Catalog 2012-2013

Information, Policies, Programs, Courses, and Faculty of the

Benjamin Franklin Institute of Technology

41 Berkeley Street
Boston, Massachusetts 02116
Telephone: 617.423.4600
Fax: 617.482.3706
Web: http://www.bfit.edu
The BENJAMIN FRANKLIN INSTITUTE OF TECHNOLOGY reserves the right, in its sole judgment, to make changes of any nature in its programs, calendar, or academic schedule whenever it is deemed necessary or desirable including changes in course content, the rescheduling of classes with or without extending the academic term, canceling of scheduled classes and other academic activities, in any such case giving such notice thereof as is reasonably practicable under the circumstances. This catalog contains current information regarding the calendar, admission, degree requirements, fees, regulations, and course offerings. The policy of BFIT is to give advance notice of change, whenever possible, to permit adjustment. However, BFIT reserves the right to make changes at anytime when it is deemed advisable. Requests for the College’s audited financial statements should be directed to the President’s Office at 617-588-1369.

Equal Opportunity Policy

The Benjamin Franklin Institute of Technology policy prohibits discrimination on the basis of race, creed, color, religion, national origin, ancestry, sex, age, marital status, veteran status, political belief or affiliation, criminal record (applications only), CORI check results, mental or physical disability, pregnancy, retaliation, sexual harassment, sexual orientation, gender identity or expression and genetic information and any other class of individuals protected from discrimination under state and federal law. This policy extends to all rights, privileges, programs, and activities including admission, employment, financial assistance, and educational programs.

Inquiries concerning the application of these laws to BENJAMIN FRANKLIN INSTITUTE OF TECHNOLOGY should be addressed to the Equal Employment Opportunity/Affirmative Action Officer, who is the Human Resource Director, 41 Berkeley Street, Boston, MA 02116.

Family Educational Rights and Privacy Policy

BFIT complies with the Family Educational Rights and Privacy Act, also known as the Buckley Amendment. This act protects the rights of the student in matters of access to and release of information contained in the student’s records. Questions regarding this policy should be referred to the Registrar’s Office.
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Profile

Type of School: Private College
Founded: 1908 under the provisions of the will of Benjamin Franklin
Enrollment: 445 day and evening students
President: George C. Chryssis
Accreditation: New England Association of Schools and Colleges (NEASC)
National Automotive Technicians Education Foundation (NATEF)

Degrees:
- Bachelor of Science
- Associate of Science
- Certificate of Proficiency

Programs:
- Architectural Technology, A.S.
- Automotive Technology, A.S., Certificate
- Automotive Management, B.S.
- Computer Engineering Technology, A.S.
- Computer Technology—Applied Technology, A.S.
- Computer Technology—Systems Administration, A.S.
- Electrical Technology, A.S.
- Electronic Engineering Technology, A.S.
- Heating, Ventilation, Air Conditioning & Refrigeration, Certificate
- Mechanical Engineering Technology, A.S.
- Medical Electronics Engineering Technology, A.S.
- Ophthalmic Assisting, Certificate
- Opticianry, A.S.

Student Profile:

<table>
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<th>Ethnic Origin</th>
<th>Percentage</th>
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<tr>
<td>Asian</td>
<td>5.92%</td>
</tr>
<tr>
<td>Black, Non-Hispanic</td>
<td>30.75%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>15.95%</td>
</tr>
<tr>
<td>Multi-Ethnic</td>
<td>4.10%</td>
</tr>
<tr>
<td>Native American</td>
<td>46%</td>
</tr>
<tr>
<td>Other</td>
<td>9.79%</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>0.68%</td>
</tr>
<tr>
<td>White, Non-Hispanic</td>
<td>32.35%</td>
</tr>
</tbody>
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Tuition:
- Associate Degree Programs $16,950 per year,
- Bachelor’s program $18,190

Financial Aid:
- Federal, State and institutional aid available

Location: Boston’s South End neighborhood

Accreditation

New England Association of Schools and Colleges (NEASC)
Benjamin Franklin Institute of Technology is accredited by the New England Association of Schools and Colleges, a non-governmental, nationally recognized organization that accredits institutions of higher education.

Accreditation of an institution by the New England Association of Schools and Colleges indicates that it meets or exceeds criteria for the assessment of institutional quality, periodically applied through a rigorous review process. An accredited school or college is one that has the resources necessary 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.

Accreditation by the New England Association is not partial, but applies to the institution as a whole. As such, it is not a guarantee of the quality 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 status of an institution’s accreditation by the New England Association of Schools and Colleges should be directed to:
Commission on Institutions of Higher Education
New England Association of Schools and Colleges, Inc.
209 Burlington Road, Bedford, MA 01730-1433
781-271-0022

National Automotive Technicians Education Foundation (NATEF)
The Automotive Technology Program at the Benjamin Franklin Institute of Technology is accredited by the National Automotive Technicians Education Foundation, an independent, non-profit organization with a single mission: To evaluate technician training programs against standards developed by the automotive industry and recommend qualifying programs for NATEF accreditation.

National Automotive Technicians Education Foundation
101 Blue Seal Drive, SE, Suite 101
Leesburg, VA 20175
(703) 669-6650
Fax: (703) 669-6125
http://www.natef.org
A Message from the President

Welcome to the Benjamin Franklin Institute of Technology.

We are a historic College in a historic city, proud to call Benjamin Franklin our benefactor and Andrew Carnegie a founder. Our reputation and our success are attributes deeply rooted upon the guiding principles of these founders who emphasized education, citizenship, hard work, dedication and commitment.

Choosing a college is a very serious decision and your final choice will have a great impact on your career and your life. There are many factors to consider before you make your college choice, among them reputation, academic programs, student support, affordability, and the ability to graduate timely and secure gainful employment that leads to a successful career.

At Franklin we provide cutting-edge, transformative education in fields that emphasize hands-on, practical training that provides you with the technical and social skills to succeed. We are committed to your education from the moment that you enter the College to the time that you graduate as a skilled professional.

This Course Catalog acquaints you with Franklin’s programs, courses, policies, student services, financial aid, and contains information on faculty and staff as well. It is a resource that you can use before you matriculate and continue to use throughout your years of attendance at Franklin.

Please take the time to look it over carefully and select your field of study from the variety of certificate, associate and bachelor degree programs that Franklin offers. We hope that Franklin will be your college of choice. We look forward to welcoming you to Franklin and sharing with you the power of education that will provide you with the knowledge to become a successful and productive citizen.

Sincerely,

George C. Chryssis
President
2012-2013 Academic Calendar

Fall Semester 2012
- Labor Day: Monday, September 03, 2012
- Check In Day, SYE, and FYE: Tuesday, September 04, 2012
- Classes Begin: Wednesday, September 05, 2012
- Add/Drop Deadline: Friday, September 14, 2012
- Incomplete Deadline: Friday, September 14, 2012
- Columbus Day: Monday, October 08, 2012
- Monday Schedule: Tuesday, October 09, 2012
- Mid Term Ends: Friday, October 19, 2012
- Withdrawal Deadline: Friday, November 02, 2012
- Veteran’s Day: Monday, November 12, 2012
- Thanksgiving: Wednesday–Friday, November 21-23, 2012
- Registration Begins: Monday, November 26, 2012
- Classes End: Tuesday, December 18, 2012

Summer Session I • 7 week session • May 15 – July 3, 2013
- Classes Begin: Wednesday, May 15, 2013
- Add/Drop Deadline: Tuesday, May 21, 2013
- Incomplete Deadline: Tuesday, May 21, 2013
- Memorial Day: Monday, May 27, 2013
- Monday Schedule: Wednesday, May 29, 2013
- HVAC Classes in Session: Friday, May 31, 2013
- Withdrawal Deadline: Wednesday, June 12, 2013
- No HVAC Classes: July 1–July 4, 2013
- Summer Break: July 4–July 9, 2013
- Independence Day: Thursday, July 04, 2013

Summer Session II • 7 week session • July 10 – August 27, 2013
- HVAC Classes Resume: Monday, July 08, 2013
- Classes Begin: Wednesday, July 10, 2013
- Add/Drop Deadline: Tuesday, July 16, 2013
- Incomplete Deadline: Tuesday, July 16, 2013
- Withdrawal Deadline: Tuesday, August 06, 2013
- Classes End: Tuesday, August 27, 2013
- HVAC Classes End: Thursday, August 29, 2013

Spring Semester 2013
- Returning HVAC Student – Classes Begin: Monday, January 7, 2013
- Check In Day, SYE, and FYE: Tuesday, January 22, 2013
- Classes Begin: Wednesday, January 23, 2013
- Add/Drop Deadline: Tuesday, February 05, 2013
- Incomplete Deadline: Tuesday, February 05, 2013
- President’s Day: Monday, February 18, 2013
- Monday Schedule: Wednesday, February 20, 2013
- HVAC Spring Start Students – Classes in Session: Friday, February 22, 2013
- Mid Term Ends: Friday, March 08, 2013
- Spring Break: Monday, March 11–Friday, March 15, 2013
- Withdrawal Deadline: Friday, March 29, 2013
- Patriots Day: Monday, April 15, 2013
- Registration Begins: Tuesday, April 16, 2013
- Monday Schedule: Thursday, April 18, 2013
- HVAC Spring Start Students – Classes in Session: Friday, April 19, 2013
- Classes End: Thursday, May 09, 2013
- HVAC Spring Start Students – Classes in Session: Monday, May 13 and Tuesday, May 14, 2013
- Graduation: Saturday, May 18, 2013

Summer Session II • 7 week session • July 10 – August 27, 2013
- HVAC Classes Resume: Monday, July 08, 2013
- Classes Begin: Wednesday, July 10, 2013
- Add/Drop Deadline: Tuesday, July 16, 2013
- Incomplete Deadline: Tuesday, July 16, 2013
- Withdrawal Deadline: Tuesday, August 06, 2013
- Classes End: Tuesday, August 27, 2013
- HVAC Classes End: Thursday, August 29, 2013

Items in Italics are specific to students in the HVAC&R Certificate program due to hour requirements associated with the program.
2013-2014 Academic Calendar

Fall Semester 2013
- Labor Day: Monday, September 02, 2013
- Check In Day, SYE, and FYE: Tuesday, September 03, 2013
- Classes Begin: Wednesday, September 04, 2013
- Add/Drop Deadline: Friday, September 13, 2013
- Incomplete Deadline: Friday, September 13, 2013
- Columbus Day: Monday, October 14, 2013
- Monday Schedule: Tuesday, October 15, 2013
- Mid Term Ends: Friday, October 18, 2013
- Withdrawal Deadline: Friday, November 01, 2013
- Veteran’s Day: Monday, November 11, 2013
- Registration Begins: Monday, November 25, 2013
- Thanksgiving: Wednesday-Friday, November 27-29, 2013
- Classes End: Tuesday, December 17, 2013

Summer Session I • 7 week session • May 14 – July 2, 2014
- Classes Begin: Wednesday, May 14, 2014
- Add/Drop Deadline: Tuesday, May 20, 2014
- Incomplete Deadline: Tuesday, May 20, 2014
- Memorial Day: Monday, May 26, 2014
- Monday Schedule: Wednesday, May 28, 2014
- HVAC Classes in Session: Friday, May 30, 2014
- Withdrawal Deadline: Wednesday, June 11, 2014
- No HVAC Classes: June 30-July 5, 2014
- Summer Break: July 3-July 9, 2014
- Independence Day: Friday, July 04, 2014

Spring Semester 2014
- Returning HVAC Student – Classes Begin: Monday, January 6, 2014
- M.L. King Day – Returning HVAC Students – No Class: Monday, January 20, 2014
- Check In Day, SYE, and FYE: Tuesday, January 21, 2014
- Classes Begin: Wednesday, January 22, 2014
- Add/Drop Deadline: Tuesday, February 04, 2014
- Incomplete Deadline: Tuesday, February 04, 2014
- President’s Day: Monday, February 17, 2014
- Monday Schedule: Wednesday, February 19, 2014
- HVAC Spring Start Students – Classes in Session: Friday, February 21, 2014
- Mid Term Ends: Friday, March 07, 2014
- Spring Break: Monday, March 10-Friday, March 14, 2014
- Withdrawal Deadline: Friday, March 21, 2014
- HVAC Spring Start Students – Classes in Session: Friday, April 18, 2014
- Patriots Day: Monday, April 21, 2014
- Registration Begins: Tuesday, April 22, 2014
- Monday Schedule: Thursday, April 24, 2014
- Classes End: Thursday, May 08, 2014
- HVAC Spring Start Students – Classes in Session: Monday, May 12 and Tuesday, May 13, 2014
- Graduation: Saturday, May 17, 2014

Summer Session II • 7 week session • July 9 – August 26, 2013
- HVAC Classes Resume: Monday, July 07, 2014
- Classes Begin: Wednesday, July 09, 2014
- Add/Drop Deadline: Tuesday, July 15, 2014
- Incomplete Deadline: Tuesday, July 15, 2014
- Withdrawal Deadline: Tuesday, August 05, 2014
- Classes End: Tuesday, August 26, 2014
- HVAC Classes End: Thursday, August 28, 2014

Items in Italics are specific to students in the HVAC&R Certificate program due to hour requirements associated with the program.
Policies and Disclaimers

Equal Opportunity Policy
The Benjamin Franklin Institute of Technology policy prohibits discrimination on the basis of race, creed, color, religion, national origin, ancestry, sex, age, marital status, veteran status, political belief or affiliation, criminal record (applications only), CORI check results, mental or physical disability, pregnancy, retaliation, sexual harassment, sexual orientation, gender identity or expression and genetic information and any other class of individuals protected from discrimination under state and federal law. This policy extends to all rights, privileges, programs, and activities including admission, employment, financial assistance, and educational programs.

This policy extends to all rights, privileges, programs, and activities, including admission, employment, financial assistance, and educational programs, and is required by federal law including Title IX of the Educational Amendments of 1972, and section 504 of the Rehabilitation Act of 1973, and the regulations thereunder. Inquiries concerning the application of these laws to Benjamin Franklin Institute of Technology should be addressed to Affirmative Action Officer/ Director of Human Resources, 41 Berkeley St., Boston, MA 02116.

Family Educational Rights and Privacy Policy
The Benjamin Franklin Institute of Technology complies with the federal Family Educational Rights and Privacy Act. This law protects the rights of the student in matters of access to, and release of, information contained in the student’s educational records. For more information refer to full policy in this catalog.

Changes to this Catalog
The information in the printed version of this catalog was current as of July 1, 2012. The Benjamin Franklin Institute of Technology reserves the right to update, modify, and change calendars, degree requirements, course offerings, course descriptions, regulations, tuition and fees, and other information as necessary. The College will endeavor to provide timely notice of these changes to the persons affected. An updated version of this catalog can be found online at www.bfit.edu.

History and Mission

History
The Benjamin Franklin Institute of Technology is a two-year college with a rich history built on tradition and innovation. One of the oldest technical colleges in New England, BFIT owes its existence to Benjamin Franklin, who in the 1789 codicil to his will bequeathed a gift to help educate “the inhabitants of the Town of Boston.” His desire was to equip young people with quality technical skills, believing that “good apprentices are most likely to make good citizens.” In 1906, aided by an additional gift from the industrialist Andrew Carnegie and land donated by the city of Boston, the managers of the Franklin Fund decided that a technical college would best accomplish Franklin’s original purpose. Benjamin Franklin Institute of Technology opened its doors to students in 1908. Since then, BFIT has graduated more than 85,000 students, all of whom have benefited from its unique approach to technical education.

BFIT remains Dr. Franklin’s living legacy to Boston. A more extensive history of BFIT can be found on our website at www.bfit.edu.

Mission Statement
The Benjamin Franklin Institute of Technology offers education to students pursuing career-based paths. The college strives to develop technical and professional skills as well as individual values that help to create a foundation for success, civic responsibility and life-long learning. The College adheres to the principles put forth by our benefactor Benjamin Franklin in his writings about education and citizenship.

Vision Statement
Benjamin Franklin Institute of Technology will be a best-in-its-class college that provides a supportive learning environment and offers innovative, practical and entrepreneurial education resulting in career-ready, productive and civically-engaged citizens.

Institutional Values
We value our diverse community and the fostering of a supportive learning environment. We are committed to creating opportunity by working closely with industry and community partners to prepare our students for lifelong learning in an increasingly interdependent world. Our academic programs and co-curricular efforts reflect our commitment to the fundamental principles of an educated person. We value the following skills and attributes and actively promote their development through college-wide initiatives, so that each student:

- Possesses the technical skills to enter the workforce or go on to further education
- Demonstrates professionalism through leadership, a strong work ethic, and teamwork
- Communicates effectively both professionally and personally
- Utilizes critical thinking and various approaches to problem solving
- Possesses the lifelong skills to locate, evaluate and use information effectively
- Understands the impact of sustainable development
- Is globally and ethically responsible and civically engaged
Governance

The Benjamin Franklin Institute of Technology is governed by an independent Board of Trustees reflective of the Boston area citizenry desired by Benjamin Franklin in his original bequest to the City of Boston. The Board presently has 20 members in addition to its ex-officio member, the Mayor of Boston, and the President of the College. As well, the Board is aided by the continued service of its Trustee Emeriti, distinguished former members of the Board who continue their participation in many aspects of the College governance.

The Board of Trustees meets on a quarterly basis at the College. In between the Trustee meetings, an elected Executive Committee serves in the Board’s stead for needed decision-making and guidance.

Each Trustee is asked to serve on at least two Board committees. These committees convene and engage with the College during their own committee meetings taking advantage of the specific skills possessed by the individual Trustees. Committees include Finance, Investment, Audit, Marketing, Building & Facilities, Strategic Planning, Development, Academic, and Governance.

Four members of the Trustees are elected as officers of the Board during the Annual Meeting. These are the Chair, Vice Chair, Treasurer and Secretary. Membership of the Executive Committee and other committees is also determined at the June meeting.

The President of the College is a voting member of the Board and is responsible for the management and implementation of the policies and directives of the Board. He has a strong consultative relationship with the Chair, the Executive Committee and other Trustees.

On a day to day basis, he works closely through his Administrative Council that consists of his management team, the Chief Financial Officer, the Dean of Academic Affairs, the Dean of Enrollment Management, the Dean of Students, the Director of Human Resources, the Director of Institutional Advancement, and the Director of Operations.

Shared Governance

The academic department chairs meet regularly with the Dean of Academic Affairs. The faculty is involved in curriculum matters, personnel matters, and faculty development through four standing committees:

- A faculty academic advisory committee (FAAC) advises on academic and curriculum matters.
- A faculty personnel advisory committee (FPAC) fosters cooperation and communication among faculty and administration.
- A faculty development committee (FDC) promotes professional development and in-service training.
- A faculty promotion committee (FPC) reviews faculty portfolios for academic promotion.

Facilities

The College includes laboratory, classroom, student, and office space on its three-acre campus in the South End neighborhood of Boston. The campus centers on the Franklin Union building, an historic 1908 structure designed specifically for technical education.

For its approximately 500 students, BFIT provides 12 general classrooms, 27 specialized laboratories, a library, an Academic Success Center, an 800 seat auditorium, a student lounge, and a school store.

The central place on campus is the historic, high-ceilinged lobby where students study, talk, and meet with their teachers.

Laboratories

Since effective technical education focuses on experimentation and hands-on work, BFIT’s facilities center on these twenty-seven labs:

- Architectural Design Lab
- Alternative Energy Lab
- Alternative Fuels Vehicles Lab
- Automotive Brakes Lab
- Automotive Engines Lab
- Automotive Repair Lab
- Automotive Transmissions Lab
- Automotive Electric Lab
- Automotive Diagnostics Lab
- Automotive Chassis Lab
- Computer Networking Lab
- Computer Programming Labs (3)
- Computer Diagnostics Lab
- Computer Aided Design (CAD) Labs (2)
- Electric Machinery Lab
- Electric Wiring Lab
- Electronics Lab
- HVAC&R Labs (2)
- Mechanical Engineering Lab
- Opticianry Labs (3)
- Physics Lab
Admissions Procedure and Criteria

Application Deadlines
Applications are reviewed on a rolling basis. The priority deadline for the Fall semester is May 1 and for the Spring semester is December 1.

Admission Requirements
Because the intensity of the studies at the Benjamin Franklin Institute of Technology varies from program to program, the level of high school preparation for admission varies accordingly.

- Applicants to the associate degree programs in the engineering technologies (electronic, medical electronics, computer, and mechanical) should have completed in high school: four full-year courses in English, at least three years in mathematics through Algebra II, and at least one course in science.
- Applicants to the associate degree programs in automotive, electrical, architectural technologies, Opticianry, and ophthalmic assisting should have completed in high school: four full-year courses in English, at least three years in mathematics, and at least one course in science.
- Applicants to the certificate programs in HVAC&R, and should have undertaken high school courses that reflect satisfactory development of basic English, mathematics, and science or technical skills.
- Applicants to the automotive technology program must have correctable vision and hearing, an ability to stand for long periods, the ability to lift 30 pounds, and, for continuation into the second year of the program, a valid driver’s license. These requirements stem from the machinery, repair equipment, and running engines encountered in the automotive laboratories and shops.
- Applicants to the associate degree program in Automotive Management must have earned an associate degree in Automotive Technology from BFIT or another accredited college, with a minimum average of "C" in all English Composition courses. Applicants should be aware of the terms of articulation agreements with other two-year colleges. Failure to meet all of the terms as outlined in the articulation agreement may result in additional coursework prior to matriculation in the Bachelor of Science program.

How to Apply for Admission
All applicants must complete the Application for Admission, available in paper or online at www.bfit.edu. The application must be submitted with a $25 processing fee to the Office of Admissions. Application fees are not refundable. Students can request a waiver of the application fee by contacting the admissions office. Students may also submit the Common Application which can be obtained online at www.commonapp.org. Official high school or secondary school records or transcripts, or official GED scores, must be submitted before the application can be processed. High school guidance counselors or records offices may send official copies of transcripts to BFIT.

Students will also need to submit one letter of recommendation from a teacher or high school guidance counselor and it is recommended that students submit a personal statement as described in the application for admission. Upon enrollment, students must submit a final high school or secondary school transcript that states their graduation date and immunization records as mandated by the Commonwealth of Massachusetts. Interviews are not required of all students, but are strongly encouraged. Students that do not possess a history of academic strength as demonstrated through their academic records may be required to have an interview with an admissions staff member prior to an admission decision being rendered.

Applications are processed on a rolling basis, with applicants notified of their admission status shortly after all required documents have been received. All offers of conditional admission require the applicant’s successful completion of the items listed in his or her acceptance letter. Official final secondary school transcripts are required in order to complete an applicant’s file and initiate the registration process.

Entrance Examinations
Applicants are strongly encouraged to take the Scholastic Aptitude Test (SAT) of the College Board or the American College Testing Assessment (ACT). Our CEEB code is 3394. Official test scores should be submitted to the Admissions Office if available to help support the strength of a student’s application materials.

Once students are accepted to the College, they will be asked to take BFIT’s placement tests to determine their level of proficiency in English and mathematics so that they are appropriately scheduled for classes during their first semester of enrollment.

Applicants who are native speakers of other languages must demonstrate English proficiency for entrance to all programs.

* Please note that all students who are offered admission to BFIT will be required to submit a $100 tuition deposit to secure their spot in the entering class. Students that are requesting on-campus housing must submit an additional $150 housing deposit to secure housing.

September Admission
Applications for all programs are accepted for September enrollment.

January Admission
Applicants for January enrollment are considered for admission on a program-by-program basis as not all programs may be available for students to start during the January semester.
Transfer Students and Advanced Standing Credit

Students who have completed studies at another accredited college or university and wish to enroll at BFIT must meet all entrance requirements. They must also submit an official transcript of their academic record from all colleges previously attended. The College also awards advanced standing credit to students from select high schools where articulation agreements exist. For a complete listing of the high school advanced standing articulation agreements, visit the College’s Admissions webpage.

Credit will be awarded for work completed at other accredited colleges that is equivalent in content and credit hours to BFIT courses and in which at least a grade of “C” was earned. The Dean of Academic Affairs must approve all requests for advanced standing credit on recommendation of the appropriate Department Chair. Transfer students must complete at least 51% of their program’s courses at BFIT.

Advanced Placement Credit

Students who have taken Advanced Placement classes and have taken the AP Exam offered through the College Board may be eligible for advanced standing credit. For a complete list of AP Exams and scores eligible for college-level credit please visit the College’s Registrar webpage.

Placement Policy

Students admitted to BFIT are required to take a placement assessment. This assessment is used by the College’s placement committee to determine a student’s skill level in a specific subject matter and determine the most appropriate place for them to begin at BFIT. Students are asked to take the placement exam for mathematics and English.

