce a digital "film" that demonstrates their ability to tell a story and prepare it for presentation in a studio-produced magazine-style show.

***DMP 237 Radio***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

As students will be designing their own music radio shows, the programming aspects of the radio industry will be discussed. Production for the radio show will include the creation of legal IDs, sweepers, promos, commercials, news, and traffic reports. Students will also select the music format and the songs within the format. All produced material will be inputted into our radio automation software, Audio Vault and then executed live. Students will also perform an instructor-created format clock.

***DMP 240 Internship***

*1 Class Hour 10 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: DMP 134, DMP 146, DMP 215*

Students receive credit for practical work experience in the field with a commercial (or equivalent) company. Students must make a written application to the department chair with selection based on academic achievement, attendance, and defined job skill requirements.

***DMP 250 Portfolio***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

This is a career-planning course that reviews the essentials of resume creation, resume reel production, interview, and job-hunting skills for the media field. Students will design a resume reel.

***DMP 302 Introduction to Digital Audio (5 weeks)***

*1 Class Hour 2 Lab Hours 2 Quarter Credit Hours*

FOR GRADUATES OF THE GMW AS PROGRAM:

DMP 302 is a five-week course that introduces GMW graduates to the terminology, processing techniques, and software associated with digital audio production. Students will use Pro Tools on digital audio workstations introduced in the DMP associate-level program and continued in the DMP bachelor-level program. This course, coupled with their other 5-week, Term VII course, DMP 328 Music Recording Techniques, allows GMW graduates to move seamlessly into DMP Term VII, to begin their Multi-Track Recording Project.

***DMP 305 Digital Editing 2***

*1 Class Hour 4 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: DMP 250 or GMW 272*

In this course, students learn the operation of the AVID nonlinear editing system through the use of tutorials and by editing a short project. AVID is a primary editing tool used in broadcast television.

## ***DMP 307 Visual Design 2***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: DMP 105*

Students learn advanced visual design principles that apply to video graphics design. These principles will be applied to the creation of typical informational video graphics such as charts, graphs, and maps. Students will also be expected to assimilate the principles presented in the course to further enhance the compositional quality of their videography.

## ***DMP 309 Documentary Pre-Production***

*1 Class Hour 1 Quarter Credit Hour*

This course is designed to prepare students for the production and post-production phase of making a documentary in Term 10. The pre-production phase is very important to researching and analyzing content, contacts, and visual style for the documentary. Students will create a proposal describing the topic, audience, visual approach as well as eventual distribution outlets. Other pre-production elements will include a shooting schedule, budget and locations. This course will allow students to receive feedback on their ideas from the instructor and other students. This will clarify decisions in their production process.

## ***DMP 321 Digital Production Techniques***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

FOR GRADUATES OF THE GMW AS PROGRAM: This course is for GMW graduates entering the bachelor's DMP program who may not be familiar with all the concepts and practices involved in video production. Students will learn about pre-production and production techniques, as well as the personnel and equipment involved in making any kind of video project. Students will write a project proposal, objectives, script, and storyboard as well as produce their concept from shooting through to editing.

## ***DMP 322 Digital Production for Business Management***

*1 Class Hours 4 Lab Hours 3 Quarter Credit Hours*

Students in the Business Management program will learn about pre-production and production techniques, as well as the personnel and equipment involved in making any kind of video project. Students will write a project proposal, objectives, script, and storyboard as well as produce their concept from shooting through to editing.

## ***DMP 325 Remote Radio Production (5 weeks)***

*1 Class Hour 2 Lab Hours 2 Quarter Credit Hours*

*Prerequisite: DMP 237*

In this five-week course, students will use portable audio digital recorders in field and create radio-style documentaries. Students will write, produce, record, and edit interviews, natural sound, music, and voice over and create a short radio documentary.

## ***DMP 328 Music Recording Techniques (5 weeks)***

*1 Class Hour 2 Lab Hours 2 Quarter Credit Hours*

*Prerequisite: DMP 146 for DMP students*

*Co-requisite: DMP 302 for GMW students*

Additional exploration of music production is provided in DMP 328, intended to offer students more practice in the selection and placement of microphones, as well as session setup and editing techniques as they relate to music recording. This additional experience is required to better prepare students for DMP 336, where they will begin their music video project.

## ***DMP 331 News Production***

*1 Class Hour 4 Lab Hours 3 Quarter Credit Hours*

This course covers all essential areas of television news reporting including story planning and development, script preparation, writing for television news, field production techniques, visual storytelling, videography, editing theory, field reporting and interviewing, as well as newsroom terminology. Students learn how to produce, direct, and block a studio news program.

## ***DMP 336 Multi-Track Recording***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: DMP 328*

This course examines the functional design and operation of professional studio equipment used in the recording of multi-track masters. Students will explore a variety of recording situations using digital recorders, computer systems, and signal processing equipment.

## ***DMP 337 Sound Reinforcement 1***

*1 Class Hour 4 Lab Hours 3 Quarter Credit Hours*

An introduction to the principles of sound reinforcement provided in clubs, theaters, and concert halls. Students will be introduced to the equipment and techniques used during a live performance at a venue.

## ***DMP 338 Music Video Pre-Production (5 weeks)***

*2 Class Hours 2 Quarter Credit Hours*

*Co-requisite: DMP 336*

In this five-week course, students will formulate concepts for producing a music video from which a proposal, production schedule, budget, and storyboard will be developed. Students will base their concepts on the music recorded in DMP 336 Multi-Track Recording. Students will then present their concepts to the class and produce the music video the following term in DMP 421 Music Video Production.

***Courses are listed alphabetically by course code.***

***DMP 357 Field Audio Production***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

This course presents the theory, hardware, and techniques used for field audio recording (in-camera) for video/television. Students will learn about the differences between studio and location recording, the equipment used, and techniques for producing optimum sound in the field. Emphasis will be placed upon the use of portable audio mixers and peripheral gear. Skill will be developed at using the equipment under diverse conditions and interfacing with a variety of field production devices.

***DMP 381 Visual Effects***

*4 Lab Hours 2 Quarter Credit Hours*

Students will study and create multi-layered visual effects as well as practice advanced animation techniques. They will acquire skills that will enable them to produce more sophisticated effects work in future terms.

***DMP 401 Documentary Filmmaking***

*3 Class Hours 4 Lab Hours 5 Quarter Credit Hours*

*Prerequisite: DMP 309*

In this course, students will produce a 3- to 5-minute mini-documentary based on a project proposal and budget. The structure of documentaries will be analyzed by watching a variety of different documentary styles. Students will read about people currently working in the documentary field to better understand current production issues.

***DMP 402 Capstone Project Pre-Production***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisites: DMP 423, DMP 447*

In preparation for DMP 455 Capstone Project, students will secure an outside client in need of a video program. A detailed program proposal will be developed along with a production schedule, budget, and script.

***DMP 409 MIDI (5 weeks)***

*1 Class Hour 2 Lab Hours 2 Quarter Credit Hours*

*Prerequisite: DMP 328*

In this five-week course, students will study the terminology, processing techniques, hardware and software associated with MIDI engineering and electronic sound production. Students will use Pro Tools digital audio workstations, hardware MIDI Controller keyboards, plus hardware and software synthesizers. This course will teach students to connect and control hardware and software using MIDI, synchronize MIDI systems, and compose basic sound beds using synthesizers.

***DMP 410 Sound for Picture***

*1 Class Hour 2 Lab Hours 2 Quarter Credit Hours*

This course is an in-depth look at sound design for motion picture and digital video. Topics include postproduction

editing and dialogue replacement, sound effects including Foley effects, processing, and surround sound mixing.

***DMP 416 Production Practicum***

*1 Class Hour 4 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: DMP 402, Permission of Department Chair*

This course requires students to act as freelancers by having them find an outside client in need of a video program. Pre-production tasks will include producing the program's treatment, budget, production schedule, and script. During the production and post-production phase, students are expected to make use of the full complement of audio, graphic, and video workstations available in the department to demonstrate their ability in producing a program that satisfies the client's program objectives and production expectations.

***DMP 421 Music Video Production***

*4 Lab Hours 2 Quarter Credit Hours*

*Prerequisite: DMP 338*

In this course, students will shoot and edit their music video, concentrating on shooting and editing style, structure, and pacing. Based on planning and production in the previous quarter, students will spend their time shooting and editing and then refining their edit for final presentation.

***DMP 423 Advertising***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

Students will view and analyze print, television, and radio advertising and discuss the creative and strategic thinking behind the advertising. This course will examine advertising strategies and what makes an advertising campaign effective. A brief history of advertising will also be covered in this course. During the lab, students will develop an advertising campaign (print/www, television and radio commercials) for an assigned product that is based on the advertising strategies discussed in lecture. Students will create two different campaigns for the assigned product and then "pitch" the two campaigns to the "client." After the presentation, one of the two campaigns will be selected by the "client" to be produced in DMP 426 Commercial Production.

***DMP 426 Commercial Production***

*1 Class Hour 2 Lab Hours 2 Quarter Credit Hours*

*Prerequisite: DMP 423*

Students will produce the print/internet, television, and radio commercials from the selected advertising campaign(s) presented in DMP 423. Following the production, students will present the finished campaign to the "client."



# COURSE DESCRIPTIONS

## ***DMP 431 Remote Production***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

Using portable digital recording equipment, students will plan and technically organize a remote location field shoot. The shoot will utilize three cameras and multiple audio inputs to record a live event direct to a hard drive. Students will learn set-up and techniques particular to field production.

## ***DMP 445 Sound Reinforcement 2***

*1 Class Hour 4 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: DMP 337*

In this hands-on follow-up to Sound Reinforcement 1, students practice setup and mixing of live ensembles. Topics include commonly encountered technical problems and an investigation of equipment and techniques used to overcome them. Instruction includes effective interaction with talent, managers, and venue personnel.

## ***DMP 447 Mixdown 1***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: DMP 336*

This course focuses on the mixdown process as it applies to multi-track recordings used in the audio, music, and film industries. Students will prepare fully mixed master recordings through the functional use of modern studio technology, from conceptual understanding of spectral and spatial balancing, to the application of equalizers, compressors, limiters, and effects processors.

## ***DMP 449 Mixdown 2***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: DMP 447*

In this course, students will continue to explore and practice the mixdown process. Special emphasis is placed on critical listening and aesthetic considerations. Topics covered include common DAW procedures and data management, use of a virtual console, use of a control surface, signal flow, and digital signal processing. Weekly studio lab time consists of mixing prerecorded multi-track material.

## ***DMP 452 Preparing for Your Career***

*4 Class Hours 2 Lab Hours 5 Quarter Credit Hours*

In this course, students will prepare a video resume and a web portfolio illustrating their skills while preparing for their job search. Students will practice interviewing for a job. They will also learn how to properly market themselves through social media sites while creating an online presence.

## ***DMP 455 Capstone Project***

*6 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: DMP 402*

Students in the Capstone Project will combine all their previous experience and knowledge of video, audio, and

graphic production into the creation of a video program for an outside client identified in DMP 402. By using the full complement of equipment and software available in the department, students will demonstrate their ability in producing a program that satisfies a client's objectives, while measuring their progress against the production schedule and budget developed in DMP 402.

## **EC - ECONOMICS (SOCIAL SCIENCES CORE)**

### ***EC 203 Principles of Economics***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

Introduces the fundamental principles of microeconomics and macroeconomics, such as scarcity, supply and demand, growth, fiscal and monetary policies, and the public and the private sectors.

### ***EC 301 The Global Economy***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 322 or EN 331*

This course is an exploration of the increasingly complex global economy with particular attention to the competing political economies of Europe, the United States, and the Pacific Rim.

## **ELT - ELECTRICAL ENGINEERING TECHNOLOGY**

### ***ELT 310 Programmable Automation Controllers and Lab***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: ENG 210*

This course will cover advanced PLC programming using the Allen Bradley Control Logix PAC and RSLogix 5000 software. Students will use several PLC languages including Ladder Logic, Sequential Function Chart, Function Block Diagram and Structured Text. Students will also be introduced to Ethernet IP I/O control and VFD network control. Students will develop working automation systems using the Allen Bradley Control Logix PAC. Students will develop these programs in several different PAC programming languages. Labs will also consist of "Remote I/O" systems over Ethernet IP.

**Courses are listed alphabetically by course code.**

***ELT 314 C++ Programming***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: ERD 212*

This course will focus on variables, input and output objects, if-else structures, switch statements, while and do looping structures, functions and scope of variables, one- and two-dimensional arrays, pointers, and character strings. The flowcharts will be used as a visual aid in solving problems.

***ELT 320 Supervisory Control and Data Acquisition (SCADA) and Communication Systems and Lab***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: ELT 310*

This course will show students the use of SCADA software in various industries. Students will investigate the uses of SCADA systems and how they are used in today's industrial world for system control and data collection. Topics will include system communications such as system alarming, wireless systems, radio telemetry, Ethernet Networks; and data communication systems for computers and industrial network protocol standards. The lab will show students how to develop SCADA software systems for interaction with specific industrial/commercial systems such as water/wastewater. Rockwell Software's Factory Talk SE software will be used for these systems. Data networks, such as Ethernet IP, will be implemented as part of the SCADA programming.

***ELT 360 Embedded Microcontrollers***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: ELT 314*

*Co-requisite: ELT 362*

The concepts of how a microprocessor/microcontroller processes data will be studied. Arithmetic, logic, control functions and structures will be studied using C/C++ language instructions. Serial communications to a PC and serial LCDs along with interrupts will be included. The controlling of external hardware such as ultrasonic devices, servo motors, DC motors, and stepper motors will be studied. The concepts of flowcharting will also be presented throughout the course. Arduino and RFF flowcharting software will be utilized throughout the term.

***ELT 362 Embedded Microcontrollers Lab***

*4 Lab Hours 2 Quarter Credit Hours*

*Prerequisite: ELT 314*

*Co-requisite: ELT 360*

This course will focus on the Arduino Microprocessor and instruction set. Students will write C++ code for labs that require the use of timers, serial communication, and interrupts. Control of sensors and electronic devices will also be covered.

***ELT 364 Digital Circuit Design***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

This course covers digital circuit functions, the synthesis of logic functions with PLDs and simulation of PLD designs.

***ELT 374 Circuit Analysis I***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MA 320*

This course covers nodal and mesh analysis of circuits, applications of Kirchhoff's current and voltage laws, superposition, Norton and Thevenin equivalent circuits. These theorems are used to solve passive and active circuits, which contain both dependent and independent sources. Basic AC circuit analysis is introduced as well as complex numbers. PSpice analysis techniques are used to model both DC and AC circuits.

***ELT 384 Circuit Analysis II***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: ELT 374*

This second course in electrical circuit analysis extends the principles developed in Circuit Analysis I to circuits which are stimulated by transient and periodic voltage and current sources. This calculus-based course will continue the use of PSpice programming to examine passive and active filters, op-amp circuits, transfer functions, frequency response and the characteristics of periodic waveforms.

***ELT 410 Electrical Design and Energy Management & Lab***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

This course will demonstrate the process of designing the electrical distribution systems for commercial and industrial buildings. Students will identify all distribution components, understand specialized electrical needs, design switchboard and panelboard layouts, design and draw a complete electrical plan showing general purpose, specialized and lighting loads as well as the raceways that feed them. Students will use AutoCAD MEP for all system design and layouts. Students will be required to design their systems by applying all necessary National Electrical Codes (NEC). The course will also explore the causes of arc flash faults and calculate arc flash potential and common power quality issues and how to apply common mitigation strategies.

***ELT 463 Sensors and Signal Conditioning***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: MA 310, ELT 374*

This course will cover the elements of a control system which will include sensors, transducers and actuators used in process control systems. The analog and digital signal conditioning and instrument calibration with these I/O devices will also be covered. Laboratory assignments will be on sensor signal conditioning, instrumentation calibration and networking of these devices.

## ***ELT 475 Automation and Process Control & Lab***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: ELT 310 (or MCT 310), MA 310*

This course includes the study of closed-loop process control techniques as applied to automation and systems control. Topics include linear systems analysis, proportional, integral, and derivative control analysis, temperature controllers, composite controller analysis including PID control, transient response analysis, and digital systems design techniques. The lab will use PID controllers and Programmable Automation Controllers (PAC), driven automation control to demonstrate the closed loop control of automated systems.

## ***ELT 486 LabVIEW Programming***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: ELT 314 or MCT 314*

This course will use LabVIEW, a graphical programming language, for data acquisition and control of I/O and instruments. Students will learn to apply standard VIs (virtual instruments) and design applications. Interface to external devices and instruments will also be covered.

## **ELY – ELECTRICAL TECHNOLOGY**

## ***ELY 112 Electrical Foundations I & Lab***

*5 Class Hours 2 Lab Hours 6 Quarter Credit Hours*

This basic course in electricity introduces students to atomic theory; the fundamental units of volts, amps, ohms and watts; Ohm's Law and the power equations; scientific notation and metric prefixes; circuit analysis of series, parallel and series-parallel circuits; Kirchhoff's laws for series and parallel circuits; and troubleshooting. Special emphasis is placed on formula transposition and algebraic notations for voltage and current. Students participate in laboratory analysis of DC series, parallel and series-parallel circuits using analog VOMS and digital multimeters with a DC power source. They are taught protoboard techniques and use the resistor color code extensively. Shorts, opens and various troubleshooting techniques are included. Students will also be familiarized with occupational trends and careers in the electrical industry.

## ***ELY 116 Introduction to Residential Wiring/NEC I***

*3 Class Hours 3 Quarter Credit Hours*

Students practice navigating through the National Electrical Code standards as they learn code and trade terminology and the minimum code requirements for such topics as switching, conductor sizing, overcurrent protection, box fill, voltage drop, grounding and bonding, and wiring methods. Individual state amendments to the Code are also studied. Students diagram basic electrical branch circuits in variety of configurations.

## ***ELY 117 Basic Wiring Techniques Lab***

*2 Lab Hours 1 Quarter Credit Hour*

This course supports ELY 116 by introducing students to the tools of the trade. Students practice wiring techniques which will include mounting and wiring boxes and installing receptacles, lights and switches using non-metallic sheathed cable and metallic-sheathed cable. Safe work practices are emphasized as part of preparation to enter the workforce.

## ***ELY 122 Electrical Foundations II & Lab***

*6 Class Hours 2 Lab Hours 7 Quarter Credit Hours*

*Prerequisites: ELY 112, MA 110 (or MA 105)*

Three key topics are covered in this course: 1) Inductance and Capacitance: topics include magnetism, coils, electromagnetic induction, capacitors, RL and RC time constants and transient voltages and currents. 2) Alternating Current Circuits: topics include sine wave analysis, RL and RC series and parallel circuit analysis, power factor and power factor correction methods. 3) Power and Generation: topics include DC and AC generation including basic armature winding theory, power and efficiency calculations showing the relationships among heat, light and power units. Throughout the course, students will construct, connect, and troubleshoot AC resistive, inductive, and capacitive circuits and analyze the circuits using measuring instruments that include the oscilloscope and frequency generator.

## ***ELY 126 Residential Wiring/NEC II***

*1 Class Hour 1 Quarter Credit Hour*

*Prerequisites: ELY 116, ELY 117, MA 110 (or MA 105)*

Students continue in their studies of the National Electrical Code standards. Minimum requirements for general lighting, small appliance, laundry, and bathroom branch circuits are explored. Other topics include the required receptacle and lighting locations, attic and basement cable installation, circuit protection (fuses and circuit breakers), personnel protection (GFCI and AFCI), and device protection (TVSS). Students explore the science of light basics as well as the different types of lamps (incandescents, CFLs and LEDs) to better comprehend the importance of energy management and energy efficiency.

## ***ELY 127 Residential Wiring Lab II***

*4 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: ELY 116, ELY 117, MA 110 (or MA 105)*

Students wire a variety of scenarios to authentically experience working in residential situations. From given specifications, they create a set of blueprints and calculate box fill. They then rough in and trim each lab. With guidance and under supervision, they energize and test each lab wearing the appropriate PPE. Students are required to work in a neat and workmanlike manner which includes housekeeping practices. Lastly, students create invoices that detail the materials used with prices and labor costs.

### ***ELY 132 Transformers & Lab***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: ELY 122, MA 125*

Students study the construction, operation and connections for single phase transformers, three phase transformers, autotransformers, current and potential transformers. Current, voltage and power relationships are examined. Phasing techniques, polarity checking, and closure testing are also investigated. A variety of cooling methods are also explored. Areas of practice include series and parallel connections, single-phase polarity checks, three-phase transformer connections, and buck-boost connections. National, Massachusetts and Rhode Island Electrical Code requirements are studied.

### ***ELY 135 OSHA Construction Safety & Health***

*2 Class Hours 2 Quarter Credit Hours*

As part of OSHA's Construction Safety and Health training initiative, this course examines a variety of construction industry standards that entry-level graduates will be required to apply on construction sites. Required topics include introduction to OSHA; electrical safety; fall protection, materials handling, storage, use and disposal; stairways, ladders, and scaffolding, excavations, confined spaces; fire prevention and protection; and occupational health and environmental controls. In order to obtain their OSHA 10-hour card, students need to pass the course with a "C" average. Attendance is mandatory.

### ***ELY 138 Advanced Wiring/NEC III***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: ELY 126, ELY 127*

The topics covered include residential service entrance installation and calculations, conductor resistance, conductor insulation and conduit fill calculations, low voltage structured wiring, fire alarms and voltage drop calculations. All pertinent National, Massachusetts, and Rhode Island Electrical Code articles are covered. Code software will supplement the text material throughout the course.

### ***ELY 139 Advanced Wiring III Lab***

*4 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: ELY 126, ELY 127*

Areas of practice include installation and testing of residential service entrance and advanced general lighting and individual appliance circuits. Additional topics covered are fire alarms, low voltage structured wiring, conduit installation, wire pulls and basic construction techniques. Other areas of practice include the use of power tools such as cutting conduit with bandsaws and sawsalls, threading conduit with manual and power threaders, and drilling concrete with hammer drills for anchoring purposes.

### ***ELY 212 Motor Theory***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: ELY 132, MA 125*

This course is a study of motor action theory, motor construction, operation, installation and speed control. Areas of DC motors covered are the shunt, series, compound motor and permanent magnet motors; areas of AC polyphase motors covered are the squirrel cage induction motor, the wound rotor induction motor and the synchronous motor; and the areas of single-phase motors covered are the shaded pole, squirrel cage, and universal motors. Specialty motors such servo motors, stepper motors and self-synchronous motors are introduced.

### ***ELY 213 Motor Controls & Lab***

*1 Class Hour 8 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: ELY 132, ELY 135, MA 125*

Students explore manual and magnetic starters and control circuits. Areas of study include starting and running overcurrent protection, various two-wire and three-wire control schemes, timer applications, reversing controls, multi-speed control, pilot devices and the similarities and differences of NEMA and IEC controls. Emphasis is placed on drawing and reading schematic and wiring diagrams as well as the construction, connection, testing, and troubleshooting of various motor control circuits. Sizing of motor control equipment is performed in accordance with the National Electrical Code.

### ***ELY 217 AutoCAD Electrical***

*1 Class Hour 2 Lab Hours 2 Quarter Credit Hours*

The AutoCAD Electrical course will give students the necessary AutoCAD instruction so they can implement AutoCAD fundamentals into the AutoCAD Electrical software package. Students will be using the latest version of AutoCAD Electrical for the design of control system schematics and connections, control panel layout, PLC systems and electrical distribution systems.

### ***ELY 218 Building Construction & Environmental Systems for Electricians***

*4 Class Hours 4 Quarter Credit Hours*

This course is an introduction to building construction: structurally/non-structurally and to fundamental mechanical and life-safety systems. Topics will include building construction; methods and materials & construction terminology. Environmental systems: power/lighting systems (review), plumbing systems, HVAC systems, fire protection systems & elevators/escalators. Print-reading of building construction & environmental systems and building types will focus on residential and commercial buildings.

## ***ELY 224 Industrial Controls***

*5 Class Hours 5 Quarter Credit Hours*

*Prerequisites: ELY 132, ELY 212, ELY 213, ELY 217*

Students will study industrial wiring practices, electro-mechanical and electronic sensors, and the foundations of digital electronics. Applications of these topics will also be discussed. This course begins with an introduction to industrial wiring by reviewing NEC Article 430 concepts and familiarizing students with the NFPA 79 standard. The operation and application of electronic industrial sensors is explored; types include electromechanical devices, inductive and capacitive proximity detectors, ultrasonic sensors, and photoelectric detectors. Analog sensors such as, thermocouples, RTD and pressure sensors will also be discussed. Topics covered on digital electronics include the theory and application of semiconductor diodes, transistors, SCRs, TRIACs and similar devices. Power supplies, half and full wave rectification, filtering and voltage regulation are investigated. The functions, truth tables, and applications of digital logical gates are studied. The course also includes comparing digital to analog devices.

## ***ELY 225 Industrial Controls Lab***

*4 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: ELY 132, ELY 212, ELY 213, ELY 217*

Students practice a variety of conduit bending techniques, conduit installations, wire pulls, the drawing and reading of three-phase motor control schematics and wiring diagrams using AutoCAD Electrical. Students also will construct, install, connect, test, and troubleshoot various three-phase motor control configurations. Other areas of study include a review of OSHA requirements for "lockout/tagout."

## ***ELY 244 Electronic Motor Drive Systems***

*6 Class Hours 6 Quarter Credit Hours*

*Prerequisites: ELY 224, ELY 225*

*Co-requisite: ELY 245*

This course begins with a review of the physics of motion as well as a review of AC and DC motor theory. The following topics will be discussed: closed loop control systems, reduced voltage starting techniques for AC motors, Variable Frequency Drives (VFDs), and DC drives. Subjects covered in closed loop control will include tachometers, resolvers, linear and rotary optical encoders, and proportional, integral, derivative (PID) algorithms. Students will explore fundamental drive technology by studying microprocessor controls, constant torque and variable torque applications, braking methods, and installation requirements. DC drive concepts will cover thyristor control, motor speed and torque characteristics, and maintenance. AC drive topics will include the common control algorithms – V/Hz, flux vector, and field-oriented control; common bus technology; and the effects that VFDs have on power source quality, such as harmonic distortion.

## ***ELY 245 Advanced Industrial Controls Lab***

*6 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: ELY 224, ELY 225*

*Co-requisite: ELY 244*

Students continue to work on installation and wiring of single and three-phase motor branch circuits for various motor control configurations. Also included are labs which involve the wiring and/or programming of such devices or systems as DC drives, AC variable frequency drives, and troubleshooting labs. Other areas of practice include the use of power tools such as cutting conduit with bandsaws and reciprocating saws.

## ***ELY 250 Low Voltage Systems and Fiber Optics***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: ELY 132, ELY 138*

This course will cover the installation and design of low voltage electrical systems. Students will learn the codes, cable types, system components, and installation practices required for voice, data, security, and fire alarm systems. They will analyze each aspect of the installation process to understand the devices and techniques associated with each area and to identify potential problem areas. Lab exercises are designed to provide the students with real-world practice applying and perfecting the specific skills required in this field while also providing structured troubleshooting experience using cable and network test equipment.

## ***ELY 283 Photovoltaic Systems & Lab***

*4 Class Hours 4 Lab Hours 6 Quarter Credit Hours*

*Prerequisite: Students in Electrical Technology with Renewable Energy (ELRE) must hold their OSHA card in order to enter the seventh term of the program.*

This course focuses on the design, selection and installation of solar photovoltaic systems. The course will include an in-depth exploration of the mathematical equations to ensure that the photovoltaic system design and installation is appropriate for its intended use and will meet all NEC Article 690 code requirements. Students will prepare a term-long project that will require students to research all components necessary for a Stand-Alone PV System. The labs will include desktop trainers which will simulate the "real-world" applications of PV systems and reinforce the principles of photovoltaics. Once students understand basic PV theory, they will then build an actual grid-tied life-sized mockup utilizing the actual components of a grid-tied PV system: PV module, PV combiner box, inverter, disconnects, metering, and grounding.

**Courses are listed alphabetically by course code.**

### ***ELY 290 Wind Turbine Technology and Other Renewable Energy Sources***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: Students in Electrical Technology with Renewable Energy (ELRE) must hold their OSHA card in order to enter the seventh term of the program*

This course focuses on wind power and explores other renewable energy sources such as hydro-electric. Students will examine turbine components, installation, power in the wind, environmental impact, maintenance, practicality, site sustainability, and local regulations. The installation of NEIT's 100kw wind turbine will also be studied, including the data provided by online live monitoring of the turbine. Students will also participate in a term-long project culminating with group presentations on the pros and cons of fossil fuels, including nuclear, versus various renewable energy fuels. Students will also complete hands-on exercises to explore some of the wind technology topics.

## **EMG – ENGINEERING MANAGEMENT**

### ***EMG 502 Emerging Technologies***

*4 Class Hours 4 Quarter Credit Hours*

This course will be presented through the lens of the past, present, and future of technology and innovation, exploring related issues and the potential impact of technologies on organizations and society. Topics will include the study of how new technologies have impacted businesses historically, how current technologies are implemented, and how emerging technologies may impact industries and consumers. The course will examine the strategic implications associated with emerging, disruptive, and sustaining technologies.

### ***EMG 511 Human-Centered Design Thinking***

*4 Class Hours 4 Quarter Credit Hours*

This course is the foundation of what the program defines as the practice and methods of design. Utilizing "Design Think" methodology, students will execute a variety of interdisciplinary projects and iterate the methods of observation, ideation, prototyping, and user feedback. Successful students will be able to convert needs into desirable solutions that will facilitate more creative and innovative people and organizations.

### ***EMG 512 Systems Engineering***

*4 Class Hours 4 Quarter Credit Hours*

Systems Engineering is an interdisciplinary approach and means to enable the realization of successful systems. It focuses on defining customer needs and required functionality early in the development cycle, documenting

requirements, then proceeding with design synthesis and system validation while considering the complete problem including operations, performance, test, manufacturing, cost, and schedule. Emphasis includes the links of systems engineering to fundamentals of decision theory, statistics, lean Six Sigma and optimization. It also introduces the most current, commercially successful techniques for systems engineering.

### ***EMG 522 Quantitative Business Analysis***

*4 Class Hours 4 Quarter Credit Hours*

This course introduces a structured approach to problem solving and the fundamental quantitative methods used to formulate and solve problems to support business decision-making. Students will practice both analyses of complex situations and communication of results based on these decision models.

### ***EMG 544 Decision Models***

*4 Class Hours 4 Quarter Credit Hours*

Successful management requires the ability to recognize a decision situation, understand its essential features, and make a choice. However, many of these situations – particularly those involving uncertainty and/or complex interactions – may be too difficult to grasp intuitively, and the stakes may be too high to learn by experience. This course introduces spreadsheet modeling, simulation, decision analysis and optimization to represent and analyze such complex problems. The skills learned in this course are applicable in almost all aspects of business.

### ***EMG 556 Master's Capstone***

*5 Class Hours 5 Quarter Credit Hours*

*Students must choose one of the following two options:*

Option 1: The master's project option requires engineering management students to demonstrate their competence in the skills and knowledge associated with their degree program. It is designed to show the in-depth learning and higher-order thinking of the students. With this option, students must choose a project in the field of engineering management. Then they will plan, organize, implement, and work towards the completion of the project in a controlled manner, so as to meet the goals and objectives of their project. The capstone project is usually carried out by an individual student and may be derived from the student's workplace where the student can exploit the workplace experience to benefit both the student and the student's employer. Before beginning work, each capstone project must first be approved by the MSEM Master's Project Committee. At the end of the project, the student will prepare a Final Project Report and defend this work product before the Program Director and members of the Committee.

Option 2: The master's thesis option requires the

engineering management students to carry out an investigation of technology or methodology in which the student has a strong interest. The topic of this investigation or research should be an extension or continuation of the topics covered in the MSEM curriculum. Before beginning this work, the topic must be approved by the MSEM Master's Project Committee. The student will submit a final report on the research and present the research before the Program Director and members of the Committee.

## EN - ENGLISH (COMMUNICATIONS CORE)

### ***EN 100 Introduction to College Writing***

*4 Class Hours 4 Quarter Credit Hours*

*Placement: Based on an evaluation of a writing sample or successful completion of EN 030.*

EN 100 is an introductory writing course designed to immerse students in the writing process and sharpen their critical thinking skills. In this course, students will practice using writing as a tool for learning by responding to readings, composing essays, and reflecting on the writing process itself. Through drafting, revising, and writing to learn, students will strengthen their ability to interpret, analyze, and evaluate the ideas presented in the course readings, lectures, and discussions. Conducting, evaluating, and integrating research (through summarization, quotations, and paraphrasing) is a major component of this course. Additionally, students will be introduced to APA citation style, and will improve essential writing skills such as grammar, punctuation, and standard usage.

### ***EN 106 Service Industry Communications***

*5 Class Hours 5 Quarter Credit Hours*

In today's competitive service industry, technicians must possess a mastery of both technical and nontechnical skills. EN 106 will introduce and equip students with the nontechnical or "soft skills" needed to succeed and advance in their fields. Topics will include written and verbal communication, professionalism, team collaboration, critical thinking, and problem-solving skills. Because learning to write and communicate effectively requires practice, the course provides numerous opportunities; including writing workshops, role play, and group activities, for students to apply the fundamentals of written and oral communication.

### ***EN 110 Healthcare Communications***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

EN 110 builds off the foundation established in EN 100 and focuses on the necessity of clear written and oral communication in the health sciences. Through role play, small

group work, and presentations students will develop the communication and critical thinking skills they will need daily when communicating with other healthcare providers, clients, and their families. Additionally, by continuing in the writing process (researching, drafting, and revising) students will further their ability to write clear, concise, error-free prose with attention given to audience and message.

### ***EN 200 Workplace Communications***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100 or EN 110 or placement based on evaluation of a writing sample.*

EN 200 builds off the foundation established in EN 100 and focuses on the necessity of clear written and oral communication in professional settings. Students will be exposed to a variety of business writing genres including memos, emails, business letters, and proposals. By continuing their engagement in the writing process (researching, drafting, revising, and editing), students will compose several professional documents, reinforcing students' attention to audience and their aptitude to develop an effective workplace document. Additionally, this course strengthens students' ability to document in APA citation style, and hone essential writing skills such as grammar, punctuation, and standard usage.

### ***EN 211 Oral Communications***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100 or EN 110 or placement*

This is an introductory course with an emphasis on oral communication theory and practice, providing a basic understanding of the significance of oral communication as well as instruction and practice in the basic skills of public speaking. The course is intended to help students develop skills in speaking, organizing thoughts, and critical analysis. Major emphasis is placed on the preparation and presentation of formal speeches.

### ***EN 322 Argumentative Research Writing***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

In this course, students engage in critical thinking, credible research, and persuasive writing. Beginning with the idea that academic and professional arguments result in a collegial exchange of ideas to pursue knowledge, this course prompts students to examine various viewpoints of a debate. The central goal for students is to produce an argument essay based on meaningful dialogue and thoughtful reflection. Students are introduced to different models of argument, persuasive appeals, logical reasoning, and visual rhetoric. The course breaks the writing process down into a series of comprehensible habits of mind and investigative skills: inquiry, active reading, critical analysis, research, communication, and documentation of sources.

**Courses are listed alphabetically by course code.**

### ***EN 331 Research Writing in the Social Sciences***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

"Research Writing," introduces students to the process of discovery through scholarly writing and research. Beginning with the idea that academic writing is a conversation, a collegial exchange of ideas to pursue new knowledge, this course breaks the process down into a series of comprehensible habits of mind and investigative skills: inquiry, active reading, critical analysis, argumentation, research, and communication. In this course, students don't merely write a term paper; they join an ongoing conversation about ideas in a spirit of collaboration. Valuing complexity and creativity, they transform information by adapting it and creating something new.

### ***EN 421 Technical Communications***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 322 or EN 331*

EN 421 is an advanced writing course designed to help students achieve mastery in presenting complex content. This course encompasses writing for a broad range of technical and general audiences in virtually all media. Students will reinforce their ability to analyze audience, purpose, and content. Additionally, students will learn how to plan and organize content to meet goals, use graphics effectively, and deliver an oral presentation.

### ***EN 422 Writing in the Health Sciences***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 322 or EN 331*

EN 422 is an advanced writing course focusing on written communication common in the health science professions. To better prepare students for the challenges of successful professional communication, Writing in the Health Sciences targets the three main audiences of the health provider: other professionals, patients and clients, and the public. For each of these audiences, students will master writing techniques and practices to ensure that their message is being understood and that their professional voices are being heard at all levels of the healthcare organization.

## **ENG - ENGINEERING TECHNOLOGY**

### ***ENG 100 Imagineering: Creative Prototyping***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

Imagineering is the implementation of creative ideas into practical form using Design Think methodologies. The "maker movement" has spawned a revolution of low-cost, desktop-sized, digital manufacturing technologies that bridge the gaps between creative ideas and tangible

objects. Some of these "maker" devices produce artifacts by removing material from a medium; tools like CNC routers, laser etchers, and vinyl cutters. Other devices, 3D printers for example, fabricate by adding material. Whether additive or subtractive, success with these technologies requires creative practice, agile critical thinking, and fearless iteration. These skills are valued across the university and throughout technology-based industries.

### ***ENG 118 Introduction to Engineering Technology and Lab***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

This course is an introduction to engineering technology that gives an overview of the profession and explores typical duties and workplace environments for technicians, technologists, and engineers today and in the future. Students use mathematics and critical thinking skills related to various fields of engineering. The Microsoft Office Suite of products is used for generating reports and presentations.

### ***ENG 210 Introduction to Programmable Automation Controllers***

*3 Class Hours 4 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: ELY 212 & LY 213 or ERD 242*

This course is an introduction to the programmable automation controller (PAC) and automation systems. Using the Allen-Bradley CompactLogix PAC and Studio 5000 software, students learn the tag-based structure common in today's PACs, ladder logic fundamentals and programming techniques using series and parallel elements. Relay instructions, timers, counters, comparisons, and subroutines are introduced. Students will create and download their programs into the CompactLogix training unit, debug the programs, and verify the correct operation. Students will also practice the practical wiring of input and output devices and general installation of PLCs.

### ***ENG 259 Commercial Drone / UAV Certification***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

This course covers the commercial use of and the training required to become a commercial drone pilot. The course will also include the following: completion of flying a mission on a simulator; completion of flying a mission on a real drone; and assessing, compiling and presenting the data obtained from the real drone mission. Upon completion of this course, students who meet FAA standards, are eligible to sit for the Federal Aviation Administration (FAA) Section 107 Commercial Small Unmanned Aerial System (sUAS) exam for pilot certification at an approved FAA testing facility.



## ***ENG 263 Commercial Utilization of Drones / UAVs***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

This course covers the commercial use of drones to collect information for commercial applications. Students will team up to create small companies (3 or 4) and utilizing photogrammetry and cloud-based post processing solutions, that will create the required deliverables to a mock client. The use of insurance, mission creation, flight clearance apps will be learned as well as contracts, weather limitations, and various measurement tools.

## ***ENG 281 Engineering Internship***

*20 Hours Per Week 4 Quarter Credit Hours*

*Prerequisites: 2.5 Overall GPA, T5 standing, approval from Internship Coordinator*

Students will have the opportunity to integrate career-related experience into the undergraduate A.S. program by participating in planned, supervised employment in a related field. This will contribute to the student's personal and professional growth in an Electrical/Mechanical/Welding Engineering Technology field and provide invaluable career awareness for students. The internship will also complement what has been learned in the classroom. The internship will include a reflection or evaluation by students at the completion of the internship. This internship requires a minimum of 20 hours per week.

## ***ENG 283 Capstone Project***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

Students will utilize all their previous electronic knowledge to develop, test, document and present an electronic project. The process will mimic the procedure of a technician working as part of a team in a company's Research and Design department. Based around the learning of the concepts of Printed Circuit Board (PCB) layout, students will select or be given an electronic project. They will then layout the PCB, have it created by a PCB maker, create the necessary project documentation, cost analysis, Gantt Chart scheduling and finally the fabricating and testing of the electronic PCB project. The course will culminate in a PowerPoint presentation of the work to the NEIT Faculty, their family and/or friends.

## ***ENG 289 Drone/UAV Engineering***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: ERD 111, MA 210*

*Co-requisite: ENG 263*

This course covers the engineering that goes into a drone/UAV/rover, specifically focusing on sensors and telemetry. The students will select a path to design and build a commercial use (Videography, Autonomous or Data Acquisition) Remotely Operated Vehicle/ROV. Topics will include drone aerodynamics, brushless motors, electronic speed controllers, transmitters, telemetry, gimbals, flight

controllers, RF downlinks, FPV, ground stations and GPS. The final exam for the course will consist of a successful team build and operation of an autonomous drone and rover combined mission to solve a real-world problem.

## ***ENG 300 Imagineering: Human Centered Design***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

In this course, students will implement creative ideas into practical form using Human Centered Design. Human Centered Design (HCD) is the umbrella for concepts like design thinking, and the principles of universal design. The emphasis in this course will be on innovating for the end user. The art of listening and storytelling along with the crafts of rapid desktop "maker" technologies is the primary practice of this course. When done well, a human-centered approach fuels the creation of new products and services that resonate more deeply with clients.

## ***ENG 400 Microsoft Applications for Engineers***

*3 Class Hours 3 Quarter Credit Hours*

*Co-requisite: ENG 489*

Engineers must be fluent in computer applications used to plan and analyze engineering projects. In this course, students will learn the necessary skills to use spreadsheets, project management applications and databases in their engineering projects, starting with their Senior Capstone projects. Students will use spreadsheets for common engineering calculations and graphical data representation. In the project management application, students will create schedules (Gantt charts) and budgets and plan their Senior Capstone project. Students will also be exposed to databases and how they can be used for sharing of data between applications, and for analysis and report.

## ***ENG 450 Special Topics in Engineering***

*10 Lab Hours 4 Quarter Credit Hours*

This elective course provides an opportunity for independent study, research, or industry applications based on the background and interests of the student and/or industry needs. The course may incorporate content from a range of courses within the engineering technology curricula or allow for an intensive exploration of a single topic. An outline of the proposed work should be developed with the instructor and submitted for approval by the department chair prior to the start of the academic term. Project work may be executed by one student or a team of students. All proposed work requesting a tangible product as an outcome requires a memo of understanding to define the scope and protect the student and university from unreasonable expectations. Presentation of the results of the work is required.

**Courses are listed alphabetically by course code.**

### ***ENG 481 Senior Engineering Internship***

*20 Hours Per Week 4 Quarter Credit Hours*

Students will have the opportunity to integrate career-related experience into the undergraduate program by participating in planned, supervised employment in a related field. This will contribute to the student's personal and professional growth in an Electrical/Mechanical Engineering Technology field and provide invaluable career awareness for students. The internship will also complement what has been learned in the classroom. The internship will include a reflection or evaluation by students at the completion of the internship. This internship requires a minimum of 20 hours per week.

### ***ENG 489 Introduction to Senior Capstone***

*2 Class Hours 2 Quarter Credit Hours*

*Prerequisite: ELT 463 or MCT 424*

This course results in the definition of the Senior Project. The senior project proposal is written and presented at this time. The proposal completely describes the technical content of the senior project, including theory of operation, what is being delivered, a schedule, specification, parts list, system block diagram, schematics, graphs and flow charts.

### ***ENG 499 Senior Capstone***

*4 Class Hours 2 Lab Hours 5 Quarter Credit Hours*

*Prerequisite: ENG 489*

This course gives each student the opportunity to design, fabricate, test troubleshoot, and document a project of their choice. This is primarily a lab course where students are expected to use all their skills to demonstrate their technical abilities learned in the bachelor's program. Students will have the opportunity to communicate progress on the senior project in both oral and written reports. This experience simulates the work environment by requiring students to follow a plan, meet the technical specification for their deliverable, and produce a working system on time. In a final session, all projects are presented and demonstrated to the class and faculty.

## **ERD – ELECTRONICS, ROBOTICS, AND DRONES**

### ***ERD 110 Fundamentals of Electronics***

*4 Class Hours 2 Lab Hours 5 Quarter Credit Hours*

An investigation of the operation of basic electrical circuits. Students will learn the makeup of the fundamental building blocks that comprise all electronic circuits, how to analyze, measure and troubleshoot these integral system concepts. Topics covered include electron theory; conductors and insulators; Ohm's law (the relationship of current, resistance, and voltage), power; the principles of series, parallel, capacitive, and inductive circuits. Relays and Solenoids will be introduced. In the lab portion of the course,

students will learn to use the necessary test equipment used in industry for circuit analysis.

### ***ERD 111 Electronic Circuit Construction***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: ERD 110*

This course is an introduction to the use of the basic electronic test equipment used in industry, including power supplies, digital multimeters, function generators, and oscilloscopes. Students will learn how to solder using proper techniques and methods and soldering will include PC board through-hole soldering and surface mount devices (SMD). Other topics include AC sources, safety, fabrication of electronic connection cables, and troubleshooting concepts. Students will fabricate and test a PC board-based project. Computer-aided circuit simulation is introduced.

### ***ERD 115 Computer and Networking Fundamentals for Engineering***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

This course provides a technical overview of computer hardware and computer networking used in business and engineering. Hands-on exercises are provided to give students experience with basic computer hardware fundamentals including I/O peripherals, computer processors, storage, memory and network electronics. The content serves as a technical foundation for later courses in the ERDA and ELTB programs. Upon completion of this course, students should be able to demonstrate the following computer concepts; fundamental functions and operations of the computer, identification of hardware components, basic computer operations, expansion cards, computer ports, driver installation, network terminology, local-area networks, wide-area networks, OSI model, cabling and topologies, router basics, Ethernet, IP addressing, and network standards.