The math assessment consists of two adaptive sections (Arithmetic and Algebra) which are taken via an online service called Accuplacer. Students who have taken an ESL course before, or who are non-native English speakers, are also required to take an ESL reading test via Accuplacer. The other English test consists of a reading and writing exercise provided by BFIT.

After all placement sessions, students will have a brief academic consultation with a placement proctor. The proctor will discuss where students were placed and what classes they will be taking, from their first semester to their last. Students are allowed one retest to improve their math scores. Tutoring is available at certain placement sessions and students are encouraged to study online using Accuplacer practice tests and other free online services as recommended by your admissions counselor.

Students who have Advanced Placement (AP) credit or have earned college credits in English and/or mathematics may be exempt from taking the placement assessment. (Please see the AP policy, college credit transfer policy, and speak with an admissions counselor for more details.)

Students who would like accommodations for placement testing should tell their admission counselor when they sign up for testing. They will also need to provide clinical documentation of any disability to the Assistant Director of Advising before their test date. Admissions will contact the Placement Coordinator and the Assistant Director of Advising ahead of time to see if appropriate accommodations can be arranged.

Typical accommodations include providing a separate testing site and/or providing a reader. Students requesting the use of a calculator are encouraged to take the test without one; the placement coordinator will take their request into consideration when analyzing the results. Students may have the option of retesting with a calculator at a later date. Placement testing is untimed, so students can return if they need additional time to complete the assessment.

Readmission Policy

POLICY

Students, who have voluntarily left or been dismissed from Benjamin Franklin Institute of Technology for at least one semester and desire to reenter the program, must complete the reentry form and receive the approval of the Dean of Academic Affairs and the student’s respective program chair. The reentry form is available online or from the Registrar’s office. Reentry will be granted on a space-available basis and is not guaranteed. Any prior balance owed to the College must be paid in full before reentry will be considered.

If the student has been away from the college for at least three semesters, the student must apply for readmission with the admissions office and be subject to the admission and programmatic requirements of the current catalog.

PROCEDURE

Benjamin Franklin Institute of Technology will employ two different enrollment statuses to students who are readmitted to the College, depending upon the length of absence.

Reentered – This status will be employed if a student misses at least one complete semester of classes.

Students who withdraw mid-term and register for classes the following term will remain classified as Continuing Students.

Students who desire to reenter the Benjamin Franklin Institute of Technology should be directed to the Registrar’s Office to complete the readmission form which can be found on the College’s Registrar webpage. The Registrar will review the student’s academic standing and will then register the student for courses where appropriate. If a student is not in good academic standing, the Registrar will refer the student to the appropriate offices before registering the student for courses. The registrar will assign this student with the enrollment status of “reentered.”
Reenrolled – This status will be employed for a student who has missed three or more complete semesters of classes.

Students seeking to reenroll after missing three or more complete semesters should be directed to the admissions department. Admissions will direct the student through the admissions process. During this process, the admissions counselor, in consultation with the Registrar, will review the academic standing of the student before rendering an admissions decision. Upon acceptance and subsequent enrollment, the Registrar will update the student’s status to Reenrolled.

Students reentering the program will continue to be counted in the cohort to which they initially entered. In the event of a question, the Registrar shall be the final determiner as to whether a student is classified as a reentered or reenrolled status.

Part-Time Students
Part-time students may enroll in courses for which they meet all prerequisites and should follow the same procedures as students seeking regular admission. Students taking fewer than 12 semester hours are considered part-time and pay tuition according to the semester hour rate. Part-time students may be eligible for federal and state financial aid programs and should apply for financial aid each year to determine eligibility.

Summer Session
For students needing additional instruction in algebra, language skills development, or ESL (based on the results of the placement assessment), BFIT provides academic skills-building summer courses. Selected technical courses are also available in the summer. Inquiries concerning summer study should be directed to the Office of Admissions.

International Applicant Information
FALL SEMESTER (SEPTEMBER)
Priority Deadline: May 1

SPRING SEMESTER (JANUARY)
Priority Deadline: October 1

REQUIREMENTS FOR ADMISSION
International applicants must submit to the Office of Admissions: secondary-school educational records or transcripts, accompanied by certified English translations as necessary. Documents should include year of secondary school graduation, courses undertaken, and grades earned in each course, as well as exam results. Applicants who have taken external examinations, such as the GCE “O” and “A” levels, or the International Baccalaureate, should submit the results in support of their application.

The agency listed below provides evaluations of educational credentials and course-by-course reports for students educated at foreign secondary schools, colleges, or universities.

Center for Educational Documentation
P.O. Box 170116
Boston, MA 02117
Telephone: (617) 338-7171
Fax: (617) 338-7101
Web: http://www.cedevaluations.com

BFIT, not the agency, determines the final decision for the acceptance of transfer credit. If accepted, students must pay the required $100 (U.S.) tuition deposit before the Certificate of Eligibility (I-20 Form) can be issued.

APPLICATION PROCEDURE
• Complete the BFIT Application for Admission.
• Attach an international money order for $50 (U.S.) to application. Students may also pay by credit card online at our website www.bfit.edu. This fee is non-refundable.
• Submit a transcript (with certified English translation, if needed) of secondary school records and relevant examination scores. Transfer students should also submit university transcripts and course descriptions.
• Submit evidence of English proficiency through the paper-based TOEFL, internet-based TOEFL, IELTS exam, or completion of English language proficiency from one of the College’s certified language partner organizations. An updated list of English language partner organizations can be found on the College’s Admissions webpage.
• Submit a completed Financial Declaration Form and a current bank statement and letter of support from sponsor that demonstrates available funding that is greater than or equivalent to one-year of tuition and housing costs.

ENGLISH LANGUAGE PROFICIENCY
All applicants must demonstrate fluency in English. Completing at least one of the following may do this:
• Submitting official test scores of the Test of English as a Foreign Language (TOEFL) administered by the College Entrance Examination Board.
• Submitting official test scores of the International English Language Testing System (IELTS).
• Certificate of completion of English as a Second Language program from a recognized language institute.
• Satisfactory completion of the BFIT ESL course.
FINANCIAL DOCUMENTATION
All international students are expected to have sufficient funds available to cover all academic and living expenses for the duration of their stay in the U.S. International applicants are required to provide BFIT with a financial statement showing proof of ability to pay these costs for the first year of study. BFIT has estimated that $29,000 USD should be sufficient to cover first-year expenses, including tuition, room and board, books, and fees.

WHEN TO APPLY
Applications and all supporting material should be submitted no later than three months prior to the intended date of enrollment to allow an appropriate amount of time for the student to obtain their visa to study in the U.S.

FORM I-20
BFIT issues the Certificate of Eligibility (Form I-20) only after payment of the $100 (U.S.) tuition deposit. All fees and deposits are non-refundable.

FINANCIAL AID POLICY FOR INTERNATIONAL STUDENTS
BFIT does not offer financial assistance to international students. Students are advised to investigate sources of financial aid in their own countries such as government agencies, civic organizations, industry, or lending institutions.

INTERNATIONAL STUDENT ADVISING
Once enrolled, all international students are required to meet with the International Student Advisor at the beginning of each semester. Additional meetings may need to be scheduled to review new federal regulations or if the student is having academic difficulties.

Tuition Costs and Financial Aid

Tuition for the 2012-2013 academic year is $16,950 for Associate Degree programs and $18,190 for the Bachelor of Science Program in Automotive Management.

Per credit cost at BFIT is $707 for Associate Degree programs and $758 for the Bachelor of Science programs.

Through its financial aid programs, BFIT has made it possible for thousands of students to afford the cost of their education. The Financial Aid section of this catalog describes the process of applying for aid.

Tuition and other fees are due before each semester begins. For the fall semester, tuition and fees are payable by August 15; for the spring semester, they are payable by December 14. Payment plans are available. Please contact the Student Accounts Office for information.

Tuition Deposit
A tuition deposit of $100 is required to secure your spot in the incoming class. This tuition deposit is not refundable after May 1 and is applied toward the first semester tuition bill. For applicants offered admission, the deposit is payable by May 1 or within 14 days of notification of acceptance after May 1. Requests for tuition deposit refunds before May 1 should be made in writing to the Dean of Enrollment Management.

Application Fee (Non-refundable Fee)
An application fee of $25 must accompany each application for admission to BFIT. For International Students the application fee is $50.

Health Insurance Plan (Non-refundable Fee)
Under the provisions of Chapter 23, Section 22, of the 1988 Massachusetts Health Security Act, effective September 1, 1989, each institution of higher education must require all full- and part-time students to participate in the student health insurance program or provide evidence of participation in a health insurance program with comparable coverage. For this purpose, part-time students are defined as those participating in at least 75% of the academic requirements for full-time students. The charge for the school’s health insurance for 2012-2013 is $1,065. This fee will be charged to all students and will be removed only if a waiver form, showing comparable coverage, is submitted. The Waiver deadline for Fall 2012 is September 28, 2012 and for Spring 2013 enrollees the deadline is January 31, 2013. This fee covers a full year and cannot be refunded due to withdrawal. For students who already have comparable medical coverage, a waiver form is available on our website that must be completed in order to be excluded from the College’s insurance plan.

Books, Supplies, and Equipment
Students supply their own textbooks and other materials. Special tool kits are also required for the Architectural Technology, Automotive Technology, Electrical Technology, and HVAC&R programs. See the financial aid section of this catalog for more detailed information.

Withdrawals and Refunds
Students who find it necessary to withdraw completely from the Benjamin Franklin Institute of Technology must file an Official Withdrawal Form with the Registrar within a few days of withdrawal. Absence from class does not reduce a student’s financial obligation nor guarantee that a final grade will not be recorded.

Upon receipt of the Official Withdrawal Form from the Registrar, BFIT’s Student Accounts Office may make a partial tuition refund. The date on which such notice is received will be considered the effective date of withdrawal. Students failing to file an Official Withdrawal Form will be provided a refund consistent with Federal Regulations.

2012 / 2013 COURSE CATALOG
All other students are refunded according to the following schedule:

**WITHDRAWAL NOTICE FILED**: AMOUNT OF REFUND
During the first week of classes 80%
During the second week of classes 70%
During the third week of classes 60%
During the fourth week of classes 40%
During the fifth week of classes 20%
After the fifth week of classes 0%

For summer sessions the following schedule applies:

**WITHDRAWAL NOTICE FILED**: AMOUNT OF REFUND
During the first week of classes 80%
During the second week of classes 60%
During the third week of classes 40%
After the third week of classes 0%

* Housing Charges will follow the tuition refund policy. Please see the Director of Residence Life and Student Conduct to officially withdraw from housing. Students that had to purchase their tools in the beginning of the semester through the College, will qualify for a tool fee refund if they return the tools in good condition within 20 days from their date of withdrawal.

**Return of Title IV Federal Student Aid Policy**
Federal regulations require that students, who withdraw from all classes prior to completing more than 60% of an enrollment term, will have their eligibility for Federal financial aid recalculated based on the percentage of the term completed, which shall be calculated as follows:

\[
\frac{\# \text{ of days completed by the student}}{\text{Total \# of days in term}}
\]

The total number of calendar days in a term excludes any scheduled breaks of more than 5 days.

Unearned Federal aid (the amount that must be returned to the appropriate program) will be returned in the following order: Federal Direct Stafford Loans (unsubsidized, then subsidized), Federal Direct Parent PLUS Loans, Federal Pell Grant, Academic Competitiveness Grant (ACG), and Federal SEOG.

Benjamin Franklin Institute of Technology reserves the right to determine that a student has withdrawn from the College due to non-attendance of all classes during a given semester.

Please note that students are responsible for any balance owed BFIT as a result of the repayment of Federal aid funds.

**Payment of Fees**
Students with delinquent accounts may be prohibited from attending class until the matter is cleared through the Student Accounts Office.

Graduation regalia will be withheld from any student with a balance exceeding $200. Diplomas and transcripts and grade reports will not be accessible until the entire balance has been paid.

**Payment Plans**
Various payment plan options are available. Students should contact the Student Accounts Office for information by calling 617-588-1349.

**Address Change**
Students are required to report all address changes to the Registrar’s Office. Failure to do this will prevent important material, such as grade reports or registration forms, from reaching the students.

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**Financial Aid**

A BFIT education is one of the most important investments you will ever make. We realize that financing this investment is a primary concern for you and your family. Here we show you how the BFIT experience can be affordable for any family.

BFIT offers financial aid to eligible students to assist with financing your education. In order to be considered for need-based financial aid, a Free Application for Federal Student Aid (FAFSA) must be submitted each academic year. Award amounts vary and depend on your demonstrated financial need. Financial Need is determined by subtracting the Expected Family Contribution (EFC), from the Institution’s Cost of Attendance (COA), as determined by the Financial Aid Office.

The estimated cost of attendance for an associate’s degree for the 2012/2013 academic year is

<table>
<thead>
<tr>
<th></th>
<th>Off-Campus</th>
<th>On-Campus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition</td>
<td>$16,950</td>
<td>$16,950</td>
</tr>
<tr>
<td>Health Insurance</td>
<td>$1,065</td>
<td>$1,065</td>
</tr>
<tr>
<td>Room and Board</td>
<td>$10,200</td>
<td>$10,200</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$18,015</td>
<td>$28,215</td>
</tr>
</tbody>
</table>

For Automotive Bachelor’s degree program please increase your tuition cost to $18,190.

Certain majors have to purchase additional tools or supplies. Tools are required for students in Architectural Technology, Automotive Technology, and HVAC&R programs. To facilitate the ease of purchase of tools for students in these programs, the College has arranged for the cost of tools to be added to student invoices. By doing so, students are able to utilize financial aid funds to pay for the expense of tools directly. The fees associated with the programs are as follow:
Architectural Technology $300 for the program
Automotive Technology $2,200 per year
HVAC&R $625 for the program

Please note that tool pricing is subject to change based upon the pricing that the College receives from our tool vendors.

Students that already have the required tools needed for each of the programs listed above should contact the department chair to waive the tool fee from their invoice. Waivers should be completed by the end of the first week of the semester. Students who wish to waive the tool fee must have their tools of quality approved, and in classes, during the first week of the semester. Other programs at the College may require tools and/or materials that will not be included on student invoices.

Beyond tuition, health insurance, housing, and tools, students should account for additional expenses including books (estimated at $900), off-campus housing expenses, transportation and any additional personal items that will aid them in their studies as they plan for their enrollment at the College. Estimates of these expenses are calculated by the financial aid office to determine a student’s cost of attendance when establishing a student’s financial need and subsequently, said student’s financial aid package.

About 90% of our students receive some type of financial assistance. At BFIT, we combine federal, state and institutional aid programs to compile a financial aid package that is designed to help every family be able to financially afford a BFIT education.

Note: BFIT cannot guarantee that we will meet your need in full. Financial aid is contingent on the timeliness of your application, federal regulations, and the availability of funds.

Full-time students will be considered for all of the financial aid programs that BFIT administers, after receipt of a valid FAFSA. Student financial aid packages may be a combination of federal and state grants, student loans and work study. These awards will be contingent upon demonstrated financial need and the availability of funds.

Application Procedure
In order to apply for Federal and State financial aid, the FAFSA (Free Application for Federal Student Aid) needs to be completed. BFIT does not require any additional applications! Financial aid awards are not renewed automatically. The FAFSA must be completed every academic year.

STEP 1
We recommend that applications be filed electronically using FAFSA on the Web. It can save a significant amount of processing time and dramatically reduces the number of errors commonly found on the form. Go to FAFSA on the Web at: www.fafsa.gov

Parent/s and students must request a PIN number to electronically sign the FAFSA. The PIN number only takes minutes to establish. Visit www.pin.ed.gov to apply for your PIN.

Follow the instructions on the website.
List BFIT as one of the schools to receive your FAFSA by including our school code, 002151.

Sign the FAFSA electronically by using a Federal PIN, or by mailing the signed signature page to the federal processors. The signature page is available for printing at the end of the FAFSA application.

STEP 2
Applicants should receive a Federal Student Aid Report (SAR) from the federal processors 3-4 weeks after the FAFSA has been filed. The SAR indicates the Expected Family Contribution (EFC), which is used to determine eligibility for federal and state financial aid. It also lists the information recorded on the FAFSA. We will receive your information electronically from the federal processor. If BFIT is not listed, please call the federal processor at 1-800-433-3243, or use your PIN to make a correction at www.fafsa.gov.

STEP 3
Follow up with our office. We may need to request further documentation from you and/or your family.
If further information is needed, a written notification will go out to you in the mail. It is the student’s responsibility to respond promptly to this document request. We are not able to continue the processing of your financial aid application if the requested documents are not provided.

STEP 4
An Award Package will arrive in the mail once we have completed reviewing your application.
In order to decline any portion of the award, a signed copy of the award letter indicating what is being declined should be returned to the Financial Aid Office. For more information, please contact us at financialaid@bfit.edu or 617-588-1358.
Types of Financial Aid

INSTITUTIONAL AID

We understand that scholarships play an important role in making a college education affordable. Committed to our mission that finances should not keep a student from an education, we recognize students not only for academic achievement but also for the potential that each brings to Benjamin Franklin Institute of Technology. We offer various scholarships including:

The Benjamin Franklin Scholarship ranges up to $2,500 per academic year and is awarded to students who demonstrate academic potential but may not have the opportunity to realize that potential before reaching BFIT.

The Trustee’s Scholarship ranges up to $5,000 per academic year and is awarded to students who demonstrated outstanding academic accomplishments while in high school.

The President’s Merit Scholarship ranges up to $2,500 per academic year and is awarded to students in recognition of performance in areas such as academic achievement, leadership, special talent, extracurricular involvement and community work.

The Franklin Assistance Grant ranges up to $2,000 per academic year and is awarded to students that demonstrate financial need in combination with the President’s Merit Scholarship.

The Frederick and Anita Jaatinen Graham Scholarship ranges up to $2,000 per academic year and is awarded to students that demonstrate academic achievements to major in Computer Technology, Electric Engineering, Electrical Technology, Automotive Technology and Mechanical Engineering.

The Women in Technology Scholarship ranges up to $3,000 per academic year and is awarded to female students that demonstrate academic achievement and leadership potential.

THIRD SEMESTER GRANT

A reality of American higher education is that not all students are prepared for college-level courses when they begin their postsecondary careers. In order to help prepare students for college-level coursework, Benjamin Franklin Institute of Technology offers the opportunity to take developmental courses during their first semester of study. These courses are offered through the College’s Department of Academic Development (DAD). In order to compensate for tuition expended to take developmental courses, the College offers a special tuition grant for students that successfully complete the DAD program and continue to make satisfactory academic progress through their first semester in college-level courses.

The tuition-free Third Semester allows students to become college-ready without losing valuable time and incurring additional tuition costs. BFIT sees it as a reward for remaining committed to success as a student and it is a helpful tool for students to persist to graduation.

To qualify for the Third Semester Grants students must:

- Apply for financial aid by completing the Free Application for Federal Student Aid (FAFSA)
- Maintain satisfactory academic progress (as defined in the College Catalog)
- Successfully complete the DAD program course(s) in a one-semester period and enroll in their major courses during the next two semesters
- Successfully complete their first semester in college-level courses and be eligible to enroll for second semester courses on-time as outlined in the charts below

The charts below outline how students proceed through the DAD program and into their college-level courses.

<table>
<thead>
<tr>
<th>Fall 2012</th>
<th>Spring 2013</th>
<th>Summer 2013</th>
<th>Fall 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incoming Freshmen - Department of Academic Development Course</td>
<td>First Semester of Courses in Student’s Major</td>
<td>“Third Semester” Second Semester of Courses in Student’s Major</td>
<td>Students Enter Sophomore Year</td>
</tr>
<tr>
<td>Incoming, freshmen students take needed developmental math and English courses as well as Introduction to Professional Communications, a college level public speaking course to prepare for their major.</td>
<td>First semester of courses toward a degree in student’s selected majors.</td>
<td>Students take a “third semester” during the year – a second semester of courses toward a degree in their selected major. Qualified students will receive a grant to cover the cost of tuition associated with their third semester of study.</td>
<td>On track to graduate with their class in selected major within two years.</td>
</tr>
</tbody>
</table>

Students entering the College during the fall semester:
Students entering the College during the spring semester:

<table>
<thead>
<tr>
<th>Spring 2013</th>
<th>Summer 2013</th>
<th>Fall 2013</th>
<th>Spring 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incoming Freshmen – Department of Academic Development Courses</td>
<td>2nd Developmental Math Course for Engineering Technology majors</td>
<td>First Semester of Courses in Student’s Major</td>
<td>“Third Semester” Second Semester of Courses in Student’s Major</td>
</tr>
<tr>
<td>Incoming, freshmen students take needed developmental math and English courses as well as Introduction to Professional Communications, a college level public speaking course to prepare for their major.</td>
<td>Students that are enrolled in engineering technology programs that need to take MA105 prior to the fall semester will be expected to complete this course during the summer term to remain in sequence.</td>
<td>First semester of technical courses towards a degree in freshmen students’ selected majors.</td>
<td>Freshmen students take a “third semester” during the year – a second semester of technical courses towards a degree in their selected major. Qualified students will receive a grant to cover the cost of tuition associated with their third semester of study.</td>
</tr>
</tbody>
</table>

**FEDERAL AID**

The Federal Pell Grant* provides awards ranging from $575 to $5,550 per academic year for exceptionally needy applicants. The Pell Grant is funded by the Federal Government and is determined based on the information provide on the FAFSA and enrollment status provided.

The Federal Supplemental Educational Opportunity Grant (SEOG)* provides awards ranging from $200-$1000 and is awarded to students who qualify for the Federal Pell Grant. SEOG is funded by the federal government and will be awarded on a first-come, first-served basis and is subject to the availability of funds.

The Federal Work Study program is sponsored by the federal government and provides jobs for undergraduate students that demonstrate financial need. Students may also choose to work off-campus in one of our community service positions. Students are responsible for finding a qualifying job, and, as they work, they will complete time sheets and will receive a pay check for the number of hours worked. Most students work between 5 and 15 hours per week, and their earnings are intended to cover educationally related expenses. Unlike other financial aid or scholarship awards, work study does not reduce your tuition bill; students will receive a pay check. Work study awards do not require repayment.

*Due to changes in Federal Regulations, the Pell Grant and/or SEOG amounts and/or eligibility criteria are subject to change.

**STATE AID**

State grants are based on financial need and may be offered to eligible students. The Department of Education in each state determines a student’s eligibility for these awards. Many states have application deadlines, which can be found at the FAFSA web site. The State of Massachusetts awards grants to eligible students who meet residency and financial criteria. Students must also have a valid FAFSA on file by May 1 of each year. Other states that currently allow students to use state grant funds from their home states to attend schools in Massachusetts include Rhode Island, Vermont, Pennsylvania, and Maine. These grants range in amounts from $250 to $1,800.

The Massachusetts Gilbert Grant is awarded to full-time students who meet the criteria of the Massachusetts State Grant. Award amounts range from $200 to $2,500 per academic year. The Gilbert Grant is contingent upon fund availability.

**LOANS**

There are many loan options available to help finance a BFIT education.

**DIRECT STAFFORD LOANS**

In order for students to borrow from the Direct Stafford Loan program, students must file a FAFSA form, complete a Master Promissory Note and successfully complete loan entrance counseling. To be eligible for them the student needs to be enrolled at least half time. Direct Stafford Loans have a fixed interest rate and minimal origination fee. For 2012-2013 academic year interest rates and fees please visit our website. The annual limits that a student can borrow are listed below.

<table>
<thead>
<tr>
<th>Academic Status</th>
<th>Dependent Student</th>
<th>Independent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>$5,000</td>
<td>$9,500</td>
</tr>
<tr>
<td>Sophomore</td>
<td>$6,500</td>
<td>$10,500</td>
</tr>
<tr>
<td>Junior</td>
<td>$7,500</td>
<td>$12,500</td>
</tr>
<tr>
<td>Senior</td>
<td>$7,500</td>
<td>$12,500</td>
</tr>
</tbody>
</table>

Additional expenses including room, board, transportation, textbooks and tools are not grant funded for the third semester. Third Semester grants do not cover the cost of tuition for students to retake courses from prior semesters. Should individual circumstances arise due to course sequencing or scheduling, the Registrar and Director of Financial Aid shall determine if a student is eligible for the Third Semester grant.
FINANCIAL AID

There are two types of Loans: subsidized and unsubsidized. The subsidized loan program requires that the student demonstrate financial need. The advantage of the subsidized loan is that the government pays the interest on the loan while the student is enrolled at least half-time. Under the unsubsidized program, students can borrow even if they have no demonstrated need; however, the interest that accrues during enrollment is the student’s responsibility. When a student graduates or withdraws from school, the Stafford loan goes into a 6-month repayment grace period. The average student loan debt for our students upon graduation is $14,461. Students are required to complete Exit Loan Counseling upon leaving the College or dropping below half-time enrollment.

PARENT LOANS
The parent loan program described below allows creditworthy parents to borrow up to the entire cost of college, less any awarded financial aid. The student and applicant must meet eligibility requirements outlined in the application materials. Unlike student loans, repayment on parent loans begins 60 days after the final disbursement of loan funds to the school for that academic year. Parents may request a deferment from their lender while the student is enrolled in school at least half-time.

Federal Direct PLUS Loan: The Federal Direct Parent Loan for Undergraduate Students (PLUS) allows parents to borrow on behalf of their dependent students. Eligibility for this loan is not based on financial need but does require a credit check. Parents may borrow up to the cost of attendance minus any financial aid.

The loan has a fixed interest rate of 7.9%. There is a maximum repayment period of 10 years, with a minimum monthly payment of $50. An origination fee not to exceed 4% is subtracted from the requested loan amount. In the case that a parent is not approved for a PLUS loan, the student may be eligible for an additional Unsubsidized Stafford Loan.

ALTERNATIVE STUDENT LOANS
Alternative Loan Program: Many families supplement their college financing plan with private educational loans. Private loans are available from a variety of sources and provide additional funding when the other types of aid do not cover costs. These loans are not guaranteed by the federal government but by private financial institutions. Interest rates on these loans are typically higher than federal loans but lower than personal loans. Student borrowers will need a credit-worthy co-signer to borrow an alternative loan. For more information about these loans, please contact the Financial Aid Office at 617-423-4630 or via email at financialaid@bfit.edu.

PRIVATE SOURCES
In order for students to borrow from the Direct Stafford Loan program, students must file a FAFSA form, complete a Master Promissory Note and successfully complete loan entrance counseling.

The Federal Direct Loan is a program that allows students to borrow up to $5,500 for their first year and $6,500 for their second year at BFIT (assuming the student has completed at least 30 credits). Bachelor Degree students in their Junior and Senior years may borrow up to $7,500 per year. There are two types of Loans: subsidized and unsubsidized. The subsidized loan program requires that the student demonstrate financial need. The advantage of the subsidized loan is that the government pays the interest on the loan while the student is enrolled at least half-time. Under the unsubsidized program, students can borrow even if they have no demonstrated need; however, the interest that accrues during enrollment is the student’s responsibility. When a student graduates or withdraws from school, the Stafford loan goes into a 6-month repayment grace period. The average student loan debt for our students upon graduation is $14,461. Students are required to complete Exit Loan Counseling upon leaving the College or dropping below half-time enrollment.

WORK STUDY
Federal Work-Study is a program that provides on-campus job opportunities for students with financial need. Students may also choose to work off-campus in one of our community service positions. Students are responsible for finding a qualifying job, and, as they work, they will complete time sheets and will receive a pay check for the number of hours worked. Most students work between 5 and 20 hours per week, and their earnings are intended to cover educationally related expenses. Unlike other financial aid or scholarship awards, work study does not reduce your tuition bill; students will receive a pay check. Work study awards do not require repayment.

VETERANS BENEFITS
Other sources of student aid are veterans benefits for veterans, widows of veterans, and children of deceased or disabled veterans. Students with certain physical or emotional disabilities may seek aid from the State Rehabilitation Commission in their area.

Those who qualify for benefits under any Veteran Bill or Massachusetts Rehab must contact the Registrar’s Office at the beginning of the school year concerning the processing of the necessary forms. Forms should be filed as soon as possible after being accepted to BFIT.

STUDENT LOANS
E ducation Information Center at the B oston Public Library at Copley Square.

Library at Copley Square.

Counseling upon leaving the College or dropping below half-time enrollment.

W hen a student graduates or withdraws from school, the Stafford loan goes into a 6-month repayment grace period. The average student loan debt for our students upon graduation is $14,461. Students are required to complete Exit Loan Counseling upon leaving the College or dropping below half-time enrollment.
Student Affairs

The Department of Student Affairs is lead by the Dean of Students and is made up of: Advising, Athletics, Counseling, Disability Support Services, Residence Life and Housing, Student Conduct, and Student Involvement and Leadership. The department coordinates services and activities for students outside of the classroom, including academic support, student organizations, campus events, and extracurricular activities. The department is dedicated to the holistic support of students through efforts that enhance academic, social and personal growth.

Academic Success Center

The Academic Success Center (ASC) offers drop-in tutoring from faculty members throughout the year that is included in the cost of tuition. Subjects for tutoring include math, physics, English, writing, computers, and electronics. Students may work in groups or one-on-one with tutors and can ask for assistance with homework, long term projects, or basic course skills. The ASC is equipped with desktop and WiFi computer access.

Advising

The Office of Advising provides general information on advising, registration, referral resources for students with documented disabilities, and coordinates college wide academic success initiatives such as tutoring.

Each student is assigned a faculty or staff member who serves as his/her advisor. Advisors want to maintain close contact with students to support their success and encourage several meetings between advisor and advisee each semester. Advisors offer support, review academic progress, help with the registration process for future semesters, provide information, and offer suggestions for career preparation success. Students in academic difficulty need to seek help by talking with their advisor and asking for assistance through the various academic support services.

Athletics

The college offers Men’s Varsity Soccer participating with active membership in the National Junior College Athletic Association, Division III. The Chargers compete against teams from the New England region and have the opportunity to qualify for post-season play at the regional, district and national levels.

To meet eligibility requirements, students must be full-time (12 or more credits) and maintain the standards set forth by the NJCAA and BFIT.

Counseling Services

Students dealing with personal challenges are encouraged to visit the Director of Advising or Dean of Students. Students may be referred to a clinician on campus or outside for additional services. Students will bring concerns to a clinician for reasons including: inability to concentrate; family problems; relationship problems; sexuality issues; coping with loss; feelings of depression, anxiety, suicide; physical abuse; alcohol and drug abuse. BFIT places high priority on making available to students every opportunity possible for personal growth and satisfaction.

Disability Support Services

The Benjamin Franklin Institute of Technology is dedicated to extending all available services and support systems to everyone, without regard to race, color, national origin, religion, sex, age, disability, sexual orientation, veteran or disabled veteran status.

Toward the goal of providing an equal and unbiased education, the College is prepared to take every possible step to allow students access to its services and to provide the broadest possible opportunity for participation at BFIT.

Students with documented disabilities, who seek accommodations, must provide clinical documentation to the Assistant Director of Advising before receiving services. All information regarding the disabilities is treated confidentially.

For proper and timely accommodations, students with documented disabilities must follow these steps:

- Bring clinical documentation that contains specific recommendations to the Assistant Director of Advising. If documentation is older than three years, a new evaluation will be required. A licensed psychologist or educational specialist must do the clinical evaluation. Notes from special education teachers or tutors are not acceptable forms of documentation. It is the student’s responsibility to arrange for all testing necessary to receive proper accommodations.

- If it is determined that accommodations are needed and a release has been signed, introductory letters describing the accommodations needed will be sent to both the student and the appropriate instructors.

- Students will be encouraged to contact instructors to let them know about the disability and the types of accommodations required.

- When requesting extended time for test taking, completing papers or take-home assignments, students should remind instructors at least two weeks prior to the due date. The instructors need sufficient time to make alternative arrangements.

First Year Experience (FYE)

The First Year Experience (FYE) is a two-day new-student orientation designed to assist students in the successful transition to college. In addition, students will become acquainted with their program of study, meet key faculty, staff and their advisor. FYE creates opportunities for new students to build lasting friendships with classmates, strengthen their academic preparedness, learn about resources at the college, and find out what to expect in college-level classes.
Residence Life and Housing
The Benjamin Franklin Institute of Technology offers limited housing through a relationship with Midtown Hotel, in the Back Bay. Midtown Hotel is located across the street from the Prudential Center, and is only a 10-15 minute walk to BFIT campus.
Two Graduate Residence Coordinators (GRCs) live on site throughout the academic year. They will conduct bi-monthly meetings at the residence hall to assist students with the transition to college, build community, create social opportunities through educational and social programming, and advise the Residence Hall Association. Residence Life staff will review and enforce all policies of BFIT and Midtown Hotel.

Sophomore Year Experience (SYE)
SYE is a one-day program to help returning students prepare for a new academic term at the beginning of the fall and spring semesters. Students will be able to check-in with Enrollment Management to pick up their new class schedule, ensure personal information on file is up-to-date, financial aid packages are in place, and bills or payment plans are set. Students will also have a chance to meet with other offices such as Academic Affairs, Advising, and Career Services to get tips on a successful return to classes after summer or winter break.

Student Involvement and Leadership
The Office of Student Involvement and Leadership (OSIL) provides an atmosphere that fosters campus community and lifelong learning through student engagement, community building, and leadership development.

The staff engages students through programs, student organizations, campus recreation (including intramural sports), volunteer programs, and leadership programs. OSIL also supports faculty through service-learning initiatives in the classroom. Please refer to the student handbook for more information.

Student Code of Conduct
The Benjamin Franklin Institute of Technology (BFIT) has a rich tradition in which all members of the community teach and learn in an environment conducive to intellectual and moral development. All members of the BFIT community must take responsibility for their actions and be willing to accept the consequences of their deeds.

The College has a set of regulations, not meant to limit a student’s freedom, but to ensure the well-being and rights of all community members. Students are required to conduct themselves in a manner reflecting favorably on the college.

Failure to comply with student regulations will lead to disciplinary action and may lead to separation from the College.

INTERPRETATION OF REGULATIONS
The purpose of publishing the conduct policy is to give students general notice of prohibited behavior. This Code is not written with the specificity of a criminal statute.

INHERENT AUTHORITY
The College reserves the right to take necessary and appropriate action to protect the safety and well being of the campus community. Such action may include pursuing conduct action for any violation of state or federal law, on or off-campus, that affects the College’s educational interests.

REPORTING ACTS OF MISCONDUCT
Any student, faculty, or staff member may file a complaint of student misconduct to the Coordinator of Student Conduct, Dean of Students, Security, or any other Student Affairs staff member. All reporters will fill out the “Incident Report” form and submit electronically to one of the designees listed above. Reports of alleged misconduct will be reviewed and adjudicated if necessary.

DISCIPLINARY ACTION WHILE CRIMINAL CHARGES ARE PENDING
Students may be accountable both to civil authorities and to the College for acts that constitute violations of law and of this Code. Disciplinary action at the College will normally proceed during the pendency of criminal proceedings, and will not be subject to challenge on the ground that criminal charges involving the same incident have been dismissed or reduced.

INTERIM SUSPENSION
The Dean of Students (or designee) may suspend a student from the College for an interim period pending disciplinary or criminal proceedings, or medical evaluation.

A. The Dean of Academic Affairs will be consulted regarding an interim removal of a student from class during a disciplinary investigation.

B. The interim suspension shall become immediately effective without prior notice whenever there is evidence that the continued presence of the student at the College poses a substantial and immediate threat to him/herself or to others, or to the stability and continuance of normal College functions.

C. A student suspended on an interim basis shall be given a prompt opportunity to appear personally before the Dean of Students or a designee in order to discuss the issue.

STANDARDS OF CLASSROOM BEHAVIOR
The primary responsibility for managing the classroom environment rests with the faculty. Students who engage in any prohibited or unlawful acts that result in disruption of a class may be directed by the faculty member to leave the class for the remainder of the class period. Longer suspensions from a class, or dismissal on conduct behavior grounds, must be consulted with the Dean of Students, Dean of Academic Affairs, and/or the Conduct Coordinator.
ZERO TOLERANCE
The College has a zero tolerance policy against any violent action or threat of violent action toward a student, faculty, staff member, or to the institution as whole. Students are expected to engage in appropriate conversations and use appropriate language at all times. Interpretation of language in regards to threats of violence will be at the discretion of the Dean of Students, Conduct Coordinator, or designated professional staff members.

It is a student’s responsibility to be familiar with the full list of prohibited conduct, which is available in the Student Handbook and Planner as well as the BFIT Student Conduct website.
Student Rights and Responsibilities

Alcohol and Drug Policy
There is a zero tolerance policy for the use, possession or intent to distribute alcohol or drugs on the BFIT or BFIT Housing premises. These offenses are serious in nature and will result in sanctions that may include suspension from the residence hall and/or expulsion from the College.

There will be no use, possession or distribution of alcoholic beverages, regardless of age. Persons 21 or older will have the responsibility of conducting themselves in a professional manner at all times.

While the College does not have jurisdiction outside of the BFIT and BFIT Housing premises, any student that appears intoxicated upon entering either of these buildings will be in violation and subject to sanctions.

Knowingly being in the presence of someone using, possessing or has the intent to distribute alcohol or drugs is prohibited. Students are reminded that strict penalties may apply to trafficking drugs, from incarceration to the payment of high fines. BFIT is in full cooperation with government authorities regarding legal ramifications of drug and alcohol usage.

Students seeking counseling or professional services for alcohol or drug-related matters will meet with a Student Conduct Officer. Referrals can be made for the student to seek outside assistance.

Bias-related Violence, Harassment, or Intimidation Policy
It is the goal of Benjamin Franklin Institute of Technology to maintain an environment free of violence, intimidation and harassment. Bias-related behavior based on race, religion, gender, age, ethnicity, national origin, physical appearance, disability or sexual orientation assaults the dignity and worth of the individual and will not be tolerated. Indeed, victimization will be actively opposed.

We expect that all members of this community will treat each other with dignity and respect, and that all members of the community will assume the responsibility of appropriately confronting acts of bias-related violence, intimidation and harassment which may occur. This policy statement identifies a non-exhaustive list of examples of behavior that are unacceptable and outlines the procedures for handling violations.

DEFINITION
Bias-related violence, intimidation and harassment is defined as verbal, written or physical conduct which is based on race, religion, gender, age, ethnicity, national origin, physical appearance, disability or sexual orientation. In addition, such conduct inevitably has the effect of unreasonably interfering with an individual’s academic, co-curricular, social or work-related participation in the college community. Bias-related violence, intimidation and harassment exists, for example, when:

1. Behavior is intended to intimidate, insult or stigmatize an individual or group;
2. Use is made of provocative words or nonverbal symbols which, by virtue of their form, are commonly understood to convey direct and visceral hatred or contempt for human beings; or
3. An act of violence is committed in connection with a bias.

Nothing in this definition should be construed as an abrogation of freedom of expression as established in the The Student Rights, Freedoms, and Responsibilities. However, protected freedom of expression ends when prohibited bias-related violence, intimidation or harassment begins.

Campus Smoking Policy
Smoking is not permitted anywhere at Benjamin Franklin Institute of Technology, including all common work areas, elevators, hallways, vehicles, restrooms, student lounge, conference and meeting rooms, faculty/staff offices, classrooms and all other enclosed areas.

The policy applies to all students, employees, and visitors, with no exceptions. Smoking is allowed only in the designated area at BFIT (picnic area on the corner of Appleton and Tremont Street). Signs are posted in this area.

In addition, to lessen the effects of second-hand smoke, individuals smoking outside of college buildings are prohibited from smoking within 25 feet from exterior entrances, the plaza, operable windows or outdoor air-intakes, regardless if the smoking is on or off the college campus, including BFIT Housing.

Fire Safety Policy
In case of fire in the building, the nearest college fire alarm box will be sounded immediately and Campus Security will be notified as to the location of the fire. Fire alarm boxes are located throughout the college campus.

Faculty, upon hearing the alarm, will immediately lead their classes into the hallway, making sure that all students have left that floor, and exited the building. Faculty not in class will help to guide students out of the building to the safest possible route. Faculty will be directed to designated areas with their classes.

Students, upon hearing the alarm, will immediately follow the directions of faculty and staff and leave the building quickly, orderly and quietly. Once outside the building, designated staff will direct students to designated areas. Students should remain on the sidewalk, away from the building, until notified.
Tampering with fire alarms or causing false alarms will result in immediate suspension from the College, fines, and possible criminal charges. Person(s) found responsible for such infractions will be held liable for all expenses incurred as a result of their action.

College officials reserve the right to evacuate any building or facility for emergency reasons.

Failure to evacuate or cooperate with faculty and staff during an emergency, real or drill will result in a referral through the Student Conduct System.

**Hazing Policy**

**THE HAZING ACT, MASSACHUSETTS GENERAL LAWS, CHAPTER 269, SECTIONS 17 THROUGH 19**

This is a true copy of sections 17, 18, and 19 of the Hazing Act to be provided to each BFIT student in accordance with the law.

**Section 17.** Whoever is a principal organizer or participant in the crime of hazing, as defined herein, shall be punished by a fine of not more than three thousand dollars or by imprisonment in a house of correction for not more than one year, or both such fine and imprisonment.

The term “hazing” as used in this section and in sections eighteen and nineteen, shall mean any conduct or method of initiation into any student organization, whether on public or private property, which wilfully or recklessly endangers the physical or mental health of any student or other person. Such conduct shall include whipping, beating, branding, forced calisthenics, exposure to the weather, forced consumption of any food, liquor, beverage, drug or other substance, or any other brutal treatment or forced physical activity which is likely to adversely affect the physical health or safety of any such student or other person, or which subjects such student or other person to extreme mental stress, including extended deprivation of sleep or rest or extended isolation.

Notwithstanding any other provisions of this section to the contrary, consent shall not be available as a defense to any prosecution under this action.

**Section 18.** Whoever knows that another person is the victim of hazing as defined in section seventeen and is at the scene of such crime shall, to the extent that such person can do so without danger or peril to himself or others, report such crime to an appropriate law enforcement official as soon as reasonably practicable. Whoever fails to report such crime shall be punished by a fine of not more than one thousand dollars.

**Section 19.** Each institution of secondary education and each public or private institution of post secondary education shall issue to every student group, student team or student organization which is part of such institution or is recognized by the institution or permitted by the institution to use its name or facilities or is known by the institution to exist as an unaffiliated student group, student team or student organization, a copy of this section and sections seventeen and eighteen; provided, however, that an institution’s compliance with this section’s requirements that an institution issue copies of this section and sections seventeen and eighteen to unaffiliated student groups, teams or organizations shall not constitute evidence of the institution’s recognition or endorsement of said unaffiliated student groups, teams or organizations.

Each such group, team or organization shall distribute a copy of this section and sections seventeen and eighteen to each of its members, plebes, pledges or applicants for membership. It shall be the duty of each such group, team or organization, acting through its designated officer, to deliver annually, to the institution an attested acknowledgement stating that such group, team or organization has received a copy of this section and said sections seventeen and eighteen. That each of its members, plebes, pledges, or applicants has received a copy of sections seventeen and eighteen, and that such group, team or organization understands and agrees to comply with the provisions of this section and sections seventeen and eighteen. Each institution of secondary education and each public or private institution of post secondary education shall, at least annually, before or at the start of enrollment, deliver to each person who enrolls as a full time student in such institution a copy of this section and sections seventeen and eighteen.

Each institution of secondary education and each public or private institution of post secondary education shall file, at least annually, a report with the board of higher education and in the case of secondary institutions, the board of education, certifying that such institution has complied with its responsibility to inform student groups, teams or organizations and to notify each full time student enrolled by it of the provisions of this section and sections seventeen and eighteen and also certifying that said institution has adopted a disciplinary policy with regard to the organizers and participants of hazing, and that such policy has been set forth with appropriate emphasis in the student handbook or similar means of communicating the institution’s policies to its students. The board of higher education and, in the case of secondary institutions, the board of education shall promulgate regulations governing the content and frequency of such reports, and shall forthwith report to the attorney general any such institution which fails to make such report.
DISCIPLINARY POLICY WITH REGARD TO THE ORGANIZERS AND PARTICIPANTS OF HAZING

The Hazing Act requires the College to have a disciplinary policy for the organizers and participants of hazing, and to set it forth with appropriate emphasis in the student handbook or similar means of communicating the institution’s policies to its students.

The College procedures concerning the initiation of conduct proceedings contained within the Student Code of Conduct state that:

- The College reserves the right to take necessary and appropriate action to protect the safety and well being of the campus community. Such action may include pursuing conduct action for any violation of state or federal law, on or off-campus, that affects the College’s educational interests.
- Any student, facetiy, or staff member may file a complaint of student misconduct to the Director of Residence Life and Student Conduct, Dean of Students, Security, or any other Student Affairs staff member. All reporters will fill out the “Incident Report” form and submit the form electronically to one of the designees listed above. Reports of alleged misconduct will be reviewed and adjudicated if necessary.
- A student, who demonstrates unacceptable behavior, thereby failing to be a responsible member of the BFIT community, may be subject to disciplinary action. Reports of alleged violations will be provided to the designee of the Student Conduct system who will review the incident, call in members of the faculty, staff, and/or students and determine an appropriate outcome based on the preponderance of the evidence.

Organizing or participating in hazing shall be deemed misconduct and charges will be filed in writing to the Director of Residence Life and Student Conduct or Dean of Students. Such charges will be considered “extraordinary circumstances” and the student(s) concerned may be placed on interim suspension, effective immediately, pending further investigation of the case.

When it is determined in accordance with the Student Code of Conduct that a charged party was an organizer or participant in hazing under the meaning of the law the sanctions recommend by the hearing board shall be limited to restitution, suspension or expulsion.

Information Technology and Computer Use Policy

This policy governs computer and network usage for faculty, staff and students at BFIT. As a user of these resources, you are responsible for reading and understanding the following documented information. This documented information protects the consumers of computing resources, computing hardware and networks, and system administrators. (Contact the Director of Information Technology (CMIT) if you have any questions.)

RIGHTS AND RESPONSIBILITIES

Computers and networks can provide access to resources on and off campus as well as the ability to communicate with others worldwide. Such open access is a privilege and requires that individual users act responsibly. Users must respect the rights of other users, respect the integrity of the systems and related physical resources, and observe all relevant laws, regulations, and contractual obligations. Since electronic information is volatile and easily reproduced, users must exercise care in acknowledging and respecting the work of others through strict adherence to software licensing agreements and copyright laws.

Misuse of computing, networking or information resources may result in the loss of computing and/or networking access. Additionally, misuse can be prosecuted under applicable BFIT or campus policies, procedures, or collective bargaining agreements. Illegal production of software and other intellectual property protected by U.S. copyright law is subject to civil damages and criminal punishment including fines and imprisonment.

The Benjamin Franklin Institute of Technology supports the policy of EDUCOM on Software and Intellectual Rights, which states, “Respect for intellectual labor and creativity is vital to academic discourse and enterprise. This principle applies to works of authors and publishers in all media. It encompasses respect for the right to acknowledgement, right to privacy, and the right to determine the form, manner, and terms of publication and distribution. Because electronic information is volatile and easily reproduced, respect for the work and personal expression of others is especially critical in computer environments. Violations of authorial integrity, including plagiarism, invasion of privacy, unauthorized access, and trade secrets and copyright violations may be grounds for sanctions against members of the academic community.”

Other organizations operating computing and network facilities that are reachable via the Institute may have their own policies governing the use of those resources. When accessing remote resources, users are responsible for obeying both the policies set forth in this documented information and the policies of the other organizations.

NO EXPECTATION OF PRIVACY

Students have access to computers and the Internet to assist them in the educational process. Students should have no expectation of privacy in anything they create, store, send or receive using BFIT’s computer equipment. The computer network is the property of BFIT and may be used only for educational purposes.

WAIVER OF PRIVACY RIGHTS

Students expressly waive any right of privacy in anything they create, store, send and receive, when using BFIT computer equipment or Internet access. Students consent to allow BFIT personnel access to and review of all materials created, stored, sent or received by students through any BFIT network or Internet connection.
MONITORING OF COMPUTER AND INTERNET USAGE
BFIT has the right to monitor and log any and all aspects of its Computer system including, but not limited to, monitoring Internet sites visited by students, monitoring chats and newsgroups, monitoring file downloads and all communications sent and received by students.

BLOCKING SITES WITH INAPPROPRIATE CONTENT
BFIT has the right to utilize software that makes it possible to identify and block access to Internet sites containing sexually explicit or other material deemed inappropriate in this setting.

FRIVOLOUS USE
Computer resources are not unlimited. Network bandwidth and storage capacity have finite limits, and all students connected to the network have a responsibility to conserve these resources. As such, students must not deliberately perform acts that waste computer resources. These acts include, but are not limited to, sending mass mailing or chain letters, spending excessive amounts of time on the Internet, playing games, engaging in on-line chat groups, uploading or downloading large files, accessing streaming audio and/or video files, or otherwise creating unnecessary loads on network traffic associated with non-education-related uses of the Internet.