### ***ERD 120 Digital Concepts***

*4 Class Hours 2 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: ERD 110, MA 110 (or MA 105)*

Students begin with the four fundamental number/character formatting and manipulating schemes used in digital technology: Binary, Hex, BCD, ASCII. Digital Gates along with other digital building blocks such as Tri-State Buffers, MUXes/DeMUXes, Mono, Bi, A-stable devices, and Shift-registers will be covered. Basic transistor theory and interfacing of digital devices via BJT, MOSFET, JFET, IGBT transistors will bridge logic devices to real-world systems. Logic-Levels, and Digital Wave-forms as they pertain to digital systems will be examined. Schematic Capture and Simulation software (NI MultiSim) will be used to draw and simulate digital circuits of varying levels of complexity. Logic Truth-Table expressions will be examined for potential simplification via Boolean Algebra. Throughout the course, students will have the opportunity to hone their digital knowledge skills by building, testing and troubleshooting digital circuitry.

## ***ERD 122 Introduction to Robotic Control Systems***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: ERD 110 or WEL 260*

Students will be introduced to a range of robotic concepts including autonomy, biomimicry, and human-sense electronic-counterparts. Both Rotary and Linear Motion will be examined via DC, Servo, and Stepper motor basics along with Absolute and Incremental position feedback encoding. Mechanical drive fundamentals will accompany the topics on motion. An emphasis in graphical-based programming will allow students to develop their critical-thinking and planning skills as they create solution strategies to achieve a variety of robotic control objectives.

## ***ERD 131 Advanced Circuits and Semiconductors***

*4 Class Hours 2 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: ERD 110, ERD 111, MA 125*

In this course, students will be exposed to the advanced circuits that are common to almost all and every electronic system. Students will learn the makeup of these circuits, how to analyze, measure and troubleshoot these integral system concepts. The course material will be enhanced by filter design, utilizing Computer Circuit Simulation Software and by the constructing, soldering and testing of a power supply kit. Topics will include decibels, high, low and band pass filters, semiconductor theory, rectifiers, regulators, and power supplies.

## ***ERD 210 Introduction to Drone/UAV Technology***

*1 Class Hour 2 Lab Hours 2 Quarter Credit Hours*

This course is an introduction to the evolving field of unmanned aerial vehicles (UAVs), commonly known as drones, and referred to as a remotely piloted aircraft (RPA). Topics will include drone aerodynamics, mechanical and electrical/electronic systems. This course will discuss and demonstrate GPS integrated (autonomous and remote controlled) videography, still photography, data collection and FPV (First Person Video).

## ***ERD 212 Microprocessor Control Systems***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

The concepts of how a microcontroller processes and stores data will be studied. The interfacing and control are presented from a hardware and software view. Computer to peripheral interfacing and troubleshooting is emphasized. Students will study C language programming of the 8051 Core Processor to control several systems.

## ***ERD 242 Electro-Mechanical Systems & Industrial Controls***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: ERD 110, MA 125*

Industrial concepts of motor control and sensing are the focus of this course. Students will explore the necessary requirements for understanding and implementing Industrial Control Systems. Topics will include three phase AC power, AC / DC motors and their motor controllers including Variable Frequency AC Drives. The concepts of relay control systems and their methods of control will be examined and implemented. The course will also include industrial sensing devices such as inductive, capacitive, photoelectric and ultrasonic proximity sensing technologies and how they are installed and implemented in industrial control applications. Motor control sensors such as digital encoders will also be reinforced an applied in industrial applications.

## ***ERD 246 Data Acquisition Systems***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: ERD 110, MA 125*

This course is designed to introduce students to the transducers, sensors and circuits used in industry for controlling a manufacturing process. Topics of study will include Amplifier configurations, (Op-Amps), Analog and Digital Conversion (ADC/DAC), Sensors and Computer Data Acquisition (DAQ). Sensors to be studied will include Thermal, proximity, position, pressure and motion. The course will utilize an Arduino Micro-controller for data acquisition. Students will modify the Arduino programs to meet various given criteria.

## ***ERD 250 Data Communications and the Internet of Things (IoT)***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: ERD 115*

This course will introduce students to data communications, computer networking and the Internet of Things. Students will learn the concepts and requirements of computer networking and how the Internet of Things can provide an enormous amount of data in our connected world that can be used in a myriad of ways. Other topics include network hardware, issues in data communication, multiplexing, modulation techniques and error detection. Students will use the Raspberry Pi micro-computer with Linux and various programming languages like Python to collect data and use services such as SMS Texting, Dropbox, Gmail and Thing Speak for data notifications and visualizations.

**Courses are listed alphabetically by course code.**

## **GDS – GAME DEVELOPMENT AND SIMULATION PROGRAMMING**

### ***GDS 110 Introduction to Game Programming***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

C++ will be used as the vehicle to introduce flowcharting, control structures, calculations, interactive programming techniques, functions, and array processing. Students will learn to write programs that implement techniques and theory necessary for basic game development. Laboratory projects will grow in complexity as students gain hands-on experience. Both personal and gaming applications will be provided.

### ***GDS 111 HTML and JavaScript***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

In this course, students will gain an introduction to Internet technologies and basic programming logic through the study of HTML 5, XHTML, Cascading Style Sheets, and JavaScript. File organization and implementation of web graphics will be stressed throughout this course.

### ***GDS 121 Intermediate Game Programming***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: GDS 110*

A study of intermediate game programming using C++ will be covered. Topics include string handling, intermediate array processing, passing by reference, pointers, and an introduction to creating, editing, and updating data files.

### ***GDS 131 Advanced Game Programming***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: GDS 121*

A study of advanced game programming topics will be covered. Topics include sorting/searching arrays and data files, classes/objects, code libraries, and advanced pointer techniques. This course will also teach students object-oriented principles and implementations including inheritance, composition, encapsulation, data hiding, overloading, overriding, and polymorphism.

### ***GDS 134 Game Persistence***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: GDS 121*

This course will expose students to database design principles such as relational databases, normalization and entity relationship diagrams. These principles will be applied to contemporary database management systems such as MySQL or Access and accessed through a modern object-oriented language such as C++. Students will learn to connect a C++ program to a database to store pertinent game information.

### ***GDS 137 Game Prototyping***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: GDS 110, VGD 126*

In Game Prototyping, students will study the rapid development of 2D game mechanics using paper prototypes, the HTML5 Canvas Element and JavaScript. This course is focused on learning game programming logic through experimentation. Throughout the course, students will be presented with the logic for common game mechanics. They will use this information to develop the basic logic for new or more advanced game mechanics and features. Finally, students will be asked to refactor prototypes into refined, efficient and readable code snippets.

### ***GDS 252 Algorithms and Data Structures***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: GDS 131*

This course includes an overview of the algorithms and data structures used in gaming and simulation applications today. Topics include, but are not limited to, linked lists, queues, stacks, user input as well as a variety of AI techniques used in game development.

### ***GDS 268 Game Studio***

*6 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: GDS 134, GDS 252, VGD 251 or (GDS 137, VGD 242, VGD 251, VGD 256, VGD 259)*

This course is designed to challenge students' organizational, design and programming skills. Students will be part of a small development team of designer and programmers and tasked with producing the code and materials assets necessary to complete a full game product.

### ***GDS 370 Advanced Game Design***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: GDS 268*

Students will study advanced aspects of game design. Topics include genre-specific design issues, storytelling, level design, puzzle design as well as the game development life cycle.

### ***GDS 371 2D Game Engine and Tool Development***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

Students will learn the development of tools for the game industry and the development of the primitive components of a game engine. Topics include editing tools, asset pipeline management system, converters, database management, networking, interpreter, and defect tracking systems.

## ***GDS 373 Advanced Algorithms and API***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: GDS 252*

This course incorporates advanced algorithms with the use of an API such as DirectX. The focus will be on the practical application of these techniques to design efficient algorithms. Topics include asymptotic notation, recurrences, lower bounds for worst case and average case, dynamic programming, searching algorithms, sorting algorithms, advanced computation and related research issues.

## ***GDS 375 Simulation and Serious Games***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: GDS 268*

This course involves the exploration, design, and development of simulation games and serious games. The questions that will dominate this course are these: How do we represent reality in a simulation? How do we balance simplicity, efficiency, and playability against realism, richness and complexity? Students will also create a serious game in which education (in its various forms) is the primary goal, rather than entertainment.

## ***GDS 381 Software Testing and Quality Assurance***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

Testing is an integral part of the system development function. Students will gain an appreciation of why software testing and quality assurance is so important. Topics include the types of testing, the testing team, defect tracking, test software automation, and the testing philosophy.

## ***GDS 383 2D Game Console Programming***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

This course emphasizes developing games that could be deployed on a popular console system as well as PC systems using industry standards languages like C# and frameworks like XNA. Students will learn how to dissect existing 2D games, interact with console controllers, keyboards, and mice, and manage output using boundary handling, collision detection, texturing, and character animation.

## ***GDS 388 Web API for Games***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: GDS 111, VGD 256*

This course focuses on developing web applications and tools for games and game development using open source web technology like Node.js and Mongo DB. Students will develop games that use REST APIs that supply data to their games and other web applications related to them such as player save data, account information, game analytics, and the security of that data.

## ***GDS 399 3D Game Console Programming I***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

Students will expand their skills by implementing intermediate 2D gaming topics like level design, handling multiple players, and porting their games to consoles. Topics include networks, writing/reading packets, latency, network libraries, and publishing games to a console. Students are also introduced to 3D gaming concepts, where they will explore 3D gaming architecture, modeling via code, texturing, lighting, and camera positioning. Through the use of class discussion and gaming projects, students will create compelling game experiences through environments by designing their own 2D and 3D games.

## ***GDS 404 Artificial Intelligence***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: GDS 252*

This course will explore artificial intelligence as a coherent body of ideas and methods to acquaint students with the classic programs in the field and their underlying theory. Students will explore this through problem-solving paradigms, logic and theorem proving, language and image understanding, search and control methods, and learning. Other topics include intelligent agents, state-space search, game playing, knowledge representation, reasoning under uncertainty, machine learning, and data mining.

## ***GDS 405 3D Game Console Programming II***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: GDS 399*

Students will explore 3D gaming architecture, level design, object transformations, and environmental animation and learn to implement industry shortcuts that deal with design issues having to do with 3D hardware, programming objects and camera motions, collision detection, character animation, special effects, and 3D game networking. Through the use of class discussion and gaming projects, students will create compelling game experiences through environments by designing their own 3D games.

## ***GDS 410 Introduction to Senior Project***

*2 Class Hours 6 Lab Hours 5 Quarter Credit Hours*

*Prerequisite: GDS 405 or VGD 404*

The objective of the senior project is to integrate skills learned during the students' time at New England Institute of Technology. Within a team of at least 2 and no more than 4 students, students will develop an industrial-strength game. The Introduction to the Senior Project spans the first 10 weeks of this period and the focus of this course is on the design of the game.

***Courses are listed alphabetically by course code.***

### ***GDS 420 Senior Project***

*2 Class Hours 8 Lab Hours 6 Quarter Credit Hours*

*Prerequisite: GDS 410*

This course provides an opportunity for each student to develop a substantial project in an area of interest as proposed in GDS 410. The culmination of this course is a major presentation of the project. The project will be evaluated by three faculty members.

### ***GDS 422 Emerging Technologies in Game Development***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: GDS 370*

This course is a discussion of emerging and future technologies that are likely to impact the industry. Topics chosen by the instructor will include advances in hardware, software, networking, gaming, the Internet, and leaders in the game development industry. In-depth research of the chosen topics will be conducted, and students will work on hands-on projects that involve specific emerging technologies.

## **GMW – GRAPHICS, MULTIMEDIA AND WEB DESIGN**

### ***GMW 100 Digital Photography I***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

This course introduces GMW students to the technology and techniques of digital image creation using SLR cameras. Starting with "what is digital" theory and principles, this course will train students in basic digital still camera photography, composition, and storage technique. It will then continue with each student shooting and editing their own photo essay, to be used as a first portfolio piece.

### ***GMW 102 Digital Illustration***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: GMW 112, GMW 123*

This is an introductory studio course that presents visual ideas using digital illustration. The course focuses on computer-based drawing and design techniques. Technical aspects of industry-standard illustration software will be studied, and studio projects will be developed from concept through completion. Course completion will result in a strong working foundation in the rudiments of digital illustration for professional practice.

### ***GMW 110 Introduction to Web Design***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: GMW 100, GMW 112, GMW 123*

*Co-requisite: GMW 223*

This course is an introductory exploration of the Internet and World Wide Web technology. Search strategies, web page design and construction, SEO copywriting, and social media integration will be covered. HTML and Photoshop will be used.

### ***GMW 112 Digital Graphics I***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

Students who take this course will develop a working knowledge of how 2D images are manipulated on the desktop, using Adobe Photoshop. Topics consist of: image creation, retouching, color correction, and compositing images together to form a final design.

### ***GMW 122 HTML***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

This course will train students in the construction of web pages integrating the eXtensible HyperText Markup Language (XHTML), CSS, and HTML5. Students will construct web documents by hand coding XHTML and CSS. Topics will include designing for SEO.

### ***GMW 123 Design I***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

This course teaches the foundational guidelines that enable the creative design of graphics to fulfill specified communications requirements.

### ***GMW 129 Project Planning and Estimating***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

Students will plan and price multimedia projects. Focus will be on the design and implementation of concepts through production planning and budgeting for a multimedia project.

### ***GMW 141 Design III***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: GMW 102, GMW 112, GMW 123, GMW 201, GMW 223*

*Co-requisite: GMW 231*

This course encourages and develops students' creative skill, self-confidence, and technical and design ability to create a personal graphic, visual identity as the basis for each student's personal brand. Topics include branding, typography and font use, resolution and color for printing applications, and graphics manipulation for print, e-publishing, and web delivery.

## ***GMW 201 Introduction to Typography***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: GMW 112, GMW 123*

This course explores aspects of the anatomy of type and letterform characters, typeface/typestyle recognition and type measurements. Also covered are legibility, readability, type terminology and appropriate usage for multimedia applications. The course will analyze the ways in which type is used as a design element, and complete design projects that exhibit a professional awareness and appreciation of typographic expression. Computer applications will be used as typographic layout and design tools.

## ***GMW 205 Digital Photography II***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: GMW 100, GMW 112, GMW 123*

This course follows the techniques begun in GMW 100 Digital Photography I. Students will progress with their use of full manual exposure controls. Topics include professional techniques for creating product shots, portraits, and stock photography. Students will complete the course with a strong foundation in digital camera techniques for various print photography and e-publishing applications.

## ***GMW 212 Digital Graphics II***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: GMW 102, GMW 112, GMW 123, GMW 205*

Digital Graphics II is an advanced course that continues the topics covered in GMW 112 Digital Graphics I. Using Photoshop, students will analyze images to obtain the best output results for web and print distribution. Topics to be covered include camera RAW formats, analyzing and correcting portrait photographs, using channels to make complex selections, and using Photoshop's automate features to expedite workflow. The proper way to scan images and to correct scanning problems will also be covered. Students will use photographs taken in GMW 205 (Digital Photography II) to prepare portfolio-ready photography pieces with detailed digital enhancements.

## ***GMW 215 Web Content Management with WordPress***

*4 Class Hours 2 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: Terms I through IV GMW courses*

The course explores the overwhelming popularity of Content Management Systems (CMS) to display and manage content for the web. Students will build a self-hosted WordPress website portfolio and learn all the features to modify the layout and display of content.

## ***GMW 220 UI/UX Design***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: GMW 123, GMW 201, GMW 223*

*Co-requisites: GMW 232, GMW 233*

This course is an introduction to the theory and application of user-centered design for screen-based media. User Interface/User Experience (UI/UX) design focuses on the end-user experience in support of defined marketing objectives. Students will utilize information architecture to create interface design concepts.

## ***GMW 223 Design II***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: GMW 112, GMW 123*

*Co-requisite: GMW 110*

Students will integrate the elements and principles of interactive design and use them to solve specific design problems.

## ***GMW 231 Digital Publishing I***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: GMW 100, GMW 112, GMW 201, GMW 223*

*Co-requisite: GMW 141*

Students will learn the principles, process and techniques of digital publishing using Adobe InDesign.

## ***GMW 232 Digital Publishing II***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: GMW 102, GMW 112, GMW 141, GMW 201, GMW 231*

*Co-requisites: GMW 220, GMW 233*

Digital Publishing II builds on skills learned in GMW 231 Digital Publishing I, including advanced software techniques and features, and layout/design concepts. File preparation and aesthetic design awareness for digital publishing such as epubs and interactive e-readers will be covered. Through a combination of quizzes, exams and a capstone studio project, the student's knowledge and expertise with digital publishing will be strengthened and refined.

## ***GMW 233 Package Design I***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: GMW 141, GMW 201, GMW 231*

*Co-requisites: GMW 220, GMW 232*

Every package is seen by 100% of a brand's consumers. This course introduces students to the 3D design, art, and technology of enclosing, protecting, and promoting products for distribution, sale, and use. Three-dimensional packages will be printed and constructed.

**Courses are listed alphabetically by course code.**

***GMW 251 Special Topics: GMW***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: GMW 141, GMW 215, GMW 220, GMW 231*

This is a capstone course that focuses upon the newest and most pressing issues that affect multimedia. Subject matter in this course may vary from term to term.

***GMW 272 Associate Portfolio***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: GMW 102, GMW 141, GMW 201, GMW 205, GMW 212, GMW 215, GMW 220, GMW 231, HU 240*

Associate Portfolio prepares students to build a graphic design portfolio with professional quality, business-oriented design projects, and also addresses portfolio presentation techniques for an interview situation. Topics such as self-evaluation, personal branding, choosing the right portfolio format and pieces, arranging pieces in the portfolio and executing a well-paced, detailed oral presentation will be covered. Students will leave the course with a strong understanding of their own strengths and talents that may be brought to the workplace, and the skills to present or e-deliver their work with confidence.

***GMW 280 Cooperative Work Experience***

*15 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: GMW 141, GMW 231*

Students will gain practical work experience through employment in a local company or organization. Students must submit a written application to a designated faculty member, with approval based on the student's academic achievement, attendance, and demonstrated skill sets as they match the employer's defined job skill requirements.

***GMW 301 3D Modeling***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: GMW 102, GMW 112*

In this course, students will render conceptual designs using 3d modeling software. Students will create their own models using both polygonal and subpatch techniques. Models will then be textured in a realistic or stylized manner based on the individual student's design aesthetic. Projects will be rendered and optimized for both print and web deployment. Final renderings will be further enhanced and manipulated using post-production software such as Photoshop, Illustrator, or InDesign.

***GMW 302 Concept Development***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: GMW 102, GMW 112, GMW 141, GMW 201, GMW 223, EN 100*

In this course, students will conceive of a variety of possible solutions from a menu of given contemporary problems of varying complexities. They will learn first to (raw) sketch by hand not one, but several, possible solutions exploring the pros and cons of each solution based on individual web-

based research and understanding of the respective design challenge. Students will be asked to employ hand-drawn sketches reflecting their uniquely imaginative capabilities, and to move to software applications (Photoshop, Illustrator, tablets) for further development as their ideas come into focus.

***GMW 305 Web Asset Production***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: GMW 215, GMW 272*

This course enables students to refine and create content for their web portfolio that utilizes current web presentation technologies and builds upon GMW 272, the Term 6 Associate Portfolio course where students used WordPress to present their work using the WordPress content management system. Now, in Term 7, students will further enhance their web assets with the concepts and technology learned in this course.

***GMW 310 Digital Editing I***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: GMW 205, GMW 212, GMW 223*

*Co-requisites: GMW 311, GMW 312*

Using Adobe Premiere Pro, students will learn the technical and creative aspects of non-linear video and audio desktop editing. The course is designed to introduce students to learning the fundamental methods, techniques and disciplines necessary to edit video, audio and other digital media into a short video program, using DSLR cameras and desktop editing software. Creative aspects of editing and working with still and moving images will be executed by students in the lab.

***GMW 311 Motion Graphics I***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: GMW 102, GMW 112, GMW 201, GMW 301*

*Co-requisites: GMW 310, GMW 312*

This course focuses on trending technologies in motion graphics. Students will utilize Adobe After Effects and Cinema 4D as tools to produce high definition motion graphics. Students will experiment with the principles of animation to add character to inanimate objects using keyframing techniques. Course assignments will be focused on creating a variety of motion graphics such as title sequences, parallax photographs, and animated corporate identities.



## ***GMW 312 Motion Graphics Design***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: GMW 102, GMW 112, GMW 201, GMW 301*

*Co-requisites: GMW 310, GMW 311*

This course focuses on the different categories and design aesthetics used in the motion graphics industry. GWM 312 covers a brief history of animation from its early inception as Victorian-era entertainment devices up to modern computer techniques. Students will be introduced to key artists during these eras. Principles of animation such as squash and anticipation will be analyzed in hand-drawn cartoons as well as computer-generated works. Students will design animations from storyboard previsualization to production fulfillment. This course will also explain the differences in compression algorithms for digital movie delivery. Other topics, such as chroma keying for visual effects and motion tracking, will also be covered.

## ***GMW 320 Digital Editing II***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: GMW 310*

*Co-requisite: GMW 321*

This course continues beyond the fundamentals of Digital Editing I by putting an emphasis on developing, scheduling, and producing web videos in support of web marketing, mobile delivery, and associated e-commerce messaging and promotion. Students will develop concepts and storyboards to meet a set schedule and shoot and edit various video and audio content to meet specific marketing requirements.

## ***GMW 321 Motion Graphics II***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: GMW 311, GMW 312*

*Co-requisite: GMW 320*

Building on GMW 311 Motion Graphics I, students will continue the use of production software to enhance motion graphics creativity. This course will focus on video compositing and effects. Students will shoot their own HD video footage using SLR cameras, then enhance that footage using Adobe After Effects. Students will then apply effects such as 3D motion tracking to add computer-generated elements to the video. Green screen backdrops will also be employed to allow students to chroma key video elements and composite them onto various backdrops. Other topics such as rotoscoping and masking will be covered.

## ***GMW 322 Typography II***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: GMW 201, GMW 232*

Typography II explores the creative use of typography for enhanced logo and page layout design, font development, and esthetic support of message delivery. Typographic options for animation, responsive mobile delivery, and e-

publishing distribution will be emphasized.

## ***GMW 400 Digital Publishing III***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: GMW 232 (or GMW 290), GMW 322*

An advanced study of Digital Publishing with a concentration on digital documents and ePub construction. Focus will be placed on current industry standards and development of e-publications utilizing software used in the design and ePub industries.

## ***GMW 401 Marketing and Brand Strategy***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: GMW 129, GMW 302*

*Co-requisite: GMW 402*

A study of packaging brand strategies and defining marketing tactics to support product, packaging, promotion, pricing, and distribution objectives for consumer products. Students will examine current trends and innovations in a variety of markets. Emphasis will be placed on developing integrated brand designs to meet marketing objectives with a focus on package design.

## ***GMW 402 Package Design II***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: GMW 201, GMW 232*

*Co-requisite: GMW 401*

This course focuses on an advanced approach to packaging and brand design for achieving packaging business objectives. Students will examine current trends and innovations in a variety of package designs. Students will design 3D packaging products to represent their brand and various corporate packaging strategies defining specific packaging tactics. Final packaging designs will also be simulated on computer-generated 3D product models.

## ***GMW 411 Project Management***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: GMW 302*

Project management is a growing field used increasingly by businesses of all sizes. As entrepreneurs and company executives deal with the daily responsibilities of managing an organization, it is important to use dedicated project managers to oversee projects from conception to completion. Students will work in teams to develop a comprehensive project plan and address all the key areas in the project management cycle.

**Courses are listed alphabetically by course code.**

### ***GMW 412 Social Media Marketing***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: GMW 302, GMW 401*

This course applies theory and optimization of social media channels and interactive new media platforms. Students will create content and engagement on the most relevant social media channels. With specific clients in focus, students will develop, optimize, and measure social media strategies, tactics, and campaigns to support defined marketing and relationship management objectives. This course will focus particularly on crafting posts, updates, and email newsletters to meet marketing-specific styles of communicating.

### ***GMW 413 Augmented Reality Marketing***

*Prerequisites: GMW 301, GMW 312, GMW 320*

In this course, students will experiment with the latest tools of Augmented Reality (AR) and learn how they may be applied in digital and place-based marketing strategies. Students will have the opportunity to apply industry standard production knowledge and skills previously learned in the GMW program to produce interactive multimedia AR experiences.

### ***GMW 422 Special Topics***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: GMW 321, GMW 410, GMW 411, GMW 412*

*Co-requisites: GMW 423, GMW 424*

This dynamic and adaptive course is reserved to cover various changing or emerging technology trends and technology as they occur.

### ***GMW 423 Content Management Systems II***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: GMW 321, GMW 410, GMW 411, GMW 412*

*Co-requisite: GMW 424*

This course expands on the knowledge gained in GMW 215 Web Content Management with WordPress with a brief review of "child themes" and takes web development to the next level with the design of custom templates using Adobe Photoshop and CSS. Custom templates allow developers to create truly one-of-a-kind website designs while utilizing the flexibility and endless resources of a WordPress content management system. This course will also cover the importance of response functionality to accommodate the need for mobile device delivery.

### ***GMW 424 Senior Portfolio***

*4 Class Hours 2 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: GMW 321, GMW 410, GMW 411, GMW 412*

*Co-requisite: GMW 423*

This course requires students to re-focus their attention back to their design portfolios that were originally created during the final term of their associate degree. The portfolio

presentation will not only showcase their technical and creative skills, but also display their knowledge of social media marketing and public communication. The senior portfolio is the student's opportunity to examine the full scope of their work, and with the assistance of the Career Services Office, properly position them to begin their careers in design.

### ***GMW 480 Cooperative Work Experience***

*15 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: GMW 321, GMW 410, GMW 411, GMW 412, Permission of Department Chair*

*Co-requisites: GMW 423, GMW 424*

Students will gain practical work experience through employment in a local company or organization. Students must submit a written application to a designated faculty member, with approval based on the student's academic achievement, attendance, and demonstrated skill sets as they match the employer's defined job skill requirements.

## **HCM – HEALTHCARE MANAGEMENT**

### ***HCM 312 Introduction to Healthcare Management***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

Students will learn and apply the basic management principles of individual and organizational effectiveness in the United States healthcare management system. Students will explore cost of care, and quality of care measures and how these affect access to care. In addition, students will get an overview of business principles such as: leadership, strategic planning, human resources, healthcare insurance, marketing, information technology, finance, ethics, and fraud as well as emerging topics in health care as it affects all stakeholders: patients, providers, payers and the public.

### ***HCM 411 Healthcare Finance and Budgeting***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

In today's dynamic financial environment, it is critical for management involved in healthcare organizations to understand their role in the financial success of their organization, whether it is for profit or nonprofit. This course focuses on managerial accounting and finance topics that are critical to decision-making in healthcare organizations: capital investment decisions, financing, cost behavior, behavioral economics, marginal and incremental analysis, reimbursement under various third-party payer environments, cost allocation and government program reporting.

# COURSE DESCRIPTIONS

## ***HCM 435 Healthcare Ethics and Leadership***

*4 Class Hours 4 Quarter Credit Hours*

Students will explore current and recurring ethical issues facing professionals in today's healthcare environment. Topics will include areas such as the right to refuse treatment, organ donation, resource allocation and issues related to health care reimbursement, cost containment and managed care. Students will also examine the leadership challenges and ethical considerations of access, quality of care, considerations of aging and dying, the Patient Protection Affordable Care Act (PPACA) and new and emerging issues in healthcare in the United States.

## **HI - HISTORY (SOCIAL SCIENCES CORE)**

### ***HI 201 A History of Video Games and Esports***

*4 Class Hours 4 Quarter Credit Hours*

Do you love video games? Then this is the course for you! Come discover the history of one of the largest entertainment industries in the world. In this fun and interactive course, learn how the games industry got so large, what this esports phenomenon is all about, and why all of this matters to your daily life. What are you waiting for? Join on this wild ride into the games, gaming and what the meaning of digital fun is!

### ***HI 231 Contemporary History***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

This course encourages students to explore economic, political, social and cultural developments throughout the world since World War II, particularly in developing nations including spiritual, scientific and intellectual developments.

### ***HI 235 Architectural History***

*4 Class Hours 4 Quarter Credit Hours*

This course is a study of the major periods and styles of architecture from Egyptian through postmodern. Styles studied will include Egyptian, Greek, Roman, early Christian, Byzantine, Romanesque, Gothic, Renaissance, Baroque, 18th, 19th and 20th century. Through a series of lectures, discussions, and readings, students will gain a fundamental understanding of the history of architecture including the historical and social context of each period respectively.

### ***HI 280 The Holocaust***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

In this course, students will study genocide and mass murder in modern history. The focus of this course is the Jewish Holocaust of 1933-1945. Through film, photographs, and readings, the course will provide students with a basic

understanding of the establishment of the Nazi Party and its attitudes, beliefs, and laws that were put into action during this time period. Students will compare the Holocaust to current genocidal acts in the world today, including the effects of genocide on society.

## **HS - HEALTH SCIENCE**

### ***HS 104 Survey of Human Anatomy***

*4 Class Hours 4 Quarter Credit Hours*

This survey course prepares students to understand basic concept of human anatomy and physiology by providing a basic understanding of how the body functions and adapts. All systems in the human body will be presented, with particular emphasis on those systems most commonly seen in health care.

### ***HS 105 Successful Study Skills for Healthcare Professionals***

*1 Class Hour 2 Lab Hours 2 Quarter Credit Hours*

Studying science is a unique process and this course is designed to help students comprehend, question, prepare, debate, discuss and begin to analyze content specific to the healthcare disciplines. Students will learn to budget time, study smart and effectively, focus on what is important to learn and develop a set of skills to use their best method of learning to maximize success in any course within the program. This dynamic and interactive course will be the building blocks of student success in any of the healthcare professions.

### ***HS 107 Medical Terminology***

*2 Class Hours 2 Quarter Credit Hours*

Students will be exposed to the language of healthcare professionals allowing students the ability to read medical records, understand terminology seen in all healthcare disciplines and speak the language of a healthcare professional.

### ***HS 121 Assessment and Pharmacology***

*3 Class Hour 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: HS 104*

This course will provide basic assessment of a patient, as well as more detailed assessment by system. Additionally, the drug classifications commonly used to treat disorders of those systems will be discussed.

### ***HS 201 Introduction to Medical Ethics and Bioethics***

*3 Class Hours 3 Quarter Credit Hours*

This course is designed for the allied health student who has not been exposed to formal medical ethics or bioethics theory. Purposely broad in nature, it introduces students to important medical ethical issues pertaining to the healthcare professions such as confidentiality, informed consent, euthanasia, abortion, genetic engineering, and organ allocation. A unique aspect of this course is the focus on current bioethical issues in the news. Topic selection will be driven by current issues in bioethics affecting the healthcare provider as well as the public at large.

### ***HS 241 Medical Office Administration***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: HS 104, HS 107*

This course will cover the theory and practice of administrative duties in a medical office. This will include scheduling, registration, insurance verification, and formal business communication. Additionally, protocol of handling of paper documents and telephone technique will be discussed and practiced.

### ***HS 251 Medical Insurance***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: HS 107*

An overview of insurance coverage in the United States is presented. The proper, efficient, and accurate completion of the many types of insurance forms is taught. Blue Shield, Medicare, Medicaid, Workers' Compensation and private insurance are taught and practiced. Correct procedure coding using CPT codes is researched. Diagnosis coding for maximal reimbursement utilizing ICD codes is perfected. Multiple exercises are included to allow students to exercise newly acquired skills.

### ***HS 252 Fundamentals of Pathophysiology***

*4 Class Hours 4 Quarter Credit Hours*

This course will examine common disease states of the human body. Changes of the body common in aging will also be discussed.

### ***HS 254 Introduction to Research in the Health Sciences***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: EN 100, EN 110, HS 105, HS 107, BIO 100 & BIO 120 (or BIO 107 & BIO 127)*

This course will introduce students to research specific to healthcare disciplines; provide students with the skills necessary to use research findings to guide overall practice. An overview will be provided to help students effectively search for scientific studies examining search terms and use of databases for optimizing review of the literature. A review of scientific rigor will be explored. All professionals

engaged in a healthcare discipline must be able to conduct a comprehensive search of the literature to make informed decisions regarding healthcare needs.

### ***HS 261 Medical Office Practice Management***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: HS 251*

This course is designed to familiarize students with computerized managed care of a medical environment and to assist them in developing the confidence and skills necessary to become a successful user of managed care software. It includes an understanding of managed care and how it operates, managed care contracts, a hands-on simulation of office procedures such as making and rescheduling appointments, entering procedure charges, and posting payments from varied sources. Practice exercises will be provided throughout the course to afford students the opportunity to apply learned concepts. Upon completion, students can perform computerized management duties as entry-level practitioners.

### ***HS 262 Electronic Health Records***

*4 Class Hours 2 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: HS 104, HS 107*

This is an introductory course that will give an overview of the electronic medical record (EMR). Some of the topics presented will include terminology, prescription/medication including E-Prescribing, standard naming conventions, discrete data fields, as compared to scanning and patient disease registries. The practical hands-on experience in a computer lab setting will provide activities similar to what will be encountered in the workplace.

### ***HS 263 Externship***

*1 Class Hours 12 Lab Hours 5 Quarter Credit Hours*

*Prerequisite: HS 251*

*Co-requisite: HS 261*

Preparation for the Clinical Experience begins with an in-class overview of the entire experience. Selection of site by students, according to personal interests, is supported and completion of necessary documents and contracts are done in conjunction with the chosen site and the department chair. Students will use the administrative and clinical skills acquired through the program to work as an entry-level professional medical assistant in an urgent care setting, hospital, clinic, laboratory, or physician's office. Students will complete 120 hours at the site and be independently evaluated as well as perform daily self-evaluation.

## HU – HUMANITIES (SOCIAL SCIENCES CORE)

### *HU 208 Rap/Rock and Poetry*

*4 Class Hours 4 Quarter Credit Hours*

*Core Fulfillment: Both Communications Core and Humanities Core*

*Prerequisite: EN 100*

What do Eminem, Tupac, Bob Marley, Bob Dylan and WB Yeats have in common? All five wordsmiths are poets who use rhyme, rhythm, figurative language and poetic structure to craft language. In this course, students will explore poetic devices and important global themes through examination of poetry, written by Nobel Prize and Grammy Award winning writers. Focusing on aspects of poetic form will build students' understanding of and appreciation for the power of language.

### *HU 211 Introduction to Film*

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

The focus of the course will be on what goes into the reading and analysis of a film. Film is comprised of several arts – and the objective of this course is to learn to appreciate films and to see them as important social documents that tell us much about ourselves and our world.

### *HU 212 Documentary Film*

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

This course will expose students to the techniques and artistry of making interesting non-fiction films. Students will view and analyze significant documentary films and become familiar with the work of important filmmakers.

### *HU 215 Popular Culture*

*4 Class Hours 4 Quarter Credit Hours*

This course will analyze cultural expressions of intellectual and social trends since 1950. Students will investigate literature, comics, movies, television, music, advertising, painting, computer games, and the Internet to probe the forces that shape our world. In this course, students will identify and evaluate the popular entertainment we consume and ask how our choices define us and shape our values. Understanding our values and culture enables us to understand why we buy what we buy, why we do what we do, and why we think the way we do.

### *HU 216 Music and the Media*

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

This course will trace the long relationship between visual media and music. Students will study the movie industry

from silent movies to the soundtracks that are an integral part of the movies of today. They will also study the importance of music in television, radio and the recording industry, particularly its role in commercials and the "selling" of products, people and programming. In addition, a substantial portion of the course will be devoted to the technology that has led to today's sophisticated performances and recording techniques.

### *HU 240 Graphic Design in the 20th Century*

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

Throughout history, artists and designers have created visual works that help to define historical eras. In this course, students will examine and analyze the most prominent design styles of the past one hundred years. They will learn the defining features and major proponents of each style as well as how each style fits within its historical context. They will then use the knowledge gained to produce designs that respond to past styles in an engaged, knowledgeable way. Course performance will be evaluated on student effort and growth as opposed to artistic talent.

### *HU 242 The Automobile and American Culture*

*4 Class Hours 4 Quarter Credit Hours*

Undeniably, the automobile has had an enormous impact on American culture. A majority of Americans rely on individual transportation daily, but the car is more than a means of heading to work. Automobiles impact our personal independence, our choice of employment, the country and world economies, the environment, and our social culture. The Automobile and American Culture is a course designed to study the broad impact that the automobile has and continues to have on our nation and the world. Students will examine the automobile through historical documents, films, photographs, and music.

### *HU 244 Science Fiction*

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

Isaac Asimov called science fiction "the literature of change." The course will analyze films, short stories, and a classic science fiction novel to understand the ways this popular genre entertains us and gives us insight into the impact science and technology has had on us.

### *HU 289 Racing Through Film*

*4 Class Hours 4 Quarter Credit Hours*

Racing Through Film is a course dedicated to examining how the sport of motor racing has been explored through film. Through reading, discussion and viewing films we will consider such issues as the history of racing, questions of masculinity and the often countercultural and rebellious nature of racing, with particular interest in the anti-hero figure.

### ***HU 291 Critical Thinking and Chess***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

This course teaches critical thinking and problem-solving skills by using the game of chess as an empirical model for evaluating situations, calculating risks, predicting the consequences of possible actions, solving problems efficiently, and investigating the benefits and limits of reasoning and creative play. Students will demonstrate those skills by solving a wide variety of tactical and strategic problems in chess, by writing a thoughtful analysis of the qualities necessary for a successful thinker/problem solver, and by applying those qualities to situations in one's personal life and career. Chess will be used as a model for critical thinking skills and life skills.

### ***HU 311 The Art of Film***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

This course is a survey of films that have significantly contributed to the development of film as an art and as an industry. Topics of discussion include filmmaking techniques and theories of criticism.

### ***HU 315 Cultural Competence in the Workplace***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

Students of all disciplines must be ready to engage in a globally connected world requiring an understanding of cultural norms, differences, and beliefs which effect the workplace. This course will examine the students' understanding of what culture is and what each citizen of a global world will need to provide knowledge, skills, and an attitude inherent in a culturally responsive manner.

### ***HU 320 Multicultural Voices***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

This course will examine literary works that cross the boundaries of national lines and cultures and reflect the experiences that occur in the diverse United States. How do we learn to understand our own and different cultural identities and practices through interactions with others? What role does the experience of immigrants play in how we decide what is American culture? The purpose of this course is for all of us to gain an understanding and appreciation of culture, cultural values, and perspectives by reading various works, in different genres, written by authors of a variety of racial, ethnic, and national backgrounds.

### ***HU 321 Representations of Gender***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

HU 321 is an advanced course that analyzes portrayals of gender in both written and visual text including literature,

film, and television to find patterns of meaning that illuminate human nature and society. Additionally, it will explore how gender intersects with other social constructs like race, ethnicity, and sexual orientation.

### ***HU 331 Ethics and Technology***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

This course will explore the basic concepts of ethical theories and ethical values and apply these to technologically based dilemmas through case studies. These dilemmas will be considered in terms of their implications both for individuals, and for professionals involved in creating and maintaining technology, and mechanisms will be developed to guide ethical discussions and decision-making.

### ***HU 341 World Religions***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

In this course, students will examine religious practices surrounding life passages (birth, marriage, death), and the food, clothing, sacred calendars, sacred texts, and ethics of several major world religions.

### ***HU 350 Literature and Health***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100 or its equivalent*

Through the study of fiction and poetry, students broaden their understanding of two important perspectives in healthcare – that of patient and caregiver. With the ultimate goal of engendering empathy for both parties, this course requires students to read a variety of literary texts that address the social, cultural, psychological, familial, institutional, and professional dimensions of healthcare. Course requirements include close reading, lively class discussion, short oral presentations, original research, and thoughtful writing.

### ***HU 352 History of Rock and Roll***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

This course will trace the various musical forms and technological advances that have led to the American popular music of today. Particular emphasis will be given to blues and jazz and their influence on early rock and roll. In addition, a substantial portion of the course will be devoted to the technology that has led to today's sophisticated performance and recording techniques. Students will also experience some hands-on musical activities with instruments such as the guitar and keyboard that are vital components of today's music.

## ***HU 432 History of Western Art***

*4 Class Hours 4 Quarter Credit Hours*

This course offers students the opportunity to explore the visual arts throughout Western history. Students will develop knowledge of artists and artistic development and increase their ability to critically appreciate a wide range of art across media, styles, and time periods. The course will emphasize painting, and will additionally examine sculpture, architecture and photography, as time permits.

## ***HU 433 Encountering 20th Century Art***

*4 Class Hours 4 Quarter Credit Hours*

Students will examine art produced in the 20th Century by exploring a variety of factors including: the differences in this art from what had come before; the role of the machine and technology in subject matter, technique and production; the major social movements and political events of the 20th Century and how they were represented in art; and the major movements in art in this century. Important works by major artists of this period will be studied, so that students can recognize these and similar works, and appreciate their place in popular culture. Students will learn to be comfortable with art and be able to “read” art for their own enjoyment. They will come to appreciate the notion that art, in the final analysis, is a creative expression of their world, their lives, what they see and feel and experience every day.

## ***HU 441 World Literature***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

As a result of globalization, we are interacting more often with people from other cultures. This course uses fiction, poetry, and drama from around the world to learn about other cultures.

## **ID – INTERIOR DESIGN**

### ***ID 114 Introduction to Interior Design***

*1 Class Hour 2 Lab Hours 2 Quarter Credit Hours*

This course is an introduction to the theory and design vocabulary used in Interior Design as well as an introduction to the profession of Interior Design. The course will afford students the opportunity to familiarize themselves with the design process and the concept of Universal Design. Using in-class assignments and multiple vignettes, students will analyze existing spaces, develop design solutions, and present their solutions both verbally and graphically.

### ***ID 124 Interior Methods, Materials, & Structures***

*3 Class Hours 3 Quarter Hours*

This course is an introduction to building systems, both structural and nonstructural, and construction materials

relevant to the interior design profession. The emphasis will be on residential and light commercial construction. Topics covered will include wall, ceiling, floor, and stair design and construction. Included is an overview of HVAC (heating, ventilation, and air conditioning), and electrical systems and their impact on interior layouts. There is also an introduction to the building codes applicable to the interior built environment.

### ***ID 132 Interior Design Studio I – Residential***

*2 Class Hours 6 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: ABT 111, ABT 114, ABT 122, ABT 126, ID 114, ID 124, ID 134*

In this course, students will explore and apply interior design theory and techniques by solving an assigned interior design problem from programmatic format through design development. Problem emphasis will be on residential interiors. Topics will include theory of design, program resolution, concept formulation, selection of finishes, lighting, existing conditions, project documentation, investigation of existing conditions, building codes, and the role of the client. Students will make a graphic and verbal presentation representing their solution to a jury of critics at the end of the term.

### ***ID 134 Color and Composition***

*3 Class Hours 3 Quarter Credit Hours*

This course will introduce students to the theory and technical properties of color relative to composition and light. Through assigned vignettes and projects, students will explore the functions of color and its use to create desired human response and comfort, perceptions, form and space.

### ***ID 135 Introduction to Lighting & Acoustics***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisite: ID 124*

In this course, students study the fundamental principles and terminology of acoustics and illumination relative to interior spaces and human comfort. Topics will include acoustical transmission and control, acoustical properties of materials, natural and artificial illumination, and the interrelationships between acoustics, lighting, and human comfort.

### ***ID 138 3D Modeling & Post Production***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: ABT 114*

This course introduces students to the theory and technique of three-dimensional (3D) modeling utilizing appropriate software. Topics include 3D modeling; rendering techniques; importing three dimensional designs, the use of camera light sources, texture, and 3D library objects.

**Courses are listed alphabetically by course code.**

***ID 212 Programming***

*2 Class Hours 2 Quarter Credit Hours*

*Prerequisite: ABT 111*

This course introduces students to the concepts and theory of building programming. Topics will include client objectives, collection, organization, and analysis of facts, evaluation of alternative concepts, determination of space requirements, and the final problem statement.

***ID 213 Kitchen & Bath Design Studio***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: ABT 112, ABT 114, ID 114, ID 124*

This course introduces students to Kitchen and Bath Design in the residential sector. Content includes ergonomic, anthropometric, universal design, behavioral considerations that affect the planning of kitchen and bath spaces, common layouts, manufactures, door styles, countertop materials, universal design, and NKBA guidelines. Students are introduced to kitchen and bath programming and the skills necessary to graphically represent their ideas through conceptual drawings.

***ID 225 History of Interior Design I***

*3 Class Hours 3 Quarter Credit Hours*

This course is a survey of the history of interior design from ancient Egypt to the end of the 19th century. Topics will include interior design styles and furniture and furnishings of each major era. The focus of study will be on the major styles of interior design and furniture, understanding the social climate that formed them, and the relationship to present-day context.

***ID 226 Finishes & Materials I***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisite: ABT 114*

This course is an introduction to finishes and materials typically specified for the residential interiors. Topics include wall and floor finish materials, paint and coatings, acoustic treatments, fibers and textiles, and criteria used for their selection.

***ID 228 Interior Design Studio II – Retail***

*2 Class Hours 6 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: ABT 218, ABT 236, ID 132, ID 135, ID 138, ID 212, ID 226*

In this course, students will explore and apply interior design theory and techniques by solving an assigned interior design problem from programmatic format through design development. Problem emphasis will be on commercial interiors in the retail sector. Topics will include theory of design, program resolution, concept formulation, selection of finishes, lighting, fixture selection, existing conditions, sales psychology, project documentation, investigation of existing conditions, building codes, and client programming and image. Students will make a graphic and verbal presentation representing their solution to a jury of critics at the end of the term.