EXISTING LEGAL CONTEXT
All existing laws (federal and state) and College regulations and policies apply, including not only those laws and regulations that are specific to computers and networks, but also those that may apply generally to personal conduct and harassment.

Users do not own accounts on BFIT computers, but are granted the privilege of exclusive use. Under the Electronic Communications Privacy Act of 1986 (Title 18 USC, section 2510 etc. Seq), users are entitled to privacy regarding information contained on these accounts. This act, however, allows system administrators or other Institute employees to access user files in the normal course of their employment, when necessary to protect the integrity of computer systems or the rights or property of the College. For example, system administrators may examine or make copies of files that are suspected of misuse or that have been corrupted or damaged. User files may be subject to search by law enforcement, which may be used as evidence in a court of law. In addition, student files on Institute computer facilities are considered “educational records” under the Family Educational Rights and Privacy Act of 1974. (Title 20 U.S.C. section 1232(g)).

VIOLATIONS
Please see the Student Code of Conduct, Prohibited Conduct section #22, a-q for a listing of all Information Technology and Computer Use violations.

ENFORCEMENT
Minor infractions of this policy, when accidental, such as consuming excessive resources or overloading computer systems, are generally resolved informally by the unit administering the accounts or network.

This may be done through electronic mail or in-person discussion and education.

Repeated minor infractions or misconduct that is more serious may result in referral to the Student Conduct system, in which the student may face temporary or permanent loss of computer access privileges or the modification of those privileges. More serious violations include, but are not limited to, the unauthorized use of computer resources, attempts to steal passwords or data, unauthorized use or copying of licensed software, repeated harassment, or threatening behavior.

In addition, offenders may be referred to their sponsoring advisor, department, employer, or other appropriate Institute office for further disciplinary action.

Adapted with permission from the University of California, Davis, Computer and Network Use Policy.

Missing Student Policy
The Benjamin Franklin Institute of Technology takes student health and safety seriously and considers it with utmost importance. The staff of BFIT will make all efforts to communicate with appropriate persons in a timely manner regarding a student’s health and safety. The following policy and procedure has been placed into effect to support any student living in BFIT housing, who based on facts and circumstances known to the College, are determined to be missing.

The enacted policy is in accordance with Section 485 of the Higher Education Act (HEA), which states that every institution of higher education that provides on-campus housing must provide a missing student notification policy for those students residing in on-campus housing.

REPORTING A SUSPECTED MISSING STUDENT
Anyone who suspects a student to be missing should report their concern to the Residence Life staff or designated Student Affairs professionals (as noted below). All reports made to the College will be followed up with an immediate investigation once a student has been missing for 24 hours. Depending on the circumstances presented to College officials, parents of a missing student will be notified. In the event that parental notification is necessary, the Dean of Students or designee will place the call.

A suspected missing person should reported to any of the following staff members by calling the College’s main line during standard business hours at 617-423-4630 and using the automated directory to reach:

- Brian Bicknell, Dean of Students
- Brett Wellman, Director of Residence Life and Student Conduct
- BFIT Security

During evening, overnight, and weekend hours, reports of a missing student should be made to one of the Graduate Residence Coordinators by calling 617-315-5843.
The following information will be collected and documented when it is reported to a staff member:

- Name and directory information of suspected missing person
- Name and relationship of person reporting the suspected missing person
- Contact information (cell phone, email, address) of the person reporting
- Date, time, location the suspected missing person was last seen
- Any known extracurricular, off-campus visits (friends, family) or work commitments of the suspected missing person
- Cell phone number of the suspected missing person

**DETERMINING A MISSING STUDENT**

Once a student has been reported as missing, staff members may participate in any or all of the following procedures to make contact with the suspected missing student:

- Administratively key into the student’s residence hall room (refer to the keying in policy located in the student handbook)
- Call and text the student’s cell phone (or other numbers posted in CAMS)
- Check other possible public locations (library, off-campus gym, student lounge, etc)
- Contact student’s roommate (if applicable) and floor-mates to create a timeline of the last known whereabouts of the missing student (date, time, location, activities)
- Contact student’s faculty members
- Contact student’s emergency contact
- Contact any off-campus friends
- Check any social media websites (Facebook, MySpace, Twitter, etc)

**INvolving LOCAL LAW ENFORCEMENT AGENCIES**

Once all information has been collected regarding the suspected missing student and a timely and appropriate investigation has taken place by College officials, the Dean of Students and/or designee will make contact with the Boston Police Department. Once the information is reported to the Boston Police Department, the Dean of Students will continue to act as the spokesperson to the family and concerned reporter regarding the missing student.

Residence Life, Student Affairs, and Security will assist any local law enforcement agencies with the investigation upon request by providing all necessary and appropriate information on the student and by using any of the procedures and the resources listed above to assist in the investigation that are legally permissible.

**SEXUAL AND OTHER UNLAWFUL HARASSMENT POLICY**

**LEGAL BASIS**

Title VII of the 1964 Civil Rights Act
Title XI of the 1972 Educational Amendments
Governor’s Executive Order 200, as amended by Executive Order 240

**POLICY**

Sexual and other unlawful harassment of a student, an employee, or any other person at the Benjamin Franklin Institute of Technology (BFIT) is impermissible and intolerable. Sexual harassment is a form of sex discrimination and a violation of Title VII of the Civil Rights Act of 1964 and Title XI of the Educational Amendments of 1972. It is against the policies of BFIT for any member of the student body, administration, faculty or staff to harass sexually or in other forms another person at BFIT.

**OVERVIEW**

It is the goal of the Benjamin Franklin Institute of Technology to promote a college and workplace environment that is free of sexual harassment and other unlawful harassment based on race, sex, sexual orientation, religion, ethnic or national origin, age, criminal record (applications only), mental illness, physical disability, and genetics. Sexual harassment or other unlawful harassment of students or employees occurring in the school and workplace (collectively “Unlawful Harassment”) or in other settings in which employees may find themselves in connection with their employment is unlawful and will not be tolerated by this organization. Further, any retaliation against an individual who has complained about Unlawful Harassment or retaliation against individuals for cooperating with an investigation of an Unlawful Harassment complaint is similarly unlawful and will not be tolerated.

To achieve our goal of providing a college and workplace free from Unlawful Harassment, the conduct that is described in this policy will not be tolerated. We have provided a procedure by which inappropriate conduct will be dealt with, should it be encountered by a student, an employee, or any other person at the Benjamin Franklin Institute of Technology.

Because the Benjamin Franklin Institute of Technology takes allegations of Unlawful Harassment seriously, we will respond promptly to complaints of Unlawful Harassment. Where it is determined that such inappropriate conduct has occurred, we will act promptly to eliminate the conduct and impose appropriate corrective action as is necessary, up to and including termination.
DEFINITION OF SEXUAL OR OTHER UNLAWFUL HARASSMENT:

Generally speaking, Unlawful Harassment consists of a student, employee, or other individual treating another person at the Benjamin Franklin Institute of Technology in a disparate or unequal fashion on the basis of race, color, religious creed, national origin, ancestry, sex, age, veteran status, criminal record (applications only), handicap (disability), pregnancy, mental illness, retaliation, sexual harassment, sexual orientation, and genetics. Such treatment includes retaliating against an employee for protecting his or her right against such unequal treatment.

In Massachusetts, the legal definition for sexual harassment is this: "sexual harassment" means sexual advances, requests for sexual favors, and verbal or physical conduct of a sexual nature when:

(a) submission to or rejection of such advances, requests or conduct is made either explicitly or implicitly a term or condition of employment or as a basis for employment decisions, also known as “Quid Pro Quo;” or,

(b) such advances, requests or conduct have the purpose or effect of unreasonably interfering with an individual’s work performance by creating an intimidating, hostile, humiliating or sexually offensive educational or work environment – also known as a "Hostile Work Environment."

Under these definitions, “Quid Pro Quo” involves direct or implied requests by a supervisor or other person of authority for sexual favors in exchange for actual or promised job benefits such as favorable reviews, salary increases, promotions, increased benefits, or continued employment constitutes sexual harassment.

The legal definition of sexual harassment is broad.

In addition to the above examples, other sexually-oriented conduct, whether it is intended or not, that is unwelcome and has the effect of creating a “Hostile Work Environment,” where the college or workplace environment that is offensive, intimidating, or humiliating to male or female workers may also constitute sexual harassment.

While it is not possible to list all those additional circumstances that may constitute sexual harassment, the following are some examples of conduct that if unwelcome, may constitute sexual harassment depending upon the totality of the circumstances including the severity of the conduct and its pervasiveness:

- Unwelcome sexual advances -- whether they involve physical touching or not;
- Sexual epithets, jokes, written or oral references to sexual conduct, gossip regarding one’s sex life; comment about an individual’s body, comment about an individual’s sexual activity, deficiencies, or prowess;
- Displaying sexually suggestive objects, pictures, and cartoons;
- Sending sexually-inappropriate email or displaying Internet pornography or “pop-ups;”
- Unwelcome leering, whistling, brushing against the body, sexual gestures, suggestive or insulting comments;
- Provocative attire;
- Sending suggestive or obscene notes, cards or invitations;
- Inquiries into one’s sexual experiences; and,
- Discussion of one’s sexual activities

All students and employees should take special note that, as stated above, retaliation against an individual who has complained about sexual or other unlawful harassment, and retaliation against individuals for cooperating with an investigation of a sexual or another harassment complaint is unlawful and will not be tolerated by this organization.

BFIT students or personnel who are found to be harassing another person shall be subject to appropriate disciplinary action. Violations of this policy by faculty, administrators, staff or students will lead to disciplinary action, up to and including suspension, expulsion or termination.

Grievance Procedures:

INFORMAL GRIEVANCE PROCEDURE

The informal process will encourage individuals who believe that BFIT’s Equal Employment Opportunity/Affirmative Action Policy and/or Sexual Harassment Policy has been breached, to discuss the concern or breach with any involved BFIT official who may be helpful in resolving the matter, including the Dean of Students, Academic Advisor, Supervisor, Dean of Academic Affairs, Human Resource Director, etc.

The purpose of the informal grievance process is to allow for any misunderstanding to be aired and resolved and to provide an opportunity for the aggrieved individual and the alleged perpetrator to attempt to resolve the concern prior to the formal grievance process. The aggrieved individual should use this process to clarify the problem, seek counsel for himself or herself, and decide on a course of action.

A student shall initiate the informal grievance process by informing the Dean of Students. The individual initiating the complaint must do so within twenty (20) calendar days from the date s/he knew or should have known of the alleged discriminatory action. Within seven (7) calendar days of the initial complaint, the individual, the Dean of Students, and other involved persons, shall meet to discuss the complaint with the intention of finding a satisfactory solution. Within seven (7) calendar days from the date of discussion, the Dean of Students shall offer the proposed initial resolution to the individual in writing. Every effort is made to resolve the complaint informally at this level.
FORMAL GRIEVANCE AND HEARING PROCEDURE
If the initial resolution does not resolve the complaint to the satisfaction of the student, s/he, within seven (7) calendar days from the date the resolution was offered, may initiate the formal grievance procedure by filing a grievance in writing with BFIT’s Equal Employment Opportunity/Affirmative Action Officer, who is the Human Resource Director. This office is located on the 2nd floor of the Kendall Building.

The grievance shall contain a statement of all known facts pertaining to the alleged violation and shall be filed with the EEO/AA Officer.

Within seven (7) calendar days from the date the formal grievance is filed, the EEO/AA Officer shall attempt to resolve the complaint through discussion with the complainant, the Dean of Students, and other involved persons.

Social Networking and Online Responsibility Policy
Benjamin Franklin Institute of Technology understands the popularity and usefulness of social networking sites and supports their use by students provided that:

- No offensive or inappropriate pictures are posted;
- No offensive or inappropriate comments are posted;
- Any information placed on the website(s) does not violate college, student athlete, or the student code of conduct;
- Inappropriate photos and/or comments posted on these sites do not depict team-related or college-identifiable activities (including wearing/using team uniforms or gear inappropriately).

Students must remember that they are representatives of Benjamin Franklin Institute of Technology. Please keep the following in mind as you participate on social networking websites:

- Before participating in any online community, understand that anything posted online may be available to anyone in the world. Any text or photo placed online may become the property of the site(s) and may be completely out of your control the moment it is placed online - even if you limit access to your site.
- You should not post any information, photos or other items online that could embarrass you, your family, your student club or organization, your team, or athletics at Benjamin Franklin Institute of Technology. This includes information that may be posted by others on your page.
- Never post your home address, local address phone number(s), birth date or other personal information. You could be a target of predators.
- Student Affairs administrators may monitor these websites.
- Student-athletes could face discipline and even dismissal for violations of team, department, college and/or NJCAA policies.

Law enforcement agencies may monitor these websites regularly as may potential employers and internship supervisors as a way of screening applicants. In addition, many college programs and scholarship committees also search these sites to screen candidates. BFIT student athletes and student leaders should be very careful when using online social networking sites and keep in mind that sanctions may be imposed, including the loss of your eligibility to participate on teams or in organizations, if these sites are used improperly or depict inappropriate, embarrassing or dangerous behaviors.
The Benjamin Franklin Institute of Technology offers a range of technical programs that lead to a variety of careers and further educational opportunities. They range from one-year certificates in automotive maintenance and HVAC&R to two-year academic degrees in industrial technologies, as well as engineering technologies designed to prepare students for transfer to four-year degree programs.

All of our programs provide hands-on laboratory work combined with classroom technical concepts and a strong general education component.

**Academic Development** provides students with skill-building courses to promote academic success in their major field of study.

**Architectural Technology department** offers an associate in science degree program that provides an introduction to architectural concepts and skills pertaining to the design and construction of facilities, preparing students for careers in architecture, construction, building technologies and facilities management.

**Automotive** offers an associate in automotive technology and bachelor degree in automotive management, as well as a certificate in automotive maintenance, through an array of courses in engines, electricity, fuels, diagnosis, and repair.

**Computer Technologies** offers three degree programs: an associate degree in computer engineering technology that provides a solid basis for transfer to a four-year engineering degree program; and two associate degrees in computer technology that prepare students for work in computer system operation and maintenance or systems administration.

**Electrical** offers an associate degree program in electrical technology. The program provides hands-on training in electrical design and layout and instruction in the National Electrical Code. Students receive education hours towards their initial licensure.

**Electronics Engineering Technology** offers an associate degree program in electronic engineering technology, which prepares students for transfer to bachelor degree programs, as well as for work in industry. The Department also offers an associate degree program in medical electronics engineering technology, which prepares students to work as Biomed Technicians in a hospital setting.

**Humanities and Social Sciences** provides a range of courses in composition, communication, and the social sciences that provide general education to enable and complement the technical courses.

**Mathematics and Physics** teaches the concepts that underlie all of the technical specialties of the college, offering mathematics courses that emphasize theory and applications, as well as classroom and laboratory physics.

**Mechanical Engineering Technology** prepares graduates for immediate employment as technicians and for further engineering study.

A one-year certificate program in heating, ventilation, air conditioning and refrigeration (HVAC&R) is also available, leading to work in this field.

**Eye Health Technology Department** provides an associate degree in Opticianry offering a wide range of technical courses such as Ophthalmic Design and Contact Lens theory to prepare individuals for a career as an optician.

The Eye Health Technology department also offers a one-year certificate in Ophthalmic Assisting. This program prepares students for entry level careers, assisting Optometrists and Ophthalmologists.

**Lufkin Memorial Library**

The mission of the Lufkin Memorial Library is to provide the information and resources necessary to meet the needs of the college’s educational programs. In support of this mission, the library offers collections, services, and programs facilitating effective use of information and acquisition of information literacy skills. The library provides information and instruction in multiple formats to meet these needs and embraces appropriate technologies to enhance research and learning.

The Lufkin Library, located on the first floor of the BFIT Union Building, has approximately 5,800 physical volumes, 50 print periodicals, access to over 13,000 electronic books, and 26 online databases with access to 16,000 full-text magazines. The library is open 60-hours per week and a reference librarian is on-duty at all times. A secure wireless internet connection is accessible in the library.

The Lufkin Library is a member of the Massachusetts Library System, a state-supported collaborative that fosters cooperation, communication, innovation, and sharing among member libraries of all types, and a member of LYRASIS, the nation’s largest regional membership organization serving libraries and information professionals.

For further information on library services, please visit our webpage: http://www.bfit.edu/Academics/Library/default.aspx
Office of Career Services and Industry Partnerships

The mission of the Office of Career Services and Industry Partnerships (CSIP) is to build and maintain close ties with industry and provide students and graduates with the tools necessary to start and advance in their careers. CSIP also coordinates and oversees all required and voluntary internship programs. The office posts employment, internship, and volunteer opportunities on the student portal and supports students in transferring to four-year programs after graduation.

Each semester, the Office of Career Services and Industry Partnerships conduct workshops to help students get ready to take a job. Specifically, students are assisted in identifying potential employers, preparing a résumé and letters of application, and interviewing successfully. Students are coached in how to use the Internet and social media to obtain employment. CSIP encourages students to visit for individual assistance and career planning in addition to attending a workshop. CSIP conducts Career Success Seminars, at which graduating students are prepped to enter the workforce or continue their education.

During the fall semester, the Office of Career Services and Industry Partnerships hosts a Part-Time Job Fair to provide students with job opportunities while attending college. During the spring semester, CSIP hosts an Annual Career Fair where employment recruiters meet with and interview prospective graduates for employment and internship opportunities. Finally, CSIP holds a Spring College Transfer Fair where representatives of four-year schools can meet interested students.

Graduates are strongly encouraged to maintain contact with the Office of Career Services and Industry Partnerships, which offers alumni services including job searching assistance throughout their careers!

Academic Policies

GRADING SYSTEM
The grading system employs the five letters and corresponding values defined below:

<table>
<thead>
<tr>
<th>GRADE</th>
<th>GRADE WEIGHT</th>
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<tbody>
<tr>
<td>A</td>
<td>4.00</td>
</tr>
<tr>
<td>A-</td>
<td>3.67</td>
</tr>
<tr>
<td>B+</td>
<td>3.33</td>
</tr>
<tr>
<td>B</td>
<td>3.00</td>
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<tr>
<td>B-</td>
<td>2.67</td>
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<tr>
<td>C+</td>
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<tr>
<td>C</td>
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<tr>
<td>C-</td>
<td>1.67</td>
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<td>D+</td>
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<tr>
<td>D</td>
<td>1.00</td>
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<td>F</td>
<td>0.00</td>
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<td>W</td>
<td>0.00</td>
</tr>
<tr>
<td>WF</td>
<td>0.00</td>
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</tbody>
</table>

CALCULATING GRADE POINT AVERAGE (GPA)
The GPA demonstrates the level of success in college studies. It is based on the earned grade (the weight of each is shown above) and the number of credit hours (see individual course descriptions for credit hour details) for each course. To calculate the GPA, multiply the earned grade weight of each course by its assigned credit hour(s). The sum of these is then divided by the sum of the total semester credit hours for the courses included in the calculation. The result is the GPA.

DISTRIBUTION OF GRADES
All midterm and final grade reports are accessed through the Student Portal unless other arrangements are made.

Dean’s List

The Dean’s List is comprised of those students who have a grade index of 3.5 or higher, have no current grade below C, and have successfully completed a minimum of 12 credit hours during the semester.

Attendance Policy

Students of the Benjamin Franklin Institute of Technology are expected to attend all classes. Attendance is taken at each class meeting and absences become a part of students’ records. The college recognizes that occasions may arise that prevent students from attending class.

If this occurs, a student should talk to the instructor as soon as possible to determine any missed work. It is important for students to understand that they are responsible for any work missed and that missed classes and/or work can seriously harm grades.

As a guide for students who wish to avoid failing grades, the college has established a fixed number of hours a student might be able to miss in a class before falling into the danger of failing for lack of attendance. These fixed hours are determined by multiplying the total credit hours for the course by two. Once a student has exceeded this maximum in any class, that student may be strongly advised to withdraw from the course. Two consecutive weeks of absences may result in an automatic withdrawal from the BFTT. Some courses and programs may have additional consequences for missing class time. Look closely at course syllabi and other documents that will spell out these policies.

Add/Drop Period

After a student is pre-registered, course changes can be made through the Add/Drop period. For 15-week courses, this period lasts through the second week of classes and for 7-week courses, the Add/Drop period ends after the first week of classes. Please refer to the Academic Calendar for specific dates. All course changes must be made through the Registrar’s Office. No change will be made after this period except through the written consent of the appropriate instructor.
Incomplete Grades
A grade of I (incomplete) is given to students, who, due to extenuating circumstances acceptable to their instructors, failed to complete all the requirements of a course. This agreement must be made between both the student and instructor before grades are submitted at the end of the semester. The incomplete must be made up before the Add/Drop deadline of the following semester or it will be changed to an F (failure). Any request for extension of the two-week time limit must be made in writing to the Instructor before the end of the extension period and the Registrar should be notified if an extension is granted. NOTE: All arrangements for completing course requirements are made with the course instructor.

Course Withdrawal
A student may withdraw from a course through the ninth (9th) week of class and receive a grade of "W" (withdrawal) recorded on the official transcript. After the ninth (9th) week, a grade of WF will be applied. In seven (7) week sessions, a withdrawal after the fourth week will result in a grade of WF.

Co-requisites and Pre-requisites
There are courses that provide foundational information required for successful continuation of a program. Co-requisites are courses that must be taken at the same time as another required course. Pre-requisites are courses that must be taken before continuing on to further course work.

Transcript Policy for 2012-2013
• For each official transcript requested, the fee will be $5 (regular service up to 5 business days)
• Same day service will be available for $15 (student must come into office to pick up transcript)
• Overnight delivery service will be available via UPS for $40

Satisfactory Academic Progress Policy
BFIT monitors Satisfactory Academic Progress (SAP) to ensure the successful and timely completion of students’ academic careers. SAP is measured through evaluating the credits attempted and completed as well as the term and cumulative Grade Point Average (CGPA) of each student. The U.S. Department of Education requires all students that receive financial aid must make progress toward their program of study. The Registrar will evaluate students at the conclusion of each semester to determine if Satisfactory Academic Progress is being made. Students who leave the College and subsequently return will be evaluated for SAP before financial aid is offered, regardless of the term in which they return to BFIT.

SAP Standards are based on both qualitative and quantitative measurements.
• Cumulative Grade Point Average (CGPA) is the qualitative measurement for SAP. Students must maintain a minimum CGPA based on the number of credits attempted as noted below.

If a student repeats a course, the lower grade is replaced by the higher grade when calculating the CGPA. The lower grade will remain on the transcript and continue to be reflected in the term GPA. Once a credit is earned for a course, financial aid will only be available for a student to retake said course one time. Students retaking courses where credit has not been earned may be eligible for financial aid. Instances when students may need to retake a course in which they have already earned credits include the need to improve their CGPA for graduation eligibility or if there is a requisite minimum passing grade before the student can progress to the next level of course sequence in his/her program.

• Completion Rate is one part of the quantitative measurements for SAP. Degree-seeking students with less than 40 credits attempted are required to successfully complete 50% of all attempted course work in their current degree program each semester. Degree-seeking students with 40 or more credits attempted are required to successfully complete 67% of all attempted course work in their current degree program each semester. Any course in which a student is enrolled after the regular add/drop period is considered an attempted course. A passing grade is considered to be successful completion of a course. Failure, withdrawal after the second week, or an Incomplete (I) grade in a class constitutes an attempted course which is not successfully completed. Each repeated course work attempt counts towards the credits attempted. Developmental credit and transfer credit will count towards both credits attempted and credits earned.

• Maximum Time Frame is the second part of the quantitative measurement for SAP. Students must complete their program within 150% of the program length. This is measured in terms of credits attempted and earned. For example, a 60-credit-hour degree must be completed without attempting more than 90 credits. Students exceeding the maximum time frame will be ineligible for additional financial aid.

<table>
<thead>
<tr>
<th>Credits Attempted</th>
<th>Minimum CGPA</th>
<th>Minimum Completion Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associate/Bachelor Degree</td>
<td>1 to 19</td>
<td>1.7</td>
</tr>
<tr>
<td>20 to 39</td>
<td>1.9</td>
<td>50%</td>
</tr>
<tr>
<td>40 or more</td>
<td>2.0</td>
<td>67%</td>
</tr>
<tr>
<td>Certificate Programs</td>
<td>1 or more</td>
<td>2.0</td>
</tr>
</tbody>
</table>

NOTE: Students attempting at least 9 credits in a semester who fail to earn a Term GPA of at least 1.0 will be considered as not making Satisfactory Academic Progress.
Transfer credits are counted in the total number of credits attempted. Developmental courses are excluded. Students reaching Maximum Time Frame lose all access to Financial Aid.