***ID 232 Professional Practice for Interior Designers***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisite: ID 114*

This course provides students with an overview of the general practice of interior design. Topics will include office organization, project coordination, legal requirements, contractual agreements, consultants, and fee structures. Discussions pertaining to professional development, personal goals, and career options are also included.

***ID 235 Interior Design Studio III – Office***

*2 Class Hours 6 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: ID 132, ID 212*

In this course, students will explore and apply interior design theory and techniques by solving an assigned interior design problem from programmatic format through design development. Problem emphasis will be on commercial interiors in the office sector. Topics will include theory of design, program resolution, concept formulation, psychology of the business environment, selection of finishes, lighting, fixture selection, existing conditions, project documentation, investigation of existing conditions, building codes, and client programming and image. Students will make a graphic and verbal presentation representing their solution to a jury of critics at the end of the term.

***ID 237 Portfolio***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: ID 228*

In this course, students will develop a portfolio of their freshman and sophomore studio work. Quality shall be suitable to the interview process. Along with weekly development critiques from the instructor, students will study graphic techniques used in the preparation of a professional portfolio.

***ID 238 Building Code Applications***

*1 Class Hour 2 Lab Hours 2 Quarter Credit Hours*

*Prerequisite: ABT 236*

This course will expand upon the subject of building codes relative to the practice of interior design and the application of codes to the design process. Specific topics will include accessibility regulations, means of egress, occupancy classifications and calculations, fire ratings of materials, plumbing fixture calculation, and finish and material regulations. Students will problem-solve actual building designs and troubleshoot existing plans using their acquired knowledge of building codes.

***ID 313 Finishes & Materials II***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisite: ID 226*

This course is an introduction to finishes and materials typically specified for the commercial interiors. Topics include wall and floor finish materials, paints and coatings, acoustic treatments, fibers and textiles. Particular attention will be given to codes relating to finish materials, the criteria for selecting different materials, typical installation methods and professional specification of materials.



## ***ID 314 History of Interior Design II***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisite: ID 225*

This course is a continuation of ID 225 History of Interior Design I, covering the end of the 19th century through present day. Topics will include the interior design styles, furniture and furnishings of each style period including present and future trends. Students will be introduced in detail to the "modern period" of furniture design including examining systems furniture in the office environment and other specialized systems.

## ***ID 315 Interior Construction Documents***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

In this course, students will be introduced to the process of preparing construction documents for interiors projects. The focus will be on the application of analytical methods and technical concepts developed throughout the curriculum. Topics covered will include building systems, building materials, finishes and working drawings.

## ***ID 320 Interior Design Studio IV – Space Planning***

*2 Class Hours 6 Lab Hours 5 Quarter Credit Hours*

Students will develop a fluent approach to allocating space through a series of design problems. Strategies based on existing conditions, geometric organization, circulation and furnishing patterns, code requirements, adjacency requirements, public vs. private space, and enclosed vs. open design will be explored.

## ***ID 322 Textiles***

*3 Class Hours 3 Quarter Credit Hours*

This course examines the science of textiles and their applications in the built environment. Topics will include textile engineering, coloring, printing, finishes, and properties of both man-made and natural fabrics. Additional topics will include quality, costs, performance, and regulatory compliance.

## ***ID 324 Advanced Lighting***

*3 Class Hours 3 Quarter Credit Hours*

Emphasis will be on lighting design, selection of interior lighting systems, and computerized software programs applicable to lighting design. Students will apply theories and techniques by executing solutions for assigned problems.

## ***ID 330 Interior Design Studio V – Hospitality***

*2 Class Hours 6 Lab Hours 5 Quarter Credit Hours*

*Prerequisite: ID 320*

In this course, students will explore and apply interior design theory and techniques by solving an assigned interior design problem from programmatic format through design development. Problem emphasis will be on the hospitality sector. Topics will include theory of design, program resolution, concept formulation, psychology of the hotel and

restaurant environments, selection of finishes, lighting, fixture selection, project documentation, investigation of existing conditions, building codes, and client programming and image. Students will make a graphic and verbal presentation representing their solution to a jury of critics at the end of the term.

## ***ID 331 Furniture, Fixtures, & Equipment***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisite: ID 315*

The course develops the student's knowledge of the categories of furniture including ready-made, custom-designed, and built-in. Furniture types including seating, tables, workstations, storage, beds and systems furniture, selection criteria, materials, construction methods and standards will be discussed.

## ***ID 410 Interior Design Studio VI – Institutional***

*2 Class Hours 6 Lab Hours 5 Quarter Credit Hours*

*Prerequisite: ID 320*

In this course, students will explore and apply interior design theory and techniques by solving an assigned interior design problem from programmatic format through design development. Problem emphasis will be on institutional sector. Topics will include theory of design, program resolution, concept formulation, psychology of the environment, selection of finishes, lighting, fixture selection, project documentation, investigation of existing conditions, building codes, and client programming. Students will make a graphic and verbal presentation representing their solution to a jury of critics at the end of the term.

## ***ID 420 Project Estimating & Scheduling***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: ID 315*

In this course, students study the estimating procedures and principles used to determine detailed cost estimates in the construction bidding process. The emphasis will be on residential and light commercial construction. Topics covered will include the organization, classification, and quantity surveys of materials and labor costs, subcontracted work, overhead and profit, and project scheduling.

## ***ID 421 Portfolio Review***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: ID 320, ID 330, ID 410*

In this course, students will develop a professional portfolio of their junior and senior level work. Quality shall be suitable to the interview process. Along with weekly development critiques from the instructor, students will make a final presentation at the end of the term to a review committee of faculty members.

**Courses are listed alphabetically by course code.**

### ***ID 430 Interior Design Studio VII – Senior Thesis***

*2 Class Hours 6 Lab Hours 5 Quarter Credit Hours*

*Prerequisite: ABT 427*

This is a direct studies course in which students must demonstrate to the department faculty, their understanding of and ability to utilize and synthesis the technical and design concepts they have developed throughout their college experience. Prior to *the* commencement of the term, students will submit, in proposal format through ABT 427 a project for review and approval by the faculty. Students will work independently with weekly interaction with a faculty advisor. The term will culminate with a formal presentation to a jury of faculty and critics.

### ***ID 431 Professional Issues in Interior Design***

*3 Class Hours 3 Quarter Credit Hours*

A survey course of current topics in the interior design profession.

## **IT – INFORMATION TECHNOLOGY**

### ***IT 111 Introduction to Information Technology***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

The basic concepts of computer hardware and systems are presented as tools used to provide services and solve problems in businesses. Additionally, students will be exposed to various operating systems that are popular in business and will learn to use office suite applications; word processing, spreadsheet, and presentation.

### ***IT 121 IT Visual Communications***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

Visual communication is often more effective than written or spoken communication. Like other forms of communicating, visual communication has its own set of rules, slang and conventions. The goal of this course is to teach students about the fundamentals of effectively organizing and communicating ideas through graphics. Among the topics addressed in this course are the logical organization of information, presentation skills, with the use of industry standard desktop publishing and digital imaging applications.

### ***IT 260 Internship***

*15 Field Hours 3 Quarter Credit Hours*

*Prerequisite: completion of NE 245 or NE 247 or SE 245 or SE 251 with a grade of B or higher*

Students will gain practical experience through work experience at a local company within an Information Technology department or industry. Students will use the knowledge through previous coursework in their program to work in an entry-level position within a programming or networking environment.

### ***IT 374 IT Project Management***

*3 Class Hours 3 Quarter Credit Hours*

Students will learn what is involved in becoming a successful project manager. The course covers the foundations of IT project management: project integration, scope, time, cost, quality, human resources, communications, risk and procurement and will include case studies of multiple projects, both successful and failed.

### ***IT 378 Database Management***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: SE 133*

Students will learn to administer a major DBMS such as Oracle or SQL Server. At the end of the course, students will be able to assume the role of a DBA in performing tasks such as installation of the DBMS, user management, backing up and restoring databases, replication, maintaining high availability, performance monitoring, automating administrative tasks and database security.

### ***IT 379 Cloud Foundations***

*4 Class Hours 4 Quarter Credit Hours*

This course gives students an overall understanding of cloud computing concepts, independent of specific technical roles. It provides a detailed overview of cloud concepts, AWS core services, security, architecture, and support. Students are introduced to database administration for relational, NoSQL and cloud systems. Successful completion of this course prepares the student to sit for the AWS Cloud Foundations Certification Exam.

### ***IT 415 Cooperative Learning I***

*18 Field Hours 6 Quarter Credit Hours*

*Prerequisite: Requires Department Chair Approval*

Students will use the knowledge gained through previous coursework in their program with mostly paid, planned and supervised work experiences in the public or private sector. The course allows students to enhance the practical skills necessary for success by being exposed to the reality of the world of work beyond the boundaries of the campus, enhancing their self-confidence and career direction.

### ***IT 425 Cooperative Learning II***

*21 Field Hours 7 Quarter Credit Hours*

*Prerequisites: Requires Department Chair approval and IT 415*

This course allows students to continue and expand on the experiences started in the IT 415 course. Here, hopefully in the same public or private sector organization, students increase the scope and depth of their real-world technical experiences.

## ***IT 502 Data Warehousing and Data Analytics***

*4 Class Hours 4 Quarter Credit Hours*

*Pre/Co-requisite: MGM 533*

This course will build upon the student's database knowledge by examining data warehousing and data mining techniques. This course will examine database architecture and implementation necessary to enable corporations to maximize their investment within their business intelligence departments. Students will compare and contrast product offerings from major vendors as well as analyze case studies of organizations using these technologies to drive their business. Students will also gain experience with the latest tools and techniques through a series of hands-on exercises.

## ***IT 512 Network Infrastructure and Design***

*4 Class Hours 4 Quarter Credit Hours*

*Co-requisite: MGM 533*

The course will enhance and build upon the student's knowledge of networking. By examining the network infrastructure from the perspective of the customer's needs and goals, students will learn the practical aspects of network design. Students will learn how to characterize, classify and interpret existing networks and traffic, and how those characteristics are impacted by logical network design and physical network design. Students will discover the appropriate methodologies and acumen for examining the technologies and devices needed for a campus network and an enterprise network.

## ***IT 522 Software Architecture and User Interface Design***

*4 Class Hours 4 Quarter Credit Hours*

*Pre/Co-requisite: MGM 533*

This course reviews some of the most successful strategies for building a software system, including data-flow, data-centered, hierarchical, component-based and distributed architectures. Students will gain a thorough understanding of software components, connectors and configurations and learn how to apply user interface design principles for developing systems that are intuitive and meet the client's requirements.

## ***IT 524 Information Systems Security***

*4 Class Hours 4 Quarter Credit Hours*

*Pre/Co-requisite: MGM 533*

Students in this course will get a high-level overview of the information security topics for which today's corporations need competencies. Essential security topics in this course cover network fundamentals and applications, standards, privilege management, environmental security issues, defense in depth, risk management, vulnerability assessments, business continuity planning, security policies, incident handling, web application security, and advanced persistent threats.

## ***IT 544 Cloud Computing***

*4 Class Hours 4 Quarter Credit Hours*

*Pre/Co-requisite: MGM 533*

This course provides students with a detailed exploration of the cloud-computing paradigm. After studying cloud architecture, students will study the strategic, risk and financial impact of utilizing this platform. Pertinent topics also include design, implementation and security aspects of applications stored in the cloud. The course will cover the entire spectrum of moving applications into the cloud.

## ***IT 546 IT Professional Ethics***

*4 Class Hours 4 Quarter Credit Hours*

*Pre/Co-requisite: MGM 533*

As future managers and leaders in the information technology field, students will be confronted by many challenging ethical decisions where the correct decision is not clear or may not even exist. This course aims to increase the student's awareness of the implications of the digitization of data, information, and communications on organizations and society and provide a strong foundation in professional ethics. Topics include but are not limited to globalization, outsourcing and ethical issues such as information privacy, accessibility, property, disclosure and accuracy. Students will be given case studies and ethical scenarios where the decision-making process is as important as the final decision students reach.

## ***IT 556 Master's Project***

*5 Class Hours 5 Quarter Credit Hours*

This course is graded as pass/fail. Information Technology and Cybersecurity Defense students must choose one of the following two options:

Option 1: The capstone project requires IT and CD students to demonstrate their competence in the skills and knowledge associated with their degree program. It is designed to show the in-depth learning and higher-order thinking of students. With this option, students must choose a project in the field of information technology or cybersecurity and then plan, organize, implement, and work towards the completion of the project in a controlled manner, to meet the goals and objectives of their project. The capstone project is carried out by an individual student and may be derived from the student's workplace where the student can exploit the workplace experience to benefit both the student and the student's place of employment. Before beginning work, each capstone project must first be approved by an Information Technology Faculty Advisor. At the end of the project, the student will prepare a Final Project Report and defend this work product before the Faculty Advisor and a panel of other assigned faculty members.

Option 2: The master's thesis requires students to carry out an investigation of technology or methodology in which the student has a strong interest. The topic of this investigation or research should be an extension or continuation of the topics covered in the MSIT or MSCD curriculum. The topic must first be approved by an Information Technology Faculty Advisor. The thesis option requires a presentation of the paper to the Faculty Advisor and a panel of assigned faculty members.

***Courses are listed alphabetically by course code.***

**JP – JAPANESE (ARTS/FOREIGN LANGUAGE CORE)**

***JP 201 Introduction to Japanese***

*4 Class Hours 4 Quarter Credit Hours*

Students will be introduced to the basics of Japanese, (speaking, listening, reading, and writing) with an emphasis on comprehension and speaking. Vocabulary used in everyday communication in the workplace, school, and common social situations will be covered. Contemporary Japanese society will be addressed in class discussions and video presentations including, but not limited to art, education, film (in particular, animé), food, literature, music, sports, and technology. Japanese technological invention and know-how, as well as the unique challenges of doing business with the Japanese will be studied. Japanese guest speakers will be invited to share their expertise and experiences.

**MA – MATHEMATICS (MATH/SCIENCE CORE)**

***MA 100 Introduction to College Math with Lab***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: Placement exam*

Topics to be covered in this lab-based introductory algebra course include operations with signed numbers, rules for exponents, polynomial operations, solutions to linear equations in one variable, and several applications important to various programs.

***MA 105 Basic College Math with Lab***

*4 Class Hours 2 Lab Hours 5 Quarter Credit Hours*

*Prerequisite: Placement exam*

Topics to be covered in this lab-based introductory algebra course include operations with signed numbers, rules for exponents, polynomial operations, solutions to linear equations in one variable, and several applications important to various programs.

***MA 106 Computations and Applications***

*4 Class Hours 2 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: AUT 114, TT 106*

This course in basic mathematics covers the math skills necessary for automotive technicians. Topics include decimals, fractions, ratios, percentages, unit conversion, basic geometry and basic algebra. In the lab, students will apply these concepts to practical automotive applications.

***MA 109 Math for Life Science***

*4 Class Hours 4 Quarter Credit Hours*

This course is designed to assist in the understanding of the proper techniques needed to perform accurate dosage calculations; vital signs in order to ensure patient safety. This course will focus on developing the mathematical skills, critical thinking and quantitative reasoning methods needed to apply medical language and systems of measurement to solve problems in a variety of healthcare settings.

***MA 110 Introduction to College Math***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: Placement exam*

Topics to be covered in this introductory algebra course include operations with signed numbers, rules for exponents, polynomial operations, solutions to linear equations in one variable, and several applications important to various programs.

***MA 121 Business Math***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: MA 100/110 or MA 105 or MA 106 or MA 109*

This is an elementary applied course studying such business topics as interest rates, discounts, payrolls, markups, depreciation, insurance, mortgages, and basic statistics.

***MA 125 Technical Math I***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: MA 105 or MA 100/110*

Topics to be studied include the analytic geometry of a straight line, systems of linear equations, trigonometry, vectors and their applications, and quadratic equations.

***MA 200 Applied Math for Business***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: MA 105 or MA 100/110*

MA 200 is designed to help with the transition from basic algebra to more advanced business-related courses, such as statistics and finance. Applications will be stressed throughout the course. Specific topics include linear functions, quadratic functions, descriptive statistics, exponential functions, and annuities.

***MA 210 Technical Math II***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: MA 125*

The following four major topics and their applications will be studied: Cramer's Rule, exponential and logarithmic functions, trigonometry, and complex numbers.

## **MA 300 Statistics**

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: MA 125 or MA 200 or MA 301*

This introductory course stresses the use of statistics as a management tool for decision-making. The focus is on descriptive statistics, communicating statistical data, concepts of probability distribution, estimation, and hypothesis testing.

## **MA 301 Math for Management Studies**

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: MA 100/110 or MA 105 or above*

MA 301 is designed to transition students from basic algebra to more advanced business applications. Specific topics include percent increase and decrease problems; linear and quadratic functions with cost, revenue, profit, supply and demand function applications; descriptive statistics; exponential and logarithmic functions with exponential growth and decay applications; compound interest and annuities. There are video examples of how to do some problems in Excel as an introduction to that program.

## **MA 310 Calculus I**

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: MA 210*

Limits will be introduced, and the derivatives and integrals of algebraic functions will be studied at length. Applications include rectilinear motion, curve sketching, maxima and minima problems, related rates, and area under a curve.

## **MA 315 Math for Game Developers**

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: MA 210*

Students will study the essential math necessary to become a successful game developer. Topics include vectors, matrices, transformations, collision detection, random numbers, rendering techniques and optimizations.

## **MA 320 Calculus II**

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: MA 310*

This continuation of Calculus I begins with derivatives of transcendental functions and proceeds with their integration. Additional topics include integration by parts, partial fractions, and numerical methods. Applications of the integral to area, volume, motion, and work will be stressed.

## **MCT - MECHANICAL ENGINEERING TECHNOLOGY**

### **MCT 113 Design Principles**

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

Students are introduced to methods and procedures for design and product development. Basic principles and approaches to design are covered with emphasis on methods of concept generation, prototyping and testing, reverse engineering, and other different approaches used in product development. A design project is introduced that is carried through the curriculum and will be completed in a Term VI design project.

### **MCT 115 Computer-Aided Design I**

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

An introduction to computer design that utilizes a three-dimensional solid modeling software package that allows students to immediately create "solid" objects in virtual reality. Emphasis will be placed on design intent. Topics include 3D features, revolve, sweep, and lofted features, shell and coil features, orthographic drawing production, and assembly drawing.

### **MCT 124 Computer-Aided Design II**

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MCT 115*

This course is a continuation of MCT 115 Computer-Aided Design I with an emphasis on the basic principles of mechanical drawing. Drafting topics include orthographic projection, basic dimensioning and tolerancing, sections, threads, 2D design layout, single auxiliary views, and assemblies. The essentials of 2D CAD will be covered along with additional 3D modeling topics.

### **MCT 125 Manufacturing Processes**

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MCT 212*

This course introduces the fundamentals of machine technology, with step-by-step analysis of how to turn materials into products. Topics include the traditional methods of material removal (machining operations and machine tools), material deformation (cutting, bending, forming, and rolling), sheet metalworking (stamping), joining (welding and fastening), casting, molding, forging, and conditioning.

### **MCT 130 Engineering Materials**

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MA 125*

Material properties will be discussed as they apply to product design, manufacturing process design and control. Theories will be discussed in class and reinforced through lab problems.

### ***MCT 134 Computer-Aided Design III***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MCT 124*

This course is a continuation of MCT 115 Computer-Aided Design I and MCT 124 Computer-Aided Design II with emphasis on design layout and intent utilizing a three-dimensional solid modeling software package. Projects will include advanced assemblies. Students will be provided a deeper understanding about presenting a design with presentation mode and animation.

### ***MCT 212 Metrology***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

The science of measurement in the manufacturing environment will be studied with emphasis on measurement methods, precision, and accuracy, tolerance control, standards, and inspection techniques. Economics and its relationship to measurement are covered. Both manual measurement techniques and automated techniques will be taught.

### ***MCT 215 Statics***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MA 125*

The principles of statics as applied to design. The purpose of the course is to provide a clear and thorough presentation of the theory and application of mechanics. Topics include vector algebra, Newton's Laws of Motion, equilibrium of forces and moments, friction, centroids and moments of inertia. Laboratory assignments will support all the key topics.

### ***MCT 221 AutoCAD Essentials***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MA 125*

This course provides a comprehensive introduction to mechanical drafting and two-dimensional drawing tools using AutoCAD software. The basic AutoCAD drawing and editing commands are covered including orthographic projection, view creation, dimensioning, hatching techniques, blocks, layouts and plotting, tolerances, and annotations.

### ***MCT 224 Mechanics of Materials***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: MCT 215, MA 125*

This course provides coverage of important topics in strength of material with an emphasis on application, problem-solving, and design of structural members, mechanical devices, and systems. Study of the principles of the strength of materials is based on an understanding of the relationship between stress and strain associated with the application of compression, tension, torsional, shear, and bending forces. Laboratory exercises will support these concepts.

### ***MCT 235 Industrial Robotic Automation***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MA 210*

This course covers the utilization of robotics and automated controls and assembly processes in the manufacturing environment. Levels of automation, flexible and hard automation, open and closed loop control, adaptive control, and material handling will also be discussed. The students will complete the course by taking the FANUC Robotics Certification Exam.

### ***MCT 237 Design Project***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: ENG 118, MCT 113, MCT 125, MCT 130, MCT 134, MCT 212, MCT 224*

Students produce a design utilizing the knowledge gained from the principles covered in the design-related courses. Preparation for this course starts with MCT 113 Design Principles and is reinforced in subsequent courses. Students are required to submit electronic and paper documentation of their design and give a presentation explaining their approach to the design process.

### ***MCT 239 Quality***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Co-/Prerequisite: MA 125*

This course includes the organization, methodology and responsibility of quality assurance programs in manufacturing industries. Topics included are statistical analysis, control charts, process capability, cost of quality and other quality related topics.

### ***MCT 240 Manufacturing Planning***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: MA 210*

This course studies the concepts and techniques used to improve manufacturing performance in order to gain a competitive advantage. Topics include production planning, capacity planning, production control, master production scheduling, and forecasting.

### ***MCT 241 Machining Fundamentals & CNC***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: MCT 125*

This course will cover the theory and application of manual machining practices as well as an introduction to CNC machining. Topics include material preparation, setup, fixture design, layout, manual milling and lathe operations, blueprint reading, semi-precision measurements, feeds and speeds, and CNC machining and programming.

### ***MCT 300 Applications of Kinematics***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MCT 237 or WEL 259*

Application of kinematics introduces mechanisms and machines with both analytical and graphical techniques. Topics include displacement analysis of linkages, cam design, gear and gear trains, belts and chain drives.

## ***MCT 310 Programmable Automation Controller Essentials***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

This course is an introduction to the programmable automation controller (PAC) and automation systems. The history of the PLC and PAC will be discussed as well as how and where the PAC is used in the manufacturing industry and elsewhere today. Using the Allen-Bradley CompactLogix PAC and RS Logix 5000 software, students learn the tag-based structure common in today's PACs, ladder logic fundamentals and programming techniques using series and parallel elements. Relay instructions, timers, counters, comparisons, and subroutines are introduced. Creating and writing programs for the Allen-Bradley CompactLogix programmable logic controller constitutes the major portion of the lab. Students then download their programs into the CompactLogix training unit, debug the programs, and verify the correct operation. Students will also be shown the practical wiring and installation of PACs.

## ***MCT 314 Mechatronics***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

Mechatronics integrates mechanical, electrical/electronic, and computer/programming systems in the design of products. This course will allow students to apply mechatronics principles to the design, build, and testing of electromechanical systems, and demonstrate new products and devices.

## ***MCT 317 CAD/CAM in Design and Manufacturing***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MCT 134*

Utilization of computer-aided manufacturing software with 3D solids modeling design capabilities to produce parts on computerized numerical control machines is presented. Topics include computerized generation of rapid prototypes and principles of reverse engineering.

## ***MCT 322 Fluid Power***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

This course covers the theory and practical use of fluid power and pneumatics. Topics include circuit diagrams, valves, cylinders, actuators, pumps, system losses, fluid logic and standards.

## ***MCT 324 Design for Manufacture and Assembly***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

The principles of effective design for manufacture and assembly is applied to product design leading to simplified designs, reduced part counts, reduced assembly operations, and overall cost reductions without sacrificing quality. Topics include design for manual and automated assembly and design for assembly and handling by industrial robots.

## ***MCT 336 Dynamics***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MA 310*

Dynamic forces, balancing, and the synthesis of mechanisms and motion will be discussed. This course provides an understanding of the theory and application of engineering mechanics. Topics will include kinematics of a particle, force and acceleration, work and energy, impulse and momentum, and rigid bodies. Theories will be discussed in class and reinforced through lab sessions.

## ***MCT 416 Operations Management***

*4 Class Hours 4 Quarter Credit Hours*

A management course specifically tailored for mechanical engineers that includes the principles of project management (CPM PERT, Gantt Charts), traditional management principles, total quality management (TQM), and materials management (Independent Demand vs. Dependent Demand).

## ***MCT 418 Advanced Computer Applications***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

An overview of computer applications and management information systems that are used in mechanical engineering is presented. Laboratory assignments emphasize mechanical engineering design applications.

## ***MCT 422 Manufacturing Processes II***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

Advanced manufacturing process technology, management technology, and material technology will be discussed. Topics covered will be metal casting, powder metallurgy, bulk deformation processes, advance chip removal processes, nontraditional machining and thermal cutting processes, and processing of integrated circuits.

## ***MCT 424 Design with Plastics***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MCT 422*

This course studies the design of plastic components. Properties of different resins are covered along with the unique characteristics of plastic as a design material. Design considerations relative to the different types of plastic processes are also covered along with tooling considerations and cost analysis. Design of products made of composite material is included.

## ***MCT 431 Machine Design***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

Emphasis in this course is placed on machine design utilizing stress analysis, failure modes, and the integration of machine components to develop manufacturing processes appropriate to the raw material and the final product.

***Courses are listed alphabetically by course code.***

### ***MCT 433 Thermal Energy Analysis***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: MA 310, CHM 300*

This course presents applications of conservation of energy to thermodynamics and heat transfer. Topics include properties of materials and fluid properties, analysis of internal combustion engines, power generation and refrigeration systems, and heat exchangers.

## **MGE – ESPORTS MANAGEMENT**

### ***MGE 101 Introduction to Esports Management***

*4 Class Hours 4 Quarter Credit Hours*

Students explore the esports industry, from its early development through today and trends as the industry matures. In addition, students learn about careers in the field, and the role of managers in esports and affiliated industries.

### ***MGE 121 Esports Competition Lab***

*1 Class Hours 2 Lab Hours 1 Quarter Credit Hour*

Students will explore diverse genres of online games, focusing on competitive multiplayer gaming. They will practice competitive play against peers in the gaming lab.

## **MGM – BUSINESS MANAGEMENT**

### ***MGM 103 Computer Skills – Word and PowerPoint***

*2 Lab Hours 1 Quarter Credit Hour*

Students will practice fundamental computer skills, with an emphasis on word processing and presentation software in Microsoft Office. File management techniques including the use of OneDrive are stressed. Students also learn to zip files and create PDFs.

### ***MGM 104 Computer Skills – Word and Excel***

*2 Lab Hours 1 Quarter Credit Hour*

Students will practice fundamental computer skills, with an emphasis on word processing and spreadsheets in Microsoft Office. File management techniques including the use of OneDrive are stressed. Students also learn to zip files and create PDFs.

### ***MGM 105 Effective Teams and Projects***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

Students learn the characteristics of highly effective teams and the value of team diversity. In addition, students learn and practice workplace professionalism, the concept of team collaboration, and apply project and time management.

### ***MGM 108 Introduction to Business***

*4 Class Hours 4 Quarter Credit Hours*

This course provides an understanding of the functional areas of business and their related business processes and cycles, as well as careers in the functional areas. Students will complete a business simulation that will enable them to put into practice their understanding of accounting, management, and marketing.

### ***MGM 111 Workplace Technology***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

This course introduces Windows-based applications including Word, PowerPoint, and Excel. File management to include cloud storage and collaboration is introduced and emphasized throughout the course. Basic computer concepts such as purchasing a computer and keeping safe in the cyber world are presented. Students research topics that will be presented collaboratively in class.

### ***MGM 130 Accounting Fundamentals***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

The accounting cycle, debits and credits, journals, and ledgers for a service business are introduced. Accounting for general office records and the preparation of financial statements are also covered. In addition, students are exposed to computerized accounting which reinforces the accounting cycle and accounting theory.

### ***MGM 133 Principles of Management***

*4 Class Hours 4 Quarter Credit Hours*

This course will introduce students to the various functions, processes, and activities of management and help them apply these underlying theories to effectively manage people and organizations in a diverse, interconnected world. Students will examine historical, current, and future issues in management.

### ***MGM 134 Business Communication***

*3 Class Hour 2 Lab Hours 4 Quarter Credit Hours*

Written and oral communications are emphasized in this course. A review of grammar and sentence structure fundamentals is given. Students compose business correspondence to include various types of letters and memos. Methods of effective speech are presented and practiced. Students research a topic and present their findings in both an APA-formatted report and a PowerPoint presentation. Skills in Word and PowerPoint continue to be developed.



## ***MGM 135 Business Analysis with Spreadsheets***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

Students learn and practice Excel spreadsheets and commonly used functions in businesses and organizations. Coursework focuses on Excel as a tool for business analysis. Students learn and practice using Excel spreadsheets, creating accurate formulas and using common functions to manage business data effectively. Students develop skill in analyzing existing worksheets to correct errors and improve formatting. In group projects, students apply best practices for developing logical, well-formatted worksheets to solve business problems.

## ***MGM 158 International Business***

*4 Class Hours 4 Quarter Credit Hours*

This course introduces global business, cross-cultural communications, and international marketing. Students will consider how cross-cultural attitudes and cultural competence impact on management. Students will be able to effectively communicate in international business situations.

## ***MGM 210 Marketing Communications***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

Communicating what an organization can offer to its customers is vital to its success. Students will learn the role of promotion within the larger world of marketing, and how to identify and communicate effectively with the target market for a particular product. Students will analyze existing marketing messages and create persuasive content for new marketing messages to be communicated via different types of media. Students will develop skills in desktop software and cloud-based applications to create persuasive promotions.

## ***MGM 230 Planning Your Financial Future***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

Students will learn how to prepare for their successful financial future. Topics covered will include identifying financial goals, budgeting, cash and credit management, purchasing and owning a house, effective insurance buying, an introduction to investments, and retirement planning.

## ***MGM 232 Database Fundamentals***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

The use of database software in a business is explored. Students create and modify several databases. Emphasis is on the creation of database objects to include tables, forms, queries, and reports. Students learn to create customized data-entry forms as well as to extract decision-making data from the tables to be laid out in attractive reports.

## ***MGM 243 Career Development***

*4 Class Hours 4 Quarter Credit Hours*

Students will learn the process and techniques of establishing a plan for their career development. Students will engage in career planning based on extensive self-assessment that will lead to proficiency in resume writing and pre-employment correspondence, professional networking, interpersonal skill development, career goal development, and interviewing preparation.

## ***MGM 258 Management Simulation***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

In teams, students participate in weekly business simulations. Human resource concepts, business communication, and Microsoft Office skills will be emphasized throughout the simulations, where each student will have the opportunity to develop supervisory leadership skills.

## ***MGM 264 Sales and Customer Service***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

Students will practice selling a product or service by qualifying the buyer, giving a presentation, handling consumer objections, and closing a sale. Students will focus on business-to-business sales. In addition, students will practice providing excellent customer service – face-to-face, on the phone, and online.

## ***MGM 270 Business Accounting***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MGM 130*

Students learn and apply the accounting cycle to a retail business, including inventory and costs of goods sold, and understand and apply major accounting cycles – sales, receivables, purchasing, payables, and cash flow. Students use QuickBooks accounting software.

## ***MGM 277 Leadership in Action***

*4 Class Hours 4 Quarter Credit Hours*

This course will address basic personal and interdependent leadership skills. Students will examine corporate responsibility and philanthropy to underserved and under-represented populations and will build leadership skills by engaging in a service-learning project.

## ***MGM 288 Project Planning***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

In this course, students will develop and practice project management skills and learn to use project management software to plan an end-of-term event. Also emphasized are the use of MS Office skills as well as other apps to complete projects for which each student will take the lead.

**Courses are listed alphabetically by course code.**

### ***MGM 296 Associate Internship***

*2 Class Hours 10 Field Hours 4 Quarter Credit Hours*

*Prerequisite: Department Chair permission.*

Students apply the skills acquired in the program in an organizational work setting and are required to work a minimum of 100 hours in the field. Students may work in a posted internship program or may use their current job. If using their current job, and in conjunction with the site supervisor, students must identify a project requiring 100 hours of work beyond their existing role and responsibilities. Such projects must be approved by the site supervisor and the department chair or internship instructor by Week 1. Student progress is evaluated by the site supervisor as well as by the internship instructor.

### ***MGM 310 Product and Service Marketing***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

Students learn the marketing management cycle, product and service marketing, and customer relationship management. The course also provides an understanding of traditional/outbound and e-/internet/inbound marketing approaches and the seller/customer relationship. Students draft a marketing plan.

### ***MGM 313 Human Resource Management***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

Students examine the many roles of human resource management in an organization and how managers can and should interact effectively with HR. Although theory is an important aspect of overall human resource application, management practices will be covered in depth. Students will practice a variety of human resource management skills through lab exercises and case studies. Students also review important laws and regulations and examine current issues in human resource management.

### ***MGM 315 Accounting and Financial Reporting***

*3 Class Hours 2 Lab Hours 4 Credit Hours*

The complete accounting cycle, debits and credits, journals, and ledgers for businesses are introduced. Accounting for general office records and preparation of financial statements are also demonstrated. In addition, various transactions are applied including the cash, sales and purchase transactions.

### ***MGM 320 Business Presentations***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

Students practice developing clear, concise ideas for presentations, with a logical flow and language appropriate for a professional audience. They will develop and practice skills for informal and formal presentations. Topics include running a meeting, giving sales presentations, and teaching a training session. Students practice with current presentation technology.

### ***MGM 330 Managerial Accounting***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: MGM 270 or MGM 315*

Students will review financial accounting and be introduced to principles of management accounting. Students will apply managerial accounting concepts through the study of cost accounting. This course will strengthen the student's comprehension of financial accounting principles while providing the student with the fundamental concepts necessary to manage and control the various costs in a small business setting.

### ***MGM 332 Customer Relations and Sales***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

Students examine best practices in customer service, business to business sales, and retail sales management in order to strengthen customer relationships and generate organic growth. Students learn theory and practice strategies, tactics, and soft skills that build customer loyalty through experiential learning activities such as case studies and role playing. Students evaluate and exercise their communication skills and emotional intelligence to foster personal service and selling proficiency.

### ***MGM 333 Organizational Behavior***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

Students examine individual behavior and group dynamics in organizations. Specific focus is given to the psychosocial, interpersonal, and behavioral dynamics in organizations. The study of these dynamics is further defined by the evaluation of variables such as job type, design of work, communication, performance appraisal, organizational design, and organizational structure. The study of organizational behavior focuses on experiential learning and is framed with the objective of developing rational decision-making skills, strong individual leadership skills, and, simultaneously, effective collaboration skills in a team environment.

### ***MGM 336 Data Analysis with Spreadsheets***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

Using spreadsheets effectively to support managerial decision-making is a critical skill for managers. Students learn to evaluate common business scenarios, then organize, analyze, and present data using Excel. Students will create charts, troubleshoot existing worksheets, and use templates to create common business forms for a company. Pivot tables and charts will be used to create dashboards for managerial decision-making.

### ***MGM 338 Advanced Data Analysis***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

Students with previous coursework in Excel will develop more advanced data analysis skills including working with data tables, more complex formulas, advanced functions, and validation rules. Pivot tables and pivot charts will be used to create dashboards for managerial decision-making.

## ***MGM 340 Engineering Finance***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: MA 125 or MA 210*

In this course, students study the fundamentals of economic analysis with an emphasis on the topics that are relative to the work of an engineer. Topics will include basic economic concepts, financial decision making, financial statements, depreciation, financial ratios, time value of money, evaluating projects, breakeven analysis and continuous financial improvement.

## ***MGM 346 Project Management***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

Managing a project requires a different set of skills and practices than managing normal operations of an organization. Students will explore the project management knowledge areas – project integration, scope, time, cost, quality, human resources, communications, risk, procurement, and stakeholder management – in the Project Management Body of Knowledge and develop their understanding of what is involved in becoming a successful project manager. Small groups will examine case studies of successful and unsuccessful projects, as well as the variety of applications available to manage projects. Students will apply what they learn by researching a project of their own, using project management software to plan and communicate information about the project.

## ***MGM 347 Project Management Applications***

*4 Class Hours 4 Quarter Credit Hours*

Modern construction managers must be fluent in computer applications used to plan and manage projects. In this course, students will build necessary computer skills in spreadsheet and project management applications, as well as file management. Students will use spreadsheets for common construction management purposes such as budgeting, preparing proposals, creating charts for team communication, and data analysis. To facilitate project planning and tracking, students will use project management software to organize tasks and task relationships, develop the critical path and Gantt charts for project scheduling, and manage resources and costs. Each student will plan a project of their own using project management software.

## ***MGM 348 Managing Health in Organizations***

*4 Class Hours 4 Quarter Credit Hours*

Students interested in healthcare and human resources will be introduced to compensation and benefit practices used in organizations, with a specific focus on the healthcare sector. Students will examine the history, laws, and theoretical concepts behind current compensation and benefit practices, the criteria organizations use to properly compensate employees, and ways to design effective compensation systems. In addition, students will discuss contemporary challenges that compensation and benefits professionals face in an ever-changing healthcare environment in a post-pandemic world. Additionally,

students will develop and practice ways to influence healthy behaviors in the workplace.

## ***MGM 375 Information Systems Management***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

Managers need to understand the role of Information Technology in their organizations, no matter the size. Students with an entrepreneurial spirit can find out what foundational IT elements are needed to make a new venture run successfully. This course focuses on developing an IT strategic plan, and answers the questions: What do IT people really do, and how can managers leverage these resources to grow the business? What enterprise-wide systems do I need to get started? What are cloud services and how can they be leveraged? How do I work with IT professionals to digitize and modernize my business and customers?

## ***MGM 420 Business Planning and Financial Management***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

This course will focus on entrepreneurship and innovation, and the keys to effective management of a new venture. Students will examine the role of the entrepreneur in the economy and in non-entrepreneurial settings (intrapreneurship). They will practice strategic planning and financial analysis for new ventures, develop a comprehensive, professional business plan for their own new venture, and explore effective financial management for small businesses.

## ***MGM 422 Small Business Management***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MGM 270 or MGM 315*

Many graduates will work in smaller businesses during their careers, and potentially start or run their own small businesses. Managers in a small business must wear many hats, and deal with issues that team members in larger organizations may not be aware of. In this course, students will learn about and practice specific activities they may need to manage in a real small business, from the start-up phase through early growth and stability. They will examine financial concerns – alternative business structures, risk and cash management, banking, investments, and taxes – as well as supervisory decisions such as hiring and firing, coaching, and compensating employees.

**Courses are listed alphabetically by course code.**

### ***MGM 426 Operations Management***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MA 300*

In an increasingly competitive global economy, firms must produce high quality, low cost products and services. These products and services must be delivered when, where, and how customers demand them. This course introduces the most important theories and tools used to manage world-class firms to achieve competitive advantage. A balance in emphasis between managerial issues and analytical techniques strengthens both critical thinking and problem-solving skills. Topics covered include operations strategy, process design, capacity, quality, inventory theory, customer service, and supply chain management.

### ***MGM 430 Financial Management***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MGM 330*

This course will introduce the goals of financial management including capital budgeting, capital structure and working capital management. Students will use financial ratio analysis to evaluate financial statements and organizational performance. The time value of money and the basics of capital budgeting will be reviewed. In addition, students will examine how to make long-term financing decisions by examining capital structure and long-term financial instruments. Finally, the course will cover short-term financing decisions such as working capital and managing cash.

### ***MGM 445 Negotiation***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

Students learn and practice negotiations through the principled negotiation method. They will learn to identify interests, create options for mutual gain; and propose fair standards for deciding among possible options. Students practice negotiating in both individual and team scenarios. In addition, students will learn the basics of contract law to aid in their negotiations.

### ***MGM 450 Career Leadership***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

Students will examine how new managers can become effective leaders and execute the organizational mission. Through study of current and emerging leadership theories and comprehensive case studies, students will explore multiple perspectives on leadership, analyze decision-making, and consider the impact of ethical versus unethical leadership on stakeholders. Students will complete self-assessments and other career-related projects to help clarify their own goals and career aspirations and continue to develop their own leadership styles.

### ***MGM 460 Investments***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

This course provides insight into the importance of financial planning and investing as well as exposure to various analytical tools helpful in making investment decisions. Students learn the process of planning, making a budget and learn the wise use of credit. Students will also learn how a business is organized, understand risk and potential return, and learn about buying and selling stock using online trading and the Wall Street Journal. Also, criteria for creating a balanced portfolio are covered as is calculating present yield.

### ***MGM 467 Entrepreneurship***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

Students will examine the risks and rewards of entrepreneurial ventures and develop their own new business ideas. Students will learn about managing and financing a new business venture and will learn directly from successful entrepreneurs. The focus of the course is on creating and presenting a comprehensive business plan to prospective investors.

### ***MGM 487 Non-Profit Management***

*4 Class Hours 4 Quarter Credit Hours*

This course examines the nature and major trends of the nonprofit sector both in the U.S. and internationally. The course aims to deepen student understanding of the nature of the nonprofit world and its organizations, using both theory and practical application. Students will evaluate the current thinking regarding practices for managing and improving nonprofit organizations and critically analyze the dynamic environmental and organizational factors that influence managerial decision-making within nonprofit organizations. Students will be actively engaged with local non-profits to help them achieve their organizational objectives.

### ***MGM 488 Management Seminar***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: Department chair approval*

This course is designed for seniors with an interest in research to pursue an independent research project in partnership with a faculty mentor.

### ***MGM 490 Strategic Management***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

Students examine the complexity of business management and the indiscriminate nature of business competition. Working in teams, students analyze the competitive environment and determine a strategy for their own enterprise, making decisions about marketing, research and development, production, quality, human resources, and many other aspects of their business. Students complete a business simulation.

## ***MGM 493 Strategic Research***

*4 Class Hours 4 Quarter Credit Hours*

Seniors in business management will focus on how to create, manage, and implement a corporate strategy to address systemic problems within an organization. Students will strategically analyze issues within organizations through a comprehensive case study approach and conduct extensive research on emerging global and national business trends. Students will formulate realistic strategies and tactics necessary to address the complexities of a volatile marketplace. Readings, independent research, simulations, and exercises will focus on current issues affecting large organizations. Students will complete a major case study and conduct independent research designed to be presented at regional or national conferences.

## ***MGM 496 Bachelor Internship***

*2 Class Hours 10 Field Hours 4 Quarter Credit Hours*

*Prerequisite: Department Chair permission.*

Students apply the skills acquired in the program in an organizational work setting and are required to work a minimum of 100 hours in the field. Students may work in a posted internship program or may use their current job. If using their current job, and in conjunction with the site supervisor, students must identify a project requiring 100 hours of work beyond their existing role and responsibilities. Such projects must be approved by the site supervisor and the department chair or instructor by Week 1. Student progress is evaluated by the site supervisor as well as by the internship instructor.

## ***MGM 504 Managerial Finance***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: MGM 533*

Students will examine the basic principles of finance and their application to decision-making in organizations. The overall purpose of this course is for students to obtain a working knowledge of banking, financial statements, and capital budgeting.

## ***MGM 514 Leadership***

*4 Class Hours 4 Quarter Credit Hours*

Leadership is about developing a vision and inspiring others to achieve that vision. It is wayfinding through effective communication. Leaders seek to understand and shape organizational culture, while effecting and supporting positive change. This course provides aspiring leaders with tools to develop a confident voice for their own current and future leadership roles. The major theories of leading and managing people and organizations will be applied to real leadership situations in organizations ranging from start-ups to large enterprises, as well as real leaders in the student's chosen field. While seeking a deep understanding of their own leadership style, students will examine the interaction between leadership and organizational culture, culminating in the development of a personalized comprehensive leadership development plan.

## ***MGM 533 Advanced Project Management***

*4 Class Hours 4 Quarter Credit Hours*

Project management is more than merely parceling out work assignments to individuals and hoping that they will somehow accomplish a desired result. In fact, projects that could have been successful often fail because of such take-it-for-granted approaches. Individuals need hard information and real skills to work successfully in a project environment and to accomplish project objectives. Topics include project management life cycle and process; identifying and selecting projects; developing a project proposal; techniques for planning, scheduling, resource assignment, budgeting, and controlling project performance; project risks; project manager responsibilities and skills; project team development and effectiveness; project communication and documentation; and project management organizational structures. The concepts in the course support the project management knowledge areas of the Project Management Institute's A Guide to the Project Management Body of Knowledge (PMBOK® Guide).

## ***MGM 534 Technology and the Law***

*4 Class Hours 4 Quarter Credit Hours*

*Pre/Co-requisite: MGM 533*

This course is designed to provide a broad-based analysis of the legal issues relevant to technology-related fields. It provides a foundation for intellectual property topics associated with domestic and international business ventures such as copyright, trademark, and patent issues. Existing and pending contract and human resources laws and regulations will be addressed as well as the legal issues associated with negotiations and entrepreneurship.

## ***MGM 546 Ethical Decision Making***

*4 Class Hours 4 Quarter Credit Hours*

As future managers and leaders, students will be confronted by many challenging ethical dilemmas where the correct decision is not clear or may not even exist. This course aims to increase the student's ability to recognize ethical dilemmas, distinguish between legal versus ethical considerations, identify stakeholders, and generate and evaluate alternatives. Students will examine frameworks for ethical decision-making and engage with case studies and ethical scenarios where the decision-making process is as important as the final decision students reach.

**Courses are listed alphabetically by course code.**

## **MLT – MEDICAL LABORATORY TECHNICIAN**

### ***MLT 110 Introduction to Medical Laboratory Technology***

*2 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

An introduction to clinical laboratory practices and procedures normally performed in a clinical laboratory, including quality control, laboratory math, safety, laboratory equipment, phlebotomy, accreditation, certification, and professionalism.

### ***MLT 120 Urinalysis and Body Fluids***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MLT 110*

*Co-requisite: MLT 121*

An introduction to urinalysis and body fluid analysis, including the anatomy and physiology of the kidney, and physical, chemical and microscopic examination of urine, cerebrospinal fluid, and other body fluids. Correlation to abnormal findings and disease states will be discussed. Utilizes a student laboratory for experiences in basic urinalysis and body fluids analysis.

### ***MLT 121 Immunology***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: MLT 110*

*Co-requisite: MLT 120*

An introduction to the theory and application of basic immunology, including the immune response, principles of antigen-antibody reactions, and the principles of serological procedures. Methods of testing for diagnosis of immune system disorders, viral and bacterial infections will be discussed.

### ***MLT 130 Hematology I***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: MLT 120, MLT 121*

*Co-requisites: MLT 131, MLT 132*

Introduction to the theory and practical application of routine and special hematology procedures including maturation sequence of formed elements, normal and abnormal morphology and associated diseases are discussed. Utilizes a student laboratory for experiences in basic hematology practices and procedures.

### ***MLT 131 Medical Microbiology I***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: MLT 120, MLT 121*

*Co-requisites: MLT 130, MLT 132*

Fundamentals of microbiology with emphasis on pathogenic bacteria and infectious disease, including collection,

setup identification, susceptibility testing, and reporting procedures. Laboratory experience will include approaches in classification and identification of pathogenic organisms.

### ***MLT 132 Clinical Chemistry I***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: MLT 120, MLT 121*

*Co-requisites: MLT 130, MLT 131*

An introduction to the principles and procedures of various tests performed in clinical chemistry. Presents the physiological basis for the test, the principle and procedures for the test, and the clinical significance of the test results, including quality control and normal values. Also includes basic chemical laboratory techniques, chemical laboratory safety, electrolytes and acid-base balance, mineral and bone metabolism, carbohydrates, renal function, hemoglobin production disorders. Students will be expected to correlate laboratory test results with normal physiology and biochemistry and with disease states. Utilizes a student laboratory for experiences in basic clinical chemistry procedures.

### ***MLT 240 Hematology II***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MLT 130*

*Co-requisites: MLT 241, MLT 242*

A study of hemostasis and coagulation in normal and disease processes. A continuation of theory and principles of formed elements and their function in normal and pathologic processes. Also introduced are additional basic practices and procedures in the hematology laboratory.

### ***MLT 241 Medical Microbiology II***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MLT 131*

*Co-requisites: MLT 240, MLT 242*

Fundamentals of microbiology with emphasis on parasitology, mycology, and virology. Proper recovery and handling of specimens, growth requirements, and identification of organisms will be covered. Laboratory experience will include approaches in classification and identification of pathogenic organisms utilizing morphologic, cultural, biochemical, enzymatic, serologic, and nucleic acid analysis. Mycology, parasitology, and virology will be introduced.

# COURSE DESCRIPTIONS

## ***MLT 242 Clinical Chemistry II***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MLT 132*

*Co-requisites: MLT 240, MLT 241*

A continuation of the principles and procedures of various tests performed in Clinical Chemistry I. Presents the physiological basis for the test, the principle and procedures for the test, and the clinical significance of the test results, including quality control and normal values. Also includes proteins, liver function, lipids, enzymes, metabolites, endocrine function, tumor markers, cardiac markers, therapeutic drug monitoring and toxicology. Students will be expected to correlate laboratory test results with normal physiology and biochemistry and with disease states. Utilizes a student laboratory for experiences in basic clinical chemistry procedures.

## ***MLT 250 Immunohematology***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: MLT 240, MLT 241, MLT 242*

A study of blood antigens and antibodies. Performance of routine blood banking procedures, including blood group and Rh typing, antibody screens, antibody identification, compatibility testing, blood donations, and transfusion therapy. Recordkeeping and quality control techniques will also be discussed. Utilizes a student laboratory for experiences in basic immunohematology procedures.

## ***MLT 252 Clinical Practicum I***

*21 Lab Hours 5 Quarter Credits*

*Prerequisites: MLT 240, MLT 241, MLT 242*

This course is designed to supplement and expand upon the foundational knowledge provided during the didactic portion of the MLT program. The simulated practicum will be completed on campus to provide the training required to apply knowledge gained during the program into practice. Students will be required to work independently to perform both routine and challenging laboratory tests. The collection, processing, and distribution of lab specimens according to standard procedures will be studied. Safety standards, legal and ethical behaviors, and quality control will be emphasized. The course allows students to rotate through key areas of the clinical laboratory including phlebotomy. Concepts, methods, and procedures discussed/studied in lecture and lab will be reinforced in the clinical practicum.

## ***MLT 260 Medical Laboratory Technology Seminar***

*2 Class Hours 2 Quarter Credit Hours*

*Prerequisites: MLT 250, MLT 252*

Professional topics in clinical laboratory science, including but not limited to, weekly discussion of materials covered during clinical site visits. Professional certifications and organizations are also discussed. Topics in lab accreditation,

inspection, resume writing, professionalism, and management are covered as well.

## ***MLT 262 Clinical Practicum II***

*12 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: MLT 250, MLT 252*

This course is designed to supplement and expand upon the foundational knowledge provided during the didactic portion of the MLT program. The practicum will be completed at a variety of affiliate laboratories (usually hospital-based) to provide the training required to apply knowledge gained during the program into practice. Students will be required to perform both routine and challenging laboratory tests. The collection, processing, and distribution of lab specimens according to standard procedures will be studied. Safety standards, legal and ethical behaviors, and quality control will be emphasized in a direct patient care setting. The course allows students to rotate through key areas of the clinical laboratory. Concepts, methods, and procedures discussed/studied in lecture and lab will be reinforced in the clinical practicum.

## **MT – MARINE TECHNOLOGY**

### ***MT 105 Introduction to Marine Technology***

*2 Class Hours 2 Quarter Credit Hours*

Students will be introduced to the operation of the marine lab and program, potential job opportunities and the working environments of Marine Technology. Students will become familiar with the tools used in the repair of marine vessels and safety practices to be used. Students will also practice information retrieval as well as record-keeping. Topics covered are safety in the lab, measuring tools, service manuals, computerized information retrieval, tool identification and use, and fastener identification and uses. Students will also be asked to demonstrate proficiency using appropriate shop equipment.

### ***MT 116 Introduction to Engine Theory***

*3 Class Hours 3 Quarter Credit Hours*

This course is the study of two- and four-cycle internal combustion engine operation and design. This course will cover inboard, outboard, and diesel engine design. Topics covered are engine identification, internal components, cooling systems, lubrication systems, and preliminary diagnosis of internal noises, and excessive smoke. The course will also cover basic maintenance practices, as well as major and minor component replacement.

### ***MT 117 Introduction to Engine Lab***

*4 Lab Hours 1 Quarter Credit Hour*

Students will practice compression and vacuum testing, oil pressure, cooling system examination, and engine noise analysis. Students will learn to identify different engine configurations through the use of VIN or model numbers and will practice finding specifications in service manuals or by using computerized information systems. Students will practice basic maintenance procedures as well as component replacement.

### ***MT 118 Introduction to Electricity Fundamentals***

*3 Class Hours 3 Quarter Credit Hours*

This course covers electrical fundamentals from "What is electricity?" to basic troubleshooting techniques. Topics covered will be how electricity is produced, types of electricity, Ohm's Law, basic circuit construction, conductors, insulators, induction, electrical testing tools, and diagnosis of circuit problems.

### ***MT 119 Introduction to Electricity Fundamentals Lab***

*4 Lab Hours 1 Quarter Credit Hour*

In the lab, students will learn the use of multimeters and other test equipment to diagnose and repair electrical circuits and components including lights, gauges, solenoids, relays, voltage regulators, motors, and generators. Students will be instructed in the correct methods of constructing circuits for both the marine and recreational environment.

### ***MT 120 Advanced Marine Electricity and Electronics Installation***

*4 Class Hours 6 Lab Hours 7 Quarter Credit Hours*

*Prerequisites: MT 118/119*

This course prepares students to both install and troubleshoot marine-specific electrical systems. Topics studied and lab exercises include USCG and ABYC standards, wire designs, corrosion factors, AC/DC circuit panels, battery switches and isolators, inverters, RFI suppressors, multi-wire systems, lighting, electric pumps, amperage, and power requirements. Lab work will expose students to many forms of marine electronic equipment including: VHF radios, depth finders, GPS, and RADAR. Students will also learn how to interface and install today's marine navigation and communications equipment. Lab exercises will include wire and cable installations, antenna designs, RFI suppression, and the limitations of the NMEA 0183 standard.

### ***MT 127 Marine Engine Applications***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: MT 116/117*

Four-stroke gasoline engine designs, nomenclature, maintenance, and diagnostics will prepare students for future courses. Students will perform inspection and service procedures to ignition, fuel, cooling, exhaust, and internal

engine systems specific to marine applications.

### ***MT 138 Outboard Engine Overhaul and Systems Diagnosis***

*4 Class Hours 8 Lab Hours 8 Quarter Credit Hours*

*Prerequisites: MT 116/117, MT 118/119*

Routine outboard maintenance and repair problems associated with one- and two-cylinder outboard engines will be the focus of this course. Lectures will cover two- and four-cycle theory, basic troubleshooting procedures, synchronization procedures, seasonal maintenance, and winterizing. Students will perform extensive diagnostic work on various engine systems, with emphasis on in-line and "V" configuration engines. Students will perform routine maintenance procedures and become proficient with the use of reconditioning procedures on internal engine components and return their engines to factory running specifications.

### ***MT 215 Fuel Systems Theory and Introduction to EFI Applications***

*4 Class Hours 4 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: MT 116/117, MT 118/119, MT 120, MT 127*

Students are introduced to carburetor theory of operation, CFM requirements, mechanical fuel pumps, electric fuel pumps, fuel injection systems, and their related components. Topics covered will include throttle bodies, multi-port injection systems, direct fuel injection, pressure regulators, electronic sensors, and controls. Students will practice fuel tank removal and replacement of fuel pumps, fuel system troubleshooting, and injection cleaning. Students will remove, rebuild, reinstall, and adjust traditional carburetors as well as diagnose and repair TBI, MPFI, and DFI fuel injection systems. Lessons will also cover all USCG, ABYC regulations and standards for fuel tanks, lines, filters, pumps, and installations.

### ***MT 216 Marine Drive Systems Theory and Service***

*4 Class Hours 4 Lab Hours 5 Quarter Credit Hours*

Students will work with a variety of inboard engine reverse gear assemblies and drive systems. Students will gain experience with removal, testing, rebuilding, and diagnosis of sterndrive and inboard assemblies. Lessons and lab work include pressure and vacuum testing, disassembly procedures, internal component cleaning, inspection, and evaluation. Students will set gear height, lash, and bearing preload and rolling torque to factory specifications. Typical "two-shaft" and planetary gear assemblies will be disassembled, inspected, and reassembled to factory specifications. Both manual and hydraulic shift controls will be discussed and studied as part of the lab experience. Shafts, cutlass bearings, and shaft sealing methods and procedures will be covered at length, and students will practice routine service to these systems as part of the lab experience.



# COURSE DESCRIPTIONS

## ***MT 217 Diesel Engine Service and Maintenance***

*2 Class Hours 6 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: MT 116/117, MT 118/119, MT 120/127*

This course introduces students to the operating principle of diesel engines. Course studies will include: two- and four-cycle engines, combustion chamber designs, low- and high-pressure fuel delivery systems, cold start aids, supercharging, intake/exhaust requirements, engine diagnostics, and re-powering considerations. Students will gain experience in lab by performing maintenance and engine performance troubleshooting on a variety of popular engine designs.

## ***MT 218 Marine Systems***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

Common systems of both marine and recreational vehicles will be designed and installed by students. System components include water and MSD tanks, manual and electric pumps, AC/DC lighting fixtures, electric, alcohol, LPG, and CNG appliances. Students will learn proper service and installation procedures with emphasis on all applicable industry safety codes and standards.

## ***MT 254 Marina and Boatyard Management***

*3 Class Hours 3 Quarter Credit Hours*

Students will learn the practices and procedures necessary to successfully operate a marine business. The course will cover the special circumstances specific to a marine business such as insurance considerations, environmental control, and storm preparation considerations. The course will follow the guidelines and recommendations found in the ABBRA (American Boatbuilders and Repairers Association) Boatyard & Marina Operator's Manual.

## ***MT 255 Marine Industry Internship***

*20 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: Completion of all Term I through Term V required MT courses*

Students will work off-site at an approved marine related business. These businesses will be selected based upon their suitability to provide a valuable learning experience for students in a variety of related specialty areas within the industry. Student progress will be monitored weekly by the Marine Technology Department to ensure compliance with experiential learning criteria established by the department.

## ***MT 258 Elements of Marine Surveying***

*1 Class Hour 3 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: MT 120, MT 127, MT 138, MT 217, MT 218*

*Pre/Co-requisites: MT 215, MT 216*

This course covers the details of the marine survey for both sail and power small craft. Students will learn what to look for in evaluating a boat for pre-purchase and valuation as required by financial institutions and insurance companies. Students will learn the procedures for both invasive and non-invasive methods of determining hull and deck integrity; electrical, mechanical, and systems integrity; and

compliance with accepted standards and regulations. Design and completion of the survey form will be covered and practiced by students. Students will be introduced to the codes and standards of both SAMS (Society of Marine Surveyors) and NAMS (National Association of Marine Surveyors). USCG regulations will be covered at length.

## ***MT 261 Fiberglass Fabrication and Repair***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

This is an introductory course teaching the essentials for fabricating and repairing damaged composite laminates. Students will work with polyester, vinylester, and epoxy resins, and a variety of fiberglass cloth materials to learn proper mixing and lay-up procedures for making effective repairs and new parts. Curing considerations and special procedures required when working with cored laminates and resin infused/vacuum-bagged laminates will be discussed and practiced by students.

## ***MT 262 Advanced Composites and Fabrication***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: MT 261*

This advanced course teaches the essentials of fabricating plugs (male molds), female molds, and repairing complex damaged composite laminates. Students will learn the complexity of building plugs and molds with wood, resins, and fiberglass fabric materials. Students will also study curing considerations and special procedures required when making molds. Vacuum-bagging and "Splash" laminates will be discussed.

## ***MT 263 Forklift Safety & Operations***

*2 Lab Hours 1 Quarter Credit Hour*

Students in this course will gain the knowledge and experience necessary for safe operation of a powered industrial truck used in the marina environment. Powered industrial trucks are any mobile power-propelled truck used to carry, push, pull lift, stack or tier material. Maritime standards for powered truck operation are identical to those in the CFR1910:178 and OSHA requirements for warehouses, lumberyards, etc. which require training and certification. Students in this course will gain a full understanding of the methods and procedures necessary to safely operate a powered industrial truck in the marine workplace environment. Each class will consist of a mixture of presentations, related material handouts, dialogue between instructor and students, and hands-on demonstration. Students will practice pre-inspection and operation of various powered industrial trucks as well as ABYC requirements for blocking and securing vessels in the yard. At the completion of this course, the successful student will receive OSHA required certification to operate a powered industrial truck.

**Courses are listed alphabetically by course code.**

### ***MT 272 Advanced Marine Diesel Service and Maintenance***

*2 Class Hours 6 Lab Hours 5 Quarter Credit Hours  
Successful completion of the MT Associate Degree*

This course will focus on advanced diesel engine components including electronically-controlled pumps, injectors, sensors, as well as cabling and diagnostics of engine computer hardware, and software. Fuel system service procedures will include common rail and overhead cam electronic unit injection (EUI). Labs will include EUI engine cylinder head service, diagnostics and fuel component service/replacement procedures. Students will perform hands-on installations of CAN Buss network systems and learn the function of electronic control systems commonly found on diesel engines and marine driveline components.

### ***MT 275 Advanced Marine Propulsion Systems***

*1 Class Hour 4 Lab Hours 3 Quarter Credit Hours  
Successful completion of the MT Associate Degree*

This course will focus on electronically-controlled propulsion systems and the mechanical propulsion components and their electronically-controlled systems. Service and Maintenance procedures for both Volvo Penta IPS and DPH stern drives will be concentrated on during this course. The course will be lab intensive, with an emphasis on installation, maintenance and rebuilding procedures for both of these propulsion systems. Students will become proficient in drive seal replacement, clutch replacement, and rebuilding procedures for these marine drive systems. Students will also learn the function of electronic control systems for these drives, to include IPS and joystick-controlled stern drive systems.

### ***MT 277 Advanced Marine Gasoline EFI and Emissions***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours  
Successful completion of the MT Associate Degree*

This course will focus on marine gasoline EFI engines which have EPA mandated emission control systems. Students will perform replacement procedures of emission components, advanced engine management diagnostics, and be able to explain the function of emission controls for marine inboard and stern drive gasoline engines. Lesson and lab exercises will include testing procedures of narrow and wide band oxygen sensors, Alarm and engine de-rate fault tracing, short- and long-term fuel trim management comparison graphing, and cylinder miss-fire detection and diagnostics. Students will learn to perform PC-based diagnostic recordings and graphing analysis on engine emission systems. Students will also work with a variety of special diagnostic tools which will enhance their ability to properly diagnose emission related faults and engine performance issues.

## **NE – NETWORK ENGINEERING**

### ***NE 115 Computer and Networking Fundamentals***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

This course provides a technical overview of computers and computer networking used in business. Hands-on exercises are provided to give students experience with basic computer and network activities. The content serves as a technical foundation for later courses in the Network Engineering and Software Engineering programs.

### ***NE 121 Windows Networking Essentials***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: NE 115*

Students are introduced to a desktop operating system. They perform the installation of the operating system as well as implementing and conducting the administration of resources, the implementation, management and troubleshooting of hardware devices and drivers, the monitoring and optimizing of system performance and reliability, and configuring and troubleshooting the desktop environment.

### ***NE 131 Networking for Small Businesses***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: NE 115*

This course introduces students to basic concepts of networking. Students will apply the knowledge they learned in NE 121 and apply it to peer-to-peer networking using switches and routers. They will be introduced to the OSI model and TCP/IP.

### ***NE 245 Introduction to Networks***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: NE 131*

This course continues with more in-depth discussion and labs dealing with the architecture, structure, functions, components, and models of the Internet and computer networks. The basic and advanced principles of IP addressing and fundamentals of 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 routers and switches, and implement IP addressing schemes.

### ***NE 247 Windows Server***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: NE 121*

Students will learn to install, configure and operate a modern network server in both workgroup and domain configurations. They will learn to use the logical components of a domain to design simple forest structures. They will create appropriate user accounts and security groups to protect access to servers and to secure specific resources stored on servers. They will configure and troubleshoot critical infrastructure services as well as manage and configure storage use.

## ***NE 249 Troubleshooting Fundamentals***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: NE 115, NE 121*

This course provides students with theoretical and hands-on experience in preparation for the TestOut PC Pro and the most current CompTIA A+ certification exams. This course will cover how to evaluate, select, handle, install, and upgrade computer components in a safe manner. Students will also explore the nuances of the Windows client operating system and learn how to install, manage, and secure home and corporate OS environments.

## ***NE 255 Linux Fundamentals***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: NE 115*

During this course, students will be introduced to the installation, configuration, and management of a Linux operating system. At the end of this course, students will be able to understand the basic functions of the Linux operating system including the role of the system administrator. The course will discuss such topics as running the Linux system, using the graphical user interface (GUI), the Linux command line system, the Linux shell and text files and basic administration tasks.

## ***NE 257 Routing and Switching Essentials***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: NE 245*

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.

## ***NE 263 Azure Administration***

*2 Class Hours 4 Lab Hours 4 Credit Hours*

*Prerequisite: CYB 132*

The course provides an important introduction to the Microsoft Azure Cloud Computing services which have grown to support IT infrastructure worldwide. Students will learn how to administer Azure virtual computing, storage, networking, security, web services and more. Successful completion of this course prepares students to take the AZ-900 Microsoft Azure Fundamentals certification.

## ***NE 265 AS Capstone Project***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: NE 247, NE 257*

This course features integration of the topics covered in the IT Networking Associate Degree Program. The course emphasizes teamwork in the design, construction, configuration and troubleshooting of a simple network infrastructure, to include network servers, workstations, routers and switches.

## ***NE 371 Network Scripting***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: NE 247*

Through the use of practical exercises, students will learn how to configure, maintain and administer a Microsoft client/server network using a Windows PowerShell. Students will work with scripting using the command line and an integrated scripting environment.

## ***NE 381 Design and Implementation of an Active Directory Network***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: NE 257*

Students will learn how to configure and manage a Microsoft Windows-based Active Directory network environment through an integrated system of skill-building lessons, hands-on exercises, and self-assessment tools.

## ***NE 385 Linux System Administration***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

Students will learn the basics of Linux technology and be exposed to the maintenance of a Linux server that other users rely on for email, Web, database, networking, or other system services. In addition to the theoretical issues covered, students will gain much practical knowledge through the use of hands-on projects designed to reinforce those concepts.

## ***NE 406 Router Security and Firewall Management***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: NE 257*

This course introduces students to firewall management and basic router security. Topics include password protection, securing VTY connections, logging, SSH, firewall management using the ASA 5510 Adaptive Security Appliance.

## ***NE 407 Virtualization***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: NE 247*

This course explores the use of virtualization. Concentration is on the implementation and maintenance of virtual machine infrastructures with emphasis on server-class virtual images. The differing virtualization techniques, such as full, OS, and paravirtualization will be examined. In addition, vendor offerings and open source options will be compared. The techniques used to move physical machines to the virtual domain will be evaluated and applied, as well as system security, patch management, backups, disaster recovery, and system runtime and response.

## ***NE 411 Microsoft 365***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

With the migration to cloud computing in the business world, it is important to learn and understand the concepts and strategies employed in making data and services readily available. This course introduces cloud concepts, core services and concepts, as well as security and compliance in the Microsoft 365 environment.

**Courses are listed alphabetically by course code.**

### ***NE 415 Scaling Networks***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: NE 131, NE 245, NE 257*

This course introduces students to the strategies associated with scaling networks. Students learn about the Hierarchical Network and the Cisco Enterprise Architectural Design models. The course explains how to manage the different implementations of Spanning Tree Protocol in a switched converged network and the concepts associated with EtherChannel technology. Students will learn how to configure a router for both EIGRP and OSPF routing protocols within a network topology, and students will develop the knowledge and skills necessary to implement a WLAN in a small-to-medium network.

### ***NE 418 Network Analysis and Design***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: NE 406, NE 415*

Students will continue to develop and utilize critical thinking skills as they perform technical analysis of operational networks. The operational networks will include LAN, WAN and Firewall technologies from previous degree coursework. The course will also provide students with a team approach to learning. Students will participate in a team environment that will design, document, construct and troubleshoot a physical network topology from written needs assessment.

### ***NE 425 Network Engineering Senior Project***

*6 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: NE 381, NE 385*

Students will configure, analyze, test and troubleshoot a complex, real-world heterogeneous physical network topology based upon a course scenario within a group setting. The heterogeneous network infrastructure will include Cisco devices and server technology, to include routers, switches, firewalls, Windows servers, mail servers, Linux servers, database servers and others. Students will be required to provide written progress reports, final course deliverables and presentations.

## **NRP – PRACTICAL NURSING**

### ***NRP 110 Foundations of Practical Nursing I***

*4 Class Hours 4 Quarter Credit Hours*

*Co-requisites: HS 104, NRP 111, EN 100*

This course prepares students with foundational knowledge as it relates to the role of the Practical Nurse in today's healthcare settings. Students will learn fundamental concepts and skills and the nursing process in order to provide optimal individual and population-based patient care within the scope of practice of the practical nurse. Students will be introduced to nursing theory, medical terminology, effective interpersonal communication skills, holistic and culturally competent care, national patient safety

goals in nursing, critical thinking and hierarchy related to quality and safety, and evidence-based practice. Students are also introduced to basic medication dosage and calculation.

### ***NRP 111 Foundations of Practical Nursing I Clinical***

*14 Lab Hours 3 Quarter Credit Hours*

*Co-requisites: NRP 110, HS 104, EN 100*

This course is the clinical component that pairs with NRP 110 Foundations of Practical Nursing I. In this course, the beginning practical nursing student will integrate content from classroom learning into the skills laboratory and clinical setting including professional behaviors and the role of the practical nurse. Students will demonstrate culturally diverse, holistic care of the patient and family, critical thinking and hierarchy with decision-making skills, quality and safety in the clinical setting, and professional practice and nursing care aligned with the practical nurse scope of practice.

### ***NRP 120 Foundations of Practical Nursing II***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: NRP 110, NRP 111, EN 100, HS 104*

*Co-requisites: NRP 121, BIO 107, MA 109*

This course is designed to build on previous knowledge learned in the Foundations of Practical Nursing I and provides the opportunity to develop additional competencies necessary to meet the care of the adult, surgical, and geriatric population. Students will discuss nursing theory as it relates to safe and effective care of the adult patient population. Students are introduced to potential risk factors, nutritional and cultural considerations of the surgical and geriatric patient, critical thinking and decision-making skills related to care for the immobilized patient, and the effects of medications on diverse patient populations. Students will continue to demonstrate knowledge of medication dosage and calculations.

### ***NRP 121 Foundations of Practical Nursing II Clinical***

*14 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: NRP 110, NRP 111, EN 100, HS 104*

*Co-requisite: NRP 120, BIO 107, MA 109*

This course is the clinical component that pairs with NRP 120 Foundations of Practical Nursing II. Students apply the knowledge obtained from the didactic portion of courses to their skills lab and patient care settings. Students will demonstrate their knowledge of national patient safety outcomes as related to patient care by completing a skills checklist and clinical evaluation. Students will show culturally, diverse, holistic care to the patient and family. Students will demonstrate critical thinking and hierarchy, and decision-making skills related to quality and safety in the clinical setting.

# COURSE DESCRIPTIONS

## ***NRP 130 Practical Nursing Medical/Surgical I***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: NRP 120, NRP 121, BIO 107, MA 109*

*Co-requisites: NRP 131, NRP 134, NRP 135, PS 201*

This course is part one of a two-part series focusing on medical/surgical practical nursing care of the adult client. This course will focus on conditions associated with endocrine, gastrointestinal, urinary, sensory, cardiovascular, respiratory, musculoskeletal, reproduction systems, and infection manifestations. The student will learn safe, culturally sensitive care, principles of therapeutic communication with diverse populations, evidence-based practice, and the nursing process to prioritize the needs of adult patients. Students will build upon the knowledge of medication dosage and calculations and relate the medications associated to these conditions.

## ***NRP 131 Practical Nursing Medical/Surgical I Clinical***

*10 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: NRP 120, NRP 121, BIO 107, MA 109*

*Co-requisites: NRP 130, NRP 134, NRP 135, PS 201*

This course is the clinical component that pairs with NRP 130 Practical Nursing Medical/Surgical I. In this course, students will apply their previously learned physical assessment skills in the clinical setting to patients with endocrine, gastrointestinal, urinary, sensory, cardiovascular, respiratory, musculoskeletal, reproductive, and infectious conditions. Students will also demonstrate safe, culturally competent, patient centered care to diverse populations while using evidence-based practice and the nursing process to prioritize the needs of adult patients.

## ***NRP 134 Practical Nursing Psychiatric/Mental Health***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: NRP 120, NRP 121, BIO 107, MA 109,*

*Co-requisites: NRP 130, NRP 131, NRP 135, PS 201*

This course focuses on understanding common psychiatric/mental health disorders, current treatments, pharmacologic modalities, and therapeutic communication. The practical nursing student will learn how to conduct mental status exams and evaluate psychiatric disorders using standardized assessment scales, and best practices to identify therapeutic treatment settings, resources, and treatment modalities for optimal outcomes. Students will learn to respect the needs and safety of clients with psychiatric disorders while preserving their rights.

## ***NRP 135 Practical Nursing Psychiatric/Mental Health Clinical***

*10 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: NRP 120, NRP 121, BIO 107, MA 109*

*Co-requisites: NRP 130, NRP 131, NRP 134, PS 201*

This course is the clinical component that pairs with NRP 134 Practical Nursing Psychiatric/Mental Health. Students will focus on understanding common psychiatric/mental health disorders, current treatments, pharmacologic

modalities, and therapeutic communication. Students will perform mental health exams and standardized assessment scales in the clinical setting.

## ***NRP 240 Practical Nursing Care of the Child and Family***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: NRP 130, NRP 131, NRP 134, NRP 135, PS 201*

*Co-requisites: NRP 241, NRP 242, NRP 243, BIO 133*

This course builds on concepts of previous nursing courses with an emphasis on utilizing the nursing process in caring for children and their families within the practical nurse scope of practice. Students will gain knowledge of physiological, cognitive, and psychosocial developmental changes occurring in the pediatric population, professionalism, accountability, and effective communication with patients, families, and the inter-professional team. Students will increase their knowledge of medications and dosage and calculations related to the pediatric population.

## ***NRP 241 Practical Nursing Care of Child and Family Clinical***

*10 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: NRP 130, NRP 131, NRP 134, NRP 135, PS 201*

*Co-requisites: NRP 240, NRP 242, NRP 243, BIO 133*

This course is the clinical component that pairs with NRP 240 Practical Nursing Care of the Child and Family. Students will integrate knowledge of physiological, cognitive, and psychosocial developmental changes when caring for children in various clinical settings and simulated clinical experiences. The focus of this course is the application of nursing skills, critical thinking, professionalism, accountability, and effective communication with children, their families/caregiver. Students will learn about the role of the inter-professional team in the community, homecare, and clinical care settings to provide safe evidence-based practice within the practical nurse scope of practice.

## ***NRP 242 Practical Nursing Care of Woman and Newborn***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: NRP 130, NRP 131, NRP 134, NRP 135, PS 201*

*Co-requisites: NRP 240, NRP 241, NRP 243, BIO 133*

In this course, the practical nursing student will build upon previous knowledge and skills to learn about women's health, family-centered nursing care, care of the childbearing families during the prenatal, intrapartum, and postpartum periods, and care of the newborn. This course will focus on the role of the practical nurse within their scope of practice to provide patient/family-centered nursing care to culturally diverse individuals and their families during childbearing and women's health. The student will also increase their knowledge of medications and dosage calculations related to the childbirth and the newborn.

**Courses are listed alphabetically by course code.**

### ***NRP 243 Practical Nursing Care of Woman and Newborn Clinical***

*10 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: NRP 130, NRP 131, NRP 134, NRP 135, PS 201*

*Co-requisites: NRP 240, NRP 241, NRP 242, BIO 133*

This course is the clinical component of NRP 242. The Practical Nursing students will have dedicated time for obstetrical clinical experiences during the prenatal, intrapartum, postpartum periods, and care of the newborn. The focus of this clinical is the application of nursing skills, knowledge, and critical thinking necessary to provide safe evidence-based practice for culturally and socially diverse childbearing families within the Practical Nursing scope of practice.

### ***NRP 250 Practical Nursing Medical/Surgical II***

*8 Class Hours 8 Quarter Credit Hours*

*Prerequisites: NRP 240, NRP 241, NRP 242, NRP 243, BIO 133*

*Co-requisites: NRP 251, NRP 259*

This course is part two of a two-part series focusing on medical/surgical nursing care of the adult client. This course will focus on common alterations in the neurologic disorders, burns, hematology, shock/trauma, multi-system organ failure, and bioterrorism. In their final term, students will learn about safe, culturally competent patient-centered care for diverse populations, and apply evidence-based practice and the nursing process to prioritize the needs of adult patients.

### ***NRP 251 Practical Nursing Medical/Surgical II Clinical***

*18 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: NRP 240, NRP 241, NRP 242, NRP 243, BIO 133*

*Co-requisites: NRP 250, NRP 259*

This course is the clinical component that pairs with NRP 250 Practical Nursing Medical/Surgical II. In this course, students will apply their previously learned knowledge and skills in the advanced clinical care setting within their scope of practice. Students will master safe, culturally competent patient-centered care to diverse populations in the clinical setting. Students will apply evidence-based practice and the nursing process to prioritize the needs of the adult patient by participating in clinical simulation and inter-professional collaboration.

### ***NRP 259 Practical Nursing Leadership and Management***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: NRP 240, NRP 241, NRP 242, NRP 243, BIO 133*

*Co-requisites: NRP 250, NRP 251*

This course is provided in the last term to prepare the practical nurse (PN) to use their scope of practice for legal and ethical considerations, effective communication as a leader, handling conflict, safe delegation and assignments, professional responsibilities, coordination care, and leading and managing care of their clients. This course will also look at role transition from student to nurse, licensing, and responsibilities of the newly licensed practical nurse. The course will also prepare the practical nurse student in preparation for taking the NCLEX-PN.

## **NUR – NURSING**

### ***NUR 112 Foundations of Nursing Practice***

*4 Class Hours 4 Quarter Credit Hours*

*Co-requisites: NUR 113, BIO 107, MA 109*

This course prepares the nursing student with foundational knowledge as it relates to the role of the professional Registered Nurse in contemporary healthcare environments. Nursing philosophy and theory provides the framework for understanding the scientific knowledge and technological skill nurses need to provide ethical, caring, culturally competent and evidence-based patient care. Students will be introduced to the theoretical foundations of nursing care, the role of the nurse in health promotion and disease prevention and the use of the nursing process to provide quality patient-centered care. Nursing terminology, effective interpersonal communication skills, spiritual health, complementary and alternative health, quality and safety, and concepts of the nurse as leader and educator are also introduced. Students are introduced to the basic definition of pharmacology as it applies to the nursing process.

### ***NUR 113 Foundations of Nursing Practice Clinical***

*4 Lab Hours 2 Quarter Credit Hours*

*Co-requisite: NUR 112*

The beginning nursing student will integrate content from classroom learning activities and skills lab practice experiences. Care will be provided to selected clients across the lifespan in a variety of settings. Focus is on assessment, wellness, quality and safe patient care.

### ***NUR 124 Fundamentals of Medical/Surgical Nursing***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: NUR 112/113, MA 109, BIO 107*

*Co-requisites: NUR 125, BIO 127, EN 100*

This course is designed to build on previous knowledge learned and will provide opportunities to develop additional competencies necessary to meet the care needs of adult and elderly populations. The critical thinking process is reinforced to promote health and recognize alterations in wellness. Students will utilize the nursing process to develop appropriate nursing diagnoses and interventions for medical surgical adult/geriatric patients. Students will identify and begin to use the concepts of inter-professional collaboration to improve patient care outcomes. Students will be introduced to topics such as nutrition, pain, elimination, chronic illness, sensory alteration, fluid and electrolyte balance, oxygenation, and acid-base balance. The concepts of pharmacology and medication administration will also be introduced.

## ***NUR 125 Fundamentals of Medical/Surgical Nursing Clinical***

*8 Clinical Hours Off-Site 2 Quarter Credit Hours*

*Co-requisite: NUR 124*

This course is the clinical companion to the NUR 124 didactic course. During this clinical experience, students apply the knowledge and skills obtained from the didactic portion of courses to actual patient care situations. Students build on previous learned knowledge and new information to perform a comprehensive physical assessment, analyze assessment data and develop interventions in the care of medical/surgical adult/geriatric patients. Students will master hands-on skills in the nursing lab and learn proper techniques for physical assessment, wound care, indwelling urinary catheters, ostomies, tube feedings, oxygen delivery systems, airway management, and tracheostomy care. The concepts of medication administration, dosage calculation, and pharmacology as it relates to patient care will be reinforced.

## ***NUR 133 Psychiatric and Mental Health Nursing***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: NUR 124/125, BIO 107, BIO 127, EN 100, MA 109*

*Co-requisites: NUR 134, EN 110, SO 203*

This course focuses on assessing, prioritizing, implementing, and evaluating psychotherapeutic interventions for clients with psychiatric conditions using the QSEN standards of patient-centered care, teamwork and collaboration, evidence-based practice (EBP), quality improvement, safety and informatics. Holistic approaches are used to determine common causes of mental health difficulties, and incorporate stress management, wellness and preventative care. Students will conduct mental status exams and evaluate psychiatric disorders using standardized assessment scales and best practices.

## ***NUR 134 Psychiatric and Mental Health Nursing Clinical***

*8 Clinical Hours Off-Site 2 Quarter Credit Hours*

*Prerequisites: NUR 124/125, BIO 107, BIO 127, EN 100, MA 109*

*Co-requisite: NUR 133*

This course focuses on holistic care and clinical priorities for psychiatric patients within the hospital and outpatient settings. Students will conduct mental status exams and evaluate psychiatric priorities using standardized assessment scales and best practice standards. Students will work with the interprofessional team and use QSEN standards to provide optimal care and safety, and anticipate discharge needs. Patient and family education, as well as safe administration of psychotropics, will be emphasized.

## ***NUR 240 Medical Surgical Nursing***

*5 Class Hours 5 Quarter Credit Hours*

*Prerequisites: NUR 133/134, BIO 107, BIO 127, EN 100, EN 110, MA 109, SO 203*

*Co-requisites: NUR 241, BIO 122, PS 140*

This course is part one of a two-part series focusing on medical/surgical nursing care of the adult patient with

acute and chronic health care issues, including special considerations as they apply to the geriatric populations. Students focus on health promotion and disease prevention, comprehensive assessment, pharmacology, pathophysiology, and alterations in the human system affected by disease. This course covers concepts associated with evidenced-based nursing practice, clinical informatics, critical thinking, cultural competence, inter-professional collaboration, client teaching, and end-of-life care utilizing the nursing process. Students explore the decision-making process, prioritizing care, applying skills and knowledge related to patient care.

## ***NUR 241 Medical Surgical Nursing Clinical***

*8 Clinical Hours Off-Site 3 Quarter Credit Hours*

*Prerequisites: NUR 133/134, BIO 107, BIO 127, EN 100, EN 110, MA 109, SO 203*

*Co-requisite: NUR 240*

This course is the clinical component that pairs with NUR 240 Medical Surgical Nursing. In this course, students will apply their previously learned physical assessment skills in the acute care setting. They will also develop their critical thinking when addressing adult patient issues with a focus on health promotion and disease prevention, pharmacology, pathophysiology, and alterations in the human system affected by acute and chronic diseases in the clinical setting. Students will apply evidenced-based nursing practice to the areas of clinical informatics, cultural competence and will participate in inter-professional collaboration, quality improvement, patient teaching, and will address end-of-life care all utilizing the nursing process.

## ***NUR 258 Advanced Medical Surgical Nursing***

*8 Class Hours 8 Quarter Credit Hours*

*Prerequisites: NUR 282/283, NUR 284/285, BIO 107, BIO 127, BIO 122, EN 100, EN 110, MA 109, PS 140, SO 203*

*Co-requisite: NUR 259*

This course focuses on advanced medical/surgical nursing care of the adult client with acute and chronic health issues, including special considerations as they apply to geriatric populations. Students will build on previous knowledge, giving them the opportunity to synthesize prior didactic and clinical learning and experiences with present learning. Students focus on health promotion and disease prevention, assessment, pharmacology, pathophysiology, and alterations in the human system affected by disease. This course covers concepts associated with evidenced-based nursing practice, critical thinking, cultural competence, nutrition, inter-professional collaboration, client teaching, leadership, community-based nursing, and professionalism utilizing the nursing process. Students explore the decision-making process, prioritizing care, applying skills, and synthesizing and evaluating knowledge related to patient care. Students also undergo a review of previously taught concepts in order to prepare them for their board exams upon completion of the program.

***NUR 259 Advanced Medical Surgical Nursing  
Clinical***

*8 Clinical Hours Off-Site 4 Quarter Credit Hours*

*Prerequisites: NUR 282/283, NUR 284/285*

*Co-requisite: NUR 258*

This course is the clinical component that pairs with NUR 258, Advanced Medical Surgical Nursing. In this course, students will apply their previously learned comprehensive physical assessment skills and concepts of collaborative care in the acute care setting and focus on synthesis of patient information. Students will continue developing their critical thinking when addressing adult patient issues with a focus on health promotion, disease prevention, pharmacology, pathophysiology, and alterations in the human system affected by acute and chronic diseases in the clinical setting. Students will analyze evidenced-based nursing practice recommendations and incorporate them into the care of their patients. Students will continue to develop their clinical skills with a focus on the areas of clinical informatics, cultural competence, inter-professional collaboration, client teaching, and end-of-life care, all utilizing the nursing process with special considerations for geriatric population.

***NUR 282 Nursing Care of the Child and Family***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: NUR 240/241, BIO 107, BIO 127, BIO 122, EN 100, EN 110, MA109, PS 140, SO 203*

*Co-requisites: NUR 283, NUR 284/285*

This course builds on concepts of previous nursing courses with the emphasis on utilizing the nursing process in caring for children and families. Students will explore child health promotion and disease prevention in the nursing management of alterations in children's health. Emphasis will be on the developmental needs of children and adolescents. Students will focus on the comprehensive assessment of children and adolescents, pharmacology, pathophysiology, and alterations in the human system affected by various diseases. This course covers concepts associated with evidenced-based nursing practice, clinical informatics, critical thinking, cultural competence, inter-professional collaboration, patient teaching, and end-of-life care utilizing the nursing process. Students explore the decision-making process, prioritizing care, applying skills and knowledge to patient care.

***NUR 283 Nursing Care of the Child and Family  
Clinical***

*8 Clinical Hours Off-Site 2 Quarter Credit Hours*

*Prerequisites: NUR 240/241, BIO 107, BIO 127, BIO 122, EN 100, EN 110, MA109, PS 140, SO 203*

*Co-requisites: NUR 282, NUR 284/285*

This course is the clinical component of NUR 282. Students will focus on the developmental, physical, emotional, and

psychosocial needs of children and adolescents in acute care, community and home settings, and simulated clinical experiences. The focus of this clinical is the application of nursing skills, knowledge, and critical thinking necessary to provide safe and effective evidence-based practice for culturally and socially diverse children and adolescents. Students will develop pediatric clinical reasoning skills as they apply theory to practice in acute care, community, and home settings while utilizing simulated clinical experiences.

***NUR 284 Nursing Care of the Woman and  
Newborn***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: NUR 240/241, BIO 107, BIO 127, BIO 122, EN 100, EN 110, MA109, PS 140, SO 203*

*Co-requisites: NUR 282/283, NUR 285*

This course will build upon previously mastered knowledge and skills to prepare students to provide women's health and family-centered nursing care to childbearing families during the prenatal, intrapartum, and postpartum periods. The emphasis will be focused on the role and scope of practice of the registered nurse regarding education and health promotion, risk assessment, and safe, evidence-based practice for culturally and socially diverse childbearing families. Concepts of caring and quality improvement are integrated throughout the course.

***NUR 285 Nursing Care of the Woman and New-  
born Clinical***

*8 Clinical Hours Off-Site 2 Quarter Credit Hours*

*Prerequisites: NUR 240/241*

*Co-requisites: NUR 282/283, NUR 284*

This course is the clinical component of NUR 284. Students will have dedicated time for obstetrical clinical experiences during the prenatal, intrapartum, and postpartum periods. The focus of this clinical is the application of nursing skills, knowledge, and critical thinking necessary to provide safe evidence-based practice for culturally and socially diverse childbearing families.

***NUR 377 Concepts of Professional Nursing***

*4 Class Hours 10 Lab Hours 9 Quarter Credit Hours*

As the first course in the RN-BSN program, students will examine and apply the interrelated concepts of the nursing meta-paradigm: person, environment, nurse and health. Topics that will be introduced include nursing history, evidence-based practice, professional nursing roles, socialization into professional practice, theoretical frameworks, ethical issues, the teaching/learning process, informatics, communication, teaching at the aggregate level and managing/providing quality care. This course also introduces learners to key concepts and strategies to be successful in the online learning community.



## ***NUR 381 RN Licensure***

*5 Quarter Credit Hours*

NUR 381 awards 5 credits for nurses who have successfully completed their licensure.

## ***NUR 387 Quality and Safety***

*4 Class Hours 10 Lab Hours 9 Quarter Credit Hours*

*Prerequisites: NUR 377, EN 331*

This course focuses on the critical role of the nurse in providing leadership and accountability for patient safety across culturally and ethnically diverse healthcare settings. Students review current national guidelines and reports, reflect on their own experiences as recipients and providers of healthcare, and identify areas for improvement in system effectiveness. An examination of the patient's lived experience of loss due to system ineffectiveness provides a powerful context for students' further professional formation as patient advocates committed to coordinating and ensuring ethical, safe, patient-centered care across healthcare settings.

## ***NUR 397 Health Assessment Across the Lifespan***

*4 Class Hours 10 Lab Hours 9 Quarter Credit Hours*

*Prerequisites: NUR 377, NUR 381, BIO 376*

This course presents the background and skills essential for the holistic model of health assessment principles and physical examination techniques related to the biological, psychological, social, and spiritual dimensions of health, including cultural and developmental determinants across the lifespan. The application of selected principles from the physical and social sciences are incorporated throughout the course. Emphasis is placed on assisting students to develop clinical reasoning skills that prepare them to provide ethical nursing care safely and with a commitment to quality.

## ***NUR 407 Principles of Prevention and Population Health***

*4 Class Hours 10 Lab Hours 9 Quarter Credit Hours*

*Prerequisites: NUR 377, NUR 381, NUR 387, NUR 397, EN 331, BIO 376*

This course will provide the student with a broad introduction to local, national, and international community/public health practices and policies, and the role of nursing within this context. Using evidence-based framework, students will explore epidemiology & genetics, disaster planning, health promotion and disease prevention, case management, health informatics, and factors influencing the delivery and access to community health services.