**SAP REVIEW**

At the end of each semester, the Registrar will review each student’s academic record to ensure that the student is meeting Satisfactory Academic Progress.

All students are categorized in four SAP groups: Good Standing, Academic Alert, Academic Warning, and Academic Suspension.

If a student is meeting all of the conditions for Satisfactory Academic Progress, but that student’s CGPA is below 2.0, he or she will be placed on Academic Alert and notified that the CGPA will need to improve. Academic Alert serves as a red flag to students noting that their academic progress needs to improve. It is strongly recommended that these students meet regularly with their academic advisor and regularly utilize tutoring services.

If a student fails to meet satisfactory academic progress for one semester, he or she will be placed on Academic Warning and notified by letter to their permanent address. If a student on Academic Warning retains their financial aid eligibility and if he or she is registered for classes in the next semester, those classes will be dropped. A student placed on Academic Suspension has the right to appeal the suspension. If a student’s appeal is accepted, that student’s academic status will be changed to Probation.

**SUSPENSION APPEAL:**

Appeals should be filed as soon as possible after notification is received to the Associate Dean of Academic Affairs. Appeals must be submitted prior to the first week of the semester. To appeal the suspension students will need to provide a letter and any documentation that supports claims of extenuating circumstances. Supporting letters from advisors and professors are also encouraged. Grounds for appeal include the student’s documented illness, the death or serious illness of an immediate family member, or other unusual circumstances. Additional documentation may be requested, depending on the nature of the appeal.

Once the appeal is filed, it will be preliminarily reviewed by the Associate Dean of Academic Affairs and he/she will schedule an appointment with the appealing student. The Associate Dean will then convene the SAP Appeal Committee to consider the request and render a decision about the student’s ability to subsequently enroll. A member of the SAP Appeal Committee will contact the student with the committee’s decision and any necessary actions that the student will need to take prior to matriculating. If a student’s appeal is accepted, that student’s academic status will be changed to Probation. Students on probation may appeal to the Director of Financial Aid for financial aid eligibility.

A student placed on Academic Suspension will lose financial aid eligibility and if he or she is registered for classes in the next semester, those classes will be dropped. A student placed on Academic Suspension will lose all access to Financial Aid.

**DISMISSAL:**

If a student fails to make Satisfactory Academic Progress at the end of the probationary semester or if he or she fails to maintain the conditions and benchmarks agreed upon in the academic plan, that student will be Dismissed from the College. Students who have been dismissed from the College shall be able to appeal their dismissal to the Associate Dean of Academic Affairs after the period of time designated by the Satisfactory Academic Progress Appeal Committee (not including summer terms).

**Family Educational Rights and Privacy Act**

B FIT maintains the confidentiality of student educational records and protects the student’s right of access to those records in accordance with the Family Educational Rights and Privacy Act (FERPA) of 1974 (P.L. 93-380) as amended (P.L. 93-5681) (also known as the Buckley Amendment).

FERPA affords students certain rights with respect to their educational records. They are:

- The Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99) is a Federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education.
- FERPA gives parents certain rights with respect to their children’s education records. These rights transfer to the student when he or she reaches the age of 18 or attends a school beyond the high school level. Students to whom the rights have transferred are “eligible students.”
- Students have the right to inspect and review the student’s education records maintained by the school. Schools are not required to provide copies of records unless, for reasons such as great distance, it is impossible for parents or eligible students to review the records. Schools may charge a fee for copies.
Students have the right to request that a school correct records which they believe to be inaccurate or misleading. If the school decides not to amend the record, the student then has the right to a formal hearing. After the hearing, if the school still decides not to amend the record, the student has the right to place a statement with the record, setting forth his or her view about the contested information.

Generally, schools must have written permission from the student in order to release any information from a student’s education record. However, FERPA allows schools to disclose those records, without consent, to the following parties or under the following conditions (34 CFR § 99.31):

- School officials with legitimate educational interest;
- Other schools to which a student is transferring;
- Specified officials for audit or evaluation purposes;
- Appropriate parties in connection with financial aid to a student;
- Organizations conducting certain studies for or on behalf of the school;
- Accrediting organizations;
- To comply with a judicial order or lawfully issued subpoena;
- Appropriate officials in cases of health and safety emergencies; and
- State and local authorities, within a juvenile justice system, pursuant to specific State law.

BFIT may disclose, without consent, "directory" information such as a student’s name, address, telephone number, e-mail, date and place of birth, honors and awards, and dates of attendance. However, schools must tell students about directory information and allow students a reasonable amount of time to request that the school not disclose directory information about them. Students should contact the Registrar if they do not want their directory information released. Schools must notify students annually of their rights under FERPA.

The actual means of notification (special letter, student handbook, or newspaper article) is left to the discretion of each school.

For additional information or technical assistance, you may call (202) 260-3887 (voice). Individuals who use TDD may call the Federal Information Relay Service at 1-800-877-8339.

Or you may contact us at the following address:
Family Policy Compliance Office
U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202-5920

Academic Honesty
Honesty in all academic work is expected of every student at all times. This means each individual does his or her own work without assistance from other sources on any assignment or exam unless otherwise directed by the instructor.

A violation of academic honesty can include but not be limited to:

- Plagiarism
- Falsifying documents
- Submitting the same assignment in multiple classes
- Copying or sharing work from another student
- Aiding and abetting cheating
- Using any form of technology, i.e. cell phones, laptops, etc

For more examples and full explanations of each, please see the advising page on the BFIT website. It is the responsibility of each student to understand BFIT’s expectations for academic honesty and to seek help in understanding the policy if necessary. It is important to note that ignorance is not an acceptable excuse.

To preserve the College’s reputation and integrity, cases of academic dishonesty will be reported and may face disciplinary action. Documentation of alleged violations, proceedings, and any resulting sanctions will be kept on file in the office of the Director of Advising until a student has graduated from the college. This file may be utilized in the event of any further infraction of institutional rules or policies. The student’s advisor will be notified during any instance of academic dishonesty.

With any suspected act of dishonesty, the instructor will provide documentation of the incident and any supporting evidence to the Director of Advising. Students will be contacted by the Director of Advising to discuss the incident and methods of prevention for the future. Based on the student’s conduct history, the Director of Advising may refer the case to the Student Conduct Board.

The range of sanctions and the procedures followed are outlined below; however implementation of sanctions will lie with the Hearing Office or Student Conduct Board and may be adjusted. Faculty may be solicited for further information, appearing before the Student Conduct Board, or for recommendations for sanctioning.

PROCEDURES AND SANCTIONING
1. A first violation of the academic honesty policy will result in a meeting with the Director of Advising and may result in a failing grade for the assignment as well as an educational component to allow the student to learn from the process. Educational sanctions may include online modules, research or reflection essays, or other means to educate oneself or others on academic honesty.

2. A second violation of the academic honesty policy, whether this be in the same or a different course, will result in a meeting with the Director of Advising or the Student Conduct Board, and may result in a grade of F for the final course grade. Due to the repeat nature of the incident, the student may be subject to increased sanctioning including academic probation for a minimum of one semester and increased educational sanctions.
3. A third violation of the academic honesty policy will result in an automatic F for the course in which the infraction occurred and may include further disciplinary action including suspension or expulsion from the college. All documentation and evidence will be placed in the student’s file and, in this case, may become a permanent record regardless of the student’s graduation status at the college. A mandatory meeting will take place with the Dean of Academic Affairs and the student will have the opportunity to bring one member of the college’s faculty or staff to serve as a support person. The support person will have the opportunity to speak on the student’s behalf at the student’s request.

Students will receive written notification within one week after meeting with a Hearing Officer or the Student Conduct Board.

**Appeal Process**

To initiate the appeal process, students will submit their appeal, electronically, in writing to the Associate Dean of Academic Affairs. Appeals must be received by the Associate Dean of Academic Affairs, electronically, within five (5) class days of the outcome of the conduct meeting.

Students must base an appeal on one or more specific aspects of the original conduct meeting:

- Procedural error
- Finding not supported by the evidence
- Excessive or inappropriate sanction
- New evidence not previously available

It is up to the student(s) appealing to be persuasive and professional in their appeal letter. Appeal arguments should detail any information that was not available at the time of the original conduct meeting, as well as any additional information that is provided by witnesses.

The outcome of an appeal is final.

The Appeal Officer may make the following decisions:

- Uphold previous decision
- Revise previous decision
- Overturn previous decision
- Refer the case back to the original Conduct Officer for a rehearing (in case of procedural errors)

*Note: if multiple violations of academic honesty occur within a timeframe prior to required meetings taking place, the violations will be still be treated as individual occurrences and subject to disciplinary as outlined above.

**Grade and Attendance Action**

Any student who feels there has been an error in his or her grade or attendance record in any class should contact the instructor immediately and arrange a meeting to determine whether an error or omission has occurred. If a student is dissatisfied with the results, s/he should contact the Department Chair and Academic Advisor to arrange a meeting. If the faculty member is the Department Chair, students should contact the Associate Dean or Dean of Academic Affairs. Students are reminded that attendance at the college is very important.

**Change of Major**

All changes of major after registration are handled through the Advisor, Registrar, and student. If the advisor and student come to an agreement, the Registrar will be notified and will process the official change.

**Transfer of Credit**

Students who wish to take courses at other colleges to satisfy requirements in their programs at BFIT must:

- Obtain course descriptions from the prospective school.
- Receive endorsement from the appropriate Department Chair or Registrar at BFIT.
- If approval is given, the student must earn a grade of C or better in the course and provide an official transcript of this grade to the Registrar. Please note: The grade you receive will not be reflected in your grade point average at BFIT.

**Graduation Requirements**

Students in good standing who satisfy the following minimum requirements will be recommended by the faculty for graduation:

- A student must obtain a minimum GPA of 2.00 in all the credit bearing courses in a student’s major as defined by the course catalog as reflected on the Student’s Degree Audit.
- Earn a cumulative grade point average of 2.00 or better

Students who have no more than two requirements left to graduate may participate in the annual graduation ceremony provided they meet the requirements for graduation listed above. Students with 3 requirements left may appeal to the registrar. Students who complete all of their requirements in the HVAC&R programs before the end of the summer semester will be allowed to participate in the graduation ceremony.

Students earning a grade point average of 3.5 or higher qualify for honors distinctions. Such honors are determined by a student’s cumulative grade point average once all required coursework is complete and is awarded in the following categories:

- Cum Laude: 3.50–3.74 cumulative grade point average
- Magna cum Laude: 3.75–3.89 cumulative grade point average
- Summa cum Laude: 3.90–4.00 cumulative grade point average

**Petition to Graduate**

Students who plan to graduate must inform the Registrar of their intention by filing a petition to graduate at least four weeks before the graduation date. This form can be obtained from the Registrar and requires various signatures. Potential graduates will need to complete Financial Aid exit counseling and clear any college balance. The Registrar then verifies that all individual program requirements have been met and that the student is qualified to graduate.
Architectural Technology (AS)

The Architectural Technology program offers an associate in science degree that provides an introduction to architectural concepts and skills pertaining to the design and construction of facilities, preparing students for careers in architecture, construction, building technologies and facilities management.

This program enables its graduates to become skilled and knowledgeable contributors to the architectural/engineering, construction or facilities operations and maintenance fields. Students will be able to understand and produce a set of construction documents for buildings, residences, and other structures. Employment opportunities for which graduates of the program will qualify include entry level CAD/BIM drafter/designer and technician level work in architecture, engineering, construction, facilities departments, manufacturing, and fabrication. The program also prepares students for further academic study in architecture.

Many graduates decide to pursue bachelor degrees at other colleges or universities. Benjamin Franklin Institute of Technology has an articulation agreement with the Boston Architectural College (BAC). Under this agreement, students receive credit for courses passed at BFIT with a grade of C or better towards a bachelor’s degree at BAC. BFIT also has an articulation agreement with Wentworth Institute of Technology. Under this agreement BFIT graduates can enter Wentworth’s Facility Management Program upon successful graduation from BFIT.

In addition, BFIT students may elect to take a course at the BAC during their final semester of study, allowing them to achieve further advanced standing upon transfer to the BAC.

Curriculum

This comprehensive program provides students with a thorough introduction to the fundamental skills and core competencies of architectural technology, including familiarization with up-to-date architectural office practices including computer-aided drawing and design, building information modeling, green building standards and integrated project delivery. Studio work allows students to explore design through various architectural projects and 3D model making. A general foundation education is provided with the inclusion of courses in physics, mathematics, technical writing, humanities, and technical electives.

Facilities

The Architectural Technology Department maintains drafting and computer-aided-drawing labs which provide students with ample opportunity to experience hands-on training in the Architectural Technology field. The drafting lab, consisting of drafting tables, allows students to learn hands-on drafting and 3D model-making capabilities. The computer-aided-drawing labs provide students the ability to construct computer generated drawings in 2D and 3D formats with industry standard computer software. Desktop printers and a large scale plotter allow students to display their drawings in various viewable formats.
Outcomes

Upon successful completion of the Associate Degree in Architectural Technology, the graduate will be able to:

- Draw plans, elevations, sections and isometric views of three-dimensional objects with the proper use of lineweight and use of architectural symbols and conventions appropriately by the use of hand drafting tools and the use of Computer Aided Drafting (CAD) and Building Information Modeling (BIM).
- Understand scale and measurement and their practical applications. Students will learn to measure and draft existing built conditions.
- Solve moderate to complex design problems through creative thinking and iteration.
- Create design compositions using organizing principles such as axis, symmetry, hierarchy, and grid. Understand that formal elements in a design such as points, lines, planes, and volumes can assume symbolic meanings subject to personal or cultural interpretation.
- Produce a set of construction documents for a wood frame, single-family residence using the AutoCAD and Revit (BIM) computer programs.
- Analyze environmental factors influencing an architectural design including: cultural/historical, legal/economic, and climatic. Translate graphic diagrams into AutoCAD/Revit generated floor plans, sections, and elevations.
- Setup and operate the AutoCAD/Revit computer drafting programs including creating drawing parameters, opening, saving, and plotting drawings productively, utilizing basic AutoCAD/Revit commands to create and edit drawings.
- Utilize advanced principles of the AutoCAD/Revit program, including hatching, blocks, attribute definitions, external references, annotation scale and sheet sets in the creation of construction drawings. Perform at an acceptable level on a simulated AutoCAD/Revit assessment exams.
- Create and view three-dimensional drawings by various methods using the AutoCAD/Revit programs or other industry standard programs including building information modeling (BIM) software. Render a three-dimensional structure, including selecting views, placing lights, assembling a scene, and incorporating materials and landscape objects in a scene.
- Select materials that are compatible with the architectural and structural design regarding their appearance, strength, properties, and behavior against natural and manmade stressing forces.
- Understand the basic fundamentals involved in the analysis and design of structural/architectural building elements while incorporating this knowledge into the creation of construction drawings.
- Calculate heating and cooling loads in buildings, estimate the annual costs of various heating and cooling systems, evaluate site drainage, calculate water demand and drainage requirements for a building, and calculate building electrical loads.
- Understand the chronological development of architecture, comprehend the tools needed to have a critical appreciation, and possess an ability to be able to present projects and to speak and write effectively on the history of architecture.
- Demonstrate knowledge of the fundamental principles or theories predominant in architecture and an understanding of the shifts which have occurred in the social, political, technological, ecological, and economic factors that shape the practice of architecture.
- Fundamental knowledge of building and accessibility codes, zoning by-laws and green building standards and their use in the design and construction of facilities. Understanding the design and construction process based on industry standard manual of practice from project conception to facility management and perform at an acceptable level on an assessment exam.

Faculty

Eric Larsen, Chair
Instructor Staff: Michael Rocino, Todd Lariviere
Degree Requirements: Architectural Technology

TECHNOLOGY COURSES: 45 CREDIT HOURS

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GENERAL EDUCATION COURSES: 26 CREDIT HOURS

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Typical Course Sequence for Architectural Technology

SEMESTER 1
AR100  Introduction to Architectural Design
AR110  Introduction to CAD
AR240  Introduction to World Architecture
EN130  College Composition I
MA105  Technical Math I

SEMESTER 2
AR150  Architectural Design I
AR160  Building Construction and Materials
EN140  College Composition II
HU/SS  Elective
MA115  Plane and Solid Geometry

SEMESTER 3
AR220  Sustainable Buildings: Design and Construction
AR260  Architectural Design II
BT210  BIM I
MA120  College Algebra and Trigonometry
PH212  Physics I
PH215  Physics Lab I

SEMESTER 4
AR250  Environmental Systems
AR280  Statics & Strength of Materials
BT200  Construction Document Technologies
BT270  BIM II
HU/SS  Elective
Automotive Technology (AS)

The automotive industry offers exciting and rewarding careers for people who have an interest in diagnosing and repairing mechanical components and computer/electrical circuitry. Additionally, these careers contribute significantly to a cleaner environment and the safety of the general public. This industry is not limited to automobiles, as it covers a broad spectrum that includes aviation, marine, heavy-duty trucks, off-road equipment, recreational vehicles and stationary power plants.

Graduates of the Automotive Technology program are prepared for employment in the automotive industry as technicians, machinists, unit specialists, emission and performance diagnosticians, department managers, and manufacturer’s representatives.

The College enhances opportunities for employment through close association with dealerships in the Boston area, as well as national manufacturers such as Audi, BMW, Chrysler, Ford, General Motors, Honda, Nissan, Subaru, Toyota and Volkswagen. Successful completion of this program provides the student with an Associate of Science degree and the opportunity to continue in the Bachelor of Science program.

The Automotive Department strongly endorses Automotive Service Excellence Certification. All of the Automotive Faculty are ASE Certified, and we encourage our students to take these tests for national certification, as they are ready.

Curriculum

In keeping with the College’s mission, the objectives of this Associate of Science program are to provide a theory-based automotive education, supported by practical experience that meets the College’s history of high academic standards. Additionally, these standards allow graduates to improve themselves personally, economically and socially, and to provide a foundation for lifelong learning. Degree requirements are further supported by general education components, including proficiency in oral and written communication, math, and physics.

The majority of this two-year program is devoted to automotive technical specialties, including actual work on live vehicles in the student instructional garage. In addition to the mechanical technologies, the program is complemented by the study of mathematics, physics, humanities, and social sciences. Humanities, social sciences, and English courses comprise part of the curriculum to ensure the graduates possess broader social visions and effective communication skills.

Special Admission Requirements for Automotive Technology Program

Due to the unique environment of automotive laboratories and repair facilities with regard to the safe operation of machinery, repair equipment, running engines, etc., the following is required of applicants to the Automotive Program:

- Correctable vision and hearing
- Ability to stand on one’s feet for long periods
- Ability to lift 30 pounds.
- Additionally, for continuation into the second year of the program involving the automotive repair garage: Students are required to have a valid driver’s license;

Students are required to purchase first-year and second-year tool sets

Facilities

The Automotive Department maintains laboratories for the study of automotive electricity, internal combustion engines, automatic, manual transmissions, chassis and brakes, hybrid and alternate fuels, engine performance as well as an eleven-bay working laboratory and a Drivability Clinic equipped with state-of-the-art equipment. Additionally, the College serves as an MA Certified Emissions Repair Facility.
Outcomes
Upon successful completion of the Associate Degree in Automotive Technology, the graduate will be able to:

- Demonstrate diagnostic strategies, using electronic/mechanical principles, to effectively repair vehicle management systems in accordance with manufacturers, State and Federal guidelines.
- Demonstrate, through practical example, written and verbal presentation, an understanding of automotive industry safety, emerging technologies, economics, government regulations and business models.
- Demonstrate an understanding of the internal combustion engine by utilizing diagnostic strategies that effectively repair an internal combustion engine.
- Understand DC electricity and demonstrate diagnostic repair strategies for automotive electrical components and systems that effectively repair electrical components.
- Utilize mathematical calculations, principles, and formulae to perform a variety of tasks related to automotive system repair.
- Effectively diagnose, repair, and adjust various subsystems, including: suspensions, brakes, transmissions, heating and air conditioning, and lighting systems.
- Identify and repair safety-related issues, relative to automotive vehicles, that concern the operator, passengers and general public.
- Demonstrate the proficient use of scan tools and other diagnostics test equipment that will aid in repairing the customers complaint with precision accuracy.
- Demonstrate specific techniques to determine the different failures between gasoline, diesel, hybrid and electric vehicles and understanding necessary repairs.

Faculty
David E. Protano, Chair
Instructor Staff: Carl Andrews, Richard E. Cadotte, John Cosimini, Joseph Goddard, Joseph Golden, Donald Tuff, Scott Ouellette
# Degree Requirements: Automotive Technology (AS)

## TECHNOLOGY COURSES: 51 CREDITS

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## GENERAL EDUCATION COURSES: 21 CREDITS

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## Typical Course Sequence for Automotive Technology (AS)

### SEMESTER 1

- **AT150** Automotive Engines
- **AT170** Electricity & Electronics
- **AT259** Automotive Hybrid Safety and Technology
- **EN130** College Composition I
- **MA105** Technical Math I

### SEMESTER 2

- **AT134** Automotive Brake Systems
- **AT173** Automotive Electrical Systems
- **EN140** College Composition II
- **MA106** Technical Math II
- **PH102** Physics

### SEMESTER 3

- **AT234** Automotive Chassis and Suspension
- **AT241** Manual Transmissions
- **AT253** Automotive Lab I
- **AT255** Alternative Fuels
- **AT271** Engine Performance I
- **HU/SS** Elective

### SEMESTER 4

- **AT244** Automatic Transmissions
- **AT254** Automotive Lab II
- **AT257** Hybrid Systems
- **AT274** Engine Performance II
- **AT282** Service Advising
- **HU/SS** Elective
Automotive Management (BS)

Graduates of this program can establish mid- and upper-level management careers throughout the automotive and related industries. BFIT enhances employment opportunities through close association with Boston area dealerships, as well as national manufacturers such as Audi, BMW, Chrysler, Ford, General Motors, Honda, Nissan, Subaru, Toyota and Volkswagen.

The Automotive Department endorses ASE Certification. All members of the Automotive Faculty are ASE Certified Automobile Technicians. The Department also offers a student chapter of SAE.

Curriculum
The objectives of the Bachelor program, which build upon those of the Associate Degree, are to provide advanced-level education for management employment by combining practical, technical and academic experience for career progression.

This Bachelor Degree program devotes over one-third of the courses to technical or technically related studies, approximately one-quarter to business and management studies, one-fifth to mathematics and science, and one-fifth to communications/social sciences and the humanities.

Humanities, social science and English courses comprise part of the curriculum to ensure that graduates possess broader social visions and effective communication skills.

Special Admission Requirements for the Bachelor of Science Program
In order to qualify for this program, students must have either graduated from the BFIT Associate Degree program or another accredited associate degree program, and achieved an average grade of “C” in all Humanities and Social Sciences courses.

Facilities
The Automotive Department maintains up-to-date laboratories for support of its theory-based courses. Students utilize modern computer laboratories, as well as receive hands-on automotive experience in a well equipped eleven-bay working laboratory, and a Drivability Clinic outfitted with the industry’s latest diagnostic tools. Additionally, the College serves as an MA Certified Emissions Repair Facility.

Outcomes
Upon completion of the Bachelor of Science degree in Automotive Technology, students will have expanded on associate degree outcomes and should have competency in the following:

• Demonstrate a mastery of electronic principles, as applicable to engine management and emissions systems; demonstrate logical diagnostic strategies, and effectively repair these systems in accordance with manufacturer’s procedures.

• Present written and verbal reports, as well as electronic presentations commensurate with management level standards.

• Demonstrate an understanding of the synergies among accounting, human relations, organization, finance, marketing and sales as related to managing a profit center or business section.

• Demonstrate an understanding of the laws and regulations relating to safety and the environments within the automotive industry.

• Demonstrate an understanding of the dynamic nature of the automotive industry with national and international economies by participating in a Capstone Project.