## ***NUR 417 Nursing Research and Evidence-Based Practice***

*6 Class Hours 6 Lab Hours 9 Quarter Credit Hours*

*Prerequisites: NUR 377, NUR 381, EN 331, PS 410*

Standards of professional nursing practice, the ethics of care, and the moral responsibility to safeguard human participants are emphasized as one engages in the research process. Evidence-based research is examined, informing nursing practice with culturally and ethnically diverse populations. Students will learn to construct relevant research questions, critically appraise quantitative and qualitative research, mixed methods, including other research methods such as meta-analysis and meta-syntheses, and identify evidence that can be used to make clinical decisions to guide practice.

## ***NUR 447 Capstone***

*6 Class Hours 12 Lab Hours 12 Quarter Credit Hours*

*Prerequisites: NUR 377, NUR 381, NUR 387, NUR 397, NUR 407, BIO 376, EN 331, EN 422, PS 410*

The capstone course provides BSN students with the opportunity for informing and shaping current and future practice and leadership in professional nursing. In this experiential course, students will identify an area of need within their work environment. Over the course of the term they will create a project to implement a change in nursing practice addressing the problem selected. They will collaborate with other members of the interdisciplinary care team including those in leadership positions to design a learning experience in a healthcare work environment that meets their professional interests and learning needs. Activities may focus on transitions and coordination of culturally sensitive care services; interprofessional experiences; services in community care settings or professional organizations; policy and quality assurance participation; and/or participation in research applications to practice. Within the virtual learning environment, discussions with peers and faculty critically reflect on leadership roles, interprofessional education, ethics, health policy, and finance and integrate and apply previous learning their professional development. Transitioning to a professional nursing role is explored through examination of trends in practice; advocacy and health literacy; IOM Recommendations and Quality Safety in Nursing Education (QSEN); Standards of Care and Best Practice issues; and lifelong learning and ongoing socialization as a professional in nursing.

### ***NUR 500 Theoretical Foundations for Nursing Practice***

*4 Class Hours 4 Quarter Credit Hours*

This provides the foundations for professional roles in nursing. Major emphasis will be placed on the theoretical basis of the advanced practice roles; effective communication as a member of the inter-professional team; leadership strategies to promote change in the healthcare system; theoretical basis; the history of nursing research, and the application of strategies to deliver competent care to culturally diverse communities that addresses health disparities improving patient outcomes. This course will culminate with an inter-professional education project developed throughout the course that incorporates course concepts and will be implemented by the student.

### ***NUR 505 Advanced Pathophysiology***

*4 Class Hours 4 Quarter Credit Hours*

This course provides students with an understanding of the disordered processes that cause disease and dysfunctions that affect individuals across the lifespan. This course evaluates frequently-encountered primary care conditions focusing on cellular biology and the inflammatory/ infectious biologic response of each body system. Applications to clinical scenarios that students are likely to encounter are reviewed that will aid in the clinical decision-making of diagnosis and treatment of acute and chronic disease.

### ***NUR 515 Pharmacology for Advanced Practice Nurses***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: NUR 500, NUR 505*

*Pre/Co-requisite: NUR 520*

Pharmacology for Advanced Practice nurses focuses on developing advanced knowledge of pharmacology across the lifespan. The principles of clinical pharmacology and pharmacokinetics as they relate to advanced practice nursing will be explored to provide a deep understanding of prescriptive responsibilities, socioeconomic, ethical, and legal factors, as well as clinical decision making regarding specific patient populations. This course will build on your undergraduate education and prior graduate courses and will provide a strong foundation for the integration of pharmacologic practices throughout the curriculum.

### ***NUR 520 Advanced Physical Assessment***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: NUR 500, NUR 505*

*Pre/Co-requisite: NUR 515*

This course builds on the knowledge and skills of basic physical assessment and introduces students to the application of advanced physical assessment principles and skills. These skills are needed to provide primary health care to clients across the lifespan. The course provides

opportunities for the student to perform comprehensive and problem-specific psychosocial, developmental, cultural, and physical assessments. Advanced nursing practice requires refined communication and assessment skills in order to adequately gather pertinent information and employ critical thinking skills in clinical decision making. The information gathered through interviewing and physical assessment allows the advanced practice nurse to effectively evaluate the client and identify the needs of culturally diverse populations.

### ***NUR 555 Clinical Immersion***

*2 Class Hours 2 Quarter Credit Hours*

*Prerequisite: NUR 520*

*Pre/Co-requisite: PH 520, PH 530*

This course will provide the student with the understanding and execution of numerous procedures that an Advanced Practice Nurse may perform. In addition to procedural training, there will be a review of various imaging modalities and interpretation as well as ECG interpretation. This course will be comprised of weekly topics with various modalities of review material. This course includes one Clinical Immersion weekend session (30 clinical hours will be obtained during the class and immersion weekend which are part of the 750 total practicum hours). This provides students the opportunity to apply evidence-based guidelines and research used to support diagnostic procedures in clinical settings to include but not limited to suturing, ECG interpretations, I&D, radiology, GYN exams, and Typhon training. Students will also be required to demonstrate proper physical assessment techniques. This course is designed to prepare the student for their first practicum experience. Please note: Students will obtain 30 practicum hours during this course. *This course is graded as pass/fail.*

### ***NUR 600 Women's Health***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: PH 520, PH 530, NUR 555*

*Co-requisite: NUR 601*

The course will focus on gynecologic health care including health promotion, disease prevention, and management of common disorders seen in gynecologic and primary care settings. The content will also include well-woman care, family planning, primary care of pregnant and post-partum women, and contraception management. Students will learn to identify, diagnose, and manage these problems while concurrently gaining clinical experience in the Obstetric and Gynecologic healthcare setting. Students will assess, diagnose, plan, implement, and evaluate therapeutic regimens for acute and chronic illnesses. Students will participate in a collaborative environment with peers, members of the interdisciplinary team, and the instructor through the clinical decision-making portion of the course. *Please note: The co-requisite course (NUR 601) requires a minimum of 144 practicum hours.*

## ***NUR 601 Women's Health Practicum***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: PH 520, PH 530, NUR 555*

*Co-requisite: NUR 600*

The practicum component of this course offers the nurse practitioner student an opportunity to apply theoretical content with newly developed advanced skills in the role of the advanced practice nurse. The settings for the practicum include, but are not limited to non-acute, acute, and community health care facilities, as well as virtual activities (i.e. simulations, Zoom sessions, etc.). Nurse practitioner students will work with many diverse populations across the lifespan with varied modalities to address health promotion, disease prevention, and acute and chronic conditions. More broadly, students will expand on their inter-professional roles through communication, collaboration, clinical decision-making, and critical thinking as an advanced practice provider. Students will work under the direction and supervision of the clinical preceptor while following the organization's policies and guidelines. All learning activities will contribute to the development of the advanced practice role and provide an opportunity to expand upon the student's professional portfolio. Please note: This course requires a minimum of 144 practicum hours. Students must have prior approval of all legal documentation completed per facility policy to participate in the clinical. *This course is graded as pass/fail.*

## ***NUR 605 Primary Care of the Infant, Child, and Adolescent***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: NUR 600/601*

*Co-requisite: NUR 606*

This course will focus on the health promotion, disease prevention, and management of acute and chronic disorders affecting patients from infancy to 21 years of age. This course provides students with the opportunity to understand and apply concepts in the primary healthcare of infants, children and adolescents while focusing on common health problems. Students will learn to identify, diagnose, and manage these problems while concurrently gaining clinical experience in the pediatric healthcare setting. Students will have the opportunity to assess, diagnose, plan, implement, and evaluate therapeutic regimens for acute and chronic illnesses commonly found in infants, children and adolescents in a collaborative environment with fellow students and the instructor through the clinical decision-making portion of the course. *Please note: The co-requisite course (NUR 606) requires a minimum of 144 practicum hours.*

## ***NUR 606 Primary Care of the Infant, Child, and Adolescent Practicum***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: NUR 600/601*

*Co-requisite: NUR 605*

The practicum component of this course offers the nurse practitioner student an opportunity to apply theoretical

content with newly developed advanced skills in the role of the advanced practice nurse. The settings for the practicum include, but are not limited to non-acute, acute, and community health care facilities, as well as virtual activities (i.e. simulations, Zoom sessions, etc.). Nurse practitioner students will work with many diverse populations across the lifespan with varied modalities to address health promotion, disease prevention, and acute and chronic conditions. More broadly, students will expand on their inter-professional roles through communication, collaboration, clinical decision-making, and critical thinking as an advanced practice provider. Students will work under the direction and supervision of the clinical preceptor while following the organization's policies and guidelines. All learning activities will contribute to the development of the advanced practice role and provide an opportunity to expand upon the student's professional portfolio. Please note: This course requires a minimum of 144 practicum hours. Students must have prior approval of all legal documentation completed per facility policy to participate in the clinical. *This course is graded as pass/fail.*

## ***NUR 610 Primary Care of the Adult I***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: NUR 605/606*

*Co-requisite: NUR 611*

This course is the first of three courses that will focus on the health promotion, disease prevention, and management of the adult and geriatric population. The course material is further broken down by body systems for a thorough yet concise understanding of acute and chronic illness, and management and prevention in the adult and geriatric population. Students will learn to identify, diagnose, and manage these problems while concurrently gaining clinical experience in the adult and geriatric healthcare setting. Students will have the opportunity to assess, diagnose, plan, implement, and evaluate therapeutic regimens for acute and chronic illnesses within a collaborative environment with fellow students and instructors through the clinical decision-making portion of the course. *Please note: The co-requisite course (NUR 611) requires a minimum of 144 practicum hours.*

## ***NUR 611 Primary Care of the Adult I Practicum***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: NUR 605/606*

*Co-requisite: NUR 610*

The practicum component of this course offers the nurse practitioner student an opportunity to apply theoretical content with newly developed advanced skills in the role of the advanced practice nurse. The settings for the practicum include, but are not limited to non-acute, acute, and community health care facilities, as well as virtual activities (i.e. simulations, Zoom sessions, etc.). Nurse practitioner

**Courses are listed alphabetically by course code.**

students will work with many diverse populations across the lifespan with varied modalities to address health promotion, disease prevention, and acute and chronic conditions. More broadly, students will expand on their inter-professional roles through communication, collaboration, clinical decision-making, and critical thinking as an advanced practice provider. Students will work under the direction and supervision of the clinical preceptor while following the organization's policies and guidelines. All learning activities will contribute to the development of the advanced practice role and provide an opportunity to expand upon the student's professional portfolio. *Please note: This course requires a minimum of 144 practicum hours. Students must have prior approval of all legal documentation completed per facility policy to participate in the clinical. This course is graded as pass/fail.*

***NUR 615 Primary Care of the Adult II***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: NUR 610/611*

*Co-requisite: NUR 616*

This course is the second of three courses that will focus on the health promotion, disease prevention, and management of the adult and geriatric population. The course material is further broken down by body systems for a thorough yet concise understanding of acute and chronic illness, and management and prevention in the adult and geriatric population. Students will learn to identify, diagnose, and manage these problems while concurrently gaining clinical experience in the adult and geriatric healthcare setting. Students will have the opportunity to assess, diagnose, plan, implement, and evaluate therapeutic regimens for acute and chronic illnesses within a collaborative environment with fellow students and instructors through the clinical decision-making portion of the course.

***NUR 616 Primary Care of the Adult II Practicum***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: NUR 610/611*

*Co-requisite: NUR 615*

The practicum component of this course offers the nurse practitioner student an opportunity to apply theoretical content with newly developed advanced skills in the role of the advanced practice nurse. The settings for the practicum include, but are not limited to non-acute, acute, and community health care facilities, as well as virtual activities (i.e. simulations, Zoom sessions, etc.). Nurse practitioner students will work with many diverse populations across the lifespan with varied modalities to address health promotion, disease prevention, and acute and chronic conditions. More broadly, students will expand on their inter-professional roles through communication, collaboration, clinical decision-making, and critical thinking as an advanced practice provider. Students will work under the direction

and supervision of the clinical preceptor while following the organization's policies and guidelines. All learning activities will contribute to the development of the advanced practice role and provide an opportunity to expand upon the student's professional portfolio. *Please note: This course requires a minimum of 144 practicum hours. Students must have prior approval of all legal documentation completed per facility policy to participate in the clinical. This course is graded as pass/fail.*

***NUR 620 Primary Care of the Adult III***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: NUR 615/616*

*Co-requisite: NUR 621*

This course is the last of the three courses that focuses on the health promotion, disease prevention, and management of the adult and geriatric population. The course material is further broken down by body systems for a thorough yet concise understanding of acute and chronic illness, and management and prevention in the adult and geriatric population. Students will learn to identify, diagnose, and manage these problems while concurrently gaining clinical experience in the adult and geriatric healthcare setting. Students will have the opportunity to assess, diagnose, plan, implement, and evaluate therapeutic regimens for acute and chronic illnesses within a collaborative environment with fellow students and instructors through the clinical decision-making portion of the course. Students will submit an e-portfolio at the completion of this course. This course will also offer students a cumulative review of the past four NUR 600 level courses (NUR 600, NUR 605, NUR 610, and NUR 615). The focus of the material will be an expedited review to prepare students for their licensure exam. *Please note: The co-requisite course (NUR 621) requires a minimum of 144 practicum hours.*

***NUR 621 Primary Care of the Adult III Practicum***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: NUR 615/616*

*Co-requisite: NUR 620*

The practicum component of this course offers the nurse practitioner student an opportunity to apply theoretical content with newly developed advanced skills in the role of the advanced practice nurse. The settings for the practicum include, but are not limited to non-acute, acute, and community health care facilities, as well as virtual activities (i.e. simulations, Zoom sessions, etc.). Nurse practitioner students will work with many diverse populations across the lifespan with varied modalities to address health promotion, disease prevention, and acute and chronic conditions. More broadly, students will expand on their inter-professional roles through communication, collaboration, clinical decision-making, and critical thinking as an advanced practice provider. Students will work under the direction

# COURSE DESCRIPTIONS

and supervision of the clinical preceptor while following the organization's policies and guidelines. All learning activities will contribute to the development of the advanced practice role and provide an opportunity to expand upon the student's professional portfolio. *Please note: This course requires a minimum of 144 practicum hours. Students must have prior approval of all legal documentation completed per facility policy to participate in the clinical. This course is graded as pass/fail.*

## OSH - OCCUPATIONAL SAFETY AND HEALTH

### *OSH 030 Construction Safety and Health Training*

*4 Class Hours 4 Quarter Credit Hours*

This program includes OSHA policies, procedures, and standards, as well as construction safety and health principles. The 30-hour OSHA Construction Safety and Health Training course is intended to provide a variety of training to students/workers who may exercise some level of safety responsibility. The training will place emphasis on those areas that are most hazardous, using OSHA standards as a guide. This program is more applicable for the construction supervisor, with a more intensified focus on various occupational safety and health standards. Course participants can expect to become familiar with the OSHA standards in 29 CFR 1926; identify common causes of accidents and fatalities in hazardous areas of construction; recommend abatement techniques for such hazards; and recognize various construction processes, materials, and equipment.

## OT - OCCUPATIONAL THERAPY

### *OT 310 Service Delivery Models in Occupational Therapy*

*4 Class Hours 4 Quarter Credit Hours*

This course provides students with an advanced understanding of concepts that underlie the provision of occupational therapy services. Analysis of the financial, legal, and regulatory contexts in which OT services are provided will serve as a basis for managing OT services including clinical and administrative decision-making.

### *OT 320 Theoretical and Clinical Reasoning in Occupational Therapy*

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: OT 310, EN 331*

This course provides students with an in-depth understanding of the influence of theory on occupational therapy practice. Various types of clinical reasoning will be analyzed and applied to students' practice experiences. Students

will become familiar with the ways in which theory is developed and begin the process of using theoretical information to make clinical decisions. Use of the current Occupational Therapy Practice Framework will be included.

### *OT 325 Kinesiology*

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: OT 310, OT 320*

This course will provide students with advanced knowledge of human movement including joint motions and muscle actions, biomechanics and movement analysis. Manual muscle testing, goniometry and other biomechanical assessment techniques will be taught. Emphasis will be on the analysis of normal movement, creating treatment plans to maintain and restore musculoskeletal functions, and the development of intervention planning for orthopedic conditions, including an introduction to modalities.

### *OT 410 Critical Analysis of Scientific Literature*

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: OT 310, OT 320, OT 325, EN 331, EN 422 (or EN 421), PS 410*

This course is the first in the sequence addressing research competency. The goal of this course is that students become able to locate and understand a research article. Topics include identifying and understanding the components of a research article, judging its relevance to practice situations, and understanding the components of evidence-based practice. Examples will utilize both qualitative and quantitative research methods. Students should be able to critique an article for possible inclusion in a literature review.

### *OT 530 Service Management in Mental Health*

*4 Class Hours 2 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: OT 310, OT 320, OT 325, EN 422 (or EN 421), PS 410*

This is the first course in the occupational therapy service management sequence. Emphasis is on evaluation and treatment planning for OT intervention with people who have disorders in the psychosocial realm. This course will serve as an introduction to the procedures, terminology, and statistics associated with the use of assessment tools. Students will select and apply appropriate frames of reference for use with case studies that are presented on paper or in interactive media. Students will practice leading the occupational therapy team in settings such as psychiatric hospitals, geropsychiatric units, adult day programs, and other community-based programs.

### ***OT 536 Level I A Fieldwork***

*3 Class Hours 1 Quarter Credit Hour*

*Prerequisites: OT 310, OT 320, OT 325, EN 422 (or EN 421), PS 410*

This is the first of three distinct, required Level I fieldwork experiences. Students will be placed in a setting in which they can focus on psychosocial issues with a variety of populations. This will allow engagement with the populations and concerns being addressed in the concurrent service management course. Students will experience the role of the occupational therapist in healthcare and wellness, with an emphasis on evaluation, intervention and program planning, and development of advanced practical skills.

### ***OT 540 Service Management in Pediatrics***

*4 Class Hours 2 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: OT 310, OT 320, OT 325, OT 410, OT 530, OT 536, EN 421/422, PS 410*

This is the second course in the service management sequence. Emphasis is on evaluation and treatment planning for OT intervention with children and adolescents. Students will select and apply appropriate frames of reference for use with case studies that are presented on paper or in interactive media. Students will practice leading the occupational therapy team in settings such as schools, early intervention, and pediatric rehabilitation.

### ***OT 545 Leadership and Advocacy***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: OT 310, OT 320, OT 325, OT 410, OT 530, OT 536, EN 421/422, PS 410*

This is a course designed to provide students with experience and knowledge in leading teams, programs, and forging new ideas in which occupational therapy practitioners may positively influence people's lives. Leadership requires student knowledge of management and administration. Advocacy requires student knowledge for fostering change and new initiatives within internal and external environments such as facility management, reimbursement, and legislative action.

### ***OT 548 Research Design***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: OT 310, OT 320, OT 325, OT 410, OT, 530, OT 536, OT 540, OT 545, EN 331, EN 422 (or EN 421), PS 410*

This is the second course in the research sequence, in which students focus on designing a beginning level research project in an area of interest. Students will demonstrate an understanding of qualitative and quantitative research designs and methods used in healthcare, education, and community-based programs. They will identify the strengths and weaknesses in research designs for varied types of clinical questions.

### ***OT 550 Service Management for Adult Rehabilitation***

*4 Class Hours 2 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: OT 310, OT 320, OT 325, OT 410, OT 530, OT 536, OT 540, OT 545, EN 421/422, PS 410*

This is the third course in the occupational therapy service management sequence. Emphasis is on evaluation and treatment planning for OT intervention with adults who have physical, cognitive, and perceptual disorders. Students will apply advanced knowledge in rehabilitation, including the use of physical agent modalities, ergonomics, post-surgical procedures, design and fabrication of orthotics, and assistive technology. Students will select and apply appropriate frames of reference for use with case studies that are presented on paper or in interactive media. They will practice leading the occupational therapy team in settings such as acute-care hospitals, rehabilitation units, and outpatient settings.

### ***OT 556 Level I C Fieldwork***

*3 Class Hours 1 Quarter Credit Hour*

*Prerequisites: OT 310, OT 320, OT 325, OT 410, OT 530, OT 536, OT 540, OT 545, EN 421/422, PS 410*

This is the last of three distinct, required Level I fieldwork experiences. This fieldwork experience will allow student engagement with the adult rehabilitation or geriatric population being addressed in the concurrent service management courses. Students will experience the role of the occupational therapist in health care and wellness, with an emphasis on evaluation, intervention and program planning, and development of advanced practical skills.

### ***OT 560 Service Management in Geriatrics***

*4 Class Hours 2 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: OT 310, OT 320, OT 325, OT 410, OT 530, OT 536, OT 540, OT 545, OT 548, OT 550, OT 556, EN 421/422, PS 410*

This is the last course in the occupational therapy service management sequence. Emphasis is on evaluation and treatment planning for OT intervention to enhance occupational participation for people aging with or without disabilities. Students will practice leading the occupational therapy team to meet the unique needs of this population in current practice in settings such as skilled nursing and assisted living facilities, adult day programs, and home care. Students will select and apply appropriate frames of reference for use with case studies that are presented on paper or in interactive media.

## ***OT 575 Wellness, Participation and Practicum in Population-Based OT Services***

*4 Class Hours 4 Lab Hours 6 Quarter Credit*

*Prerequisite: OT 310, OT 320, OT 325, OT 410, OT 530, OT 536, OT 540, OT 545, OT 548, OT 550, OT 556, EN 421/422, PS 410*

This is a course focused on student engagement in preventative care and exploring methods to engage populations, throughout the lifespan, in meaningful occupations of choice. This course is centered on the philosophy that active participation increases the likelihood of wellness and continued health while maximizing the overall well-being of the individual involved. The course is dedicated to the development of leadership roles in an emerging, community-based program providing students the chance to actively promote wellness and participation across the lifespan. This course will allow students to select a population of interest, while employing strategies learned in previous courses to engage and encourage participation in meaningful activities and facilitate the participants' engagement in occupations of choice.

## ***OT 670 Practice Issues for the Occupational Therapist Seminar***

*6 Class Hours 6 Quarter Credit Hours*

*Prerequisites: OT 310, OT 320, OT 325, OT 410, OT 530, OT 536, OT 540, OT 545, OT 548, OT 550, OT 556, OT 560, OT 575, EN 421/422, PS 410*

This is a course that integrates previously learned material into a culmination of problem-solving, case management, and advanced practice analysis related to the field of occupational therapy. Students will engage in higher level analysis and synthesis of issues pertaining to occupational therapy practice and development. Case-based and problem-based learning will be the foci of this seminar with instructor facilitation supporting student leadership and team building.

## ***OT 673 Capstone Project***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: OT 310, OT 320, OT 325, OT 410, OT 530, OT 536, OT 540, OT 545, OT 548, OT 550, OT 556, OT 560, OT 575, EN 421/422, PS 410*

This is the third course in the research sequence, focusing on participation in beginning level research. Research projects will be faculty-facilitated and may be completed individually or in small groups. This is the final project of the program and may include the research and development of a new program or social initiative emphasizing occupational therapy leadership and emerging practice.

## ***OT 688 and OT 698 Level II Fieldwork***

*35-40 Hours per Week for 12 Weeks 2 Placements*

*Prerequisite: All Occupational Therapy program courses for Terms I through VII*

Level II Fieldwork will be provided in two distinct settings in the community to allow students the opportunity to experience the role of the occupational therapist while focusing on assessment and evaluation of clients and client populations, development of programs and leadership roles in the health care community. Level II Fieldwork is offered after the completion of all MSOT coursework outlined in the curriculum. Each course will run for 12 consecutive weeks, full-time. Part-time fieldwork (at least 50% of full-time equivalent) opportunities may be available in some cases. Two distinct (2) Level II fieldwork experiences are required.

## ***OT 901 Post-Professional Doctoral Project I***

*4 Class Hours 4 Quarter Credit Hours*

This course is designed to guide post-professional doctoral students in further exploring the topic for their post-professional doctoral project. Students will begin to gather theoretical, empirical or clinical evidence to support their focus of studies. Instructors will help scaffold their learning in upcoming courses and terms.

## ***OT 902 Quantitative Analysis***

*4 Class Hours 4 Quarter Credit Hours*

This course is designed to support post-professional doctoral students in developing their post-professional doctoral project and to assist them in defining their mode of inquiry. The course has been designed to guide students through a range of issues and considerations which should inform their general approach to research. It will give students advanced knowledge of post-graduate research and quantitative methodologies. Students will learn to apply a range of research tools and will be equipped to plan and organize their research.

## ***OT 903 Reflective Practice***

*4 Class Hours 4 Quarter Credit Hours*

The objective of this course is to expand the post-professional doctoral student's ability to utilize methods of reflective practice. Critical reflection is essential to becoming a successful leader. This course will introduce theories of learning, knowledge generation, framing and reframing, theories of action, reflection-in-practice, and conceptual innovation, and provide students with opportunities to experiment with these theories in real life through practical exercises in which they reflect on real situations that they have faced in their past professional experience. Through these practical exercises, students will have the opportunity to reflect on their thinking capacities in the context of their occupational therapy practice.

**Courses are listed alphabetically by course code.**

### ***OT 904 Doctoral Project II: Project Design and Proposal***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: OTD 901*

In this course, post-professional doctoral students design their project. Students work with faculty and mentors to develop a project proposal.

### ***OT 905 Qualitative Analysis***

*4 Class Hours 4 Quarter Credit Hours*

This course is designed to guide post-professional doctoral students in further exploring their post-professional doctoral project and to assist them in defining their mode of inquiry. This course presents an overview of qualitative research methods and prepares students in the data collection skills, data analysis techniques, interpretation and dissemination of findings, and general knowledge necessary to undertake independent research using qualitative methodology.

### ***OT 906 Wellness, Participation and Health Promotion***

*4 Class Hours 4 Quarter Credit Hours*

This course is designed to incorporate evidence-based practice for the management of clients in the area of wellness and health promotion. This course provides students with a strong theoretical foundation for wellness, health promotion and maintenance of participation in meaningful activities across the lifespan. The emphasis is on theories and research to promote and preserve wellness lifestyles in client populations using epidemiological principles, disease risk appraisal and reduction, and other tools. Roles in advanced occupational therapy practice as they relate to the health of diverse populations are identified and explored.

### ***OT 907 Doctoral Project III: Project Implementation***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: OTD 904*

Students gather data, implement a service or programs, or further develop theoretical constructs as part of their doctoral project.

### ***OT 908 Entrepreneurship***

*3 Class Hours 3 Quarter Credit Hours*

Students will learn to distinguish, generate and form opportunities, deliver the theoretical and practical leadership to create economic, therapeutic, and social value through the application of scholarly research. Students will assess the feasibility of the doctoral projects while functioning as drivers of opportunities, developing viable business or intervention models. Emphasis will be spent on the predictive and creative approaches to all aspects of launching, growing and expanding a business or interventions within complex, loosely-coupled organizations. This course will provide a broad skill-set for business within an occupational therapy context yet allow for highly customized paths for

students to apply entrepreneurship principles to their doctoral project.

### ***OT 909 Issues with Contemporary and Future Practice***

*3 Class Hours 3 Quarter Credit Hours*

This course provides students the opportunity to expand the focus of the doctoral project to bigger audiences by allowing students to develop insight into their role in facilitating change to the profession. Examination of contemporary and future practice opportunities will be explored.

### ***OT 910 Doctoral Project IV: Doctoral Project Completion and Defense***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: OD 907*

Students analyze and interpret data and or evaluate their program as well as define and summarize any theoretical constructs relevant to their doctoral project. Students present the final doctoral project and defend it to their doctoral committee comprised of mentors, faculty and community stakeholders.

### ***OT 990 Doctoral Project Continuation***

*1 Class Hour 1 Quarter Credit Hour*

This course is designed for post-professional doctoral students to continue to develop their Doctoral Project. The primary advisor will be available to advise and assist students as they progress in the development of their final project. This course is offered on a pass/fail basis.

## **OTA - OCCUPATIONAL THERAPY ASSISTANT**

### ***OTA 110 Foundations of Occupational Therapy Assistant Practice***

*4 Class Hours 4 Quarter Credit Hours*

*Co-requisite: OTA 111*

This course introduces students to occupational therapy practice and the role of the occupational therapy assistant. Topics include history, principles, philosophy, and foundations that guide the profession of occupational therapy. An understanding of occupations as core to occupational therapy intervention and practice will be explored along with occupations-based models.



## ***OTA 111 Foundations of Occupational Therapy Assistant Practice Lab***

*4 Lab Hours 2 Quarter Credit Hours*

*Co-requisite: OTA 110*

This is the concurrent practical applications course to OTA 110. The focus is on using hands-on experiences to understand human occupation and the language and concepts of the profession.

## ***OTA 122 Development of Human Occupation Across the Lifespan***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: BIO 100/101, OTA 110/111, EN 100*

Students will explore normal human physical, social, behavioral and cognitive development, and performance throughout the lifespan. Typical changes in normative life tasks and occupational roles in relationship to environment and culture will be discussed. Theories including those of Maslow, Erikson and Piaget will be compared as they relate to normal development.

## ***OTA 123 Functional Kinesiology***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: BIO 100/101, BIO 120/121, OTA 110/111*

The focus of this course is to lay the foundation for movement analysis. Students will learn biomechanics, physical task skill analysis and kinesiology, the study of human movement. Joint motion and muscle action will be explored describing prime movers of the human body. The lab is a practical applications course for the understanding of normal movement, kinesiology, and body mechanics. Students will learn to assess strength and range of motion as well as to analyze movement during activities.

## ***OTA 132 Pediatric Populations***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: BIO 100/101, BIO 120/121, OTA 122, OTA 137/138*

*Co-requisite: OTA 133*

This course focuses on the study of pediatrics and the common disabilities treated in occupational therapy. The various environments in which occupational therapists practice with children will be explored. Students will gain an understanding of the pathology and dysfunction commonly treated in this population and will look at the occupational roles of normal as well as developmentally disabled individuals from infancy to adolescence. Human occupation and the occupational role of the child and adolescent will be reviewed in the context of living with disabling conditions. Legal and ethical considerations in pediatric practice will be discussed.

## ***OTA 133 Pediatric Practice for Occupational Therapy***

*3 Class Hours 4 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: BIO 100/101, BIO 120/121, OTA 122, OTA 137/138*

*Co-requisite: OTA 132*

This course introduces students to occupational therapy process, evaluation, and treatment intervention in the area of pediatrics. Students will explore various assessments and treatment interventions used by the occupational therapy assistant in the pediatric practice area. Content will include postural control, feeding, positioning, and handling techniques, sensory integrative techniques, caregiver training, age-appropriate activities of daily living, education, play and leisure, and the student role. Instruction in performance areas for occupational therapy intervention for the pediatric population is provided. Practical applications, including treatment planning, treatment interventions, and the use of assistive technologies for the pediatric population will be explored.

## ***OTA 137 Mental Health Populations and Practice for Occupational Therapy***

*3 Class Hours 4 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: BIO 100/101, OTA 110/111, EN 100*

*Co-requisite: OTA 138*

This course is the first in the sequence of OTA courses related to a segment of occupational therapy practice. The lecture and lab content emphasize the knowledge that students need for successful work with people at various points on the mental health/illness spectrum. Information includes features of specific diagnoses and practice settings, frames of reference and safety issues. Students will be introduced to the tools commonly used to assess relevant client factors and occupational performance. Students will plan and practice individual and group intervention techniques, including the use of group dynamics. Emphasis is placed on understanding the importance of psychosocial issues and therapeutic use of self as components of the holistic approach of occupational therapy in helping people of all ages assume and resume desired occupations in various life contexts.

## ***OTA 138 Level I Fieldwork - Mental Health***

*3 Field Hours 1 Quarter Credit Hour*

*Prerequisites: AHS 120, BIO 100/101, OTA 110/111, EN 100*

*Co-requisite: OTA 137*

The first of two Level I fieldwork opportunities, this course offers students 30 hours of direct experience within the community in a clinical practice setting that focuses on the psychological and social factors that may limit engagement in occupation. Through interaction and selected participation, students will begin to integrate academic coursework with direct client interaction.

***OTA 238 Level I Fieldwork – Adult Rehab***

*3 Field Hours 1 Quarter Credit Hour*

*Prerequisites: OTA 123, OTA 132/133, EN 110*

*Co-requisites: OTA 242, OTA 243*

Level IB Fieldwork is the second of two 30-hour, on-site experiences which offers students direct interaction with the adult/geriatric population. Through observation and participation in practice settings, students will begin to integrate what they see in the community with their academic coursework, creating an opportunity for professional growth and development. The primary focus of this fieldwork experience will be to observe adults within a variety of service settings.

***OTA 242 Adult Populations***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: OTA 123, OTA 132/133, EN 110*

*Co-requisites: OTA 238, OTA 243*

This course focuses on the pathology and dysfunction of the adult population treated by occupational therapy practitioners. It includes common conditions seen in occupational therapy. Students will explore the various occupations and occupational roles of adulthood and the effects of dysfunction on the adult. The study of environment and adaptations will be explored. Work, activities of daily living, and leisure will be addressed.

***OTA 243 Adult Practice for Occupational Therapy***

*3 Class Hours 6 Field Hours 6 Quarter Credit Hours*

*Prerequisites: OTA 123, OTA 132/133, EN 110*

*Co-requisites: OTA 238, OTA 242*

This course focuses on evaluation and treatment interventions used by the occupational therapy assistant working with adults with physical and cognitive/perceptual disabilities. Combining lecture and laboratory work, students will consider various practice models to plan, grade, and perform treatment interventions with an emphasis on purposeful activities and occupations to enhance role function. Use of adaptive equipment, splinting, and modalities will be explored.

***OTA 250 Gerontology Practice for Occupational Therapy***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisites: OTA 123, OTA 132/133, EN 110*

This course is designed to provide students with an understanding of the unique needs of the older adult. Students will apply principles of physical rehabilitation and psychosocial practice in an effort to gain an understanding of geriatric occupational therapy. Students will learn therapeutic interventions aimed at both prevention of dysfunction and restoration of health in older adults. They will demonstrate an understanding of occupational roles in later life. Students will study treatment interventions, adaptive techniques, and environmental technology utilized to remediate dysfunction and maximize independence in elders. Students will discuss cultural issues and professional ethics as they relate to this population.

***OTA 255 Practice Issues for the Occupational Therapy Assistant***

*4 Lab Hours 2 Quarter Credit Hours (Meets in the first two weeks of Term V)*

*Prerequisites: OTA 238, OTA 242, OTA 243, OTA 250, MA 109 (or MA 100/110), SS/Humanities Electives*

*Co-requisite: OTA 258*

The foundation of occupational therapy practice lies in the ability to problem solve for a variety of conditions or situations to restore, remediate, or maintain function. Students will gain the additional knowledge needed to understand and apply clinical reasoning in the field of occupational therapy. Students will demonstrate their clinical reasoning with case-based projects. Students will be introduced to administrative duties typically required of an occupational therapy assistant in the practice areas they will enter for Level II fieldwork. Laws and ethical standards governing the practice of occupational therapy will also be discussed during this hands-on application course.

***OTA 258 Level II Fieldwork I***

*35-40 hours per week for 8 weeks, 10 Quarter Credit Hours*

*Prerequisites: OTA 238, OTA 242, OTA 243, OTA 250, MA 109 (or MA 100/110), SS/Humanities Electives*

*Co-requisite: OTA 255*

The Level II Fieldwork is the final phase of the OTA program. Working with occupational therapy recipients, students will participate in the evaluation process, planning and implementing treatment programs, communicating effectively, and developing professional relationships. Students will work under the supervision of a COTA or OTR who meets criteria as a clinical educator. The student and academic fieldwork coordinator will collaboratively select the practice environment. All practice environments must have a signed contract with the university. This is a full-time placement in a facility for 8 weeks. Actual contact time is 35-40 hours per week.

***OTA 263 Senior Capstone and Practice Development Seminar***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: OTA 255*

*Co-requisite: OTA 268*

This course provides students the opportunity to complete a capstone project in an area of interest. Through a combined partnership with faculty, students will select a project of their choice and complete the project with faculty as advisers. Students will be given the opportunity to present the final projects in a senior colloquium. This final course of the OTA curriculum will allow students to expand their knowledge of legal, ethical and professional considerations in occupational therapy with application to the fieldwork they have just completed. Professional licensure requirements, resume writing and job searching, and preparation for the national certification exam will be emphasized.

## ***OTA 268 Level II Fieldwork II***

*35-40 Hours per week for 8 weeks 10 Quarter Credit Hours*

*Prerequisite: OTA 258*

*Co-requisite: OTA 263*

This second Level II Fieldwork experience will offer students further exposure to occupational therapy practice. The second practice environment will provide a different experience for students to continue to develop skills as an occupational therapy assistant. Opportunities to engage in an emerging practice environment may be offered for either of the Level II Fieldwork courses. Supervision in these environments will be shared with occupational therapy practitioners and other healthcare providers. All practice environments must have a signed contract with the university. This is a full-time placement in a facility for 8 weeks. Actual contact time will be 35-40 hours per week.

## **PAR – PARAMEDIC TECHNOLOGY**

### ***PAR 100 Basic EMT***

*6 Class Hours 2 Lab Hours 7 Quarter Credit Hours*

PAR 100 credits do not apply towards the Paramedic Technology degree program.

This course is designed to instruct students to the level of Emergency Medical Technician-Basic, formerly the EMT-Ambulance, who serves as a vital link in the chain of the healthcare team. It is recognized that the majority of pre-hospital emergency medical care will be provided by the EMT-Basic. This includes all skills necessary for the individual to provide emergency medical care at a basic life support level with an ambulance service or other specialized service.

### ***PAR 105 EMT Licensure***

*0 Quarter Credit Hours*

PAR 105 awards 0 credits for EMTs who have successfully completed their licensure.

### ***PAR 110 Introduction to Advanced Pre-Hospital Care***

*3 Class Hours 3 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: PAR 100 or PAR 105*

At the completion of this course, students will understand their roles and responsibilities within an EMS system and how these roles and responsibilities differ from other levels of providers.

### ***PAR 115 Pharmacology for Advanced Pre-Hospital Care***

*3 Class Hours 3 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: PAR 110*

This course covers the general principles of pharmacology and the methods of calculating drug dosages. The main focus is the nature and effects of drugs administered by paramedics in the treatment of patients in the clinical and field settings.

### ***PAR 120 Cardiology and Advanced Cardiac Life Support***

*4 Class Hours 4 Lab Hours 6 Quarter Credit Hours*

*Prerequisite: PAR 115*

This course provides students with the knowledge and skills needed to recognize and successfully manage cardiovascular emergencies encountered in the field. Following the standards of the American Heart Association and the National Registry of EMTs, students learn cardiac anatomy and physiology, ECG recognition, and 12-lead ECG. Extensive coverage is devoted to the pharmacological and electrical management techniques used in treating acute cardiac events, including respiratory and cardiac arrest.

### ***PAR 123 Advanced Pre-Hospital Care***

*4 Class Hours 2 Lab Hours 5 Quarter Credit Hours*

*Prerequisite: PAR 120*

The first half of this course focuses on pathophysiology common to all disease processes: shock, acid-base, and airway. The second half covers the pathophysiology of the pulmonary, nervous, gastrointestinal, and genitourinary systems. It reviews IV fluid administration and medical math, briefly reviews the anatomy and physiology of each topic covered and uses a scenario-based approach to assessment and management.

### ***PAR 130 Patient Assessment and Human Systems***

*4 Class Hours 2 Lab Hours 5 Quarter Credit Hours*

*Prerequisite: PAR 120*

This course covers the theory, skills, and terminology needed to perform physical assessment, including overview of basic anatomy and physiology, systematic assessment of the patient, the process of obtaining the patient's medical history, procedures in performing the physical examination and a concise method of recording the findings.

### ***PAR 242 Trauma Management***

*5 Class Hours 2 Lab Hours 6 Quarter Credit Hours*

*Prerequisites: PAR 123, PAR 130*

This course provides students with the knowledge and skills needed to recognize and successfully manage patients who have experienced traumatic events within the pre-hospital environment, including those who are injured or have experienced traumatic death.

**Courses are listed alphabetically by course code.**

### ***PAR 247 Clinical I***

*16 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: PAR 242*

Clinical education represents the most important component of paramedic education since this is where students learn to synthesize cognitive and psychomotor skills. To be effective, clinical education should integrate and reinforce the didactic and skills laboratory components of the program. Clinical instruction should follow sound educational principles, be logically sequenced to proceed from simple to complex tasks, have specific objectives, and be closely supervised and evaluated. Students should not be simply sent to clinical environments with poorly planned activities and be expected to benefit from the experience. The ability to serve in the capacity of an entry-level paramedic requires experience with actual patients. This process enables students to build a database of patient experiences that serves to help in clinical decision-making and pattern recognition.

### ***PAR 250 Topics in Advanced Life Support***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: PAR 242*

This course provides paramedic students with information they need to know about special populations. This course will look at geriatrics, abuse and neglect, and assault of all patient populations. Within the course, students will also learn about patients with special medical/traumatic challenges, as well as chronic care.

### ***PAR 254 OB/Pediatrics***

*4 Class Hours 2 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: PAR 247, PAR 250*

This course provides paramedic students with information they need to know about obstetrics and gynecology. Following the completion of this course, the paramedic should be able to integrate patient assessment findings, patient history, and knowledge of anatomy, physiology, pathophysiology, and basic and advanced life support interventions to recognize and manage patients with gynecologic emergencies. There will also be a demonstration how to integrate patient assessment findings, patient history, and knowledge of anatomy, physiology, pathophysiology, and basic and advanced life support interventions to recognize and manage problems in neonatal and pediatric patients.

### ***PAR 257 Clinical II***

*16 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: PAR 247, PAR 250*

This final clinical education course builds upon the two previous clinical courses to synthesize cognitive and psychomotor skills. This course provides reinforcement for the didactic and skills laboratory components of the program. The ability to serve in the capacity of an entry-level paramedic requires experience with actual patients. This process enables students to build a database of patient

experiences that serves to help in clinical decision-making and pattern recognition. As part of the course, students will complete a final project that reflects upon their clinical experience.

### ***PAR 262 Transport Special Considerations***

*4 Class Hours 2 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: PAR 254, PAR 257*

This course provides paramedic students with information to be able to place patient care tasks in the context of ground ambulance operations to safely respond to calls and transport patients. Students will also be able to make transport decisions based on a patient's condition to include the use of aeromedical evacuation, multiple resource needs, and specialty situations. Students will also gain knowledge on how to handle hazardous material scenes, as well as crime scenes. Additionally, this course provides paramedic students with information they need to be able to integrate patient assessment findings, patient history, and knowledge of anatomy, physiology, pathophysiology, and basic and advanced life support interventions to recognize and manage problems with psychiatric and behavioral emergencies.

### ***PAR 267 Capstone Project***

*16 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: PAR 254, PAR 257*

Clinical education represents the most important component of paramedic education since this is where students learn to synthesize cognitive and psychomotor skills. To be effective, clinical education should integrate and reinforce the didactic and skills laboratory components of the program. Clinical instruction should follow sound educational principles, be logically sequenced to proceed from simple to complex tasks, have specific objectives, and be closely supervised and evaluated. Students should not be simply sent to clinical environments with poorly planned activities and be expected to benefit from the experience. The ability to serve in the capacity of an entry-level paramedic requires experience with actual patients. This process enables students to build a database of patient experiences that serves to help in clinical decision-making and pattern recognition.

## **PH - PUBLIC HEALTH**

### ***PH 510 Statistics for Public Health***

*4 Class Hours 4 Quarter Credit Hours*

An introduction to statistical principles and applications to problems in clinical and public health settings, including data presentation, types of variables, descriptive statistics, introduction to probability, elements of hypothesis testing, and one- and two-sample tests, and regression, including linear, logistic, multinomial logistic and ordinal logistic.

## ***PH 516 Fundamentals of Public Health***

*4 Class Hours 4 Quarter Credit Hours*

This course will give students an overall understanding of the history, goals and issues in public health. The course will cover in detail the core functions and essential services of public health, as it relates to current national efforts such as public health accreditation, quality improvement, and emergency preparedness.

## ***PH 520 Epidemiology***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: PH 510 or NUR 520*

An introduction to the epidemiological perspective on health and disease, with emphasis on the principles and methods used to describe and evaluate the patterns of illness in populations and applications to public health research, policy and practice. Topics include the current applications of epidemiology, measures of disease occurrence and comparison in varying populations, observational and experimental study designs, causation and interference, common sources of error and their control, disease surveillance and screening, and infectious disease epidemiology.

## ***PH 530 Research/Methods***

*4 Class Hours 4 Quarter Credit Hours*

Students will learn about major methodologies useful in public health research. Topics include philosophy of scientific investigation, field research, survey research, experimental design, construction of questionnaires, attitudes scales and the format for writing a research prospectus.

## ***PH 535 Social Marketing and Communications***

*4 Class Hours 4 Quarter Credit Hours*

Students will learn to use the social marketing process and communication theories to create, communicate, and deliver value that ultimately influences target audience behaviors in a culturally appropriate and persuasive way. Students will also apply marketing principles and techniques, guiding behavior change theories, research and a planning process to then create and communicate public health programs to diverse audiences in writing and in presentations.

## ***PH 540 Public Health Funding***

*4 Class Hours 4 Quarter Credit Hours*

Students will learn about common public health funding sources, including federal and state grants, budget preparation and justification and purchasing rules, with emphasis on writing grants, writing funding proposals and reports.