Faculty
David E. Protano, Chair
Donald L. Tuff, Bachelor Program Coordinator
Instructor Staff: Richard E. Cadotte, John Cosimini, Joseph Golden, Andrew Wong, Sharon Bonk, Scott Ouellette, Keith Dropkin, Ed Mackness
**Degree Requirements: Automotive Management (BS)**

**TECHNICAL COURSES: 23 CREDITS**

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**Typical Course Sequence for Automotive Management (BS)**

**JUNIOR YEAR**

**SEMESTER 1**
- AT373: Advanced Engine Performance
- BS311: Microeconomics
- BS312: Advanced Concepts in Information Literacy
- MA265: Finite Mathematics
- TS310: General Chemistry

**SEMESTER 2**
- BS324: Managing Organizations
- BS332: Financial Accounting
- BS334: Business Law & Legislation
- EN320: Technical Communications
- MA270: Statistics

**SENIOR YEAR**

**SEMESTER 1**
- AT481: Automotive Marketing
- AT483: Computers in Auto Industry
- AT485: Senior Seminar I
- BS431: Management Accounting
- BS432: Personnel Management
- HU/SS: Elective

**SEMESTER 2**
- AT474: Enhanced Emissions and Drivability
- AT482: Vehicle Appraisal
- AT494: Service Management
- AT495: Senior Seminar II
- HU/SS: Elective
Certificate of Proficiency in Automotive Technology

The Automotive Technology Department also offers a certificate program in automotive technology. The certificate program prepares students for entry level positions in the Automotive Technology field and contains 8 essential courses. Normally, the program can be completed in 1 year. This program follows all federal regulations regarding gainful employment.

- Demonstrate diagnostic strategies, using electronic/mechanical principles, to effectively repair vehicle management systems in accordance with manufacturers, State and Federal guidelines.
- Demonstrate, through practical example, written and verbal presentation, an understanding of automotive industry safety, emerging technologies, economics, government regulations and business models.
- Demonstrate an understanding of the internal combustion engine by utilizing diagnostic strategies that effectively repair an internal combustion engine.
- Understand DC electricity and demonstrate diagnostic repair strategies for automotive electrical components and systems that effectively repair electrical components.
- Utilize mathematical calculations, principles, and formulae to perform a variety of tasks related to automotive system repair.
- Identify and repair safety-related issues, relative to automotive vehicles, that concern the operator, passengers and general public.

Typical Course Sequence for Automotive Technology Certificate

**SEMESTER 1**
- AT134 Automotive Brake Systems
- AT150 Automotive Engines
- AT170 Automotive Electricity and Electronics

**SEMESTER 2**
- AT173 Automotive Electrical Systems
- AT252 Air Conditioning
- AT271 Engine Performance I

**SEMESTER 3**
- AT256 Automotive Lab-Certificate
- AT274 Engine Performance II
Computer Technology – System Administration Program (AS)

The Computer Technologies – System Administration program provides students with the knowledge and training for entry-level system and network administration positions in the computer industry. System and network administrators are typically responsible for maintaining a company’s computer systems, with server management as the primary responsibility.

Responsibilities typically include the installation, configuration, support and maintenance of computer systems, servers and networks.

Other responsibilities may include scripting and “light” programming, project management for systems related projects, and consulting for computer problems.

The curriculum of this program may also qualify graduates for entry-level computer programming, systems support and sales positions. Graduates are well prepared to continue their education in four-year system administration or related computer software technology programs.

Curriculum
Students receive a solid foundation in computer concepts, operating systems, server administration, networking, computer programming and mathematics through calculus. They receive training in both Linux and Windows system administration, C++ programming, Java programming, and exposure to scripting and contemporary programming languages. Exposure to PC repair and database management is also provided. Humanities, social sciences, and English courses round out the curriculum to ensure that graduates possess a broad social understanding and effective communication skills.

Facilities
The Computer Technologies Department facilities include more than 72 computer workstations in four classroom laboratory settings, a computer “sand box” equipped with servers, 18 workstations and networking equipment for hands-on server administration and data communications courses, and a computer diagnostics laboratory.

All computer rooms are equipped with up-to-date software and dual operating system environments, where necessary, to provide all students with hands-on computer programming, installation, server administration and networking capabilities for their learning. The computer diagnostics laboratory provides the students with the necessary equipment to perform hardware and software troubleshooting.

Outcomes
Upon successful completion of the Associate Degree in Computer Technologies—System Administration program, the graduate will be able to:

- Install, maintain, upgrade and manage both Linux and Windows based computer and related server and network systems.
- Administer computer, network and web services and security.
- Conduct system performance analysis, tuning, and capacity planning.
- Apply computer program scripting knowledge to automate system tasks.
- Provide entry level computer programming.
- Analyze, troubleshoot, and solve computer hardware and software problems.
- Apply and integrate the basic knowledge attained in server, networking, computer programming, scripting, and database technologies to develop business solutions.
- Understand mathematics, through calculus, and the ability to apply this knowledge to solve computer related problems.
- Effectively communicate technical observations, results, issues, and successes, in both oral and written form.
- Continue education toward a BS degree in four-year system administration and related programs.
- Recognize the need for, and develop the ability to engage in, lifelong learning.
- Understand professional, ethical, and social responsibilities.

Faculty
Chair: Larson Rogers
Instructor staff: Richard Azzi, Vivian Hatziyannis
**Degree Requirements for Computer Technology – System Administration Program (AS)**

### TECHNICAL COURSES: 43 CREDITS

<table>
<thead>
<tr>
<th>Course#</th>
<th>Course Title</th>
<th>Credits</th>
<th>Lecture</th>
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<td>C++ Programming</td>
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### GENERAL EDUCATION COURSES: 26 CREDITS

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### Typical Course Sequence for Computer Technology – System Administration Program (AS)

**SEMESTER 1**
- CT111 Computer Concepts
- CT134 Introduction to Operating Systems
- CT143 Introduction to Programming Logic and C++
- EN130 College Composition I
- MA120 College Algebra and Trigonometry

**SEMESTER 2**
- CT144 C++ Programming
- CT212 PC Maintenance & Management
- CT218 Database Management Systems
- EN140 College Composition II
- MA130 Pre-Calculus

**SEMESTER 3**
- CT231 Linux System Administration
- CT242 Java Object Oriented Programming
- CT261 Data Communications and Networking
- EN320 Technical Communication
- MA240 Calculus I

**SEMESTER 4**
- CT233 Windows System Administration
- CT Elective CT245 or CT249
- CT263 Applied Networking
- HU/SS Elective
- MA250 Calculus II
Computer Technology – Applied Technology Program (AS)

The Computer Technologies – Applied Technology program exposes students to a broad range of computer technologies with a primary focus on computer technician skills and a secondary focus on web technologies. Graduates from this program may be employed as an entry-level technician responsible for the installation, maintenance, troubleshooting and repair of computer and networked systems, or an entry-level web technologist with some database systems exposure. Other employment opportunities may include sales and technical support, in both retail and computer vendor environments. Graduates from this program may continue their education in related four-year BS Computer Technologies programs.

Curriculum
Students receive a solid foundation in computer concepts, pc diagnostics and management, web and database technologies, networking and mathematics through pre-calculus. Humanities, social sciences and English courses round out the curriculum to ensure that graduates possess a broad social understanding and effective communication skills. Upon successful completion of this program students should have the necessary preparation for CompTIA A+ Essentials/IT Technician and Cisco CCENT (Cisco Certified Entry Networking Technician) certifications.

Facilities
The Computer Technologies Department facilities include more than 72 computer workstations in four classroom laboratory settings, a computer "sand box" equipped with servers, 18 workstations and networking equipment for hands-on server administration and data communications courses, and a computer diagnostics laboratory. All computer rooms are equipped with up-to-date software and dual operating system environments, where necessary, to provide all students with hands-on computer programming, installation, server administration and networking capabilities for their learning. The computer diagnostics laboratory provides the students with the necessary equipment to perform hardware and software troubleshooting.

Outcomes
Upon successful completion of the Associate Degree in Computer Technologies – Applied Technology Program, the graduate will be able to:

- Analyze, troubleshoot, and solve computer hardware and software problems.
- Employ hardware/software knowledge to configure, install and maintain computer and network systems.
- Design and develop websites using contemporary web design software.
- Design and develop entry-level database application systems.
- Understand and apply the fundamental knowledge of mathematics to solving of computer related problems.
- Effectively communicate technical observations, results, issues, and successes, in both oral and written form.
- Successfully pass the CompTIA A+ Essentials/IT Technician and Cisco CCENT certification exams.
- Continue education toward a BS degree in related four-year computer technology programs.
- Recognize the need for, and develop the ability to engage in, lifelong learning.
- Understand professional, ethical, and social responsibilities.

Faculty
Chair: Larson Rogers
Instructor staff: Richard Azzi, Vivian Hatziyannis
## Degree Requirements for Computer Technology – Applied Technology Program (AS)

### Technical Courses: 43 Credits

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<thead>
<tr>
<th>Course#</th>
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<th>Lecture</th>
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<td>Web Design I: HTML and Dreamweaver</td>
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<td>CT122</td>
<td>Web Design II: Adobe Flash</td>
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<td>Introduction to Mobile Application Development Using Android</td>
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<td>CT273</td>
<td>Routing Basics</td>
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### General Education Courses: 21 Credits

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## Typical Course Sequence for Computer Technology – Applied Technology Program (AS)

**SEMESTER 1**

<table>
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<tr>
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<tbody>
<tr>
<td>CT111</td>
<td>Computer Concepts</td>
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<td>CT121</td>
<td>Web Design I: HTML and Dreamweaver</td>
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<td>CT134</td>
<td>Introduction to Operating Systems</td>
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<td>EN130</td>
<td>College Composition I</td>
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<td>MA105</td>
<td>Technical Mathematics I</td>
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**SEMESTER 2**

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<tr>
<td>CT145</td>
<td>Survey of Computer Programming Languages</td>
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<tr>
<td>CT212</td>
<td>PC Maintenance &amp; Management</td>
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<tr>
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<td>College Composition II</td>
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**SEMESTER 3**

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<td>Database Management Systems</td>
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<td>Introduction to Networking</td>
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<td>EN320</td>
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**SEMESTER 4**

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<td>CT273</td>
<td>Routing Basics</td>
</tr>
<tr>
<td>HU/SS</td>
<td>Elective</td>
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</table>
Computer Engineering Technology (AS)

The Computer Engineering Technology program provides students with the knowledge and skills necessary for computer industry positions that address both computer hardware and software. Students are prepared for entry-level positions that may involve the testing, troubleshooting, repairing or installation of a variety of computer and networked systems. Other positions may include assisting engineers in the design and building of computer systems. Graduates of this program are well prepared to continue their education in Bachelor of Science in Computer Engineering Technology programs.

Curriculum
The curriculum is structured to provide a broad undergraduate education with students taking courses in each of the recognized areas of computer concepts and architecture, processors, network systems, digital circuits, analog circuits, and electronic principles. A strong foundation in physics and mathematics through calculus is provided so as to provide the student with a strong engineering foundation. The student’s education is rounded off with an emphasis in the humanities, English, and social sciences, which allow students to develop their written and oral presentation skills, promoting lifelong learning.

The curricula of many four-year college programs in Computer Engineering Technology are the same as their Electronic Engineering Technology programs during the first two years of study and are strongly hardware and electronics centered. Therefore the curriculum of this Computer Engineering technology program mirrors our Electronic Engineering Technology program, except for two data communications/networking courses. Prospective students interested in this program should also examine the Electronic Engineering Technology program description in this catalog for additional description of the curriculum.

Facilities
This program utilizes facilities from both the Computer Technologies and Electronics Engineering Technology departments. The Computer Technologies Department facilities include more than 72 computer workstations in four classroom laboratory settings, a computer “sand box” equipped with servers, 18 workstations and networking equipment for hands-on server administration and data communications courses, and a computer diagnostics laboratory. All computer rooms are equipped with up-to-date software and dual operating system environments, where necessary, to provide all students with hands-on computer programming, installation, server administration and networking capabilities for their learning. The computer diagnostics laboratory provides the students with the necessary equipment to perform hardware and software troubleshooting.

The electronics department laboratory is equipped to provide students ample and meaningful hands-on experience in breadboarding, testing, schematic capture, and simulation of analog and digital circuits. Students will typically spend four hours a week in the laboratory, confirming that the lecture material works in real life and is not unproven theory. Students follow the laboratory experiment with a report where the results are analyzed and discussed. In the laboratory, the students learn how to use standard test equipment to build circuits, create schematics, and test circuits using standard laboratory test equipment.

Outcomes
Upon successful completion of the Associate Degree in Computer Engineering Technology, the graduate will be able to:
- Analyze or troubleshoot in three major electronic engineering areas: Analog Circuits, Digital Circuits, and Processors.
- Recognize and apply fundamental knowledge of mathematics, especially algebra and trigonometry.
- Conduct experiments in teams, building or breadboarding, using basic test equipment and tools to measure performance, and to critically analyze and interpret data.
- Effectively communicate technical observations, results, issues, and successes or negotiate a change in design or procedure.
- Effectively discuss and communicate computer architecture, networking and electronics concepts.
- Apply computer skills to prepare technical documents or analyze data: using applications for word processing, spreadsheets, simple programming, schematic capture, and simulation.
- Calculate costs.
- Read manuals and schematics and identify components on a printed wiring board.
- Apply proper laboratory procedures.

Faculty
EE designated courses are taught by faculty identified in the Electronic Engineering Technology program description, while CT designated courses are taught by faculty identified in the Computer Technologies program description.
Degree Requirements for Computer Engineering Technology (AS)

**TECHNICAL COURSES: 39 CREDITS**

<table>
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<tr>
<th>Course#</th>
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**GENERAL EDUCATION COURSES: 34 CREDITS**

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**Typical Course Sequence for Computer Engineering Technology (AS)**

**FIRST SEMESTER**
- EE101 Intro. to Electro-Mechanical Systems
- EE110 DC Circuits
- EE131 Digital Principles
- EN130 College Composition I
- MA120 College Algebra and Trigonometry

**SECOND SEMESTER**
- CT143 Introduction to Programming Logic and C++
- EE113 AC Circuits
- EE122 Electronics I
- EN140 College Composition II
- MA130 Pre-Calculus

**THIRD SEMESTER**
- CT261 Data Communications & Networking
- EE223 Electronics II
- EN320 Technical Communications
- MA240 Calculus I
- PH215 Physics Lab I
- PH222 University Physics I

**FOURTH SEMESTER**
- CT263 Applied Networking
- EE240 Embedded Processors
- HU/SS Elective
- MA250 Calculus II
- PH223 University Physics II
- PH225 Physics Lab II
Electrical Technology

The Electrical Technology program prepares students for a variety of choices in the electrical field. From the designing of construction projects in residential, commercial, and industrial areas to the completion of these projects, students experience all phases of an electrical project. A ten-hour OSHA course provides students with an understanding of job site safety. Students are awarded hours by the Board of Electricians towards the requirement of education that is needed for licensure as a Journeyman Electrician.

Experienced personnel in the trades, as well as state regulators, such as the Board of Electricians and the Division of Apprentice Training, assures that the program is aggressive and ever-changing, with new methods and technology. In addition, our material is constantly updated to conform to the National Electrical Code, which changes every three years. Graduates of our program have many entry level career options in the electrical industry including a direct pathway toward obtaining a Journeyman Electrician license, electrical contractor, and electrical support positions such as estimator, product sales representative, and designer.

Curriculum

The curriculum is structured to provide educational hours in both the classroom and laboratory setting. Students are offered a broad range of courses in the electrical field. Some of these courses include: DC and AC Circuit Theory, electrical design and layout, electrical machinery, photovoltaics and renewable energy, and low voltage systems and controls. Laboratory projects accompany most classes.

Facilities

The Electrical Department has three laboratories, which are equipped to provide students ample and meaningful hands-on experience in the electrical field.

The three labs provide students with the opportunity to learn the basics of wiring, as well as the proper methods of application to the many theoretical principles of motors, transformers, and renewable energies.

Outcomes

Upon successful completion of the Associate Degree in Electrical Technology, the graduate will be able to:

- Comprehend and utilize current Electrical Industry Standards, including the National Electrical Code (NFPA 70), Massachusetts Electrical Code (527 CMR 12.00), and Standards for Electrical Safety in the Workplace (NFPA 70E).
- Identify and install electrical devices and equipment, utilizing a variety of wiring methods and practicing safe work habits.
- Design, analyze and install various electrical circuits and diagrams related to residential, commercial, and industrial applications.
- Perform electrical calculations, including Ohm’s law, wire sizing, branch-circuit overcurrent protection sizing, voltage drop, and residential service entrance.
- Design, analyze, and troubleshoot motor circuits and motor controls.
- Understand the need for renewable energies and evaluate alternative energy technologies.
- Demonstrate effective and professional, written and verbal communication

Faculty

Tracey Arvin, Chair
Instructor Staff: Ronald Dion, Charles Palmieri
**Degree Requirements: Electrical Technology**

**TECHNICAL COURSES: 42 CREDITS**

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**GENERAL STUDIES COURSES: 25 CREDITS**

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**Typical Course Sequence for Electrical Technology**

**SEMESTER 1**

- EL090 OSHA 10-hour Construction
- EL110 Circuit Theory I (DC)
- EL127 Design & Layout I/ NEC I
- EN130 College Composition I
- MA105 Technical Math I

**SEMESTER 2**

- EL129 Design & Layout II/ NEC II
- EL213 Circuit Theory II (AC)
- EN140 College Composition II
- MA120 Algebra & Trigonometry

**SEMESTER 3**

- EL214 Low Voltage Sys & Controls
- EL222 Design & Layout III/ NEC III
- EL240 Electrical Machinery I
- HU/SS Elective
- TS 201 Environmental Science

**SEMESTER 4**

- EL229 Design & Layout IV/ NEC IV
- EL241 Electrical Machinery II
- EL243 Photovoltaics & Renewable Energy
- HU/SS Elective
- PH201 Physics for Electrical Technology
- PH204 Physics Lab
Electronic Engineering Technology (AS)

The field of Electronic Engineering Technology involves testing, troubleshooting, repairing, or installing a variety of electronic printed circuit boards or systems. Graduates are electronic technicians that may perform a broad range of tasks for manufacturing companies or providers of telephone or data networks. An electronic technician generally works under the supervision of engineers and may support design engineers developing a new product by assembling prototypes and testing them to verify their operation. Or the technician may be in the manufacturing department and test and repair products. They also may repair customer products, provide technical support to customers, or assist the sales organization with technical support. Datacom and telecom companies employ electronic technicians to install and maintain their networks. Technicians are hands-on practitioners who know how to apply algebra and trigonometry to real-life problems, or run computer simulations to analyze circuits.

To advance in these careers, it is also important to develop skills in communicating the problems, ideas and solutions to others in the company. Those graduates in departments, which interface with customers, must also develop people skills. Many graduates choose to continue their education and are accepted into Electronic Technology programs leading to the Bachelor of Science degree. Articulation agreements are in place with Wentworth Institute of Technology and University of Massachusetts Dartmouth. Alternatively, a graduate could choose to pursue a degree in business, acquiring both technical and business skills. Others who choose to enter the workforce are employed by companies producing consumer products, medical device manufacturers, technology for other companies, defense contractors, or network providers.

Curriculum

The curriculum is structured to provide a broad education, with students taking courses in each of the recognized areas of analog circuits, digital circuits, processors, writing skills, presentation skills, algebra, trigonometry, and elementary calculus, computer application skills, programming skills, and problem solving skills. Typically the electronics courses are three hours of lecture and two hours of laboratory work, reinforcing concepts and principles taught in the classroom and providing extensive hands-on education.

Facilities

The electronics laboratory is equipped to provide students ample and meaningful hands-on experience in breadboarding, testing, schematic capture, and simulation of analog and digital circuits. Students will typically spend four hours a week in the laboratory, confirming that the lecture material works in real life and is not unproven theory. Students follow the laboratory experiment with a report where the results are analyzed and discussed. In the laboratory, the students learn how to use standard test equipment to build circuits, create schematics, and test circuits using standard laboratory test equipment.

Outcomes

By the time of graduation, the Electronic Engineering Technology graduate will be able to:

1. Analyze or troubleshoot in three major electronic engineering areas: Analog Circuits, Digital Circuits, and Processors.
2. Recognize and apply fundamental knowledge of mathematics, especially algebra and trigonometry.
3. Conduct experiments in teams, building or breadboarding, using basic test equipment and tools to measure performance, and to critically analyze and interpret data.
4. Effectively communicate either technical observations, results, issues, and successes or negotiate a change in design or procedure.
5. Apply computer skills for preparing technical documents or analyzing data: using applications for word processing, spreadsheets, simple programming, schematic capture, and simulation.
6. Calculate costs.
7. Read manuals and schematics and identify components on a printed wiring board.
8. Apply proper laboratory procedures.

Faculty

James Giunarra, Chair
Instructor Staff: Patrick Hoffman, Moshgan Hosseinpour, Richard Le Blanc
### Degree Requirements for Electronic Engineering Technology (AS)

#### TECHNICAL COURSES: 39 CREDITS

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#### GENERAL EDUCATION COURSES: 34 CREDITS

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#### Typical Course Sequence for Electronic Engineering Technology (AS)

**SEMESTER 1**
- EE101 Intro to Electro-Mechanical Systems
- EE110 DC Circuits
- EE131 Digital Principles
- EN130 College Composition I
- MA120 College Algebra and Trigonometry

**SEMESTER 2**
- CT143 Introduction to Programming Logic and C++
- EE113 AC Circuits
- EE122 Electronics I
- EN140 College Composition II
- MA130 Pre-Calculus

**SEMESTER 3**
- EE223 Electronics II
- EE235 Programmable Logic
- EN320 Technical Communications
- MA240 Calculus I
- PH215 Physics Lab I
- PH222 University Physics I

**SEMESTER 4**
- EE240 Embedded Processors
- EE250 Electronic Communications
- HU/SS Elective
- MA250 Calculus II
- PH223 University Physics II
- PH225 Physics Lab II
Medical Electronics Engineering Technology (Biomedical) (AS)

Medical Electronics Engineering Technology appeals to students desiring to be technical, and, at the same time, devote their careers to saving lives by helping doctors, nurses and hospital patients. Graduates become biomedical technicians and maintain, repair, and calibrate the electronic medical instruments used in healthcare. To advance in these careers, it is also important to develop skills in communicating problems, ideas and solutions to other employees.

This program will develop troubleshooting skills in analog circuits, digital circuits, and processors. In addition, they must understand physiology, medical terminology and the operation of medical instruments such as EKG instruments, defibrillators, and incubators.

In the workforce, graduates are typically employed by hospitals or a subcontractor for a hospital. Some graduates are employed by manufacturers of medical instruments or medical devices, or as field support technicians, after earning experience in the field. Although this program’s primary objective is workforce development, some graduates choose to continue their education and are accepted into Electronic Technology bachelor degree programs. Others pursue a degree in business, or continue their education in clinical programs. However, students intending to continue full-time education toward a bachelor’s degree in engineering technology are encouraged to consider the Electronic Engineering Technology Program.

Curriculum

The curriculum is structured to provide a broad education, with students taking courses in each of the recognized areas of analog circuits, digital circuits, processor circuits and programming, writing skills, presentation skills, algebra and trigonometry. Typically, the electronics courses are three hours of lecture and two hours of laboratory work, reinforcing concepts and principles taught in the classroom and providing extensive hands-on education. The freshman year is identical to the Electronic Engineering Technology program and transfer between the two programs is easy during the first year.

Facilities

The electronics laboratory is equipped to provide students ample and meaningful hands-on experience in breadboarding, testing, and schematic capture. Students will typically spend four hours a week in the laboratory, confirming that the lecture material works in real life and is not unproven theory. Second year students will be trained on the theory and operation of the medical instruments in late afternoon and evening courses at a local medical facility, and will also have an internship at a local hospital during their last Semester.

Program Outcomes

By the time of graduation, the Medical Electronic Engineering Technology graduate will be able to:

1. Perform periodic maintenance or troubleshoot medical electronic instruments and devices.
2. Recognize and apply fundamental knowledge of mathematics.
3. Conduct experiments in teams, building or breadboarding, using basic test equipment and tools to measure performance, and to critically analyze and interpret data.
4. Effectively communicate either technical observations, results, issues, and successes or negotiate a change in design or procedure.
5. Apply computer skills for preparing technical documents or analyzing data, using applications for word processing, spreadsheets, simple programming, schematic capture, and simulation.
6. Calculate costs.
7. Read manuals and schematics and identify components in systems.

Faculty

James Giumarra, Chair
Instructor Staff: Patrick Hoffman, Mozghan Hosseinpour, Richard Le Blanc
Adjunct Instructors: Barry Hammel, Bill Purtell, Shawn Trainor, Patricia Volpe, Brian Baril
**Degree Requirements: Medical Electronics Engineering Technology (AS)**

**TECHNICAL COURSES: 47 CREDITS**

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**Typical Course Sequence for Medical Electronics Engineering Technology (AS)**

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**Note:** For the best position to enter the workplace, the recommended sequence to end the program is MD223, MD225, and MD242.
Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC&R)

Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC&R) is rated by the U.S. Department of Labor as one of the fastest growing job areas in the country. There are excellent employment opportunities available, both locally and nationally, for graduates of certificate programs.

This nine-month, 800-hour, full-time day or evening certificate program is designed to provide students with the knowledge and hands-on skills to become successful HVAC&R technicians. HVAC&R technicians work for heating and cooling contractors, refrigeration and air conditioning service and repair shops, schools, hospitals, office buildings, a variety of industries, and local, state or federal governments.

Under the supervision of a licensed technician, the HVAC&R apprentices help with the installation, troubleshooting, diagnosis and repair of equipment. Upon successful completion of the program, students are credited with 2000 hours towards the requirement to sit for the Refrigeration Technician Examination. Today’s HVAC&R Technician needs to be EPA certified. BFIT’s HVAC&R program provides test preparation for the EPA certification. In addition, we also offer an R-410 A certificate and 10-hour OSHA Safety certificate, upon successful completion. Also, this program offers 150 hours of electrical code needed for state licensure.

This program follows all federal regulations regarding gainful employment.

Curriculum
The course curriculum is structured to provide a basic knowledge of the refrigeration, air conditioning, and heating fields. Core courses in the first semester cover topics such as: refrigeration and heating principles, electricity for HVAC&R, safety in the HVAC&R field, and use of HVAC&R tools and equipment. An EPA course covering the reclamation and recycling of refrigerant completes the first semester. In the second semester of the program, students concentrate on commercial and industrial refrigeration, air conditioning and testing. This semester also covers heating, including oil and gas-fired units, and forced hot air and hydronic systems.

Facilities
The Benjamin Franklin Institute of Technology maintains a HVAC&R laboratory with two Hampden Engineering Trainers. HVAC&R Lab equipment gives students real world hands-on training on commercial refrigeration and air conditioning and also on oil and gas-fired burners. The HVAC&R Lab contains a wide variety of tools and equipment used in the heating and ventilation industry.

Outcomes
Upon successful completion of the HVAC&R Certificate, the graduate will be able to:

- Demonstrate the principles of refrigeration and air conditioning.
- Identify principles of different refrigerants and their temperature pressure relationships.
- Demonstrate a knowledge of refrigeration and air conditioning components, including compressors, evaporators, metering devices and condensers.
- Implement proper charging of refrigeration and air conditioning systems and proper leak protection methods.
- Solder and braze pipes and fittings.
- Test pressure and detect leaks.
- Recover, reclaim and recycle refrigerant in accordance with EPA and Mass. Dept. of Public Safety guidelines.
- Flare and swage tubing.
- Troubleshoot electrical and mechanical malfunctions of commercial and domestic units.
- Use HVAC&R tools and measuring devices effectively.

Certificate Requirements for HVAC&R Technology

<table>
<thead>
<tr>
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<td>Electrical Codes &amp; Schematics</td>
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</table>
The HVAC&R program is also offered during the evening for students who are unable to study during the day. Students in the HVAC&R evening program study Monday through Thursday. The program normally begins in January and concludes the following August. Information about the course schedule for the HVAC&R evening program is available through the BFIT Admissions Office.

faculty
Donald Broza, Department Chair
Instructor Staff: Gerard Geffrard, David Hogan, Sal Lentini, Henry Valentini
Mechanical Engineering Technology (AS)

The objective of the Mechanical Engineering Technology program is to prepare its graduates both for immediate employment as technicians and for further study at the Bachelor’s level in Mechanical Engineering Technology. This program keeps a close connection with industry. Its Industrial Advisory Committee, consisting of mechanical engineering and mechanical engineering technology professionals in Greater Boston and New England, meets periodically to evaluate the objectives, curriculum, and course content, to keep the program updated and practical.

With a strong foundation in manufacturing processes and CAD (SolidWorks), graduates of the Mechanical Engineering Technology program are prepared for employment as Machinists, Mechanical Designers, Design Drafters, Assistant Mechanical Engineers, Engineering Research Assistants, Mechanical Engineering Associates, Manufacturer’s Representatives, Specifications and Technical Specialists, etc. Those students who have successfully completed Calculus II and University Physics I and II are prepared with a solid and sound academic foundation to transfer to a four-year college or university to pursue a Bachelor’s Degree in Mechanical Engineering or Mechanical Engineering Technology. Articulation agreements are in place with Wentworth Institute of Technology and University of Massachusetts Dartmouth.

Curriculum
The Mechanical Engineering Technology Program includes fundamental and advanced courses in statics, materials, thermodynamics, CAD with SolidWorks, machine design with 3-D solid modeling design, manufacturing processes, and CNC machine programming.

Four semesters of mathematics are required for graduation. Students will be placed in an appropriate math course, based on math skills assessment. It is recommended that students, planning to transfer to an upper division university, take math through Calculus II and University Physics I and II.

Humanities, social sciences, and English courses comprise part of the curriculum to ensure the graduates possess broader social visions and proficient and effective communication skills.

Facilities
The Mechanical Engineering Technology Department maintains a CAD (SolidWorks) classroom, a fabrication and material testing laboratory that includes CNC machines, robotics, casting equipment and an assortment of hand tools and measuring equipment.

Outcomes
Upon successful completion of the Associate Degree in Mechanical Engineering Technology, the graduate will be able to:

- Utilize SolidWorks to manufacture engineering drawings and to analyze interference fits and tolerances.
- Program and operate CNC equipment in an industrial environment.
- Understand manufacturing processes and their uses in industry.
- Design and build products and equipment for a changing technical environment.
- Demonstrate a knowledge of mathematics and the ability to apply this knowledge as practiced in Materials, Statics, Physics and Thermodynamics.
- Effectively communicate technical observations, results, issues and successes in both oral and written form.
- Demonstrate the fundamental skills necessary for continuing their education towards a bachelor’s degree in mechanical engineering technology or related fields.
- Understand professional, ethical and social responsibilities.
- Work effectively in a team-oriented/project-focused work environment.

Faculty
TBA, Chair
Instructor Staff: Roy Garber, David Post
## Degree Requirements: Mechanical Engineering Technology (AS)

### TECHNICAL COURSES: 37 CREDITS

<table>
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<tr>
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<td>Manufacturing Processing &amp; CNC</td>
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### GENERAL EDUCATION COURSES: 34 CREDITS

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## Typical Course Sequence for Mechanical Engineering Technology

### SEMESTER 1
- EN130 College Composition I
- MA120 College Algebra and Trigonometry
- ME105 CAD with SolidWorks
- ME150 Introduction to Manufacturing

### SEMESTER 2
- EN140 College Composition II
- HU/SS Elective
- MA130 Pre-Calculus
- ME106 Advanced CAD
- ME141 Materials
- ME151 Manufacturing Processing & CNC

### SEMESTER 3
- HU/SS Elective
- MA240 Calculus I
- ME110 Statics
- ME252 Thermodynamics
- PH215 Physics Lab I
- PH222 University Physics I

### SEMESTER 4
- EE214 Electricity and Electronics
- MA250 Calculus II
- ME240 Machine Design with SolidWorks
- ME250 Advanced Manufacturing & CNC
- PH223 University Physics II
- PH225 Physics Lab II
The Benjamin Franklin Institute of Technology, in keeping with its mission to educate students in technology that will allow them to build careers that are fulfilling both financially and professionally, is very excited to offer a two-year Associate in Science Degree (A.S.) in Opticianry.

The Opticianry program is fully supported by the Opticians Association of Massachusetts. It is nationally recognized and the only program of its kind in Massachusetts, and one of only a few in all of New England.

The Opticianry program serves as the educational gateway for students of all ages, including adult learners and apprentice opticians. With a vibrant optical industry and continued need for qualified eye care professionals, there exists a tremendous opportunity for technically skilled and highly knowledgeable opticians.

The optical industry is experiencing tremendous growth, as well as expanded regulations and increasing requirements for becoming a licensed optician in Massachusetts.

The curriculum is designed to prepare the graduate to meet both the requirements for licensing in all states, including national and local certification exams and practical tests, as well as for entry into the profession of opticianry itself. Upon graduation, the student will be well versed and knowledgeable in all facets of opticianry, including spectacle design, fitting and dispensing, contact lens design and fitting, prescription and non-prescription fabrication and manufacturing, and special application optics.

The optical profession itself offers great diversity and versatility. Graduates will be able to work in many different environments ranging from HMO/medical offices to retail/ high fashion optical boutiques, corporate and chain optical conglomerates to independent ownership. Graduates will be well versed in all aspects of optics as it relates to opticianry. Graduates will be qualified for positions involving spectacle design and dispensing, contact lens design and dispensing, optical laboratory finishing and management, optical business management or independent ownership. Many graduates of the opticianry program seek advanced degrees and/or certification related to business, management, ophthalmic technology and health care management.

Curriculum
The two-year curriculum is comprehensive in design and has been modeled after opticianry accredited programs from across the country. As a member of the National Federation of Opticianry Schools (NFOS), the comprehensive curriculum is reviewed each year at the annual meeting.

Facilities
The college facilities include three dedicated classrooms for the opticianry program; a spectacle finishing lab, a contact lens fitting and dispensing clinic, and a prototype optical shop. The optical shop is open regular hours during the academic year and is operated by the opticianry students under the direct supervision of a licensed optician in order to serve the eyecare needs of the college community.

The finishing lab provides students with the opportunity to learn prescription spectacle fabrication, both as individual work projects and assignments, as well as the capability for conversion to a simulated high capacity wholesale optical laboratory.

The contact lens clinic serves as a model “working environment classroom”. The contact lens lab provides the student an opportunity to work with contact lens related devices and instrumentation. In addition, the dispensing and fitting aspects of the laboratory will allow opportunities for contact lens related instruction and actual patient care.

Program Mission
The Opticianry program at Benjamin Franklin Institute of Technology prepares students for national certification, regional licensure, and a career as an optician.

Program Goals
The associate degree program in Opticianry will:

- Prepare students to complete successfully the American Board of Opticianry Examination, the National Contact Lens Examination, and the requirements for licensing in any state;
- Promote the highest technical and ethical standards in the practice and delivery of professional patient care;
- Provide students the opportunity to excel in all aspects of opticianry related to academic and practical knowledge, technical skill and professional level competence;
- Promote inter-disciplinary and cooperative patient care concepts in order to take advantage of the strengths of optometry and opticianry in solving patients’ vision care concerns and issues;
- Practice global awareness and ethical responsibility, fostering in students a commitment to civic engagement & volunteerism, leadership, and life-long learning through community-based learning projects and involvement with professional organizations, events and associations; and
- Seek to eliminate hazardous waste and to reduce non-hazardous waste to the minimum levels economically and technically practical, and to be in full-compliance with all federal and state environmental regulations.
Program Learning Objectives
Upon successful completion of the degree, students will be able to perform the following professional responsibilities:

- Based upon a patient’s prescription, vision needs and lifestyle and desires, visualize and design appropriate solutions pertaining to prescription glasses and/or contact lenses.
- Design, fit and dispense prescription glasses and contact lenses
- Utilize and operate all forms of ophthalmic devices and instrumentation including keratometers, lenometers, biomicroscopes, corneal topographers, pupilometers and digital image measuring devices.
- Utilize and operate all finishing lab equipment including edgers, heat treating units, safety beveling units, drop ball testing, chemical treating units, blocking and layout devices and rimless edging devices.
- Inspect and verify spectacle and contact lenses for optical precision, proper and comfortable fit, and proper aesthetics.
- Evaluate and troubleshoot patient’s concerns and symptoms as they are related to the eyeglasses and contact lenses.
- Professionally and academically express optical technical skills and knowledge, both in an exam scenario, as well as in a clinical environment.

Faculty
Department Chair: Blair Wong
Faculty: George Bourque, Director - Optical Lab
          John Deering, Director - Contact Lenses
          Evangelina Laboy, Opticianry Service Lab
          Kathryn Plante, Optical Clinic Director

Degree Requirements: Opticianry

TECHNICAL COURSES: 47 CREDITS

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<tr>
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GENERAL EDUCATION REQUIREMENTS: 21 CREDITS

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### Typical Course Sequence for Opticianry

#### SEMESTER 1
- **EN130**  College Composition I
- **MA105**  Technical Math
- **OP105**  Anatomy and Physiology of the Eye
- **OP110**  Ophthalmic Optics I
- **OP115**  Principles and Practices in Opticianry I
- **OP122/123**  Ophthalmic Design & Dispensing I/Lab

#### SEMESTER 2
- **EN140**  College Composition II
- **HU/SS**  Elective
- **MA107**  Optical Math
- **OP120**  Ophthalmic Optics II
- **OP125**  Principles and Practices in Opticianry II
- **OP232/233**  Ophthalmic Design & Dispensing II/Lab

#### SEMESTER 3
- **BS201**  Small Business Management
- **HU/SS**  Elective
- **OP230/231**  Contact Lens Theory I/Lab
- **OP235**  Principles and Practices in Opticianry III
- **OP281**  Opticianry Technical Skills & Service Lab I

#### SEMESTER 4
- **HU/SS**  Elective
- **OP128**  Low Vision Dispensing
- **OP240/241**  Contact Lens Theory II/Lab
- **OP243**  Principles and Practices in Opticianry IV
- **OP245**  Vision Assessment
- **OP282**  Opticianry Technical Skills & Service Lab II
Ophthalmic Assisting, One Year Certificate

The Benjamin Franklin Institute of Technology, in keeping with its mission to educate students in technology that will allow them to build careers that are fulfilling both financially and professionally, is very excited to offer a one-year certificate program in Ophthalmic Assisting.

The Ophthalmic Assisting program is supported by members of the Massachusetts Board of Eye Physicians and Surgeons. It is a unique program in that it offers a full one-year certificate curriculum and combines didactic academic studies with clinical experience within many of the most prestigious eye health medical centers in the Boston area.

The Ophthalmic Assisting program serves as the educational gateway for students of all ages, including adult learners and medical assistants. With a vibrant eye health medical profession, and continued need for qualified and skilled eye care professionals, there exists a tremendous opportunity for technically skilled and highly knowledgeable ophthalmic assistants.

Medical Assisting is projected to be one of the fastest-growing fields, especially for those with formal training or experience, along with certification. One branch of medical assisting, Ophthalmic Assisting, is an exciting field with numerous opportunities for personal and professional growth.

Graduates of the program will be able to provide and care for patients, while assisting ophthalmologists and optometrists in providing quality medical eye care. Students entering this field will learn valuable skills such as taking a patient’s medical history, doing diagnostic tests on patients, assisting during in-office procedures, and maintaining examination, diagnostic and surgical instruments and devices.

BFITT’s curriculum is designed to prepare students for entry into the field of ophthalmic assisting with a combination of classroom instruction and hands-on experience. Graduates of the program will be qualified to work in many different environments, ranging from private practices and multi-specialty clinics to academic practices that include research.

Personal qualifications for working as an Ophthalmic Assistant include enjoying helping people, having a desire for a career that supports professional growth and development, having an interest in working with technology, equipment, and computers, having a fascination for the medical world and having a desire to work in a professional setting that offers something different and exciting every day.

Graduates will have a foundation of knowledge and hands-on clinical skills that will prepare them for the certifying exams once they have completed the qualifying home study test and a minimum of six months full time work under a licensed ophthalmologist. Many of today’s senior-level technicians have advanced to higher levels of the profession and have attained even higher salaries. Employment opportunities include positions in private practice, multi-specialty clinics and academic practices, including research work. Many graduates find careers as Ophthalmic Technicians or seek advanced degrees in healthcare management or in business. This program follows all federal regulations regarding gainful employment.

Curriculum

The one-year curriculum is comprehensive in design and has been modeled after Ophthalmic assisting accredited programs from across the country.

Facilities

The college facilities include a “state-of-the-art” refracting lane, as well as an instrumentation laboratory.

Hands-on laboratory and clinical observations will be conducted at nearby Boston area Ophthalmology practices, allowing students the opportunity to learn their skills and technical knowledge, using the most advanced diagnostic instrumentation available to eye health professionals.

Program Goals

Ophthalmic Assistants provide support services to the Ophthalmologist.

The Ophthalmic Assistant is an important member of the eye care team, supplying vital information to the physician who is treating the patient. Upon successful completion of the Ophthalmic Assisting program, the student will be able to:

- Take a general medical and ophthalmic history.
- Take basic anatomical and functional measurements.
- Test ocular functions (e.g. visual acuity and basic color vision tests).
- Verify eyeglass prescriptions.
- Administer topical ophthalmic medications under physician direction.
- Instruct the patient in personal eye care.
- Care for and maintain ophthalmic instruments and equipment.
- Care for, maintain, and sterilize surgical instruments.
**Faculty**
Department Chair: Blair Wong, LDO, ABOM, M.Ed.
Faculty: Ellen Adams, John Bell, Ashley Briot, Patricia Healy, Christine, Kiernan, Karen Murphy, Carolyn Shea, Jane Shulman, Jennifer Tourtellot, Sharon Weihrausch, Darlene Winn

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**Certificate Requirements: Ophthalmic Assisting**

**GENERAL EDUCATION REQUIREMENTS: NONE**

**TECHNICAL COURSES: 29 CREDITS**

**FIRST SEMESTER, 14 CREDITS**

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<td>OA113</td>
<td>Instrumentation I</td>
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<td>2</td>
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<tr>
<td>OA114</td>
<td>Medical Ethics, Legal &amp; Regulatory</td>
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<td>Medical Terminology &amp; Knowledge I</td>
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<td>Professional Observation</td>
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<td>OA118</td>
<td>Ophthalmic Patient Services &amp; Edu. I</td>
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<tr>
<td>OA119</td>
<td>Visual Fields &amp; Assessment</td>
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**SECOND SEMESTER, 15 CREDITS**

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<td>OA130</td>
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<td>OA131</td>
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<td>OA137</td>
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Department of Academic Development

Students enter the Benjamin Franklin Institute of Technology with varying levels of academic preparation. We feel it is important for all students to begin their major studies at BFIT on the same academic level so that everyone has an equal opportunity to make the most of their education. The Department of Academic Development offers a range of courses for students needing additional preparation for the rigorous academics required in the pursuit of a college degree at BFIT. Courses focus on the specific academic skills and content required for each individual’s success in the engineering and industrial technologies.

Depending on placement and performance, a student may need one or more additional semesters of course work in order to complete the requirements for an Associate degree. In order to continue the student’s major course of study, the following criteria must be met: passing grades in all courses, grades of C or better in all mathematics and language courses, satisfactory completion of course requirements, and instructor recommendations.

Each student’s course of study will be customized to address the individual’s strengths and needs.

Curriculum

Academic Development courses are designed to build the skills necessary for more advanced study in mathematics, technology, language acquisition, communication, reading and writing.

Since the assimilation of basic math skills is central to success in technology studies, students needing to develop their math skills will begin their technical studies upon successful completion of their foundational math courses. Students needing extensive work on their language skills will successfully complete ENO90 and/or ENO91. Students learn how to employ effective communication skills by taking either EN110 or EN112.

Samples of Typical Course Schedules

STUDENTS NEEDING DEVELOPMENTAL MATH AND DEVELOPMENTAL LANGUAGE:

<table>
<thead>
<tr>
<th>Course #</th>
<th>Course Title</th>
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<tr>
<td>EN110</td>
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<tr>
<td>EN112</td>
<td>Introduction to Professional Communication</td>
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STUDENTS NEEDING DEVELOPMENTAL MATH ONLY:

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STUDENTS NEEDING DEVELOPMENTAL LANGUAGE ONLY:

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<tr>
<td>MA105/120</td>
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Placed in ENO91

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* denotes graduation credits
Outcomes
Upon successful completion of the Academic Development courses, the student will be able to:

- Demonstrate proficiency in the basic concepts of algebra.
- Demonstrate proficiency in basic reading skills and writing conventions and be capable of addressing increasingly complex academic writing tasks.
- Employ effective communications skills in a variety of academic and professional settings, while working in teams and individually.
- Employ efficient study skills, note-taking, and critical thinking.

Faculty
Tanya Rogers, Chair
Instructor Staff: Tiffany Probasco, Jonathan Harris, Heather Jacob
Humanities and Social Sciences

The Department of Humanities and Social Sciences provides a means for exploring human experience and is dedicated to the growth and support of the educated student. It provides a core curriculum that promotes effective communication skills, critical thinking, teamwork, information literacy, professionalism, ethical decision-making, and negotiation skills. Through study in these courses, students gain historical, cultural, social and global awareness, thereby challenging the intellect and instilling a basis for lifelong learning.

Curriculum

The Humanities and Social Sciences curriculum provides 12 to 15 credits of courses for each technical degree program. All Humanities and Social Science courses require students to write, read, research, and to participate in discussions, group projects, and presentations. All of these skills are necessary ingredients for the successful student in any technical program, higher education, or in the workforce.

Two standard three-credit English courses, EN130 College Composition I, and EN140 College Composition II, are required for all degree students in the first two semesters. The goal of these writing courses is to develop cognitive, as well as effective written and oral communication skills, which are supported and advanced by the technical programs. Students are expected to become independent writers, thinkers, and researchers by evaluating and assessing their own approaches and processes.

The department also offers many elective courses to satisfy the remaining 6 to 9 credits required. While the electives are designed to promote lifelong learning, these courses also build on the critical thinking, reading, and writing practiced in College Composition I and II. Throughout all courses, the department aims to instill a sense of professionalism, as well as socio-cultural and ethical awareness.

Outcomes

Upon successful completion of the courses in the Department of Humanities and Social Sciences, the student will be able to:

- Demonstrate the ability to communicate effectively in various contexts, including personal and professional.
- Use information literacy, critical reading and thinking skills for professional and lifelong learning.
- Contribute effectively to a team with strong communication and sound negotiation skills.
- Express an awareness of historical, socio-cultural, global, and ethical issues.

Faculty

Jackie Cornog, Chair; Jeff Van Dreason, Co-Chair
Instructor Staff: Brian Bicknell, Sharon Bonk, Alexander Danner, Brittanie Greco, Michael Grigelevich, Kathleen Keleher
Mathematics And Physics

Mathematics and Physics are the foundation for any technical discipline. Being successful in technology requires understanding mathematical theory and the ability to apply the concepts to familiar situations and newly encountered problems. Physics introduces the fundamental laws and principles that govern virtually everything around us. Studying math and physics promotes critical reasoning, creative thinking, and logical analysis, which are central skills in the classroom and in life. The Math and Physics Department at BFIT places an emphasis on problem solving, using practical everyday problems related to the Industrial and Engineering Technologies. A variety of strategies are used to present the material effectively to a highly diverse body of students.

Curriculum

The mathematics curriculum at BFIT is designed to provide a solid foundation in mathematics through a range of course offerings relevant to the technical degree programs. Each degree program at BFIT requires at least two semesters of college math that emphasize building a strong foundation of mathematics knowledge. Many programs require additional math courses, where students expand on their foundational knowledge and explore additional technical applications. Engineering technology programs require students to complete the math sequence through Calculus II. Courses which can be typically be used for transfer if a student in the engineering technology programs wants to continue his or her studies upon completing an Associate’s Degree at the college. Different entry points into the math sequence are available depending on the student’s skill level. Refer to the section dedicated to the degree program of interest for specific degree requirements.

The Physics curriculum at BFIT is designed to provide an additional technical foundation in the student’s major as well as practical applications for mathematics. A physics lab with hands-on instruction is provided to reinforce topics covered in the classroom and to demonstrate that the governing laws of physics exist beyond the pages of the text. The physics requirement varies with each major; however, most students will take at least one semester of physics. Refer to the section dedicated to the degree program of interest for specific degree requirements.

Outcomes

Upon successful completion of the courses in the Department of Mathematics and Physics, the student will be able to:

- Solve math problems in a systematic and logical manner.
- Use critical reasoning skills for lifelong learning.
- Effectively apply math concepts to technical problems.
- Understand basic physical principles of the world around us.
- Apply physics to various situations inside and outside of the student’s field of study.