## ***PH 545 Environmental Health***

*4 Class Hours 4 Quarter Credit Hours*

This course will discuss environmental risks and pollutants that affect human health and will review data used to evaluate the effectiveness of prevention and control strategies. Topics will include water, wastewater, solid wastes, food sanitation, vector control, housing, chemical exposures, lead and other poisonings, and basic occupational health risks.

## ***PH 550 Public Health Policy and Planning***

*4 Class Hours 4 Quarter Credit Hours*

This course will introduce students to the basics of public health policy, including population health and health disparities. We will explore policy advocacy through community organizing – which is empowering stakeholders to take action to create change in their communities. Students will learn about the theory and practice of policy changes that improve public health at the state and local levels.

## ***PH 551 Health Equity and Ethics***

*4 Class Hours 4 Quarter Credit Hours*

This course is a study of the policy making process that considers social, ethical and legal aspects of public health. It reviews the sources of law, legal protections of fundamental rights, government police powers, social welfare and entitlements programs. Students will apply the public health ethical framework and will discuss and analyze policy implementation and evaluation.

## ***PH 552 Program Funding and Evaluation***

*4 Class Hours 4 Quarter Credit Hours*

In this course, students use public health program information to develop a culturally competent evaluation plan along with a logic model, and negotiated budget. An example of a CDC grant will be used to familiarize students with the requirements and components of a grant budget, while cementing the understanding of a logic model in the formulation of evaluation.

## ***PH 560 Public Health Evaluation***

*4 Class Hours 4 Quarter Credit Hours*

Students will review the value and use of different evaluation methods to balance the rigor and limitations of public health practice and use this information to design and/or improve public health in diverse populations. Students will use basic research methods to design and conduct small-scale evaluations to assess impact on public health and health equity.

**Courses are listed alphabetically by course code.**

***PH 561 Equity Practicum***

*12 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: PH 510, PH 516, PH 520, PH 530, PH 535, PH 551, PH 552, MGM 514*

*NOTE: Prior to registering for this course, students must have approval for the Portfolio and the Capstone proposals and have a plan to complete the 3 Portfolio products.*

In this student-driven course, students declare the 4 competencies of their choice (3 foundational and 1 generalist) and will spend about 50 hours virtually placed in an organization to develop 3 portfolio products. The products must benefit that community/organization and demonstrate their skills in the selected competencies. The process, requirements and options to conduct the virtual internship are described in the "MPH Portfolio and Capstone Student Handbook" available to all students. Portfolio products are graded by the MPH Graduation Committee, formed with faculty from NEIT's College of Graduate and Professional Studies (GPS).

***PH 571 Capstone Prep***

*12 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: PH 561*

In this course, students conduct and prepare a comprehensive literature review in preparation for their Capstone project. The literature must provide the scientific evidence identifying a gap in research or practice, such as a new option for an intervention, an innovative approach to a current public health challenge, a new method to address health equity, a population underserved for a specific service, etc., which will validate the purpose of the Capstone project. This literature review is rigorously prepared following APA guidelines and will be an appendix for the Capstone project in PH 585.

***PH 580 Public Health Seminar***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: PH 535, PH 545, PH 550, PH 551, PH 552, MGM 514*

This simulation experience "places" students as new public health professionals starting jobs where they need to use all their problem-solving skills, knowledge and resources (tools, data, theories, frameworks, logic models) acquired in the MPH program to address the challenges and personnel situations presented each week. Students work in teams and individually to fulfill the job responsibilities and report to high authorities in the organization.

***PH 5815 Capstone***

*12 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: PH 561, PH 571*

In this student-driven course students will prepare a comprehensive, written public health product ("Capstone") which they had already selected and received individual

approval from the MPH Director prior to enrolling in PH 561 and PH 571. The product must integrate coursework and experience into an applied, written, well-reasoned contribution to a public health discipline, that demonstrates proficiency in 4 selected competencies. The capstone project will use critical thinking, interpretation of research, evidence-based practices and/or program evaluation results, to make a meaningful contribution to public health while promoting health equity and/or population health. The student will present the Capstone project to NEIT's students and faculty. The Capstone is graded by a Committee formed with members of the College of Graduate and Professional Studies (GPS).

**PHY - PHYSICS (MATH/SCIENCE CORE)**

***PHY 126 Applied Physics & Lab***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MA 100/110 or MA 106 or MA 109*

This course studies the applications of fundamental concepts of physics. The topics covered include the motion of objects, the forces that cause motion, velocity, acceleration, Newton's Laws, torques, work, power, and energy. The laboratory component is designed to give students the opportunity to have hands-on experience with the fundamental concepts of physics studied in the theory portion of the course.

***PHY 200 Physics I & Lab***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MA 125*

This course is a non-calculus approach to the study of fundamental physics and includes kinematics and dynamics of bodies, velocity, acceleration, and Newton's laws of motion, forces in equilibrium, concurrent and non-concurrent forces, work, power, energy, and torque. Labs are performed within the course to reinforce concepts.

***PHY 300 Physics II & Lab***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: MA 125, PHY 200 (or PHY 126)*

This is an algebraic approach to a second course in physics. The topics include centripetal force, temperature, heat energy, mechanical waves, sound, electrostatics, and basic circuit elements. The laboratory component is designed to give students the opportunity to have hands-on experience with the fundamental concepts of physics studied in the theory portion of the course. Laboratory experiments will be performed to reinforce these concepts.

## PL – PLUMBING

### ***PL 114 Pipe Fitting Basics***

*4 Class Hours 4 Quarter Credit Hours*

*Co-requisite: PL 119*

Students are introduced to a variety of piping material, fabrication techniques and tools of the trade, safety, and mathematical approaches.

### ***PL 118 Blueprint Reading and Drafting***

*3 Class Hours 3 Quarter Credit Hours*

This course covers basic drawing techniques and proper use of drafting equipment. Students will be introduced to different types of drawings, associated symbols, and terminology.

### ***PL 119 Pipe Fitting Basics Lab***

*6 Lab Hours 3 Quarter Credit Hours*

*Co-requisite: PL 114*

Students produce piping projects utilizing tools, piping materials and the applied mathematical procedures put forth in PL 114.

### ***PL 124 Drainage, Waste and Vent Design***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: PL 114/119, PL 118*

Students are introduced to the different elements of plumbing design. Various codes and their requirements are covered. Students' designs are presented in a formal drawing.

### ***PL 126 Potable Water Piping Design***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisites: PL 114/119, PL 118*

Students study load calculations and appropriate sizing of domestic water systems. Various codes and methods are covered. Formal drawing presentation is a required portion of the course.

### ***PL 127 Drainage, Waste and Vent, and Potable Water System Lab***

*6 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: PL 114/119, PL 118*

*Co-requisites: PL 124, PL 126*

Students are required to install their drainage, waste and vent, and potable water plumbing designs in a laboratory setting. The designs must be fully operational and conform to code.

### ***PL 230 Plumbing Fixture, Appliance and Appurtenance***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: PL 126, PL 127*

*Co-requisites: PL 232, PL 235*

This course introduces students to fixtures, appliances and other related devices that are found in residential and commercial buildings. Code requirements and applications are also studied in order to balance fixture utility, rough-in needs and building design.

### ***PL 232 Troubleshooting and Repair***

*1 Class Hour 2 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: PL 124/127, PL 126*

*Co-requisites: PL 230, PL 235*

This course explores the repair, service, and retrofit aspects of the plumbing business. Attention is given to structural concerns, repair approaches, product selection, and customer and trade relationships.

### ***PL 235 Plumbing System Design and Fixture Installation Lab***

*6 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: PL 124/127, PL 126*

*Co-requisites: PL 230, PL 232*

In this lab, students are required to design and install various plumbing systems from rough-in to finished fixtures. These will be actual working systems and meet all code requirements as well as trade practices.

### ***PL 240 Pump System Design***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: PL 114/119, PL 118*

Students are introduced to residential and light commercial pumps and pumping systems. Students are required to design and size systems based on pump types and general requirements.

### ***PL 245 Pump System Design Lab***

*6 Lab Hours 3 Quarter Credit Hours*

*Co-requisite: PL 240*

Students are required to install basic water pumping systems from water source to pressurized storage tank. Various designs are used to reinforce application, component requirements and troubleshooting.

### ***PL 246 Final Project***

*2 Class Hours 2 Quarter Credit Hours*

*Prerequisites: PL 230/235, PL 232*

The final project is the summation of all the previous terms presented in a plumbing design which incorporates estimating and pricing. Students are required to design and draw a complete building project based on supplied specifications.

***Courses are listed alphabetically by course code.***

**PS – PSYCHOLOGY (SOCIAL SCIENCES CORE)**

***PS 140 Life-Span Development***

*4 Class Hours 4 Quarter Credit Hours*

The purpose of Life-Span Development is to introduce students to the broad concepts of human growth and development from conception to death. Students will be introduced to human development from the prenatal stage to death with particular emphasis placed on early childhood, adolescence and old age. The course is especially designed for students entering the healthcare professions as the slant is toward practical application of all stages. Upon completion of the course, students should be able to demonstrate a basic knowledge of the developmental stages of life.

***PS 201 Introduction to Psychology***

*4 Class Hours 4 Quarter Credit Hours*

This introductory course in psychology is a survey of the multiple aspects of human behavior. It includes, but is not limited to, such topics as the history of psychology, the biological foundations of behavior, memory, learning, personality, psychological disorders and treatment and social behavior. Importantly, this course will be geared to stress those areas of more practical significance for those in medical service fields.

***PS 202 Psychology of Healthcare***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

This course addresses the human element of clinical competence in providing health care. Students will explore the psychodynamics of interactions between healthcare workers and patients, the psychological influences of illness and pain, the psychosocial factors that impact one's effectiveness as a healthcare team member, the impact of families on a patient's treatment plan, the role of body image in patient responsiveness to treatment, and a variety of other psychosocial factors that influence healthcare delivery.

***PS 203 Psychology of Happiness***

*4 Class Hours 4 Quarter Credit Hours*

This course will explore the psychological principles associated with the experience, feelings and thoughts of happiness. Students will be exposed to a variety of research investigations that have studied different variables that impact happiness. Some of the subtopics discussed in this course include ways to define and measure happiness, differences and similarities in happiness across cultures, happiness and money, and ways to increase happiness.

***PS 210 Human Relations in the Workplace***

*4 Class Hours 4 Quarter Credit Hours*

Major skill areas covered in the course include making a good impression with your employer, managing conflict with difficult coworkers, working on a team with diverse groups of people, providing exceptional customer service, and managing on-the-job stressors. This course provides a set of practical human relations techniques that will help students increase the likelihood of job security and career advancement in any current or future job.

***PS 330 Marriage and the Family***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100 or its equivalent*

This course is a review of psychological concepts relevant to understanding marital and family functioning. Topics will include mate selection, marital communication, intimacy, conflict resolution, transitioning to parenthood, managing crises, family violence, divorce, and balancing work, leisure and family.

***PS 350 Forensic Psychology***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

This course addresses the psychological issues of human behavior that surround law enforcement and the legal system. It supplements information provided by physical evidence forensics courses and offers hands-on practice by utilizing psychological techniques implemented in the field. It familiarizes students with new technologies and available databases used in investigations. The course goes beyond criminal profiling popular in today's media and explores the findings of psychological research behind such issues as eyewitness identification (memory retrieval) and interviewing (conformity and obedience). Forensic Psychology also covers newer areas of concern such as psychological assistance in all career aspects of policing from personnel selection to dealing with the demands of the job.

***PS 410 Applied Research Statistics***

*4 Class Hours 4 Quarter Credit Hours*

PS 410 is an intermediate-level course designed to develop in students an expertise in identifying statistical approaches to research problems. Students will examine statistics and the rationale behind them. They will comprehend and interpret statistical results as they apply to their programs. Students will master the APA style of writing by dissecting the results and discussion sections of journal articles in their programs and by writing those sections using statistics learned in the course.



# COURSE DESCRIPTIONS

## ***PS 440 Developmental Psychology***

*4 Class Hours 4 Quarter Credit Hours*

This online course will focus on the cognitive, emotional, social, intellectual and physical influences on psychological development of individuals across the lifespan. It will concentrate on the normal and optimal patterns of development, as well as the individual variability of growth at each stage of development.

## **PTA – PHYSICAL THERAPIST ASSISTANT**

### ***PTA 102 Introduction to Kinesiology***

*2 Lab Hours 1 Quarter Credit Hour*

Students will learn musculoskeletal anatomy and developmental milestones and reflexes and a basic understanding of normal movement and kinesiology.

### ***PTA 111 Foundations of Physical Therapy***

*4 Class Hours 4 Quarter Credit Hours*

This course focuses on the principles and philosophies that guide the profession of physical therapy. Disablement Models and the Guide to Physical Therapist Practice will be studied as the paradigms for physical therapy. This course establishes the foundation of knowledge for the physical therapist assistant.

### ***PTA 112 Foundations of Physical Therapy Lab***

*4 Lab Hours 2 Quarter Credit Hours*

The focus of this course is on using hands-on experiences to understand human movement and the language and concepts of the profession. Physical therapy skills covered include body mechanics, bed mobility and positioning, transfer training, basic gait training, range of motion exercises, physical therapy documentation, and communication with patients.

### ***PTA 123 Data Collection Skills***

*1 Class Hour 4 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: AHS 110, PTA 102, PTA 111/112, MA 100/110, BIO 107*

Content includes current tests and measures from the Guide to Physical Therapist Practice. Emphasis is placed on a lifespan approach. Students will learn to interview patients/clients and caregivers, use the International Classification of Functioning, Disability and Health (ICF), and complete documentation of their findings that follows contemporary standards.

### ***PTA 124 Clinical Kinesiology***

*2 Class Hours 2 Quarter Credit Hours*

*Prerequisites: AHS 110, PTA 102, PTA 111/112, BIO 107*

This course is designed to explore the concepts of clinical kinesiology in relation to normal and abnormal movement patterns. Through the use of various teaching methods, students will also learn functional anatomy, clinical

application of kinesiology concepts as well as motion analysis of the human body.

### ***PTA 125 Clinical Kinesiology Lab***

*4 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: AHS 110, PTA 102, PTA 111/112, BIO 107*

This lab is offered concurrently with PTA 124 as the practical applications course for the exploration of normal and abnormal movement patterns, palpation of anatomical structures, and analysis of functional movement.

### ***PTA 138 Physical Agents & Lab***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: PHY 126, PTA 123, PTA 124/125, BIO 127*

Content focuses on the treatment plan and treatment interventions for modalities and soft tissue mobilization. Students develop knowledge of the physiological effects, indications, contraindications, and precautions of physical therapy interventions such as deep heat, cold, ultrasound, electrotherapeutic modalities, and whirlpool. Lab content focuses on modalities and soft tissue mobilization. Students develop the skills necessary to safely apply the physical therapy interventions such as deep heat, cold, ultrasound, electrotherapeutic modalities, and whirlpool.

### ***PTA 139 Advanced Data Collection Skills***

*4 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: PHY 126, PTA 123, PTA 124/125, BIO 127*

Students will engage in physical therapy documentation and procedures including goniometry and manual muscle testing. Statistics and journal article critique will be covered.

### ***PTA 143 Pathophysiology for the PTA***

*1 Class Hour 2 Lab Hours 2 Quarter Credit Hours*

*Prerequisite: BIO 127*

This course will cover the process of disease and its effects on the body and the responses of cells, tissues, and organ systems to these disorders. General phenomena such as inflammation, immune response, and carcinogenesis will be considered as well as a survey of disorders common to the clinical setting characteristic of the various organ systems using a system-by-system approach.

### ***PTA 144 Clinical Education Seminar and Service Learning***

*6 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: PHY 126, PTA 123, PTA 124/125, BIO 127 and American Heart Association CPR certification for Health Care Providers and completed medical requirements.*

This course offers students the opportunity to integrate academic learning at clinical settings under the supervision of faculty. Students will experience direct contact with individuals involved in various service delivery systems to enhance their communication, team-building and problem-solving skills. Clinical experiences are processed in the seminar which focuses on documentation, reimbursement, PT/PTA relationship, APTA's Standards of Ethical Conduct, inter-professional education, and patient-centered care.

***PTA 145 Principles of Musculoskeletal Physical Therapy Intervention and Lab***

*8 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: PHY 126, PTA 123, PTA 124/125, BIO 127*

This course will explore musculoskeletal physical therapy procedures across the lifespan. The symptoms and characteristics of common musculoskeletal conditions from infancy to adolescence to later adulthood will be presented. Physical therapy practice models and interventions for the musculoskeletal practice area will be described and applied through case studies. The importance of addressing patient cultural issues as a component of the holistic approach of physical therapy will be reinforced. Gait, locomotion, and balance impairments associated with amputation will be covered. The primary focus of the lab experience will be musculoskeletal physical therapy interventions including orthotic and prosthetic intervention. Students will also have the opportunity to integrate concepts learned in Data Collection Skills with selected interventions common to musculoskeletal practice.

***PTA 237 Level I Clinical Education***

*6 Clinical Lab Hours 2 Quarter Credit Hours*

*Prerequisites: PTA 138, PTA 139, PTA 143, PTA 144, PTA 145, EN 100*

Level I Clinical Education offers students direct experience in a clinical practice setting. Through observation and selected participation, students will begin to integrate academic coursework, creating an opportunity for professional growth and development. An alternate practice environment will be provided to allow students direct experience in a cardiopulmonary system or neuromuscular system treatment setting.

***PTA 240 Principles of Neuromuscular Physical Therapy Intervention and Lab***

*4 Class Hours 4 Lab Hours 6 Quarter Credit Hours*

*Prerequisites: PTA 138, PTA 139, PTA 143, PTA 144, PTA 145, EN 100*

This course introduces students to physical therapy treatment intervention in the area of neuromuscular disorders including central nervous system disorders and peripheral nerve injury. Students will explore various tests, measures, and interventions used by the physical therapist assistant in neuromuscular practice; normal human development in relationship to environment and culture; and, intervention for the pediatric and geriatric population. The importance of addressing patient cultural issues will be reinforced in coursework and in the concurrent lab. The various environments in which neuromuscular physical therapists practice with children, adults, and older adults will be explored. Students will look at the physical roles of normal as well as developmentally disabled persons from infancy to adolescence to later adulthood including the use of adaptive equipment and splinting.

***PTA 242 Principles of Cardiopulmonary Physical Therapy Intervention and Lab***

*4 Class Hours 4 Lab Hours 6 Quarter Credit Hours*

*Prerequisites: PTA 138, PTA 139, PTA 143, PTA 144, PTA 145, EN 100*

Students will learn therapeutic interventions aimed at both prevention of dysfunction and restoration of patients with cardiopulmonary disorders. Students will study treatment interventions, adaptive techniques, and environmental technology utilized to remediate dysfunction and maximize independence. Bariatrics and lymphatic system disorders are included. Students will discuss cultural issues and professional ethics as they relate to this patient population. In the lab portion of the course, students will participate in data collection, treatment planning, and implementation of physical therapy interventions related to the cardiopulmonary system. Integumentary system disorders and treatment interventions will be covered.

***PTA 253 Practice Issues for the Physical Therapist Assistant***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours (Meets the first 4 weeks of Term V.)*

*Prerequisites: PTA 237, PTA 240, PTA 242*

The foundation of physical therapy practice lies in the ability to problem solve for patients/clients with a variety of conditions. Students will expand their knowledge of legal, ethical and professional considerations in healthcare. Laws governing standards of practice will be emphasized in this hands-on application course. This course provides case-based learning to focus students on treatment planning and clinical reasoning in the practice environment. Course content will focus on practical roles and responsibilities of the entry-level physical therapist assistant and a variety of practice environments will be explored. All material from previous coursework will be used to successfully complete this course. An emphasis on collaborative teamwork and self-directed learning will transition students from the classroom to the practice environment.

***PTA 258 Level II Clinical Education A***

*40 Clinical Hours per Week for 6 Weeks 8 Quarter Credit Hours*

*Prerequisites: PTA 237, PTA 240, PTA 242, EN 110 and pass all skill competency exams*

Level II Clinical Affiliation is the final phase of the PTA program. Working with physical therapy patients/clients, students will participate in data collection, planning and implementing treatment interventions, communicating effectively, and developing professional relationships. Students will work under the supervision of a PTA or PT who meets criteria as a clinical educator. The student and academic coordinator of clinical education will collaboratively select the clinical site. All clinical sites must have a signed contract with the university.

# COURSE DESCRIPTIONS

## **PTA 260 Senior Capstone**

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: PTA 253, PTA 258, EN 110 and Humanities or Arts/Foreign Language core elective*

This course provides students the opportunity to explore research that supports the practice of physical therapy and allow students to expand their knowledge of legal, ethical, and professional considerations in physical therapy with application to the clinical education they have completed. Students will select a topic of their choice and complete an evidence-based practice literature review. Students will complete a professional portfolio that summarizes and highlights their accomplishments in the PTA program. Students will present the final projects in a senior colloquium. Professional licensure requirements, resume writing, job searching, and preparation for the national licensure exam will be emphasized.

## **PTA 268 Level II Clinical Education B**

*40 Clinical Hours per Week for 6 Weeks, 8 Quarter Credit Hours*

*Prerequisites: PTA 253, PTA 258, EN 110 and Humanities or Arts/Foreign Language core elective*

This second Level II Clinical Education experience will offer students further exposure to physical therapy practice. The second practice environment will provide a different experience for the student to continue to develop skills as a physical therapist assistant. Supervision in these environments will be shared with physical therapists and physical therapist assistants.

## **RC – RESPIRATORY CARE**

### **RC 110 Foundations of Respiratory Care**

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

This course provides an orientation to respiratory care and healthcare organizations. Topics will include the history of respiratory care and the development of the profession's core values and ethics, the respiratory therapist's role in patient assessment, education, and the promotion of wellness within diverse patient populations and communities. An overview of healthcare reimbursement, credentialing, licensure, accreditation, and evidence-based practices will be included.

### **RC 111 Introduction to Respiratory Care Clinical**

*1 Class Hour 2 Lab Hours 2 Quarter Credit Hours*

This course prepares students for their clinical experience. Topics will include an orientation to clinical concepts such as pre-employment screening, background checks, immunizations, professionalism, ethics, diversity, effective communication, medical record review and charting, workplace safety, disease transmission and infection control practices, patient assessment skills, and patient

confidentiality. Students will be provided the opportunity to take the American Heart Association Cardiopulmonary Resuscitation Healthcare Provider certification (CPR-C).

### **RC 120 Principles of Cardiopulmonary Physiology**

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisites: RC 110, RC 111, BIO 100/101, MA 100/110*

This course provides an in-depth analysis of the circulatory physiology of the heart and lungs. Applied respiratory chemistry, physical properties of fluids and gases, pulmonary mechanics, hematology, hemodynamics, and renal function will be included. Cardiopulmonary diagnostics and therapeutics such as pulmonary function testing, bronchoscopy, central venous lines, pulmonary artery catheters, arterial blood gases, electrocardiograms (ECGs), and cardiac arrhythmias will be introduced.

### **RC 121 Respiratory Care Pharmacology**

*1 Class Hour 2 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: RC 110, RC 111, BIO 100/101, MA 100/110*

This course focuses on the assessment, administration, and patient education associated with the safe delivery of pharmacological agents specific to the cardiopulmonary system. Drug classifications, dosage calculations, indications, and contraindications will be covered. Students will learn how to select the appropriate pharmacological agents, administer the agents utilizing the appropriate equipment and technique, and apply pre-, peri-, and post-assessment skills to determine the effectiveness and/or adverse effects associated with the treatment.

### **RC 130 Theory & Application of Respiratory Care I and Lab**

*3 Class Hours 4 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: RC 120, RC 121, BIO 120/121*

*Co-requisite: RC 131*

This course prepares students with the basic knowledge and skills for holistic patient assessment, diagnostic, and therapeutic modalities. Students will learn the fundamentals of evidence-based respiratory care assessment, protocols, and the safe use of equipment. Topics will include oxygen, humidification and aerosol therapies, airway management, manual ventilation, hyperinflation and bronchopulmonary hygiene procedures, noninvasive monitoring, and laboratory data analysis.

### **RC 131 Respiratory Care Clinical I**

*12 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: RC 120, RC 121, BIO 120/121, Completion of preclinical screening and core competency testing*

*Co-requisite: RC 130*

This entry Level I respiratory care practicum will allow students to develop the basic knowledge, skills, and core competencies introduced in the RC courses through observation and hands-on clinical experience. Students will perform evidence-based practices established by current clinical practice guidelines and published research.

### ***RC 132 Respiratory Care Pathophysiology I***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisites: RC 120, RC 121, BIO 120/121*

*Co-requisite: BIO 122*

This course provides students with the knowledge and critical thinking skills needed to effectively assess and treat patients with respiratory diseases including obstructive and restrictive disorders. Students will analyze clinical patient data and recommend the appropriate diagnostic and therapeutic procedures. Students will learn to develop patient care plans, respiratory care protocols, and disease management models.

### ***RC 240 Theory & Application of Respiratory Care II & Lab***

*3 Class Hours 4 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: RC 130, RC 131, RC 132, BIO 122*

*Co-requisite: RC 241*

This course prepares students with more advanced knowledge and skills for holistic patient assessment, diagnostic, and therapeutic modalities. Students will develop more in-depth patient assessment skills utilizing both invasive and noninvasive procedures such as intubation, arterial blood gases, pulmonary function testing, pulse-oximetry, transcutaneous monitoring, capnography, bronchoscopy, central venous lines, pulmonary artery catheters, ECGs, and medical imaging.

### ***RC 241 Respiratory Care Clinical II***

*12 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: RC 130, RC 131, RC 132, BIO 122, Completion of preclinical core competency testing*

*Co-requisite: RC 240*

This continuation of the entry Level I respiratory care practicum will allow students to develop more advanced knowledge, skills, and core competencies introduced in the RC courses through observation and hands-on clinical experience. Students will perform evidence-based practices established by current clinical practice guidelines and published research.

### ***RC 242 Respiratory Care Pathophysiology II***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisites: RC 130, RC 131, RC 132, BIO 122*

This course is a continuation of RC 132 with an emphasis on adult critical care, pediatric, and neonatal respiratory disorders. Students will analyze clinical patient data and recommend the appropriate diagnostic and therapeutic procedures. Students will learn to develop patient care plans, respiratory care protocols, and disease management models.

### ***RC 252 Theory & Application of Respiratory Care III & Lab***

*3 Class Hours 4 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: RC 240, RC 241, RC 242*

*Co-requisite: RC 253*

This course provides an in-depth analysis of invasive and noninvasive mechanical ventilation. Students will develop the critical thinking and problem-solving skills needed to provide adequate ventilatory support to patients with cardiopulmonary disorders. Students will learn how to assess, monitor, and manage patients utilizing various modes of ventilation. Topics will include the indications and initiation of mechanical ventilation, the safe assembly and operation of positive pressure ventilation equipment, modes of mechanical ventilation, weaning, and the discontinuation of ventilatory support. Students will take a simulated entry-level preparation exam by the National Board of Respiratory Care (NBRC).

### ***RC 253 Respiratory Care Clinical III***

*18 Lab Hours 6 Quarter Credit Hours*

*Prerequisites: RC 240, RC 241, RC 242, Completion of pre-clinical core competency testing*

*Co-requisite: RC 252*

This advanced Level II respiratory care practicum will allow students to develop advanced knowledge, skills, and core competencies introduced in the RC courses through observation and hands-on clinical experience. Students will perform evidence-based practices established by current clinical practice guidelines and published research in critical care environments.

### ***RC 254 Specialty Principles & Practice of Respiratory Care***

*2 Class Hours 2 Quarter Credit Hours*

*Prerequisites: RC 240, RC 241, RC 242*

This course focuses on the advanced and specialty practices of respiratory care such as Advanced Cardiac Life Support (ACLS), Pediatric Advanced Life Support (PALS), Neonatal Resuscitation (NR), and extracorporeal membrane oxygenation (ECMO). Advanced modes of mechanical ventilation for the adult, pediatric, and neonatal patient populations will be included.

### ***RC 261 Theory & Application of Respiratory Care IV & Lab***

*3 Class Hours 4 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: RC 252, RC 253, RC 254*

*Co-requisite: RC 262*

This course provides students with the knowledge and skills to practice respiratory care in neonatology, polysomnography, homecare, chronic care, and rehabilitation. A senior capstone project and simulated advanced-level preparation exam by the NBRC will be included.

## ***RC 262 Respiratory Care Clinical IV***

*24 Lab Hours 8 Quarter Credit Hours*

*Prerequisites: RC 252, RC 253, RC 254, Completion of pre-clinical core competency testing*

*Co-requisite: RC 261*

This advanced and specialty Level II respiratory care practicum will allow students to develop advanced and specialty knowledge, skills, and core competencies introduced in the RC courses through observation and hands-on clinical experience. Students will perform evidence-based practices established by current clinical practice guidelines and published research on the adult, pediatric, and neonatal patient populations within the critical care, homecare, chronic care, polysomnography, and rehabilitation care environments.

## ***RC 426 Advanced Cardiopulmonary Management 1***

*4 Class Hours 4 Quarter Credit Hours*

This course will provide an in-depth analysis of advanced cardiopulmonary diagnostic, therapeutic, and management strategies in general and respiratory critical care. Topics will include the management of difficult airways, administration of specialty gases, advanced techniques to enhance oxygenation and ventilation, delivery of pharmacological agents, and assessment of the change in status of the critically ill patient. Other topics will include the prevention of ventilator-associated events and troubleshooting, recognition and treatment of sepsis, hospice and palliative care, as well as the preparation for disaster and mass casualty events.

## ***RC 436 Advanced Cardiopulmonary Management 2***

*4 Class Hours 4 Quarter Credit Hours*

This course provides students with the knowledge and critical thinking skills needed to effectively assess and manage patients across the continuum of healthcare utilizing a holistic approach. Students will learn how to assess the status of critically ill patients and anticipate changes in patient status as members of an interdisciplinary healthcare team. Students will develop advanced patient care plans based on the interpretation of laboratory and imaging reports. Students will examine the effects of pharmacological agents and anticipate the complications associated with the nutritional status of the patient. Students will be introduced to specialty certifications related to advanced adult, pediatric, and neonatal respiratory care practice.

## **RS – REHABILITATION SCIENCES**

## ***RS 370 Introduction to Rehabilitation Sciences***

*4 Class Hours 4 Quarter Credit Hours*

Students will be introduced to the field of rehabilitation science including the disciplines of occupational science, assistive technology and physical rehabilitation, and the role of rehabilitation science specialties such as engineering,

occupational therapy, physical therapy, speech pathology and vocational counseling. Students will investigate laws and policies that affect the field of rehabilitation as well as social and ethical issues.

## ***RS 375 Introduction to Assistive Technology***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

Introduction to the use of assistive technology within the healthcare field. This course explores the history, laws, assessments and the diversity of technology available to assist individuals with disabilities.

## ***RS 380 Assessment Practices in Assistive Technology***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: RS 375, RS 405, RS 413, RS 415*

This course focuses on the components of assessing individuals for specific assistive technology needs using a team process approach. Equipment needs will be explored and determined and the placement of the equipment to gain the best access and purposeful use will be designed. Assessment using standardized and non-standardized tools will be explored.

## ***RS 385 Health and Wellness***

*4 Class Hours 4 Quarter Credit Hours*

This course will explore the knowledge, attitudes, and skills required to promote personal health and wellness. Students will be exposed to the topics of health-promotion, wellness, risk screening and behavior change. They will assess disease and injury risk-prevention programs and critique health and wellness programs for individuals with lifestyle-related health problems. Students will design a program to reduce the risk of disease, improve overall well-being, and implement a plan to achieve health goals.

## ***RS 390 Functional Biomechanics***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: BIO 310 (or BIO 100/101, BIO 120/121)*

This course focuses on functional movement biomechanics and qualitative movement analysis of both simplistic and more complicated human movement patterns with an emphasis on optimizing technique and performance. It explores the various human systems to include the musculoskeletal and nervous systems and the different internal and external forces that act on them. Students will apply biomechanical principles to improve movement and functional performance of individuals with and without movement dysfunction.

**Courses are listed alphabetically by course code.**

### ***RS 395 Clinical Reasoning in Rehabilitation***

*4 Class Hours 4 Quarter Credit Hours*

This course is designed to provide an exploration of evidence-based health care including designing clinical questions, using search techniques, assessing evidence, applying research to practice. Students will be provided with a wide range of information relating to clinical reasoning. Students will engage in activities to foster critical thinking skills.

### ***RS 400 Exercise Physiology I and Lab***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: RS 390, BIO 310 (or BIO 100, BIO 120)*

This hybrid course will focus on the foundations of exercise physiology to include the essentials of bioenergetics, the anaerobic metabolic pathways and the aerobic metabolic pathways. The various neurological and musculoskeletal adaptations to anaerobic and aerobic exercise training will also be explored. The active lab portion of this course will look at various exercise testing measures for health, physical fitness and prediction of sport performance with respect to human activity and athletic performance with a focus on the anaerobic metabolic pathways. Finally, the course will explore various exercise program designs to maintain and improve health and human performance in those with and without disabilities.

### ***RS 405 Seating and Mobility***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: RS 375, RS 390*

Students will explore the advanced seating and wheeled mobility technology including recent advances in research and design. Emphasis will be placed on biomechanics of sitting, assessment of custom seating systems, pressure alleviation for prevention of pressure sores and assessment of manual and power wheelchair selection.

### ***RS 413 Assistive Technology in the Classroom***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: RS 375*

Students will be introduced to a variety of computers and computer software, as well as tablets and tablet applications available to augment education in the Pre-Kindergarten to Grade 12 classroom environments. This course will explore the legal and practical uses of technology within the educational setting for students of all abilities.

### ***RS 415 Environmental Accessibility***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: RS 375*

This course will introduce students to the concepts of universal design and environmental accessibility, including accessibility in the college setting, home, employment setting and the community at large. Students will also learn

about community resources to support accessibility and independent living and how accessible living and workspaces are developed for those with disabilities. Content will include exploration of the use of low tech and high-tech devices and will include cost analysis and potential funding options.

### ***RS 450 Capstone in Assistive Technology***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: RS 375, RS 380, RS 405, RS 413, RS 415*

This course provides students with the opportunity to complete a capstone project in an area of interest as it relates to their coursework in the field of assistive technology. Through a combined partnership with faculty, students will select a project of their choice and complete the project with faculty as advisors. Students will present the capstone project in a senior colloquium. This final course of the Rehabilitation Science curriculum will allow students to expand their knowledge of their role in a healthcare, education, or service delivery team as a professional dedicated to enhancing the life of people with disabilities. Preparation for optimizing and highlighting their experience as an assistive technology specialist during the interview process will also be emphasized.

## **SCI - SCIENCE (MATH/SCIENCE CORE)**

### ***SCI 110 Environmental Science***

*4 Class Hours 4 Quarter Credit Hours*

This course will focus on man's interaction with his environment. It will cover current issues like global warming, human population growth, and pollution.

### ***SCI 300 Public Health by Numbers***

*4 Class Hours 4 Quarter Credit Hours*

In this course, students will use multiple data sources to quantify public health problems and learn about the concepts, topics and institutions that shape the health system. In this journey students will explore topics such as environmental health, the determinants of health, preparedness, national and international health systems and institutions, and will interpret the magnitude of population health issues based on data.

## ***SCI 304 Development of Western Science***

*4 Class Hours 4 Quarter Credit Hours*

This course centers on the interaction of science, scientists, technology and society over the past five hundred years, primarily focusing on the development of Western science. The scientific method will be examined utilizing selected case studies. Underlying principles and methodologies of science will be illustrated by comparing and contrasting both the successes and failures of science. Factors affecting the acceptance and use of science and related technologies will be examined.

## ***SCI 307 Understanding Science Through Photography***

*4 Class Hours 4 Quarter Credit Hours*

This course integrates photography and science. Students will demonstrate their understanding of science concepts through photography and written artifacts. A key to understanding concepts in science is the ability to recognize their applications in everyday use. Problem-solving and evaluating discussion board postings are also part of this course. Science concepts such as motion and forces are combined with physical elements of photography such as shutter speed, focal length, and aperture. Students will design and complete a capstone project that focuses on their area of study as it relates to science. Students are expected to have basic knowledge of digital images and have the ability to upload photos. Cameras are not provided by NEIT.

## ***SCI 320 Understanding Flight***

*4 Class Hours 4 Quarter Credit Hours*

This course explores a variety of real-world examples of objects moving through the air. While not an applied math course, the concepts that help understand the flight of objects are explored. Freefall, gliding, ballistics, and powered flight will be explained and studied. Both the historical development of manned flight as well as examples of flight in nature as exemplified by both birds and seeds will be investigated.

## ***SCI 330 Our History and Future in Space***

*4 Class Hours 4 Quarter Credit Hours*

A course investigating the history, current programs, and future of space exploration. Topics will focus on our solar system, the current search for water on Mars, and evidence of life on other planets and moons. Current events related to space exploration and Near-Earth Objects will be incorporated whenever possible. Weekly writing assignments pertaining to weekly reading assignments will be required.

## ***SCI 333 Sports Performance Metrics***

*4 Class Hours 4 Quarter Credit Hours*

This introductory course is intended for any student with

an interest in physical fitness, exercise or wellbeing. The course will focus on the foundations of exercise testing and training while exploring the various elements of an individual's fitness profile including strength, flexibility, power, balance, speed, agility, aerobic capacity, body composition and anthropometrics. The course will also help explain how each of those fitness parameters relates to a student's ability to play a sport or participate in a hobby such as hiking, running or gardening. Finally, the course will explore various exercise program variables and designs to maintain and improve health and human performance.

## ***SCI 350 Introduction to Genetics and Evolution***

*4 Class Hours 4 Quarter Credit Hours*

No prior coursework in the subject is assumed. This course begins by looking at cells and what they are. Concepts such as mitosis and meiosis will be explored. What a gene is, how it functions, and how it may be mutated will be covered. The basic principles of genetics, including patterns of inheritance (Mendelian genetics) will be studied. Additional topics include the genetic basis of genotype and phenotype, natural selection, evolution, and speciation. Students will explore recombinant DNA and genetic engineering (genetically modified foods and livestock) and the future of genetics.

## ***SCI 360 Wellness for Life***

*4 Class Hours 4 Quarter Credit Hours*

*Core Fulfillment: Both Math/Science Core and Social Sciences Core*

Lifestyle-related diseases are at epidemic proportions in this country. There is scientific evidence that links physical activity and positive habits to improved quality of life. This course will explore topics of health promotion, wellness, risk screening, and behavior change. Students will evaluate how lifestyle-related health problems can be impacted by positive lifestyle choices. Since optimal wellness goes beyond physical fitness and the absence of disease, students will examine the eight dimensions of wellness and design a personal wellness program to attain their health goals.

## **SE – SOFTWARE ENGINEERING**

### ***SE 111 HTML and JavaScript***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

In this course, students will gain an introduction to internet technologies and basic programming logic through the study of HTML 5 and JavaScript. File organization and implementation of web graphics will be stressed throughout this course.

### ***SE 116 Programming Essentials Using Python***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

A study of the Python programming language will be used as the vehicle to introduce flowcharting, control structures, calculations, interactive programming techniques, and editing. Students will be introduced to a distributed version control system using git. Students will learn to write high-quality Python programs solving a variety of applications. Laboratory projects will grow in complexity as students gain hands-on experience. Both software engineering and networking engineering applications will be provided.

### ***SE 126 Intermediate Programming Using Python***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: SE 116*

A study of the Python programming language will be used as the vehicle to introduce advanced programming concepts. At the end of the course, students should be able to analyze problems and develop their solutions by applying advanced flowcharting, coding and programming techniques. Students should be able to design, develop, test and implement programs that involve nested conditional control structures, file handling, interactive processing, data editing, array processing, and sort and search algorithms.

### ***SE 133 Introduction to Database Management Systems***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: NE 115*

Given a business scenario, students will learn how to design and implement a relational database that will store and secure information according to industry standards. Students will become proficient in the Structured Query Language (SQL) and apply their skills on current database platforms such as MySQL and SQL Server. Students are taught to create and maintain database objects and to store, retrieve, and manipulate data.

### ***SE 135 Introduction to Data Analytics***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: SE 126*

Students will learn the fundamentals of data analytics. Python and Microsoft Excel will be used to analyze data sets for trends in the data. Students will also gain an understanding of the workflow of a typical data engineering project. Topics include pivot tables, charts, Jupyter notebooks, NumPy and Python pandas.

### ***SE 137 Cascading Style Sheets***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: SE 111*

Students will learn how to use responsive design to create web sites that are visually appealing on any device with Cascading Style Sheets (CSS). Topics include code reuse, grid layouts and flexboxes. Students will also research current CSS frameworks and use best practices to determine which framework is best suited for a given project.

### ***SE 245 C#***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: SE 126*

This first programming course in C# introduces students to topics that may include an overview of a microcomputer system, an introduction to control structures, beginning the problem-solving process, completing the problem-solving process and getting started with C#, variables, constants, arithmetic operators, and assignment statements, built-in functions, program-defined value-returning functions, and program-defined void functions.

### ***SE 247 Introduction to Data Visualization***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: SE 133, SE 135*

Students will learn how to perform data analysis with Excel and Python using different summarization techniques and consequently displaying the data through charts, graphs and pivot tables. In addition, a current data visualization platform such as Microsoft's PowerBI or Tableau will be used to create rich dashboards allowing end-users the opportunity to view and analyze the data in a user-friendly and visually appealing manner.

### ***SE 251 JavaScript***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: SE 111*

This course builds on the student's understanding of JavaScript learned in previous courses. JavaScript is the programming language used to extend the capabilities of the web browser to include animation, interactive forms, object control, and basic decision-making. Topics addressed will include client-side form validation, Object Oriented Programming, DOM Manipulation, data IO, persistence and the HTML 5 canvas.

### ***SE 256 Web Development Using .NET***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: SE 111 and SE 245 (or GDS 111 and GDS 134)*

Students will learn the use of server-side scripting to create dynamic, database driven sites using the .NET platform.

### ***SE 264 User Interface Design***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: SE 256 or SE 266*

This is a project-based course focused on developing a polished and logical user interface for a project of the student's choosing. Ideally, students will design and develop an interface for their capstone project. This course will instruct students in the logistical concerns inherent in designing an intuitive UI. Topics to be covered are user experience, I/O and visual hierarchy. In addition, this course will provide insight into the fundamentals of utilizing Photoshop for front end production. Photoshop topics include wireframe and comp creation, image file formats, image compression, resizing, color space, resolution, pixel measurements, batch processing, and sprite sheets. Students will learn and utilize advanced CSS 3.0 techniques combined with JavaScript and jQuery to develop their designs into functional web pages.



## ***SE 265 AS Capstone Project***

*6 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: SE 256 or SE 266*

This course provides an opportunity for each student to develop a substantial project in an area of interest. The resulting project, in conjunction with a faculty member, can include work conducted with companies in the area. The culmination of this course is a major presentation of project results.

## ***SE 266 Web Development Using PHP and MySQL***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: SE 111, SE 133*

Students will learn the use of server-side scripting to create dynamic, database driven sites using PHP and MySQL. Emphasis is placed on applications that are user-friendly and secure.

## ***SE 373 Advanced Open Source Web Development***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: SE 251, SE 266*

This course builds on the student's understanding of web applications. This course explores the MEAN stack: Server-Side JavaScript and libraries, Open Source View Engines and NoSQL databases. Students will create web applications that use Mongo for the data layer, Express and Node for the server-side logic, and view engines for the front-end. This course provides students with an opportunity to research and learn about Open Source technologies of their choosing. Finally, students will learn about routing, testing and deploying web applications to a number of different cloud platforms.

## ***SE 377 Cloud-Based Application Development***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: SE 373, SE 385*

Students will be introduced to cloud-based development. Key areas include storage, security, compute and messaging. Students will learn how to develop applications using serverless technologies. This hands-on course will enable software engineers to develop applications on cloud platforms and compare and contrast services provided by industry-leading cloud service providers.

## ***SE 379 React Programming***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: SE 251*

In this course, students will learn about the use of the React framework in front-end web application development. Topics will include but are not limited to: the benefits of React; the render lifecycle; how to build multipage applications; how to send HTTP requests using React and custom hooks; as well as global state management with Redux.

## ***SE 385 Java***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: SE 245*

Students will be introduced to the concepts of object-

oriented programming using Java. In addition to a further development of programming constructs and concepts, students will be exposed to programming methods unique to object-oriented languages such as classes, inheritance and polymorphism.

## ***SE 394 Algorithms in Software Engineering***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: SE 385*

This course includes an overview of the algorithms and data structures used in software applications today. Topics include but are not limited to linked lists, queues, stacks and trees. Students will learn to analyze the complexity of different algorithms and gain an appreciation for efficient computing.

## ***SE 398 Advanced SQL***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: SE 133*

Students will study advanced topics in SQL, including views, triggers, indexes and stored procedures. The course emphasizes SQL dos and don'ts for these topics and students are introduced to a multitude of database standards: Military, ANSI, ISO, and Industry.

## ***SE 402 Design Patterns***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: GDS 252 or SE 385*

In software engineering, a design pattern is a general repeatable solution to a commonly occurring problem in software design. Design patterns can speed up the development process by providing tested, proven development paradigms. This course will introduce students to this state-of-the-art software development methodology.

## ***SE 407 Advanced .NET***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: SE 256*

Students will use the .NET framework to develop highly interactive and robust web applications in teams of two or three students. Robustness of the applications is ensured by utilizing database layers, component-based development and proper use of advanced error handling techniques.

## ***SE 408 Programming Mobile Devices***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: GDS 131 or SE 385*

Students will learn how to develop games for mobile devices such as iPhones, iPads and Apple Watch. Students will use one of the programming languages commonly used in developing for Apple platforms, such as Swift or Objective-C, and use it to develop gaming apps that will run on an Apple device of their choice. Topics include memory management, sprites, Apple's model-view-controller architecture, sounds, and graphics.

**Courses are listed alphabetically by course code.**

### ***SE 409 iOS Programming***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: SE 245*

Students will learn how to develop applications for mobile devices such as cell phones, handhelds (PDAs) and tablets. Students will use languages such as C#, Obj-C, C++ or Java to develop applications that will run on a mobile device. Topics include memory management, user interfaces, storage cards, sounds and graphics.

### ***SE 414 Introduction to Senior Project***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisites: SE 398, SE 407*

The objective of the senior project is to integrate skills learned during the students' time at New England Tech. Within a team of at least 2 and no more than 4 students, a real-world application is developed over a period of 20 weeks. The Introduction to the Senior Project spans the first 10 weeks of this period and in this course, a proposal, a functional specification and a database design is created and implemented. In addition, Microsoft Project is used to develop and create a Gantt Chart that specifies in detail how the project will be implemented during the last 10 weeks of the senior project. The final project will be presented to the faculty and is evaluated by three faculty members.

### ***SE 417 Software Security***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

This course studies known problems in the field of software security. The focus will be on awareness of security risks in software development and students will learn methods to avoid these issues when they write their own applications. Topics include unvalidated input, buffer overflows, injection flaws, insecure storage and improper error handling.

### ***SE 419 Big Data***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: SE 398*

This course will introduce students to data warehousing and mining concepts by focusing on big data lakes, storage strategies, data queries, data operations and predictive analytics. This course will examine storage solutions and architectures as well as trending technologies necessary to enable organizations to maximize their investment within their business intelligence departments. Students will compare and contrast product offerings from major vendors as well as analyze case studies of organizations using these technologies to drive their business. Students will also gain experience with the latest tools and techniques through a series of hands-on exercises.

### ***SE 423 Operating Systems***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: SE 385*

This course covers basic operating system concepts and relates them to important tasks and activities in software development. The operating system is a resource manager

and its design must be intimately tied to the hardware and software resources that it manages. These resources include processors, memory, secondary storage (such as hard disks), other I/O devices, processes, threads, files, databases and more. This course addresses interactions with the operating system from the perspective of a software engineer to utilize these resources through process management and concurrency, memory management strategies and file system management.

### ***SE 425 Senior Project***

*6 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: SE 414*

This course provides an opportunity for each student to develop a substantial project in an area of interest as proposed in SE 414. The resulting project, in conjunction with a faculty member, can include work conducted with companies in the area. The culmination of this course is a major presentation of project results.

### ***SE 426 Web Services***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: SE 256*

Students will learn how to design and access different kinds of web services using primarily Microsoft technology. The course covers an introduction to web services as well as other topics including SOAP, JSON, WCF, Web API, gRPC and GraphQL.

### ***SE 429 Applied Machine Learning***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: IT 379, SE 419*

This course introduces the student to machine learning and data mining concepts by focusing on supervised learning and unsupervised learning models used for classification and predictive analysis. The course examines theory and implementation of deep learning models necessary to enable organizations to maximize their investment within their business intelligence departments, analyze images and process natural language text and audio. The differences and dependencies between machine learning and artificial intelligence applications are addressed. Students will gain experience with the latest Python/R libraries and modeling techniques through a series of hands-on exercises.

## **SO - SOCIOLOGY (SOCIAL SCIENCES CORE)**

### ***SO 203 Social Problems***

*4 Class Hours 4 Quarter Credit Hours*

This course will examine contemporary social issues from multiple perspectives. Attempts to see the ethics, the arguments and the policy outcomes involved in problems such as drug abuse, crime, poverty and the global environment.

## ***SO 220 Internet and Society***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

*Internet and Society* is an online course that focuses on the impact of the Internet on our lives. The goal of this course is to encourage students to think deeply and critically about the reality of living in a technology-driven society and how technological change influences work, families, social lives, education, and privacy.

## ***SO 231 Crime and Deviance***

*4 Class Hours 4 Quarter Credit Hours*

This course traces the historical development of crime and deviance. A review of the social, physiological, and psychological theories of crime are examined. Topics such as the history of policing and the history of corrections are also reviewed.

## **SP – SPANISH (ARTS/FOREIGN LANGUAGE CORE)**

*These courses are designed for students with no prior knowledge of Spanish.*

## ***SP 201 Introduction to Spanish***

*4 Class Hours 4 Quarter Credit Hours*

This course will introduce students to the Spanish language with an emphasis on the use of Spanish in the workplace. Students will learn to communicate with customers and other employees in Spanish with a focus on basic vocabulary words used in everyday interactions at the workplace. Topics covered include conversational skills as well as key principles of Spanish grammar and cultural traditions in Spanish-speaking countries.

## ***SP 203 Spanish for Healthcare Workers***

*4 Class Hours 4 Quarter Credit Hours*

This course will introduce students to the Spanish language with an emphasis on the use of Spanish in the workplace. Students will learn to communicate with Spanish speaking patient and family and other employees in Spanish with a focus on basic vocabulary words used in everyday interactions at the workplace. While each class will emphasize conversational skills, the course will also cover some key principles of Spanish grammar and provide some exposure to a variety of cultural traditions in Spanish-speaking countries.

## **SS – SOCIAL SCIENCES (SOCIAL SCIENCES CORE)**

## ***SS 140 Criminal Investigations***

*4 Class Hours 4 Quarter Credit Hours*

In this course, students will get exposure to a wide range of interpersonal and scientific factors that are explored by criminal investigators in their efforts to support hypotheses developed to solve a variety of crimes. Some of the course topics will include the appropriate collection of evidence at a crime scene, techniques for interviewing witnesses and suspects, the role of the crime lab, the science of fingerprinting, forensic medicine, and the preparation of testimony that leads to the conviction of criminals.

## ***SS 201 American Government in Action***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

This is an introductory course that will help students understand how the pieces of American government fit together, and how politics continuously affects their lives. Students will examine the roles of interest groups, the media, political parties and the three branches of government. Class discussions about relevant and current political issues will be encouraged.

## ***SS 203 Terrorism and National Security***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

This course examines the challenge contemporary terrorism presents for U.S. national security. It investigates the causes of terrorism and inquires into the motives, objectives, methods, and effectiveness of contemporary terrorist groups with an emphasis on al Qaeda. Analysis of the determinants of American counter-terrorism policies and evaluation of the effectiveness of these initiatives are central themes of the course. As such, evaluation of the roles the invasion of Afghanistan, the Iraq War, covert operations, domestic and foreign internal security initiatives, and global law enforcement operations have played in addressing the terrorist threat are major points of emphasis.

## ***SS 204 Juvenile Justice System in America***

*4 Class Hours 4 Quarter Credit Hours*

The course is designed to explore the components of the juvenile justice system in America. The various features, characteristics, policies and concerns about the juvenile justice system are carefully examined. As part of the review, adolescent behavior and influence of the family dynamic will be discussed. The detention of juveniles, the various programs focused on the diversion of youths from the juvenile justice system, rehabilitation programs and prevention programs will also be reviewed.

***Courses are listed alphabetically by course code.***

### ***SS 210 Personal Financial Planning for Wealth and Success***

*4 Class Hours 4 Quarter Credit Hours*

This course is designed to help students make the complex world of financial planning simple to understand by developing a “real life” comprehensive personal financial plan that will help them achieve financial security and independence. Students will actively address their current and projected future financial situation upon graduation. Topics covered will include personal budgeting; controlling spending and eliminating wasteful spending; cash and credit management; investments & investing wisely; making major purchases including home and car; understanding health, life, home and auto insurance needs; the ins and outs of renting; and how to use the consumer protection resources that are available to them under the law.

### ***SS 221 Technology and American Life***

*4 Class Hours 4 Quarter Credit Hours*

This course, based on abstract thinking and analysis, examines the interactive relationship between technology and society over historic time and across geographic space. The course will address basic questions about technology and its place in society. Students will be able to evaluate the impact of social change on their lives, and the impact of their technology on changing the social system.

### ***SS 222 Mindful Living***

*4 Class Hours 4 Quarter Credit Hours*

On a single day, how often do you find yourself pulled in multiple directions? In a world inundated with information, and increasingly demanding of our time and attention, it can be overwhelming to know how to even begin prioritizing what is important. What if there were something you could do to increase your productivity, reduce anxiety and stress, and be more fully present in your daily experiences? Welcome to the practice of mindfulness –sustained, purposeful, moment-to-moment attention without judgement. Research studies have shown that a regular mindfulness practice yields concrete physical and emotional benefits, including reduced stress, decreased physical pain, increased concentration, and a happier mindset. In this course, you will learn different ways to practice mindful living.

### ***SS 303 Communication in the Global Workplace***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

*Core Fulfillment: Both Communications Core and Social Sciences Core*

This course is designed to acquaint students with intercultural communication issues, emphasizing issues that arise in the workplace. The course is organized around nine megaskills: (1) Understanding my cultural identity, (2) Checking cultural lenses, (3) Global consciousness, (4) Shifting perspectives, (5) Intercultural communication, (6) Managing cross-cultural conflict, (7) Multicultural teaming,

(8) Dealing with bias, and (9) Understanding the dynamics of power. Course activities will develop these megaskills, supplemented by online notes and additional readings. Students will be asked to develop Individual Action Plans for two of these megaskills. The course culminates in a final project: making an end-of course presentation, demonstrating students' ability to enter into the views of a person from another culture.

### ***SS 304 Digital Media & The Law***

*4 Class Hours 4 Quarter Credit Hours*

In this course, students will examine how the existing legal structure within digital and social media operates and understand how the global shift to digital media has profoundly affected the production and control of information from a global and domestic perspective. The course is designed to introduce students to legal issues that are most relevant to careers in digital media and to individuals using digital and social media for personal interests. These topics include information access and protection, intellectual property, defamation, invasion of privacy, commercial speech, jurisdiction, internet regulations, and, of course, freedom of expression.

### ***SS 330 Contemporary Social Issues***

*4 Class Hours 4 Quarter Credit Hours*

This course will examine contemporary social issues from multiple perspectives. Attempts to see the ethics, the arguments and the policy outcomes involved in problems such as drug abuse, crime, poverty and the global environment.

### ***SS 350 Everything is a Negotiation***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: EN 100*

*Program Restriction: This course not open to students in the Business Management program.*

This course is intended to help students develop the skills they need to successfully negotiate their way through their work situations. Students will practice both face-to-face negotiations and negotiations carried on electronically.

## ST – SURGICAL TECHNOLOGY

### ***ST 98 Advanced Clinical Review***

*6 Lab Hours 3 Quarter Credit Hours (5 Week Course)*

*The credits for ST 98/ST 99 do not count for degree requirements.*

*Course to be taken at the discretion of the Department Chairperson.*

This course is a mandatory course for students who have had a disruption of continuity between the clinical experiences and the ST Lab courses. It is designed to strengthen and reinforce the advanced lab skills necessary for entry-level placement. The review is an advanced preparatory course. Students are given the opportunity to work as a team in performing mock surgeries. This course is offered on a pass/fail basis.

### ***ST 99 Clinical Review***

*6 Lab Hours 3 Quarter Credit Hours*

*The credits for ST 98/ST 99 do not count for degree requirements.*

*Course to be taken at the discretion of the Department Chairperson.*

This course is a mandatory course for students who have had a disruption of continuity between the clinical experiences and/or the ST Lab courses. It is designed to strengthen and reinforce the lab skills necessary for entry-level clinical placement. The review is a clinical preparatory course. This course is offered on a pass/fail basis.

### ***ST 101 Introduction to Surgical Technology***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

An introduction to surgical technology, selected aspects of the roles of the perioperative team, types of hospitals, and insurances will be presented. Principles of aseptic technique, standard precautions, and surgical positions are presented in class and simulated laboratory experience. Perioperative routines including understanding a health history, risk factors, informed consent, patients' rights, physical diagnosis skills, and scrubbing, gowning, and gloving are topics covered.

### ***ST 120 Surgical Instrumentation***

*1 Class Hour 2 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: ST 101, AHS 102, MGM 103*

The care and handling of surgical instrumentation, instrument classification and recognition will be presented. The various types of sterilization methods as well as the proper manner to prepare surgical instruments for decontamination and sterilization will be included. Lab skills will include how to properly load and unload a knife handle, how to pass instruments correctly, and how to wrap instruments for sterilization.

### ***ST 130 Surgical Procedures I***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: ST 120, BIO 100/101, BIO 120/121, BIO 122*

Fundamentals of surgical patient care essential to the work in the surgical suite are presented in class. Selected topics included are wound healing, environmental design and safety, biohazards, care of specimens, preparing and functioning in a sterile field, needle and suture classification, draping, legal responsibilities, and skill acquisition in gowning and gloving. Roles of team members in the operating room are highlighted.

### ***ST 131 Surgical Procedures I Lab***

*6 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: ST 120, BIO 100/101, BIO 120/121, BIO 122*

Students practice topics covered in ST 130. Skill acquisition and instrument handling are stressed. The on-campus laboratory is open to students for additional practice.

### ***ST 200 Surgical Procedures II***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: Completion of the first academic year including liberal arts courses*

The knowledge, skills, and professional behavior of a surgical technologist are developed in this course. It describes common health problems requiring surgical intervention, surgical procedures, interoperative complications, instrumentation supplies, and aseptic and special techniques. Surgery of the abdomen, genitourinary, operative obstetrics, gynecological surgery, cancer (breast) surgery, orthopedic surgery, and interoperative medications are some of the topics presented.

### ***ST 201 Surgical Procedures II Lab***

*6 Lab Hours 3 Quarter Credit Hours (5 Week Course)*

*Prerequisites: Completion of first academic year and eligible for clinical placement.*

Laboratory practice of topics presented in ST 200 Surgical Procedures II leading to skill acquisition.

### ***ST 203 Professional Communication Skills***

*1 Class Hour 1 Quarter Credit Hour (5 Week Course)*

*Prerequisites: Completion of the first academic year including liberal arts courses and completion of ST 201*

*Co-requisite: ST 204*

The course will cover topics in conflict resolution, teamwork, and group dynamics. Clinical topics will also be discussed.

**Courses are listed alphabetically by course code.**

### ***ST 204 Operating Room Laboratory I***

*12 Lab Hours 4 Quarter Credit Hours (5 Week Course)*

*Prerequisites: Completion of the first academic year including liberal arts courses and completion of ST 201*

*Co-requisite: ST 203*

Practicum is a pre-arranged scheduled experience in the operating room for student surgical technologists. It provides students with the actual experience in the following areas: teamwork, flexibility, organization, economy of time, and motion and materials. The preparation of all supplies and equipment used for surgical procedures in the operating room is also included.

### ***ST 205 Advanced Topics in Surgical Technology***

*1 Class Hour 1 Quarter Credit Hour*

*Prerequisite: ST 200*

This course includes basic terms and principles of computers, electricity, physics, disaster planning, and robotics as they relate to safe patient care practices in the surgical environment.

### ***ST 220 Surgical Procedures III***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: ST 200*

This course is a continuation of ST 200. Students have further study in common health problems and surgical specialties such as, thoracic, vascular, reconstructive, plastic, eye, and others. Clinical experience in the operating room provides an opportunity to develop skill in the full spectrum of the work. An overview of the roles of first and second scrub, first assistant, circulator, and the overall work of the surgical service is included.

### ***ST 222 Operating Room Laboratory II***

*24 Lab Hours 8 Quarter Credit Hours*

*Prerequisites: AHS 201, ST 200, ST 203, ST 204*

*Co-requisite: ST 223*

A pre-arranged, scheduled experience in the operating room for student surgical technologists. It provides students with actual experience in teamwork, flexibility, organization; economy in time, motion and materials; and preparation of supplies and equipment used in the operating room. Students will experience scrubbing first and second scrub roles on surgical procedures under the supervision of operating room personnel or instructor.

### ***ST 223 Surgical Seminar I***

*1 Class Hour 1 Quarter Credit Hour*

*Prerequisites: ST 200, ST 203*

*Co-requisite: ST 222*

Current topics in surgery will be presented. In addition, students will combine their surgical technology theory with their clinical experience through various methods of instruction.

### ***ST 230 Operating Room Laboratory III***

*12 Lab Hours 4 Quarter Credit Hours (5 Week Course)*

*Offered in the Winter and Summer Terms only*

*Prerequisites: Completion of Terms I-V including all liberal arts courses*

*Co-requisite: ST 233*

Students gain clinical experience in affiliated hospital operating rooms during various surgical procedures. Scrub skills during these various procedures are the focus of this experience. Previously learned concepts and procedures are applied daily during operative procedures.

### ***ST 232 Advanced Applications of Surgical Technology***

*6 Class Hours 6 Quarter Credit Hours*

*Offered in the Winter and Summer Terms only*

This course is the culmination of the surgical technology program of study. Knowledge from all core ST courses is integrated for a total application of principles acquired in the technology. Fast-breaking developments in the field will be approached as well as review of fundamental axioms. Only students who have completed Terms I through V may enroll.

### ***ST 233 Surgical Seminar II***

*2 Class Hours 2 Quarter Credit Hours (5 Week Course)*

*Prerequisites: Completion of Terms I-V including all liberal arts courses*

*Co-requisite: ST 230*

This is a continuation of ST 223. Students will be required to do a research paper on a surgically-related topic. A more in-depth look at the surgical procedures that students are performing in the field will be discussed.

## **TT – TRANSPORTATION TECHNOLOGY**

### ***TT 106 Introduction to Vehicle Maintenance***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

This course is designed to familiarize incoming students with the operations of the Transportation Labs and the overall program. Students will be introduced to shop safety procedures, various types of hand tools and their uses, measuring tools and shop equipment such as lifts and scan tools. In addition, the various fasteners that will be encountered in the program will be explained and their uses discussed. Through a combination of both classroom and lab work, students will also be exposed to various basic vehicle maintenance checks and procedures. Students will also practice online information and data retrieval as well as recording-keeping. Students will be introduced to a wide range of potential career opportunities and work environments in the automotive field. Students will be asked to demonstrate proficiency using shop equipment such as lifts, jacks, jack stands and jump packs.

## VET – VETERINARY TECHNOLOGY

### ***VET 110 Introduction to Veterinary Technology***

*4 Class Hours 4 Quarter Credit Hours*

*Co-requisites: VET 112, VET 113, BIO 116*

This course introduces students to the role of veterinary technicians as members of the veterinary healthcare team. This course covers medical terminology, professional ethics and legal regulation, companion animal breeds, pet loss, bereavement and euthanasia, occupational hazards and professional organizations.

### ***VET 112 Veterinary Anatomy and Physiology I***

*3 Class Hours 3 Quarter Credit Hours*

*Co-requisites: VET 110, VET 113, BIO 116*

This course is the first of two courses where the veterinary technology student will comprehensively study the structure and function of the animal body. Topics will include the dynamic equilibrium between the animal's body and the external environment, levels of organization in the animal body, properties and distribution of body fluids, the integumentary, musculoskeletal, and nervous systems.

### ***VET 113 Veterinary Anatomy and Physiology I Lab***

*3 Lab Hours 1 Quarter Credit Hour*

*Co-requisites: VET 110, VET 112, BIO 116*

The laboratory is designed to assist in learning the material presented in Veterinary Anatomy and Physiology I lecture through hands-on activities which will include examination of cells and tissues under a microscope, bones, anatomical models, and dissection of animal specimens. Units covered include general introductory material, histology, integumentary system, skeletal system, muscular system, and the nervous system.

### ***VET 121 Animal Management***

*3 Class Hours 3 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: VET 110, VET 112, VET 113, BIO 116 with a C or better*

*Co-requisites: VET 122, VET 123*

This course covers the care and management of companion animals, ruminants, and horses. Emphasis will be on husbandry including handling, care, feeding, breeding, behavior, and disease prevention.

### ***VET 122 Veterinary Anatomy and Physiology II***

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisites: VET 110, VET 112, VET 113, BIO 116 with a C or better*

*Co-requisites: VET 121, VET 123*

A continuation of Veterinary Anatomy and Physiology I, this course concentrates on the cardiovascular, digestive, respiratory, endocrine, urinary, and reproductive systems. Also covered is the anatomy and physiology of birds, reptiles, and amphibians.

### ***VET 123 Veterinary Anatomy and Physiology II Lab***

*3 Lab Hours 1 Quarter Credit Hour*

*Prerequisites: VET 110, VET 112, VET 113, BIO 116 with a C or better*

*Co-requisites: VET 121, VET 122*

The laboratory is designed to assist in learning the material presented in Veterinary Anatomy and Physiology II lecture through hands-on activities which will include examination of anatomical models and dissection of animal specimens. Units covered include the cardiovascular system, respiratory system, digestive system, urinary system, reproductive system, endocrine system, and avian anatomy.

### ***VET 131 Veterinary Pharmacology***

*3 Class Hours 3 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: VET 121, VET 122/123, MA 109 with a C or better, CHM 101 with a C or better*

*Co-requisites: VET 240, BIO 122*

Principles of veterinary pharmacology including pharmacokinetics, pharmacodynamics, drug indications, side effects, contraindications and practical applications of drugs including drug handling, dosing calculation, administration methods, prescription writing, and terminology.

### ***VET 137 Laboratory Animal Technology and Lab***

*2 Class Hours 3 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: VET 242, VET 243, VET 244, VET 262, VET 263*

*Co-requisites: VET 138, VET 248, VET 250, VET 254*

This course introduces the field of laboratory animal science and exotic companion animal care and management. Topics covered include the biology, reproduction, behavior, housing, nutritional requirements, handling, environmental enrichment, healthcare, research use and welfare of laboratory and exotic companion animal species. The laboratory reinforces important concepts and students will have hands-on experience with proper handling and clinical skills. Practical experience will include rotations through local veterinary facilities and may occur on days/times other than scheduled class days.

### **VET 138 Veterinary Practicum I**

*6 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: VET 242/243, VET 244, VET 262/263 and permission of Veterinary Technology Program Director*

*Co-requisites: VET 137, VET 248, VET 250, VET 254*

This is an introductory practical experience in the application of veterinary technology at an off-campus site which may include a small animal hospital or clinic or other approved veterinary facility. Students work under the supervision of a veterinarian or credentialed veterinary technician while observing and assisting members of the veterinary healthcare team. Students will perform introductory skills found in the AVMA CVTEA Veterinary Technology Student Essential and Recommended Skills List that fall within the job descriptions of the veterinary technicians and support staff employed at the site. Practical experience will include rotations through local veterinary facilities and may occur on days/times other than scheduled class days.

### **VET 240 Animal Diseases**

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: VET 121, VET 122/123, BIO 116*

*Co-requisites: VET 131, BIO 122*

This course covers the principles of disease as they apply to veterinary medicine. Topics include classification of causes of disease, response to injury, sources and transmission of agents of disease, common diseases of companion, farm, avian, and exotic animals. Additionally, students will study veterinary parasitology, toxicology, and the epidemiology of major zoonotic diseases.

### **VET 242 Animal Nursing**

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: VET 131, VET 240, BIO 116, BIO 122*

*Co-requisite: VET 243, VET 244, VET 262, VET 263*

This course introduces clinical skills for the veterinary technician. Topics include handling and restraint, general nursing care of the patient, examination room procedures, drug administration, client education and communication. Additional clinical nursing skills covered include venipuncture, bandaging, electrocardiograph recording, and other clinical techniques. Veterinary nursing procedures and teamwork are emphasized.

### **VET 243 Small Animal Nursing Lab**

*3 Lab Hours 1 Quarter Credit Hour*

*Prerequisites: VET 131, VET 240, BIO 116, BIO 122*

*Co-requisites: VET 242, VET 244, VET 262, VET 263*

This laboratory provides hands-on experience in clinical skills for the veterinary technician including handling, restraint, general nursing care of the patient, examination room procedures, drug administration, client education, and communication. Additional clinical nursing skills covered include venipuncture, bandaging, electrocardiograph recording, and other clinical techniques. Veterinary nursing procedures and teamwork are emphasized. Practical

experience through rotations at off-campus facilities may be required.

### **VET 244 Veterinary Anesthesia and Dentistry Lab**

*3 Lab Hours 1 Quarter Credit Hour*

*Prerequisites: VET 131, VET 240, BIO 116, BIO 122*

*Co-requisites: VET 242, VET 243, VET 262, VET 263*

This course provides knowledge and practical experience in dentistry and anesthesia. Topics include parts and preparation of the anesthesia equipment and related materials to ensure safe and reliable operation; knowledge of anatomy and physiology as it applies to anesthesia; dental anatomy, nomenclature and charting; equipment, instruments and supplies as they relate to dentistry; prophylaxis techniques; dental radiography; pathophysiology of periodontal disease; and home care for the client.

### **VET 248 Veterinary Practicum II**

*6 Lab Hours 2 Quarter Credit Hours*

*Prerequisite: Permission of Veterinary Technology Program Director*

*Co-requisites: VET 137, VET 138, VET 250, VET 254*

This continuation of VET 138 is a practical experience in the application of veterinary technology at an off-campus site which may include a small animal hospital or clinic or other approved veterinary facility. Students work under the supervision of a veterinarian or credentialed veterinary technician while observing and assisting members of the veterinary healthcare team. Students will focus on mastery of skills performed in VET 138. *Practical experience will include rotations through local veterinary facilities and may occur on days/times other than scheduled class days.*

### **VET 250 Large Animal Nursing Laboratory**

*3 Lab Hours 1 Quarter Credit Hour*

*Prerequisites: VET 242, VET 243, VET 244, VET 262/263*

*Co-requisites: VET 137, VET 138, VET 248, VET 254*

This laboratory provides hands-on experience in equine and bovine techniques including handling and restraint, husbandry, collecting diagnostic specimens, bandaging, and equine radiography. Practical experience through rotations at off-campus farms will be required.

### **VET 252 Veterinary Imaging**

*3 Class Hours 3 Quarter Credit Hours*

*Prerequisites: VET 137, VET 138, VET 248, VET 250, VET 254*

*Co-requisites: VET 253, VET 258, VET 260, VET 268*

This course provides knowledge of the basic concepts of veterinary radiology including x-ray generation, image recording, image handling and processing, positioning and restraint, radiation safety, and special procedures.



## ***VET 253 Veterinary Imaging Laboratory***

*3 Lab Hours 1 Quarter Credit Hour*

*Prerequisites: VET 137, VET 138, VET 248, VET 250, VET 254*

*Co-requisites: VET 252, VET 258, VET 260, VET 268*

This laboratory provides hands-on experience with the entry-level skills for veterinary technicians in radiology including x-ray generation, image recording, image handling, image processing, positioning, restraint, special procedures, and radiation safety.

## ***VET 254 Veterinary Anesthesia and Surgical Nursing and Lab***

*4 Class Hours 3 Lab Hours 5 Quarter Credit Hours*

*Prerequisites: VET 242, VET 243, VET 244, VET 262/263*

*Co-requisites: VET 137, VET 138, VET 248, VET 250*

This course provides knowledge and practical experience in surgical assisting, postoperative care, and anesthesiology. Topics include anesthesia administration and monitoring, anesthetic and surgical instrumentation, preparation of the surgical patient, preparation of the surgeon and surgical assistant, and postoperative monitoring. Practical experience may include rotations through local veterinary facilities and may occur on days/times other than scheduled class days. Overtime in the lab may occur due to prolonged patient recovery from anesthesia.

## ***VET 258 Veterinary Practicum III***

*6 Lab Hours 2 Quarter Credit Hours*

*Prerequisites: VET 137, VET 138, VET 248, VET 250, VET 254, and permission of Veterinary Technology Program Director*

*Co-requisites: VET 252, VET 253, VET 260, VET 268*

This is an intermediate practical experience in the application of veterinary technology at an off-campus site which may include a small animal hospital or clinic, equine or large animal ambulatory practice, animal research facility, emergency facility, specialty/referral practice or other approved veterinary facility. Students work under the supervision of a veterinarian or credentialed veterinary technician while observing and assisting members of the veterinary healthcare team. Students will perform intermediate skills found in the AVMA CVTEA Veterinary Technology Student Essential and Recommended Skills List that fall within the job descriptions of the veterinary technicians and support staff employed at the site. *Practical experience will include rotations through local veterinary facilities and may occur on days/times other than scheduled class days.*

## ***VET 260 Veterinary Management***

*3 Class Hours 3 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: VET 137, VET 138, VET 248, VET 250, VET 254*

*Co-requisites: VET 252, VET 253, VET 258, VET 268*

This course provides knowledge of economics in veterinary practice, management of veterinary facilities, technician utilization, marketing, use of electronic medical records,

human resources, inventory control, malpractice issues, medical emergency management and client communications. Preparation for the VTNE is emphasized.

## ***VET 262 Veterinary Clinical Laboratory Procedures***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisites: VET 131, VET 240, BIO 122*

*Co-requisites: VET 242, VET 243, VET 244, VET 263*

This course provides study in the principles and procedures for the veterinary practice laboratory. Topics include veterinary parasitology, microbiology, immunology, hematology, cytology, urinalysis, and blood chemistries.

## ***VET 263 Veterinary Clinical Laboratory Procedures Laboratory***

*3 Lab Hours 1 Credit Hour*

*Prerequisites: VET 131, VET 240, BIO 122*

*Co-requisites: VET 242, VET 243, VET 244, VET 262*

This laboratory provides hands-on experience in veterinary clinical laboratory procedures including veterinary parasitology, microbiology, immunology, hematology, cytology, urinalysis, and blood chemistries.

## ***VET 268 Veterinary Practicum IV***

*6 Lab Hours 2 Quarter Credit Hours*

*Prerequisite: Permission of Veterinary Technology Program Director*

*Co-requisites: VET 252, VET 253, VET 258, VET 260*

This continuation of VET 258 is a practical experience in the application of veterinary technology at an off-campus site which may include a small animal hospital or clinic, equine or large animal ambulatory practice, animal research facility, emergency facility, specialty/referral practice or other approved veterinary facility. Students work under the supervision of a veterinarian or credentialed veterinary technician while observing and assisting members of the veterinary healthcare team. Students will focus on mastery of skills performed in VET 258. Practical experience will include rotations through local veterinary facilities and may occur on days/times other than scheduled class days.

## ***VET 311 Law and Ethics in Veterinary Medicine***

*4 Class Hours 4 Quarter Credit Hours*

This course addresses the numerous and specific legal and ethical issues that are commonly faced by veterinary practices and facilities that house animals. Topics will include the laws, rules and regulations governing veterinary medicine, animal care, pharmaceuticals, liability, taxation, financials, clientele, animal rights and general business. Lectures will include the ethics concerning delivery of care, particularly in end-of-life decisions, and moral conduct involving liability issues, employees, the patient/client/doctor relationship, informed consent and appropriate advice given in phone conversations.

### ***VET 312 Human-Animal Bond***

*4 Class Hours 4 Quarter Credit Hours*

In this course, students will explore our relationships with animals and how those relationships impact us. The course will outline the definition of the human-animal bond, the evolution of this bond, and why it is important to our health and wellbeing. Additionally, students will learn about the grieving process, how to appropriately offer grief counseling to their clients, and support them when making difficult medical decisions. Other topics discussed will include the difference between service animals and emotional support animals, and compassion fatigue within the veterinary industry.

### ***VET 322 Small Animal Internal Medicine***

*4 Class Hours 4 Quarter Credit Hours*

This course will focus on small animal internal medicine through the study of etiology, pathogenesis, symptoms, diagnosis and treatment of common diseases and conditions involving small animals.

### ***VET 331 Animal Behavior***

*4 Class Hours 4 Quarter Credit Hours*

The purpose of this course is to gain an understanding of domestic animal behavior. Understanding behavior is vital in preventing and treating behavior problems. Additionally, this course introduces students to tasks expected of a technician working at a veterinary practice where behavior cases are evaluated. Concepts include phone triage, collecting behavioral histories and implementing behavior plans. Animal learning, cognition and basic psychopharmacology will also be covered.

### ***VET 332 Emergency Medicine and Critical Care***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: VET 322*

This course will cover advanced principles and theory in small animal emergency and critical care medicine. This course will discuss the triage, presentation and stabilization of the critical patient. Common emergencies will be presented. Specific organ system disorders along with the necessary advanced nursing care required to treat the disorders will be reviewed. Students will learn how to monitor and evaluate these patients and communicate this assessment to the veterinarian.

### ***VET 333 Clinical Animal Nutrition***

*4 Class Hours 4 Quarter Credit Hours*

This is a course designed to further advance understanding of nutrition and its role in animal health. Topics will include identification and function of nutrients, interpreting pet food labels, prescription diets and their role in therapeutic nutrition of disease, nutrition in all life stages for optimal wellness and communicating this importance to the client.

### ***VET 410 Public Health in Veterinary Medicine***

*4 Class Hours 4 Quarter Hours*

In this course, students will learn about the role of veterinarians in public health. Emphasis will be on zoonotic diseases, food supply safety, epidemiology of disease and the prevention/control/eradication of public health threats as they pertain to veterinary medicine and animals.

### ***VET 411 Advanced Anesthesia and Pain Management***

*4 Class Hours 4 Quarter Credit Hours*

This course will build upon the skills learned in introductory anesthesia courses. Students will learn techniques that will help them safely perform anesthesia on more critical patients or patients with more severe pain management considerations. Students will discuss cases and help develop anesthesia and analgesia plans for patients taking into account the physical condition of the patient, disease processes present in the patient, surgical interventions, anticipated complications and analgesic considerations. Discussed skills will include mechanical ventilation, direct arterial blood pressure monitoring, epidurals, local and regional nerve blocks and total injectable anesthesia.

### ***VET 412 Practicum Orientation***

*2 Class Hours 2 Quarter Credit Hours*

This course prepares VET students for VET 422 Advanced Practicum I. Students will create a resume and pursue a practicum site in their chosen specialty area. Focus will be on identification of facilities that will provide training and tasks in the student's special area of interest.

### ***VET 421 Advanced Dentistry***

*4 Class Hours 4 Quarter Credit Hours*

This course will focus on learning and applying techniques in dentistry that are appropriate for veterinary technicians. Topics will include dental anatomy, dental charting, recognizing dental pathology, periodontal disease management, dental prophylaxis, periodontics, endodontics, orthodontics and intraoral radiology. Preventive care products and communication with clients will also be discussed.

### ***VET 422 Advanced Practicum I***

*12 Lab Hours 6 Quarter Credit Hours*

*Prerequisite: VET 412*

This is a practical experience in the application of veterinary technology of the student's special area of interest at an off-campus site which may include a small animal hospital or clinic, equine or large animal ambulatory practice, animal research facility, emergency facility, specialty/referral practice or other approved veterinary facility. Students work under the supervision of a credentialed veterinary technician or veterinarian while observing and assisting members of the veterinary healthcare team. A weekly journal of cases seen while at the practicum will be submitted by the student.

## ***VET 423 Practicum Seminar***

*2 Class Hours 2 Quarter Credit Hours*

This is a weekly practicum seminar based on the experiences and clinical cases that students engage in while performing practical work at their clinical sites. Students participate in a seminar that focuses on the technician's roles and responsibilities in real medical and surgical cases, discussing the medicine, surgery, theory, skills, and ethical questions that arise when managing patients and clients. Students will present case studies and research related topics in veterinary technology.

## ***VET 432 Advanced Practicum II***

*12 Lab Hours 6 Quarter Credit Hours*

*Prerequisite: VET 422*

This is a continued practical experience in the application of veterinary technology of the student's special area of interest at an off-campus site which may include a small animal hospital or clinic, equine or large animal ambulatory practice, animal research facility, emergency facility, specialty/referral practice or other approved veterinary facility. Students work under the supervision of a veterinarian or credentialed veterinary technician while observing and assisting members of the veterinary healthcare team. A weekly journal of cases seen while at the practicum will be submitted by the student.

## ***VET 433 Advanced Laboratory Animal Medicine***

*4 Class Hours 4 Quarter Credit Hours*

*Prerequisite: PS 410*

The purpose of this course is to gain an advanced understanding of the role of the veterinary technician in the field of laboratory animal medicine and management. Students will gain knowledge in laboratory animal diseases, laboratory animal care and clinical medicine and welfare of animals used in research. In addition, students will gain an appreciation for the regulatory and facilities aspects of the laboratory animal field.

## **VGD – VIDEO GAME DESIGN**

### ***VGD 114 Introduction to Game Development***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

This course is an overview of the game development industry. Students will learn what is involved in developing a professional game from start to finish. Topics include the game development life cycle, developing a budget and game specification documents. Students will also be exposed to important physics, math and artificial intelligence concepts relevant to game development.

### ***VGD 115 Digital Graphics for Gaming***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

Students will develop a working knowledge of how 2D images are manipulated on the desktop, using Adobe Photoshop. Topics consist of image creation, retouching, color correction, and compositing images together to form a final design. Emphasis is placed on the use of Photoshop as it pertains to creating and editing 2D images used in games.

### ***VGD 126 2D Content Creation Tools for Games***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: GMW 112 or VGD 115*

In this course students will explore various tools, graphics formats and techniques used for creating 2D assets for video games. Topics will include raster and vector graphics, pixel art, and animation. Students will also be introduced to concepts and concerns surrounding the design and implementation of 2D graphics in programs.

### ***VGD 129 Visual & Technical Communications for Gaming***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: VGD 115*

Visual communication is often more effective than written or spoken communication. Like other forms of communicating, visual communication has its own set of rules, slang and conventions. Technical documents and communications support successful project design and completion. The goal of this course is to teach students about the fundamentals of effectively organizing and communicating ideas through graphics as well as planning their projects out with industry standard technical documents they may find in the field. Among the topics addressed in this course are the logical organization of information, presentation skills, and the importance of understanding cultural and historical aesthetics as well as flowcharts, Gantt charts, and wireframes.

### ***VGD 133 3D Modeling I***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: GMW 112 or VGD 115*

This course will cover the language of and the fundamentals of creating low polygon three-dimensional assets for video games. It will start with modeling basics: primitives and sub-object modeling using box, spline and polygon modeling techniques. The course will then progress to model unwrapping and mapping, creating custom textures for meshes and model optimization for export to 3D game engines. Students will also learn the fundamentals of rendering and animation in a 3D modeling program.

### ***VGD 242 3D Modeling II***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: VGD 133*

This course will build on the fundamentals learned in Modeling I (VGD 133) providing the opportunity to learn more refined and advanced techniques in 3D modeling, rendering and animation. Topics covered along with advanced modeling techniques include advanced tools, materials, lighting, and levels of detail.

### ***VGD 244 Unity I***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

This course will provide a foundation in the tools, techniques, and production methods for creating game environments and successfully using Unity 3D in production situations.

### ***VGD 251 Introduction to Level Design***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: VGD 114, VGD 244*

In this course, students will learn and employ the fundamentals of game level design. The level designer is responsible for creating an engaging environment for the player and to use techniques that will lead the player through the level toward a successful game conclusion. Using the iterative process of development, students will create basic game level environments with assets, enabling rapid prototyping to develop the game play. Level Design fundamentals taught through selected readings, videos and critiques will be employed by the student to improve their game in each succeeding iteration of development.

### ***VGD 256 Unity II***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisites: GDS 137, VGD 244*

This course will expand the use of the Unity 3D tool in a production. Students will use JavaScript, C#, to enhance interactivity and gameplay, while also deploying characters, objects, sounds and textures required for the development of a basic 3D game.

### ***VGD 259 Storyboard and Design***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: VGD 129*

This course introduces students to the concepts and techniques of visual storytelling through storyboard creation. Students will execute storyboards ranging from simple sequence events to cinematic scenes. The course also covers storyboard pitching and presentation techniques. Students will also learn basic principles of design, composition and layout.

### ***VGD 261 Game Testing***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: VGD 251*

In the video game industry, the prevalent entry level

position is Game Tester. Having completed the previous curriculum of courses, the student is well prepared for this employment position. The goal of this course is to prepare students for employment as a Game Tester at a video game company in a "real-world" mock-up classroom environment. In this course, students will prepare their professional resume and supporting portfolio for employment submission. As Game Testers, students will assume the role, employing their game development and design skills to game test 2D and 3d games. As Game Testers, their role is to seek and find game functionality issues or problems that need correcting. They will play games to find "bugs." When found, game testers document the found issues in a report to be sent to the development team for addressing. This is not a coding course: no code will be examined.

### ***VGD 264 Introduction to Texture and Lighting***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: VGD 242*

This course builds on the basics of modeling learned in VGD 133 and VGD 242. Students will learn to create advanced shader textures containing multiple elements for mapping on to game model assets and characters using a variety of methods. Additionally, students will learn techniques to better prepare models for the rendering process. Static and real-time lighting will be explored along with various light types and their attribute qualities. Advanced tools will be utilized for exploring rendering of scenes.

### ***VGD 267 Digital Audio and Video Editing***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

This course addresses the importance and need in today's fast-paced digital world, to create an effective demo reel of work. The goal of this course is to teach not only the technical skills required to produce a demo reel, but to also help students in evaluating their work and how to put their best foot forward. Examples of successful demo reels from large design and gaming firms to independent artists and producers will be shown and used to illustrate key points of what makes certain demo reels stand out from the others. Learning diverse concepts from transitioning and pacing to determining the correct audio to be used, will all factor into creating a successful demo reel. Students will come away from this course with an outstanding showcase of their work that can be delivered over multiple platforms on the Internet including YouTube and Vimeo.

### ***VGD 268 UI/UX Design Principles***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: VGD 115, VGD 259*

Students will work in teams to create a good user experience through the development of physical and virtual user interfaces for a video game. Students will document the process of developing conceptual materials, functional specifications and visual assets.

## ***VGD 371 Advanced 3D Modeling***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: VGD 242*

Expanding on previously learned modeling techniques, students will create fully renderable game assets through a series of projects that increase in complexity. Projects include complex UV and texture mapping techniques, baking detail from hi-poly models onto low-poly assets, and collision models. The emphasis in this course will be on game environments and assets.

## ***VGD 373 Animation I***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: VGD 126, VGD 242*

This course addresses the core fundamentals, history and terminology of traditional animation using modern video game and interactive media production techniques as the context. The goal of this course is not only to teach students technical skills, but also to help them form a rich understanding of animation concepts that can be utilized regardless of future technological capabilities and limitations. Examples of animation from film, television, games and websites will be shown and discussed frequently throughout this course to demonstrate and reinforce key points. Industry standard 2D and 3D content creation tools will be utilized to aid students in demonstrating their understanding of the topics covered.

## ***VGD 380 3D Digital Sculpting***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: VGD 242*

Using 3D modeling and sculpting programs together with 3D painting tools can yield amazing game assets with detail not easily achievable with standard modeling practices. Building on existing modeling skills, this course will immerse students in the professional modeling pipeline for model asset creation for games.

## ***VGD 384 Game Engines***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: VGD 256*

This course will use a game engine with a variety of tool sets as the principle context for exploring modern video game and interactive media production techniques. The goal of this course is not only to teach students technical skills, but also to help them form a rich understanding of workflow concepts that can be utilized regardless of future technological capabilities and limitations. Examples of games and websites will be shown and discussed frequently throughout this course to demonstrate and reinforce key points. Industry standard 2D and 3D content creation tools will also be utilized to aid students in demonstrating their understanding of the topics covered.

## ***VGD 390 Advanced Animation I***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: VGD 373*

Advanced Animation I is a project-based course focused on strengthening students' understanding of 3D character animation. Students will utilize skills learned in previous animation and 3D modeling courses to create short character animations that tell a story. Topics to be introduced and reinforced are blocking, walk cycles, facial animations, sync-sound, planning, process, iteration, and critique.

## ***VGD 392 3D Scripting & Advanced Rigging***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: VGD 371*

Utilizing the native scripting languages of 3D modeling software, technical artists can create simple to complex tools and scripts to aid in the creation of models, animations and processes. Students will use 3D modeling scripts within modeling programs to manipulate meshes, control objects and actions. Building on these scripts, students will apply scripts to control advanced rigging of props and characters.

## ***VGD 394 Game Analytics***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: VGD 256*

Today, game companies depend heavily on game testers to evaluate their game's playability before and after deployment, as part of the quality control process. In game testing, the quality of the software, the handling of assets, and the game play are scrutinized for defects (bugs). In this course, students will develop game testing skills through a series of game play exercises which will require detection of bugs, of defects and of game play compromises. Students will document the found errors in typical game tester report formats common to the industry. Additionally, this course will explore how game analytics are used to adjust and modify games based on the tracking of player interaction with the game.

## ***VGD 404 Advanced Texturing***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: VGD 371*

Expanding on previously learned techniques for texture creation, students will create high-quality textures through a series of projects that increase in complexity. Projects include creating textures from source images, creating textures from a blank canvas, and the creation of multipass shaders. The emphasis in this course will be on textures for game environments and assets.

**Courses are listed alphabetically by course code.**

### ***VGD 408 Virtual Production/Motion Capture***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: VGD 392*

Students will be immersed into the non-linear editing paradigm of virtual production. Using motion capture, designers will acquire, aggregate and refine data from actors to create, edit and play back complex character animations. The motion files created will be transferred to virtual characters for use in the virtual worlds within film, games and television.

### ***VGD 412 Game Industry Perspectives***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: GDS 370*

The game industry is a big money business and spans the spectrum between the singular hobbyist and the massive-multinational corporation. This spectrum can make it challenging for VGDD students to visualize the entry footholds on such a broad career path. Students in this course will explore the obstacles and best practices that define a game developer from independent project studio to "Triple A" mainstream company. Students will be introduced to the functional, legal and financial aspects of a creative company at its various scales of operation. Students will model themselves as specialists and apply their skills to a variety of weekly experiments that build toward a final project.

### ***VGD 417 Introduction to Virtual Reality Development***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: GDS 268*

This course is designed for students who are new to virtual reality and want to learn about the principles of VR technology including optics, displays, stereopsis, tracking, and major hardware platforms. Students will use various display and interface devices available for the course, develop prototype applications, and evaluate them. The format of the course will be a combination of traditional lecture, literature review, and hands-on work. Students will be expected to implement several techniques as part of this course. This course applies cutting-edge VR technology currently available in academia and industry. Students will design, model, and script the VR environment by developing a complete VR application as a group project.

### ***VGD 419 Design Studio I***

*8 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: Completion of terms 1 through 10 and Department Chair Approval*

Previously in the VGD curriculum, students have gained exposure to and has had experience with the major aspects of design development in the video game industry. This course is designed to allow students to gain specialization in an aspect of design development of their choosing, such

as modeling, texturing, VR, game animation, UI/UX, etc. Students work closely with the course instructor and, if required, a faculty specialist, to refine their individualized, independent course of study with the goal of developing specialized skills and proficiency, as exhibited through the creation of portfolio quality work in a specific design aspect of the video game industry.

### ***VGD 422 Special Projects Lab***

*9 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: GDS 268, Department Chair approval*

In this Special Projects Lab course, students earn credit while working on an extracurricular project under the supervision of a discipline-specific instructor and a potential employer. Qualifying projects must feature a limited tangible product for an internal or external professional client. Projects may be executed by one student or a team of students. Students can work as unpaid interns, paid interns, or with scholarship or project result agreements. All engagements requesting a tangible product as an outcome require a memo of understanding to define the scope and protect the student and university from unreasonable expectations.

### ***VGD 429 Design Studio II***

*8 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: VGD 419*

This course builds on Design Studio I, extending the student's individualized, independent course of study, specializing in a specific design aspect of the video game industry. Students will also have the option to create a new individualized, independent course of study to explore a related aspect of the industry from the topic chosen in Design Studio I or an unrelated aspect from the design side of the video game industry. Like Design Studio I, this course has the goal of developing specialized skills and proficiency, as exhibited through the creation of portfolio quality work, in a specific design aspect of the video game industry.

## **WEL - WELDING ENGINEERING TECHNOLOGY**

### ***WEL 111 Interpreting Engineering Blueprints***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

This course will cover the theory and application of blueprint reading involving the use of ASME Y14 Series, the USA standards used in engineering documentation, along with selection and calculations for dimensioning and tolerancing using the geometric tolerancing criteria. It will also study the use of engineering charts and tables used in the Machinery's Handbook to determine the proper fit between mating parts.

## ***WEL 114 OFC / OAW, Electric Welding and Cutting***

*1 Class Hour 3 Lab Hours 2 Quarter Credit Hours*

This course is intended to teach students the fundamentals of using OFC, OAW, Basic GMAW, Plasma cutting, CAC, and welding safety. Welding and cutting safety are in accordance with AWS / ANSI Z49.1.

## ***WEL 124 CAD with Weldments***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: MCT 115*

This course is a continuation of MCT 115 Computer-Aided Design I with an emphasis on the SolidWorks weldment environment. Topics include 2D and 3D sketching, welded structures, structural members, weldment drawings with cut lists, weld beads, weld symbols, and weld notes.

## ***WEL 131 Materials & Manufacturing Processes***

*3 Class Hours 2 Lab Hours 4 Quarter Credit Hours*

Material properties will be discussed as they apply to product design, manufacturing process design and control. Fundamentals of machining technology, with step-by-step analysis of how to turn materials into products will be reinforced through a hands-on manufacturing project.

## ***WEL 151 Industrial Welding I (SMAW)***

*1 Class Hour 4 Lab Hours 3 Quarter Credit Hours*

This course is intended to teach students the fundamental theory of Shielded Metal Arc Welding (SMAW). Introductory SMAW lab activities focus on machine selection, classification of electrodes, safety issues and basic welding techniques using electrode 7018 fillet weld for plate build up and for joints in the following positions: flat (1F), horizontal (2F), vertical (3F) and overhead (4F).

## ***WEL 152 Industrial Welding II (Advanced SMAW)***

*1 Class Hour 4 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: WEL 151*

An advanced study of shielded metal arc welding (SMAW) as it relates to joining two pieces of steel together using a backing strip with E7018 and open root with E6010 root and 7018 fill and cover passes for 100 percent weld in positions 1G, 2G, 3G and 4G. Class and lab activities will emphasize code compliant weldments.

## ***WEL 153 Industrial Welding III (GMAW)***

*1 Class Hour 4 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: WEL 152*

This course is intended to teach students the fundamental theory of Gas Metal Arc Welding (GMAW). Introductory GMAW lab activities focus on the application and use of consumable wire electrode application with GMAW and Flux Cored Arc Welding (FCAW) equipment, safety issues and basic welding techniques with steel plate in various positions. Properties of gases with regard to flow and regulation will also be presented.

## ***WEL 216 AWS SENSE Level 1***

*1 Class Hour 4 Lab Hours 3 Quarter Credit Hours*

This course will guide students through the standardized AWS (American Welding Society) SENSE curriculum. The students will cover information for nine modules; they are as follows: Module 1: Occupational Orientation, Module 2: Safety and Health of Welders, Module 3: Drawing and Welding Symbol Interpretation, Module 4: Shielded Metal Arc Welding (SMAW), Module 5: Gas Metal Arc Welding (GMAW), Module 6: Flux Core Arc Welding (FCAW), Module 7: Gas Tungsten Arc Welding (GTAW), Module 8: Thermal Cutting Processes, and Module 9: Welding Inspection and Testing.

## ***WEL 242 Destructive & Non-Destructive Testing***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Pre/co-requisite: ABT 232*

This course will introduce the field of destructive and non-destructive testing as it applies to the welding industry. Topics include the most common types of weld discontinuities, the most commonly used testing methods, and the advantages and limitations of each. Laboratory exercises will utilize various destructive and nondestructive weld testing techniques in accordance with American Welding Society (AWS), American Society of Mechanical Engineers (ASME), and American Petroleum Institute (API).

## ***WEL 254 Industrial Welding IV (FCAW)***

*1 Class Hour 4 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: WEL 153*

An advanced study of gas metal arc welding (GMAW) as it relates to joining two pieces of metal together with emphasis on steel open root plate and aluminum vee groove plate with backing and steel open root plate. Class and lab activities will emphasize code compliant weldments.

## ***WEL 255 Industrial Welding V (GTAW)***

*1 Class Hour 4 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: WEL 254*

This course is intended to teach students the fundamental theory of Gas Tungsten Arc Welding (GTAW). Introductory GTAW lab activities focus on the application and use of consumable electrode process, Gas Tungsten Arc Welding (GTAW) equipment, safety issues and basic welding techniques with steel plate in various positions. Properties of shielding gases with regard to flow and regulation will also be presented.

## ***WEL 259 Capstone Design Project***

*2 Class Hours 4 Lab Hours 4 Quarter Credit Hours*

*Prerequisite: WEL 255*

Advanced theory and lab activities that require demonstration of code compliant weldments, utilizing common welding practices and materials in a student-designed project. Students will be assigned a faculty advisor to assist them in this comprehensive project-based course.

**Courses are listed alphabetically by course code.**

***WEL 260 Introduction to Robotic Welding***

*2 Class Hours 2 Lab Hours 3 Quarter Credit Hours*

*Prerequisites: WEL 152, WEL 271*

The course studies the utilization of robotics, automated controls and assembly processes in the welding engineering environment. Included in this course will be establishing the safety, efficiency and performance of automated systems and machinery. Learned skills will include the ability to integrate weld machinery into the manufacturing system to enhance the automation process. Additional skills will include identifying, troubleshooting and resolving system errors. Levels of automation, as well as flexible and hard automation, open and closed loop control, adapted control and material handling will be discussed.

***WEL 271 Pipe Welding I (SMAW)***

*1 Class Hour 4 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: WEL 153*

This course covers the fundamentals for layout and fabrication of typical pipe connections and to use mathematics, basic equations and charts for properly fabricating and

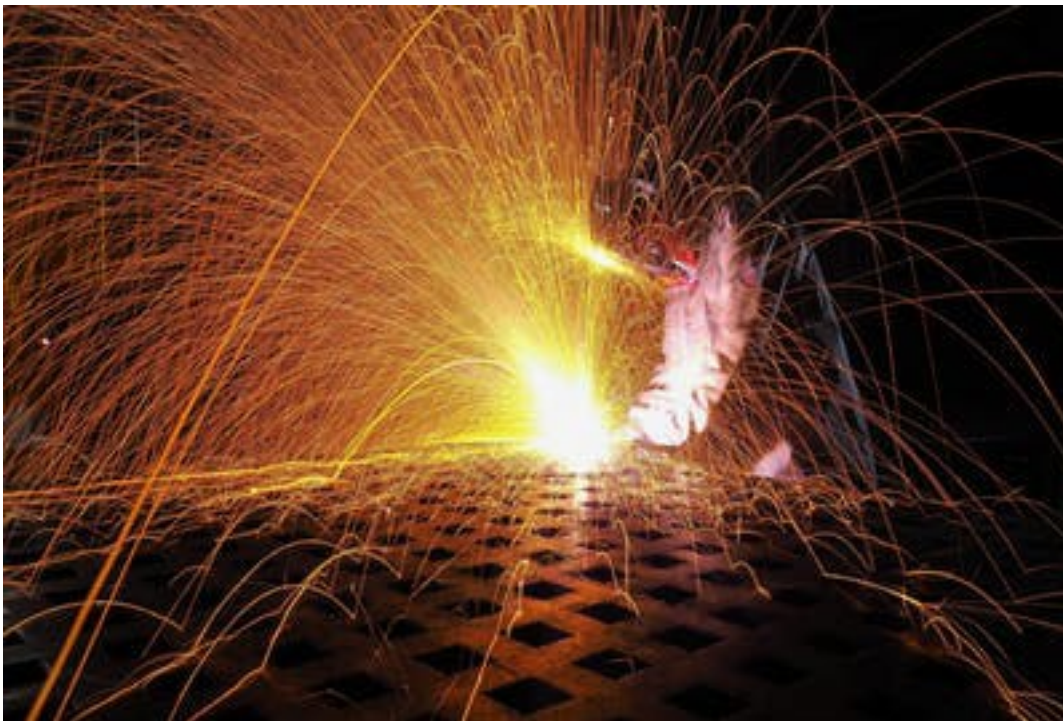
welding these connections. Students will gain exposure to the various types of joints, fit-up, and welding of branch connections, laterals, circumferential sleeves and bull plugs. Hands-on laboratory exercises emphasize the complete pipefitting process from interpretation of blueprints and actual pipe layout, to Shielded Metal Arc Welding (SMAW) of pipe connections in various positions. Class and lab activities will emphasize code compliant weldments.

***WEL 272 Pipe Welding II (SMAW/GMAW)***

*1 Class Hour 4 Lab Hours 3 Quarter Credit Hours*

*Prerequisite: WEL 271*

This course is intended to continue to teach students the theory of Shielded Metal/Gas Metal Arc Welding (SMAW/GMAW) to pipe welding. SMAW/GMAW lab activities focus on the application and use of Shielded Metal/Gas Metal Arc Welding (SMAW/GMAW) and include GTAW equipment, safety issues and basic welding techniques with pipe and tube in various positions. Properties of shielding gases with regard to flow and regulation will also be presented.





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Administrative Assistant/Purchasing Assistant

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M.A., Johnson State College  
Ed.D., University of Massachusetts, Boston

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Student Advisor  
B.A., Rhode Island College  
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B.S., Champlain College

**Emma Nichols**

Student Information Specialist, Registrar's Office  
University of Connecticut

**Darlene E. Noret**

Assistant Provost  
A.S., Community College of Rhode Island  
B.S., Salve Regina University  
M.S., University of Phoenix  
D.N.P., American Sentinel University

**Jeffrey P. Norman**

Admissions Officer  
B.A., University of Rhode Island

**Jennifer Norton**

Assistant Bookstore Manager

**Shonna-Jene O'Neill**

Student Loan Coordinator  
A.S., International Fine Arts College  
New England Institute of Technology

**Michelle Paiva**

Bookstore Manager  
B.S., Elon College

**Robert Palumbo**

SAMI Project Coordinator  
B.S., University of Rhode Island  
M.B.A., University of Rhode Island

**Kathleen Partington**

Client Services Representative  
B.S., St. Anselm College

**Lee Peebles**

Director of Student Life  
B.S., University of Rhode Island  
M.S., University of Rhode Island

**Andrew Pete**

IT Security Engineer  
B.S., Roger Williams University

**Linda Perentin**

Director of Academic Skills and the Writing Center  
B.A., University of Rhode Island  
M.A., University of Rhode Island

**Meghan Pettini**

Student Activities Coordinator  
B.A., The Catholic University of America

**Linda Phelps**

Data Entry and Compliance  
B.A., Rhode Island College

**Nahendra Pierre**

Residence Life Coordinator  
B.S., Oakwood University  
M.S., New England College

**Thomas F. Piette**

Admissions Officer  
B.A., Rhode Island College  
M.A., Columbia University

**Susan Pilkington**

Administrative Assistant, Nursing  
B.S., Bryant College

**Mary Preziosi**

Infrastructure Manager  
B.S., University of Rhode Island

**Franklin Raposa**

Simulation Center Operational Lead  
B.S., University of Rhode Island

**Catherine Ratliff**

Administrative Assistant, Financial Aid  
Middlesex Community College

**Morgan Rayner**

Student Success Coach  
M.S., Springfield College

**Maria Riccio**

Assistant Director of Financial Aid  
Katharine Gibbs School  
Allied Technical Institute

**Elizabeth Robberson**

Student Advisor  
B.A., Rhode Island College  
M.Ed., Johnson and Wales University

**Douglas Rose**

Software Developer  
B.S., New England Institute of Technology

**Pamela Rossi**

Assistant Director of Financial Aid  
A.S., Community College of Rhode Island

**Alfred Santaniello**

Director of Workforce Development Grants and Projects  
B.A., Rhode Island College  
M.Ed., Rhode Island College

**Bethany Schaarschmidt**

Director of Online Learning  
B.A., University of Rhode Island  
M.S., California State University

**Timothy Shirley**

Student Advisor  
B.A., Rhode Island College  
M.A.T., Rhode Island College

**Ryan Silva**

IT Infrastructure Engineer  
A.S., New England Institute of Technology

**Cindy Skavron**

Director of Student Accounts  
Nasson Institute

**Richard Sousa**

Carpenter Specialist

**Grant Spinella**

Admissions Officer  
Dean College

**Joseph Stelmach**

Tool Room Attendant, Automotive

**Carolyn Stiles**

Operations Manager Department of Technical Services  
B.S., New England Institute of Technology

**Casey Stillson**

Administrative Assistant, Career Services  
B.A., University of Rhode Island

**Dawn Tanzi**

Financial Aid Officer

**Barbara Tassone**

Admissions Officer

**Michelle Tavares**

PC Desktop Technical Analyst  
A.S., New England Institute of Technology  
B.S., New England Institute of Technology

**Kristen Tomlan**

Student Advisor  
B.S., Central Connecticut State University

**Annette Torrey**

Instructional Designer  
B.A., Rhode Island College  
M.A., Rhode Island College

**Mary Townsend**

Administrative Assistant, Financial Aid

**Patrick Tracey**

Director of Auxiliary Services  
A.A., Community College of Rhode Island

**Suzanne Tucker**

Staff Accountant  
B.S., Bryant College

**Erik van Renselaar**

Director of Institutional Research/Interim Registrar  
M.S., University of Groningen, The Netherlands

**Brandon Venda**

PC Desktop Technical Analyst  
A.S. New England Institute of Technology

**Teresa Walker**

Student Accounts Representative  
Kerry Walsh  
Lab Assistant  
Mt. Ida College

**Kimberly Wallace**

Business Office Cashier  
Nasson Institute

**Kerry Walsh**

Lab Assistant, Veterinary Technology  
B.S., Mount Ida College

**Robert Warren**

Environmental Health and Safety Officer  
A.S., Community College of Rhode Island  
B.S., Providence College

**Cindy West**

Student Accounts Representative

**Gina Winn**

Senior Accountant  
B.S., Johnson & Wales University  
M.S., Johnson & Wales University

**Julanne C. Wright**

Assistant to the Fiscal Office  
B.A., Colby College

**Jin Xu**

Student Accounts Representative  
B.S., Shanghai University  
P.G. Diploma, Swinburne University of Technology

## Henry Young

Assistant Provost  
B.S., Virginia Polytechnic Institute and State University  
M.S., University of Rhode Island  
Ed.D., Northeastern University  
LEED AP

## Judy A. Zaino

Re-Entry Coordinator  
A.S., Community College of Rhode Island  
B.A., Providence College





## DEPARTMENT CHAIRS

### **Architectural Building Engineering Technology/Interior Design/Construction Management**

Philip Marks, Chair  
Michael Hayes, Associate Chair

### **Automotive Technology/Automotive Collision Repair Technology/Marine Technology**

Robert Kennedy, Chair

### **Biological Sciences/Medical Laboratory Technician**

Rebecca Silva, Chair

### **Building Construction Technology**

Daniel Ducharme, Chair

### **Business Management**

Henry Johnson, Chair

### **Criminal Justice**

Raymond J. Angell III, Esq., Chair

### **Digital Media Production**

Thomas Strolla, Chair

### **Electrical Technology/Electrical Technology with Renewable Energy Systems/Electronics, Robotics, and Drones Technology/Electrical Engineering Technology/Engineering Management/Heating, Ventilation and Air Conditioning Technology/Mechanical Engineering Technology/Plumbing and Heating Technology/Welding Engineering Technology**

Michael Eggeman, Chair

### **Graphics, Multimedia and Web Design**

John Szymkowicz, Chair

### **Health Science**

Mary Benn, Chair

### **Humanities and Social Sciences**

Suzanne Gemma, J.D., Chair  
John Izzo, J.D., Assistant Chair

### **Information Technology/Cybersecurity Defense/Game Development and Simulation Programming/Video Game Design**

E. Martin Truchon, Interim Chair

### **Mathematics and Sciences**

Sharon Ryan, Chair  
John Mycroft, Ph.D., Assistant Chair

### **Nursing**

Elizabeth Raposa, DNP, Director of Nursing  
Stacie Nunziato, DNP, Assistant Nursing Director

### **Occupational Therapy/Rehabilitation Sciences**

Carol Doehler, OTD, Chair

### **Physical Therapist Assistant**

Laurie A. Miner, Ph.D., Chair

### **Respiratory Care**

Paul Mangino, Ed.D., Chair

### **Surgical Technology**

Lisa Reed, Chair

### **Veterinary Technology**

Christopher Hannafin, DVM, Chair

## FACULTY

### Architectural Building Engineering Technology/Interior Design/ Construction Management

#### Philip Marks

Associate Professor and Chair  
B. of Arch. Eng., Southern Polytechnic  
State University  
LEED AP

#### Michael Hayes

Assistant Professor and Associate Chair  
B.A., University of Rhode Island  
M.S., Drexel University  
LEED AP

#### Mia Alwen

Assistant Professor  
B.A., Hobart and William Smith Colleges  
M.I.A., Rhode Island School of Design

#### Paul Champigny

Associate Professor  
B.S., Roger Williams College  
M.A., University of Rhode Island

#### Dawn Edmondson

Professor  
B.S., Atlantic Union College  
M.S., Goddard College

#### Thomas Lonardo

Associate Professor  
B. of Arch., University of Miami

### Automotive Technology/ Automotive Collision Repair Technology

#### Robert Kennedy

Assistant Professor and Chair  
B.A., Rhode Island College

#### Manuel Couto

Assistant Professor  
B.S., Rhode Island College

#### Herbert A. Gowdey, Jr.

Instructor  
B.S., Rhode Island College

#### Michael Isabella

Assistant Professor  
B.S., Rhode Island College

#### Mark Lite

Associate Professor  
B.S., Worcester Polytechnic Institute  
M.S., Lesley College

#### Derek Martel

Assistant Professor  
A.S., New England Institute of Technology  
B.S., New England Institute of Technology

#### Daniel Perry, Jr.

Instructor  
A.S., Ferris State University  
B.S., New England Institute of Technology

#### Matthew Raboin

Assistant Professor  
A.S., New England Institute of Technology  
B.S., Johnson and Wales University

#### Virgilio Tavares

Assistant Professor  
A.A., Community College of Rhode Island  
B.S., Rhode Island College

### Biological Sciences/Medical Laboratory Technician

#### Rebecca Silva

Assistant Professor and Chair  
B.S., University of Rhode Island  
M.S., University of Rhode Island

### **Paula T. Cantwell**

Associate Professor  
A.A., Community College of Rhode Island  
A.S., Holyoke Community College  
B.S., Westfield State College  
B.S.N., University of Rhode Island  
M.A., University of Rhode Island

### **Shellee Morehead**

Assistant Professor  
B.S., Worcester Polytechnic Institute  
M.S., Worcester Polytechnic Institute  
Ph.D., University of Utah

### **Elizabeth O'Brien**

Assistant Professor  
B.S.N., University of Lowell  
M.S., Manchester University

## **Building Construction Technology**

### **Daniel Ducharme**

Instructor and Chair  
A.S., New England Institute of Technology

### **Elias Benson**

Lab Assistant/Instructor

## **Business Management**

### **Henry Johnson**

Associate Professor and Chair  
B.S., Johnson and Wales University  
M.B.A., Johnson and Wales University  
C.A.G.S., Johnson and Wales University

### **Heidi Allen**

Associate Professor  
B.A., Brown University  
M.Ed., Rhode Island College  
J.D., Suffolk University Law School

### **Sean Trainor**

Associate Professor  
B.A., Providence College  
M.B.A., Babson College - F.W. Olin Graduate School of Business

## **Criminal Justice**

### **Raymond J. Angell III, Esq.**

Professor and Chair  
B.S., Roger Williams University  
B.A., Rhode Island College  
J.D., Roger Williams University

### **Sean Carmody**

Assistant Professor  
B.A., State University of New York, Potsdam  
M.A., Anna Maria College

### **Michael Pezzullo**

Instructor  
B.S., Roger Williams University

## **Digital Media Production**

### **Thomas P. Strolla**

Professor and Chair  
B.A., State University of New York at Oswego  
M.A., Rhode Island College

### **Aaron Aguiar**

Instructor  
B.A., Gordon College  
M.A.T., Rhode Island College  
M.A., Rhode Island College

### **Michael Davis**

Professor  
B.S., Lyndon State College  
M.A., University of Massachusetts

### **Matt Morin**

Associate Professor  
A.S., New England Institute of Technology  
B.S., New England Institute of Technology

### **Anthony Ricci**

Assistant Professor  
B.S., Berklee College of Music

**Electrical Technology/Electrical Technology with Renewable Energy Systems/Electronics, Robotics, and Drones Technology/Electrical Engineering Technology/Engineering Management/Heating, Ventilation & Air Conditioning Technology/Mechanical Engineering Technology/Plumbing and Heating Technology/Welding Engineering Technology**

**Michael T. Eggeman**

Associate Professor and Chair  
A.S., New England Institute of Technology  
B.S., University of Rhode Island  
M.S., New England Institute of Technology

**Electrical Technology/Electrical Technology with Renewable Energy Systems**

**Edmund Borges**

Assistant Professor  
B.S.E.E., Brown University

**Paul V. Westrom**

Associate Professor  
B.S., New School for Social Research  
M.S., Capella University  
Journey Electrician, RI

**Electronics, Robotics, and Drones Technology/Electrical Engineering Technology**

**Antonio Coelho**

Assistant Professor  
A.S., Community College of Rhode Island  
B.S., University of Rhode Island

**Michael Recorvitz**

Professor  
A.S.E.E., Community College of Rhode Island  
B.S., Rhode Island College  
B.S.E.E.T., Roger Williams College  
M.A., Rhode Island College

**Heating Technology**

**Clinton J. Shurtleff**

Associate Professor  
B.S., Rhode Island College

**Dennis Sousa, Jr.**

Instructor  
A.S., New England Institute of Technology

**Plumbing Technology**

**Stephen Jason**

Lab Assistant/Instructor  
A.S., New England Institute of Technology

**John Tavanian**

Assistant Professor  
A.S., New England Institute of Technology  
B.A., Rhode Island College

**Refrigeration/Air Conditioning Technology**

**Brian Sullivan**

Assistant Professor  
A.S., New England Institute of Technology

**Mechanical Engineering Technology**

**Jennifer Hurley**

Associate Professor  
B.S., University of Massachusetts, Dartmouth  
M.S., University of Massachusetts, Dartmouth

**Michael Sorrentino**

Associate Professor  
A.A.S., Mohawk Valley Community College  
B.S., Empire State College

**Christopher Vasconcelos**

Assistant Professor  
B.S., New England Institute of Technology  
M.S., Bridgewater State University

**Welding Engineering Technology**

**Michael Sorrentino**

Associate Professor  
A.A.S., Mohawk Valley Community College  
B.S., Empire State College

## Graphics, Multimedia and Web Design

### John Szymkowicz

Associate Professor and Chair  
A.S., New England Institute of Technology  
B.S., New England Institute of Technology  
M.A., Rhode Island College

### David Johnson

Professor  
B.A., Rhode Island College  
M.F.A., Lesley University

## Humanities and Social Sciences

### Suzanne Gemma

Associate Professor and Chair  
B.A., University of Rhode Island  
J.D., Boston College

### John Izzo

Assistant Professor and Assistant Chair  
B.A., Providence College  
J.D., Suffolk University Law School

### Sarah Franco

Assistant Professor  
B.A., University of Rochester  
M.A., Simmons College  
Ph.D., University of New Hampshire

### Sarah Holmes

Associate Professor  
B.A., State University of New York, Fredonia  
M.A., State University of New York, Brockport  
Ph.D., University of Rhode Island

### Moira Keating

Associate Professor  
B.A., College of the Holy Cross  
M.A., University of Rhode Island  
Ph.D., University of Rhode Island

### William Murphy

Associate Professor  
B.A., Harvard University  
M.A., University of Pennsylvania  
Ph.D., University of Pennsylvania

## Information Technology/ Cybersecurity and Network Engineering/Cybersecurity Defense/Game Development and Simulation Programming/Software Engineering and Web Development/Video Game Design

### E. Martin Truchon

Associate Professor and Interim Chair  
B.A., St. Leo's College  
M.S., Johnson & Wales University

### Jason Aguiar

Associate Professor  
A.S., New England Institute of Technology  
B.A., Emerson College  
M.S., New England Institute of Technology

### William Culbertson

Professor  
B.F.A., Towson State University  
M.A., Rhode Island School of Design

### Timothy Culhane

Associate Professor  
B.A., University of Rhode Island  
M.A., University of Rhode Island

### Jordan Dubreuil

Assistant Professor  
A.A., Bristol Community College  
B.Arch., Roger Williams University

### Sal Gelsomino

Associate Professor  
B.S., Providence College  
M.A., Providence College

### Timothy M. Henry

Professor  
B.S., United States Coast Guard Academy  
M.S., Old Dominion University  
Ph.D., University of Rhode Island

### Jason Kayarian

Assistant Professor  
B.A., University of Rhode Island  
M.S., New England Institute of Technology

### **R. Scott Lambert**

Professor  
A.S., Community College of Rhode Island  
B.A., Rhode Island College  
M.S., Nova Southeastern University  
Ed.D., Regis College

### **James McClure**

Assistant Professor  
B.A., Cogswell Polytechnical College  
M.B.A., Babson College – F.W. Olin Graduate School of Business

### **George Saban**

Professor  
B.S., Cebu Institute of Technology  
M.S., Bryant University  
Ed.D., Northeastern University

### **Katherine Truchon**

Assistant Professor  
B.F.A., The Maine College of Art

## **Marine Technology**

### **Theodore D. Chamberlin**

Assistant Professor  
A.S., Florida Institute of Technology  
B.S., University of Rhode Island

## **Mathematics and Sciences**

### **Sharon Ryan**

Associate Professor and Chair  
B.S., University of Rhode Island  
M.Ed., Providence College  
M.A.T., Providence College

### **John P. Mycroft**

Associate Professor and Assistant Chair  
B.A., Rhode Island College  
Ph.D., University of Rhode Island

### **Kara Lau**

Assistant Professor  
B.A., Rhode Island College  
M.A., Providence College

### **Diana Smith**

Associate Professor  
B.A., University of Rhode Island  
M.S., University of Rhode Island  
Ph.D., University of Rhode Island

## **Nursing**

### **Elizabeth Raposa**

Assistant Professor and Director of Nursing  
B.S.N., University of Rhode Island  
M.S.N., University of Massachusetts – Worcester  
D.N.P., American Sentinel University

### **Stacie Nunziato**

Associate Professor and Assistant Director of Nursing  
A.A.S., Raritan Valley Community College  
B.S.N., Salve Regina University  
M.S.N., Chamberlain College of Nursing  
D.N.P., Chamberlain College of Nursing

### **Ashley Amrol**

Instructor  
B.S.N., University of Rhode Island  
B.S., University of Rhode Island  
M.S.N., American International College

### **Mary Benn**

Assistant Professor and Director of the LPN Program  
B.S.N., South University  
M.S.N., South University

### **Dianne Black Stanton**

Assistant Professor and MSN Program Coordinator  
B.S., Health Science, Merrimack College  
B.S.N., Regis College  
M.S.N., Regis College  
D.N.P., Chamberlain University

### **Linda J. Del Vecchio-Gilbert**

Professor  
B.S.N., University of Rhode Island  
M.S.N., Emory University  
D.N.P., Simmons College

### **Jessica DiRocco**

Instructor  
A.S., New England Institute of Technology  
B.S., New England Institute of Technology  
M.S., Simmons College

### **John Fedo**

Associate Professor  
A.S.N., Community College of Rhode Island  
B.S.N., Salve Regina University  
M.S.N., University of Rhode Island  
Ph.D., University of Connecticut

### **Michaela Frias**

Instructor  
A.S., New England Institute of Technology  
B.S., New England Institute of Technology  
M.S.N., Capella University

### **Bethany Goldberg**

Instructor  
B.S.N., Salve Regina University  
M.S.N., Boston College

### **Mary Catherine Kelly**

Associate Professor  
B.S., Georgetown University  
M.S.N., University of Texas  
M.A./C.A.G.S., Salve Regina University

### **Jennifer Misuraca**

Instructor  
B.S.N., Grand Canyon University  
M.S.N., Grand Canyon University

### **Robbin Neill**

Assistant Professor  
A.D.N., Community College of Rhode Island  
B.S.N., Kaplan University  
M.S.N., Grand Canyon University

### **Allison Stokes**

Instructor  
B.S.N., University of Rhode Island  
M.S.N., University of Rhode Island

## **Occupational Therapy/ Rehabilitation Sciences**

### **Carol A. Doehler**

Professor and Chair  
B.S., Quinnipiac University  
M.S., University of New Hampshire  
O.T.D., Mt. Mary University

### **Randal Fedoruk**

Professor and Program Director for M.S. in  
Occupational Therapy Program  
B.S., University of Alberta  
M.A., New York University  
O.T.D., Rocky Mountain University

### **Joanne Jones**

Professor  
A.S., Johnson and Wales University  
B.S., University of Texas, Galveston  
M.S., Texas Tech University  
O.T.D., Rocky Mountain University

### **Julia Ann Laird**

Lab Assistant/Instructor  
B.S., The College of New Jersey  
M.S., Boston University

### **Mary Litchfield**

Academic Fieldwork Coordinator/Instructor  
A.S., Quinnebaug Valley Community College  
A.S., New England Institute of Technology  
M.S.O.T., New England Institute of Technology  
O.T.D., New England Institute of Technology

### **Patricia McGee**

Assistant Professor  
B.S., Sacred Heart University  
M.S., Sacred Heart University

### **Bethany Pratt**

Assistant Professor  
B.A., University of Rhode Island  
A.S., New England Institute of Technology  
M.S.O.T., New England Institute of Technology  
O.T.D., Mount Mary University

### **Elizabeth Remillard**

Academic Fieldwork Coordinator/Instructor  
B.S., Boston University  
M.S., Boston University

## **Physical Therapist Assistant**

### **Laurie A. Miner**

Associate Professor and Chair  
B.S., Ithaca College  
M.S., State University of New York, Albany  
Ph.D., State University of New York, Albany

### **Debra Adams**

Associate Professor  
B.S., Quinnipiac University  
D.P.T., College of St. Scholastica

### **Russell Benoit**

Associate Professor  
B.S., University of Massachusetts, Lowell  
M.S., University of Massachusetts, Lowell

### **Michael A. Favocci**

Academic Coordinator of Clinical Education and  
Assistant Professor  
A.A.S., Newbury College  
B.S., University of Rhode Island

## Public Health

### Magali Angeloni

Assistant Professor and Chair  
M.B.A., Providence College  
Dr.PH, University of Illinois

## Respiratory Care

### Paul Mangino

Associate Professor and Chair  
B.S., Northeastern University  
M.Ed., Johnson & Wales University  
C.A.G.S., Johnson & Wales University  
Ed.D., Johnson & Wales University

### Shannon Regine

Instructor  
A.A.S., Community College of Rhode Island  
B.A., Providence College

## Surgical Technology

### Lisa Reed

Professor and Chair  
A.S., Bristol Community College  
B.S., Rhode Island College  
M.S., Salve Regina University

### Melissa Campbell

Instructor  
A.A., Community College of Rhode Island  
A.S., New England Institute of Technology  
B.S., Southern New Hampshire University  
M.S., Southern New Hampshire University

### Megan S. Treloar

Director of Clinical Sites/Assistant Professor  
A.S., New England Institute of Technology  
B.A., University of Massachusetts, Dartmouth  
M.B.A., Southern New Hampshire University

## Veterinary Technology

### Christopher Hannafin

Assistant Professor and Chair  
B.S., University of Rhode Island  
D.V.M., Ross School of Veterinary Medicine

### Donna Fortin Davidson

Assistant Professor  
B.S., University of Rhode Island  
D.V.M., Tufts University

### Nicholas Raimondi

Instructor  
B.S., University of New Hampshire

### Melanie Reilly

Instructor  
A.S., St. Petersburg College  
B.S., Purdue University

The Office of Teaching and Learning has available the official college directory of adjunct faculty, updated quarterly.





# ACADEMIC CALENDAR

## Winter Term, 2021

Classes Begin	January 11, 2021
Martin Luther King Day Holiday	January 18, 2021
President's Day	February 15, 2021
Classes End	March 20, 2021

## Spring Term, 2021

Classes Begin	March 29, 2021
Memorial Day Holiday	May 31, 2021
Classes End	June 5, 2021

## Summer Intersession, 2021

Classes Begin	June 7, 2021
Independence Day Holiday (Observed)	July 5, 2021
Classes End	July 10, 2021

## Summer Term, 2021

Classes Begin	July 19, 2021
Labor Day Holiday	September 6, 2021
Classes End	September 25, 2021

## Fall Term, 2021

Classes Begin	October 4, 2021
Columbus Day Holiday	October 11, 2021
Veteran's Day Holiday	November 11, 2021
Thanksgiving Vacation	November 21 thru November 28, 2021
Classes End	December 18, 2021

## Winter Term, 2022

Classes Begin	January 10, 2022
Martin Luther King Day Holiday	January 17, 2022
President's Day Holiday	February 21, 2022
Classes End	March 19, 2022

## Spring Term, 2022

Classes Begin	March 28, 2022
Memorial Day Holiday	May 30, 2022
Classes End	June 4, 2022

## Summer Intersession, 2022

Classes Begin	June 6, 2022
Independence Day Holiday	July 4, 2022
Classes End	July 9, 2022

## Summer Term, 2022

Classes Begin	July 18, 2022
Labor Day Holiday	September 5, 2022
Classes End	September 24, 2022

## Fall Term, 2022

Classes Begin	October 3, 2022
Columbus Day Holiday	October 10, 2022
Veteran's Day Holiday	November 11, 2022
Thanksgiving Vacation	November 20 thru November 27, 2022
Classes End	December 17, 2022

## Winter Term, 2023

Classes Begin	January 9, 2023
Martin Luther King Day Holiday	January 16, 2023
President's Day	February 20, 2023
Classes End	March 18, 2023

## Spring Term, 2023

Classes Begin	March 27, 2023
Memorial Day Holiday	May 29, 2023
Classes End	June 3, 2023

## Summer Intersession, 2023

Classes Begin	June 5, 2023
Independence Day Holiday	July 4, 2023
Classes End	July 8, 2023

## Summer Term, 2023

Classes Begin	July 17, 2023
Labor Day Holiday	September 4, 2023
Classes End	September 23, 2023

## Fall Term, 2023

Classes Begin	October 2, 2023
Columbus Day Holiday	October 9, 2023
Veteran's Day Holiday (Observed)	November 10, 2023
Thanksgiving Vacation	November 19 thru November 26, 2023
Classes End	December 16, 2023

## Winter Term, 2024

Classes Begin	January 8, 2024
Martin Luther King Day Holiday	January 15, 2024
President's Day Holiday	February 19, 2024
Classes End	March 16, 2024

## Spring Term, 2024

Classes Begin	March 25, 2024
Memorial Day Holiday	May 27, 2024
Classes End	June 1, 2024

## Summer Intersession, 2024

Classes Begin	June 3, 2024
Independence Day Holiday	July 4, 2024
Classes End	July 6, 2024

## Summer Term, 2024

Classes Begin	July 15, 2024
Labor Day Holiday	September 2, 2024
Classes End	September 21, 2024

## Fall Term, 2024

Classes Begin	September 30, 2024
Columbus Day Holiday	October 14, 2024
Veteran's Day Holiday	November 11, 2024
Thanksgiving Vacation	November 24 thru December 1, 2024
Classes End	December 14, 2024

## PARTIAL LIST OF EMPLOYERS

*This is a partial list of local, national, and international employers who have hired New England Tech graduates.*

AAA Southern New England  
ABC 6  
Abel Womack  
Absolute Respiratory Care  
AC Technology Corporation  
Acushnet Company  
Advance Electrical  
Advanced Production & Design  
Aerotek  
Amica Mutual Insurance  
Amgen  
Analysis & Technology  
Anchor Animal Hospital  
Andera  
Arbour-Fuller Hospital  
Arden Engineering Constructors  
Artificial Kidney Centers  
Astro-Nova  
Atlantis Comfort Systems  
Autozone  
AVIS  
Ayoub Engineering

Backus Hospital  
BAE Systems  
Bald Hill Dodge, Chrysler, Jeep, Ram  
Balise  
Bank of America  
BankRI  
Bayside OB-GYN  
Blackstone Valley SurgiCenter  
Blount Boats  
Blue Cross & Blue Shield of RI  
BlueLinx  
Bluestreak.com  
BMW of North America  
BOCH Automotive  
Bond Brothers Construction  
BOSE Corp.  
Boucher HVAC  
Brennan Oil & Heating  
Brewer Marinas  
Bridgestone/Firestone  
Bridge Technical Talent  
Brigham & Women's Hospital  
Brown University  
Bungie Games  
Butler Hospital

CAM HVAC & Construction  
Cape Cod Healthcare  
Cardi's Furniture  
Care New England

CarMax  
Carousel Industries  
Carriage House Mercedes-Benz  
Cedar Crest Nursing Center  
Centerville Bank  
Century Drywall  
CertainTeed Corporation  
Charlton Memorial Hospital  
Citizens Bank  
Coldmasters Temperature Control  
Collette Vacations  
Colonial Automotive Group  
Comcast  
Community College of RI  
Composite Technical Alloys  
Computer Sciences Corp.  
Continental Field Service  
Control Automation Group  
Cox Communications  
Cramer Productions  
Cranshaw Construction  
Cranston Police Department  
Creative Environment Corp.  
Crown Lift Trucks  
Cryptic Studios  
Cumberland Farms  
CVS Health

Day Kimball Hospital  
DeBlois Oil  
Dell EMC  
Delta Dental of RI  
Diebold  
DiLeonardo International  
Dimeo Construction  
Disney World  
Donald Wyatt Detention Center  
Doncasters Precision Casting New England  
Dunkin Donuts Center

Eagle Electric Supply  
Eastern Propane Gas  
East Greenwich Yacht Club  
Electric Boat  
Electro Standards Laboratories  
Eleanor Slater Hospital  
Embrace Home Loans  
EMCOR Services New England  
Emond Plumbing & Heating  
Enterprise Holdings  
ESPN  
Ethan Allen Interiors  
Fastenal

Federal Aviation Administration (FAA)  
Federal Bureau of Investigation (FBI)  
Federal Electronics  
Fidelity Investments  
Flood Auto Group  
FM Global  
Foxwoods Resort Casino  
Frank Shatz & Company

Geico  
GEMCO Electric  
GEM Home Services  
General Dynamics  
General Physics  
Gilbane  
GKT Refrigeration  
Guill Tool & Engineering

Hallam-ICS  
Hanna Instruments  
Harris Rebar/Barker Steel  
Hasbro  
Hasbro Children's Hospital  
Herb Chambers Cadillac  
Herrick & White  
Hinkley Yacht Services  
Honeywell  
Hope Global

iAutomation  
IBM  
ICON International  
IGT  
Igus Bearings  
iHeart Media  
Infosys  
Innovative Construction  
Inskip Automall  
Intel  
Interstate Electrical Services

Jake Kaplan's Ltd.  
Jaguar Land Rover  
J.H. Lynch and Sons  
Johnson & Johnson  
Johnson Controls  
Josten's Inc.  
Judd Brown Designs

Kaman Industrial Technologies  
Kent County Memorial Hospital  
The Kent Center  
Kindred Healthcare  
Kraft Analytics Group  
Kraft Sports & Entertainment  
KVH Industries

L3 Unidyne  
Landmark Medical

Lawrence & Memorial Hospital  
La-Z-Boy Galleries  
Lifecare Centers of America  
Lifespan  
Lockheed Martin  
LV Controls

Mass AV  
Mass-RI Veterinary ER  
Massachusetts Eye and Ear Infirmary  
Massachusetts General Hospital  
McLaughlin Research  
MEDITECH  
Mercedes Benz USA  
MetLife  
Milford Regional Medical Center  
Millwork One  
Miriam Hospital  
Mohegan Sun  
Morris Nathanson Design  
MWV/Polytop  
MSPCA Angell Hospital

National Grid  
National Lumber  
National Refrigeration  
National Security  
Naval Undersea Warfare Center  
NBC 10  
NE Architectural Interiors  
NetCenergy  
New England Boatworks  
New England Patriots  
Newport Hospital  
Newton Wellesley Hospital  
Niemic Marine  
Northeast Electrical Distributors  
NorthPaws Veterinary Center  
Northrop Grumman

Ocean Spray  
Ocean State Job Lot  
Ocean State Veterinary Hospital  
Oldcastle  
ON Semiconductor  
O'Rourke Electric  
Otis Elevator

Pariseault Builders  
Pawtucket Public School System  
Pawtucket Red Sox  
Pawtuxet Valley Medical & Surgical  
PEP BOYS  
Pepsi-Cola East  
Perspective Communications  
Point Judith Marina  
Proctor & Gamble/Gillette  
Providence Bruins  
Providence Journal

Providence Washington Insurance Co.  
Purvis Systems

RALCO Electric  
Raytheon  
Reagan Heating & AC  
Real Cool Productions  
Reebok  
Reilly Electrical Contractors  
RGA Interactive  
Rhode Island Department of Corrections  
Rhode Island Hospital  
Rhode Island Office of the Attorney General  
Rhode Island PBS  
Rhode Island Renal Institute  
Rhode Island State Police  
RIBI Security  
RICOH  
Rise Engineering  
Rockwell Automation  
Roger Williams Medical Center  
Roger Williams Park Zoo  
Roger Williams University  
Rogers Corporation  
Ryan Iron Works

Saint Anne's Hospital  
Saint Gobain  
Saint Joseph's Health Services  
Saint Luke's Hospital  
Saint Vincent's Hospital  
Schneider Electric  
Secure Works  
Seczetta  
Sencorp White  
Sensata Technologies  
Shawmut Design & Construction  
Siemens Building Automation Division  
Site Specific  
Sonalysts  
South County Hospital  
Spaulding Rehabilitation  
Spot Interactive  
Stedman & Kazounis Plumbing & Heating  
Sturdy Memorial Hospital  
STV/Diversified Project Management  
Superior Electric  
Superior Heating, AC & Refrigeration  
Supply NE Kitchen & Bath  
Swarovski

Tasca Automotive Group  
Tech Research Group  
Teknor Apex  
Tesla Energy  
TF Green Airport  
Thermal Environmental  
Thielsch Engineering  
Tiffany & Company  
Titleist and Foot-Joy Worldwide  
Toray Plastics

Towerstream  
TPI Composites  
Transportation Security Administration  
TriMark United East  
Turbine  
TV 9- Seekonk

Unetixs Vascular  
UNICOM  
UNISYS  
United Supply  
United Surgical Center  
United Woodworkers  
Universal Studios  
University Gastroenterology  
University Medicine  
University of RI  
UPS  
U.S. Department of State

Vector Software  
Vensys Energy  
Verizon  
Vertikal6  
Veteran's Administration Medical Center  
Vibco  
Videology Imaging Solution  
Virgin Pulse  
VNA of Rhode Island

Walco Electric  
Walsh Engineering  
Wardwell Braiding Company  
Washington Trust  
Wayne Distributing  
Wayne J. Griffin Electric  
Westerly Hospital  
WHDH  
William Starck Architects  
Wind River Systems  
WJAR Channel 10  
WLNE/ABC 6  
Women & Infants' Hospital  
Wood River Health Service  
Wood's Heating Service  
Woodard & Curran  
WPRI Fox Providence

XEROX  
Ximedica  
X-Ray Associates

Yale New Haven Hospital  
Yomega Corporation  
Yushin America

Zambarano Hospital  
Zebra Technologies  
Zymark Corporation

# MAPS

## East Greenwich Campus



## Post Road Campus



CT – Center for the Technologies

G – Gouse Building

1 – Student Parking

## Access Road Campus



A Building

AB Building

AC Building

AD Building

1 Student Parking

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