Faculty

James Johanson, Chair
Instructor Staff: Stella Fateh, Jonathan Harris, Teresa Lupia, Catherine Mount, David Post
AR100  INTRODUCTION TO ARCHITECTURAL DESIGN  4 CREDITS
The fundamental principles and practices of architecture and architectural drafting are presented in weekly lectures and are developed in the studio through a wide variety of graphics projects. Emphasis is placed on the core competencies of architecture and architectural practice and how they are used in an office setting.
Students will be required to purchase drafting tools and will be instructed on their proper use. This includes the development and understanding of proper lineweights in the creation of plans, elevations and sections, lettering skills, graphic symbols, dimensioning, sheet layout, geometric construction, isometrics, and orthographic projection.
Students will be introduced to basic skills and principles that are found in an architectural practice. This includes the proper handling of drawings, executing the construction of existing condition drawings through measurement and drafting, understanding measurement and scale, sketching and the proper use of trace as a drafting and design tool and the use and care of office machines (printers and copiers). (Offered in the fall and spring)

AR110  INTRODUCTION TO CAD  3 CREDITS
Through lectures and hands-on laboratory sessions students will be introduced to the use of computers for the production of drawings. Students will learn to create architectural drawings similar to those produced in an architectural office, using industry standards such as AutoCAD and National CAD Standard v5. CAD skills will include basic drawing, modifying and editing commands, and proper techniques for final presentation drawings. Students will learn these skills through the development of a project from plans to a 3d model.
At course end, students take a simulated AutoCAD assessment exam in order to demonstrate their proficiency in AutoCAD. (Offered in the fall and summer)

AR150  ARCHITECTURAL DESIGN I  4 CREDITS
Through lectures and hands-on studio sessions students are introduced to the fundamental theories and ordering principles of architectural design and how primary elements, forms and solids are used to construct architectural form and space. These fundamentals and the skills learned previously in AR100 will be reinforced through a variety of two- and three-dimensional design projects. Preliminary design influences such as contract implementation, the phases of an architectural project and the changes to integrated project delivery (IPD), site design and analysis; architectural programming; passive and active solar design; Zoning By-Laws and Building Codes and their impact on design and construction are all explored. Introduction of green rating systems and their impact as a voluntary rating system and their influence on building codes, design, construction, operation and maintenance of buildings will also be discussed. The use and development of graphic problem-solving, presentation and communication techniques are demonstrated and explored. Students study examples drawn from architectural history, including site visits to major buildings in the Greater Boston area. Prerequisite: A GPA of 2.0 in AR100 or a waiver from the department chair. (Offered in the spring and summer)

AR160  BUILDING CONSTRUCTION AND MATERIALS  4 CREDITS
Building Construction and Materials AR160 is a comprehensive study of building construction technology, which includes various building systems, the construction process and the materials used in those systems and processes. The study of the methods and techniques of material extraction, manufacturing assembly and installation are covered in depth. Students will learn about specific material’s properties, characteristics, and their combinations to form composite elements. The pre-construction process is studied including the roles of professionals such as regulatory agencies, the design team, the construction team, financing agencies, the owner, and the user. Professional industry entities dealing with building specifications such as the CSI (Construction Specifications Institute), their composition and organizational components such as Masterformat, Uniformat, Sectionformat, Pageformat, and Project Delivery are covered as well as green rating systems such as LEED (Leadership in Energy and Environmental Design) for new construction. The course also provides an overview of mechanical, electrical and plumbing systems found in a building. (Offered in the spring)

AR220  SUSTAINABLE BUILDINGS: DESIGN & CONSTRUCTION  3 CREDITS
Overview of the concept of sustainability (holistic living and building design that integrates solar concepts, energy efficiency, and material ecology) and its economic, political, and environmental consequences. Lecture and hands-on application focus on sustainable building practices, including design, specification, construction, lifecycle issues, LEED certification and other organizations. Exploration of the historical basis for the ideology of sustainability, its applications in today’s society. (Offered in the fall)

AR240  INTRODUCTION TO WORLD ARCHITECTURE  3 CREDITS
Through lectures, written assignments and analysis, students will develop an understanding of the driving social, environmental, material, and technological forces in world architecture from prehistory to post modernism. They will improve their skills of visual analysis and visual literacy, understand basic architectural typologies from varied cultures, and develop their ability to write and think critically.
The course will focus on the western tradition of architecture, which includes Egypt, Mesopotamia, Greece, Rome, Europe, and Islamic North Africa and Spain; but will also include "Non-Western" cultures of China, Japan, and Native America.
The course will be split into two parts: pre-history to Renaissance in the first half of the semester and Baroque to Post Modernism in the second half of the semester. The course is intended to bring the students to a historical awareness such that the student sees how the influence of historic precedent is all around them in their own built environment. (Offered in the fall and spring)
AR250 ENVIRONMENTAL SYSTEMS 4 CREDITS
The study of heating, ventilation, air conditioning, plumbing and electrical systems for facilities, both residential and commercial. Also included is the presentation of the basic principles found in vertical circulation, security, fire protection, noise control and room acoustics, energy sources, and green building design considerations. Field trips to area construction and building sites augment class studies. (Offered in the spring)

AR260 ARCHITECTURAL DESIGN II 4 CREDITS
The student is assigned a simulated light construction project — a single-family residence, for example — following it through successive stages. Initially, an analysis of the environmental factors influencing design is explored: cultural/historical, legal/economic and climatic. Each student then develops a program based on user/owner requirements and determines the design criteria and objectives for each project.

Using graphic diagrams as a means of testing ideas, students explore various spatial organizations and circulation patterns to develop a concept diagram. The concept is then further developed into schematic design drawings: floor plans, elevations and isometric drawings, through sketching and hand drafting. Students will then create design development documents using AutoCAD software. The selection of materials and technologies appropriate to the student’s project is developed individually in the studio. Prerequisite: A GPA of 2.0 in AR100, AR110 and AR150 or a waiver from the department chair. (Offered in the fall)

AR280 STATICS AND STRENGTH OF MATERIALS 4 CREDITS
Introduction to the basic fundamentals of statics and strength of materials relating to structural components of a building or structure. The principles of static equilibrium and free-body diagrams are applied to basic building structural elements and simple structural systems commonly found in buildings. The principles of stress, strain, and material properties are studied as they relate to materials commonly used in the building industry. Bending, shear, and deflections and associated stresses are investigated and used as design requirements. Prerequisite: MA120 and PH212. (Offered in the spring)

AT150 AUTOMOTIVE ENGINES 4 CREDITS
Lecture and laboratory covering designs, nomenclature, and operational theory of internal combustion engines. Includes valves and operating mechanism, piston and connecting rod assembly, crankshaft and bearings, lubrication system, crankcase ventilation, lubricants, and complete engine overhaul procedure. Laboratory practice and instruction in servicing engines. (Offered in the fall and spring)

AT170 ELECTRICITY AND ELECTRONICS 4 CREDITS
Fundamentals of electricity and magnetism. Topics include current, voltage and resistance; Ohm’s Law; series and parallel circuits; electric power; electromagnetic circuits; electrical measurement; electronic devices and circuits. (Offered in the fall and spring)

AT173 AUTOMOTIVE ELECTRICAL SYSTEMS 4 CREDITS
Operation, construction, and servicing of automotive electrical equipment including lighting circuits, ignition systems, cranking motors and controls, and alternator-regulator circuits. Prerequisite: AT170 (Offered in the spring and summer)

AT234 AUTOMOTIVE CHASSIS AND SUSPENSION SYSTEMS 3 CREDITS
This course is designed to teach students various automotive chassis and steering systems operation and repair. Students will learn chassis designs, alignment angles, including front and rear suspension systems. The student will also be taught steering gears, steering linkage and advanced level systems such as four wheel steering, electronic steering. Students will examine electronic suspension control systems, stability control systems and the proper diagnosis and repair of these systems. Prerequisites AT134 and AT173. (Offered in the fall)

AT244 AUTOMATIC TRANSMISSIONS 2 CREDITS
Continuation of AT241. Study of principles of operation, maintenance, and diagnosis of automatic transmissions. Prerequisite: AT241 and AT173 (Offered in the spring)

AT252 AIR CONDITIONING 2 CREDITS
This course is a comprehensive study of automotive cooling, heating, ventilation and air conditioning systems. Studies include topics on bodily comfort, heat and pressure, and temperature relationships. The course culminates with a study of computer controlled, dual-zone climate control systems.
AT253 AUTOMOTIVE LABORATORY I 4 CREDITS
Practical, hands-on garage experience is acquired in the automotive laboratories, including major service work on live vehicles and the operation of test instruments and other specialty diagnostic equipment. Students will apply the theory learned in the first-year automotive classes to become more proficient in the diagnosis of engines, electrical, suspension, steering, and brake systems. This practical experience incorporates strategy-based engine performance, emission failure diagnosis, and engine rebuilding and machining. Prerequisites: AT134, AT150, and AT173 (Offered in the fall)

AT254 AUTOMOTIVE LABORATORY II 4 CREDITS
Practical, hands-on garage experience is acquired in the automotive laboratories, including major service work on live vehicles and the operation of test instruments and other specialty diagnostic equipment. Prerequisite: AT 253 (Offered in the spring)

AT255 ALTERNATIVE FUELS 3 CREDITS
This course will concentrate on the theory, operation, and service of all alternative fuels and electric vehicles. The topics of study will be Hybrid Battery Service, Electric Motors, Generators, Regenerative Braking Systems, Hybrid Transmissions and Hybrid Heating and Air Conditioning. The lab component will secure all the theory taught in lecture. Prerequisite AT 259. (Offered in the fall and spring)

AT256 AUTOMOTIVE LAB-CERTIFICATE 3 CREDITS
This course will apply the theory learned in the first-year automotive classes to become more proficient in the diagnosis of engines, electrical, suspension, steering, and brake systems. This practical experience incorporates strategy-based engine performance, emission failure diagnosis, and engine rebuilding and machining. Prerequisites: AT134, AT150, and AT173

AT257 HYBRID SYSTEMS 3 CREDITS
Diagnosis and service procedures of Honda, Toyota, Lexus, Ford, Mercury, and General Motors vehicles. Fuel cell and advanced technologies. Hybrid vehicle diagnostic trouble codes. Internal combustion engine to all electric conversion will be lectured on along with vehicle conversion requirements, conformity, and certification. Student teams will locate and purchase through the college a suitable vehicle for electric conversion. This course will also focus on CNG and hybrid plug-in vehicles. Prerequisite: AT259. (Offered in the spring)

AT259 AUTOMOTIVE HYBRID SAFETY AND TECHNOLOGY 3 CREDITS
This course looks at the present use of automotive hybrid safety in the automotive industry, along with future technology. Topics covered are safety procedures and precautions that are required when repairing Battery Electric Vehicles, High Voltage Batteries, Hybrid Vehicles and Fuel cells. The lab portion focuses on safety, service, and maintenance of Hybrid Vehicles, Electric Vehicles and Bio Fuels vehicles. (Offered in the fall and spring)

AT271 ENGINE PERFORMANCE AND DIAGNOSIS I 4 CREDITS
This course applies the theory learned in AT150 Engines and AT170/173 Electricity to properly diagnose mechanical and electrical problems that affect drivability and emissions. Material includes current tune-up and maintenance procedures, the development of diagnostic routines, basic ignition diagnosis, on-vehicle electrical testing, volumetric efficiency theory and testing, turbocharger/supercharger theory and diagnosis, and On-Board Computer Diagnosis. Prerequisites: AT150 and AT173 (Offered in the fall)

AT274 ENGINE PERFORMANCE AND DIAGNOSIS II 4 CREDITS
This course builds on AT271, enabling students to understand the complexities of electronic engine management systems and how they affect drivability and emissions. Diagnosis topics include fuel systems theory, fuel injection systems, microprocessor theory and operation, Electronic Ignition Systems (E.I.S.), four- and five-gas analysis, emission failure, and On-Board Computer Diagnosis. Prerequisite: AT271 (Offered in the spring)

AT282 AUTOMOTIVE SERVICE ADVISING AND CUSTOMER RELATIONS 3 CREDITS
Topics of study include customer interviewing and complaint assessment, flat rate and hourly methods of payment and benefit packages. Case studies are presented and guest lecturers from industry are utilized to reinforce service-advising principles. (Offered in the spring)

AT373 ADVANCED ENGINE PERFORMANCE 3 CREDITS
An advanced level course which builds upon the basic computerized engine control diagnostic skills acquired in AT271, AT274, and the drivability clinic. Special emphasis is placed on oscilloscope pattern interpretation, serial data communications, database configurations and functional testing of major computerized engine control systems and subsystems. Prerequisite: AT274 (Offered in the fall)
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<td>AT481</td>
<td>AUTOMOTIVE MARKETING</td>
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<td>AT482</td>
<td>VEHICLE APPRAISAL</td>
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<td>AT483</td>
<td>COMPUTERS IN THE AUTOMOTIVE INDUSTRY</td>
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<td>AT485</td>
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<td>AT494</td>
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<td>BS201</td>
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<td>ADVANCED CONCEPTS IN INFORMATION LITERACY</td>
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<td>BS324</td>
<td>MANAGING ORGANIZATIONS</td>
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<td>BS332</td>
<td>FINANCIAL ACCOUNTING</td>
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<tr>
<td>BS334</td>
<td>BUSINESS LAW AND LEGISLATION</td>
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**AT474 ENHANCED EMISSIONS AND DRIVABILITY 3 CREDITS**
An advanced level of enhanced emissions and drivability diagnostics using dynamometer-based transient testing covering ASM 50/15, ASM 25/25 and RG-240 drive traces. This course also includes advanced On Board Diagnostics - Generation II (OBD II) and Controller Area Network (CAN) diagnostics. Students will become proficient in chassis dynamometer testing, 5-gas exhaust analysis, and scan tool data stream information and applications. (Offered in the spring)

**AT481 AUTOMOTIVE MARKETING 3 CREDITS**
Distribution and sale of automotive vehicles and related parts and accessories. Policies pertaining to wholesale and retail transactions, parts inventory and turnover, service sales, dealership personnel, and warranty. (Offered in the fall)

**AT482 VEHICLE APPRAISAL 3 CREDITS**
Instruction and practical application in the use of estimating manuals to produce reports for buying, selling and trading of vehicles, including damage appraisal. (Offered in the spring)

**AT483 COMPUTERS IN THE AUTOMOTIVE INDUSTRY 3 CREDITS**
Microcomputer applications of database, spreadsheet, and office management in the automotive industry. Specific automotive management packages which service an entire automotive enterprise including sales, parts and inventory, and service will be covered. (Offered in the fall)

**AT485 SENIOR SEMINAR I 1 CREDIT**
The preliminary section of a two-part course of study that will explore research tools and methods utilizing virtual and physical library resources as well as Internet Meta-search tools. Skills acquired will allow students to develop individual research topics and hypothesis statements that will lead to the formal presentation of a Senior Research Project in AT 495. Prerequisites: BS312, EN320. (Offered in the fall)

**AT494 SERVICE MANAGEMENT 4 CREDITS**
Theory and practice of service management are explored, including OSHA laws, record keeping, productivity, efficiency, and profitability. (Offered in the spring)

**AT495 SENIOR SEMINAR II 3 CREDITS**
This concluding course expands on the topics previously developed and approved in AT 485. Students will have the opportunity to discuss, organize and refine their chosen projects. The culmination of this course will be the presentation of a formal written Senior Research Project. Prerequisite: AT 485 (Offered in the spring)

**BS201 SMALL BUSINESS MANAGEMENT 3 CREDITS**
This course introduces students to the fundamental practices of small business management. Topics will include basic business planning principles, inventory management, sources of funding for small businesses and marketing strategies. Content will focus on the risks and opportunities in the Opticianry Field. (Offered in the fall)

**BS311 MICROECONOMICS 3 CREDITS**
A broad introductory survey in which special attention is given to the role of economic principles in analyzing and understanding current economic problems. Emphasis is placed on the functioning of markets and on examining the behavior of individual economic units such as the business firm and the consumer. (Offered in the fall)

**BS312 ADVANCED CONCEPTS IN INFORMATION LITERACY 3 CREDITS**
This project-based course covers the process of information literacy; from determining information needs through evaluating, managing and disseminating information, by integrating academic research strategies with advanced applications of desktop software. Best practices for effective communication of information in multiple formats will be examined with emphasis on integrating software programs through merging, transferring and linking files. (Offered in the fall)

**BS324 MANAGING ORGANIZATIONS 3 CREDITS**
Examines theory, research, and practice in the management of organizations. Students learn to make use of analytical tools for recognizing, diagnosing, and acting on managerial problems related to organizations, to the objectives, and to the development of human resources. The course emphasizes topics at the macro level, such as organizational analysis and design, and at the micro level, such as managerial behavior, motivation, and interpersonal relations. (Offered in the spring)

**BS332 FINANCIAL ACCOUNTING 3 CREDITS**
Presents the theory and techniques of financial accounting. The course encompasses the basic functions of collecting, processing, and reporting accounting information for interested third parties (e.g., owners, investors, and government) and enables students to analyze, interpret, and use accounting information. (Offered in the spring)

**BS334 BUSINESS LAW AND LEGISLATION 3 CREDITS**
This course reviews the American legal system, organizational structures, and the regulatory environment pertinent to business. Critical examination is conducted regarding: business ethics; contracts; business associations (agency, partnerships, corporations); and other legal entities. (Offered in the spring)
BS431  MANAGEMENT ACCOUNTING  3 CREDITS
Presents the theory and technique of managerial accounting from the particular perspective of the manager. The course covers the identification and analysis of the behavior of costs within the organization, and illustrates how managers use such knowledge for planning and control. Major topics include responsibility accounting, comprehensive and cash budgeting, and standard job order and process cost systems. Prerequisite: BS332 (Offered in the fall)

BS432  PERSONNEL MANAGEMENT  3 CREDITS
Examines the role of the human resources manager in the areas of selection and placement; training and development; performance appraisal; wage, salary, and benefit programs; and labor-management relations. (Offered in the fall)

BT200  CONSTRUCTION DOCUMENT TECHNOLOGIES  4 CREDITS
This course develops the graphic skills and technical knowledge that are needed to communicate essential, detailed information to clients, builders/contractors, and consulting engineers. Emphasis is placed on the preparation of a complete set of working drawings for a single-family residence, using AutoCAD and Revit software. The methods and techniques of light wood frame construction in residential and commercial buildings are explored in depth. Sample specifications are studied and prepared by each student. Energy efficiency as required by codes and sustainable and green building practices will be emphasized in the development of the construction documents. The objective is to understand the purpose of contract drawings as a means of communicating design ideas to a builder/contractor and to expand and strengthen the student’s skills in the fundamental methods and techniques of light wood frame construction.

Also covered are the CSI Manual of Practice and Project Delivery Practice Guide as the basis of practice in building design, construction and facility operation and maintenance. Students will take a simulated assessment exam for Certified Document Technologist to demonstrate their understanding of the industry standard manual of practice. Prerequisites: A GPA of 2.0 in AR100, AR110 and AR150 or AR260 or a waiver from the department chair. (Offered in the fall)

BT270  BIM II  4 CREDITS
This course extends the content from BT210 BIM course, covering BIM in more detail through the use of Revit Architecture. Students will expand their knowledge of the tools of Revit Architecture and parametric modeling. Concepts to be studied include: user generated custom families, flexing parameters, rendering with custom materials, work sharing, detailing and documentation. Students will also use Revit Architecture in conjunction with their work in AR260 and use the software to produce a set of construction drawings. Students will also be exposed the use of Revit Structure, Revit MEP and Ecotec Analysis software.

At course end, students take a simulated Revit assessment exam in order to demonstrate their proficiency in Revit Architecture. Prerequisite: A GPA of 2.0 in AR110 and BT210 or a waiver from the department chair. (Offered in the spring)

CT111  COMPUTER CONCEPTS  4 CREDITS
This course presents a comprehensive look at computer architecture, including the system unit, memory, input/output and storage devices. Personal computers are utilized in a laboratory setting to provide students with hands-on exposure to hardware components. Students are introduced to the M/S Windows Operating System and how the hardware and software work together. An in-depth look at the motherboard, memory management and storage devices is included. Other topics include the application of M/S Word and Excel to prepare lab reports, an introduction to the Internet and an understanding of information literacy through the use of various Internet search engines. The course concludes with a discussion of computer ethics and social issues. (Offered in the fall and spring)

CT121  WEB DESIGN I: HTML AND DREAMWEAVER  3 CREDITS
Students learn how to design and develop Web sites using HTML and Dreamweaver. Students will create Web pages utilizing forms, frames, cascading work sheets, links and images. Students will reinforce the skills learned in this course through the design, development and publishing of their own website. (Offered in the fall and spring)
CT122 WEB DESIGN II: ADOBE FLASH 3 CREDITS
This course introduces the student to the tools and features available in Adobe Flash to create more dynamic and interactive web pages. Topics covered include drawing objects, symbols, interactivity, animation and the creation of special effects. Students will plan and create their own website using Adobe Flash features. Prerequisite: CT121 (Offered in the spring and summer)

CT 134 INTRODUCTION TO OPERATING SYSTEMS
This course introduces the student to the major concepts and features of the Linux, Windows and Mac OS operating systems. Topics include: directory structures, file systems, applications, configuring user environments, network connectivity, system utilities, use of the command line, and system maintenance and optimization. Compares and contrasts GUIs and command line interfaces in each of the three operating systems. (Offered in the fall and spring)

CT143 INTRODUCTION TO PROGRAMMING LOGIC AND C++ 4 CREDITS
This course is an introduction to problem solving and program design using the procedural aspects of the C++ programming language. Students are introduced to programming logic and design using flowcharts and algorithm development. The fundamentals of the C++ programming language are then introduced with the student expected to apply the programming and logic design methodology in solving and programming problems. The Microsoft Visual C++ Integrated Development Environment is used as the primary development tool. (Offered in the fall, spring, and summer)

CT144 C++ PROGRAMMING 4 CREDITS
This course is an introduction to problem solving and program design using the procedural aspects of the C++ programming language. Students are introduced to programming logic and design using flowcharts and algorithm development. The fundamentals of the C++ programming language are then introduced with the student expected to apply the programming and logic design methodology in solving and programming problems. The Eclipse Integrated Development Environment (IDE) is used as the primary development tool. (Offered in the spring and summer)

CT145 SURVEY OF COMPUTER PROGRAMMING LANGUAGES 4 CREDITS
This course introduces students to the basic concepts of three of the most popular computer languages in use today: Visual Basic, C++, and Java. Students will work with various languages to gain an understanding of the differences that exist among them. This course assumes no programming experience. Knowledge of basic computer operations, such as how to use a mouse and how to manipulate windows and menus, is required. (Offered in the spring and summer)

CT211 WEB SITE MANAGEMENT 3 CREDITS
Students explore the services necessary for the administration and management of a website. Topics covered include the planning, configuration and the installation of a website. Students will examine what is needed to implement and support a web server, research industry web server products, understand how to create domains and perform domain name search, explore performance monitoring and optimization techniques, and explore technical support and security issues. The course concludes with a look at website advertising and marketing considerations. Prerequisite: CT122 (Offered in the fall)

CT212 PC MAINTENANCE AND MANAGEMENT 3 CREDITS
This course provides advanced coverage of the internal components of a personal computer system, from the processor to the keyboard to the video display. The course focuses on troubleshooting and diagnostics and starts off with diagnostic tools, operating system software and troubleshooting, as well as data recovery. This course also instructs the student in troubleshooting the kind of hardware problems that can make PC upgrade and repair difficult. Prerequisite: CT111 (Offered in the spring and summer)

CT217 COMPTIA A+ CERTIFICATION PREPARATION 2 CREDITS
This course allows the student to apply his/her knowledge from the PC Maintenance and Management and other program courses to prepare for the CompTIA A+ Essentials 220-601 and A+ IT Technician 220-602 exams. Practice test software and lab facilities are made available for the student to take practice exams and to review the CompTIA A+ Essentials and IT Technician recommended objectives. At the completion of this course the student should be ready to take the actual CompTIA A+ Essentials and IT Technician exams. CompTIA A+ certification confirms a technician’s ability to perform tasks such as installation, configuration, diagnosing, preventive maintenance and basic networking, and confirms that the holder has the ability to get the job done right. It is an international, vendor-neutral certification recognized by major hardware and software vendors, distributors and resellers. Prerequisites: CT111, CT134, CT212, CT271 (Offered in the spring)

CT218 DATABASE MANAGEMENT SYSTEMS 3 CREDITS
This course introduces students to the fundamental processes of developing, implementing and maintaining a database system. Various database models are studied with a focus on issues related to the fundamental concepts of the relational model. Using the ACCESS database management system, students learn to create, query and maintain a database and to create forms, reports, and combo boxes with an emphasis on the fundamentals of the Structured Query Language, SQL. Web features are used to publish to the Internet and an application system is created using Macros and Object Linking and Embedding (OLE). Prerequisites: CT111 and CT143 or CT145 (Offered in the fall, spring and summer)
CT211 ENTERPRISE DATABASE MANAGEMENT 3 CREDITS
Provides students with an understanding of the issues in managing enterprise database systems as an essential organizational resource. Topics include the enterprise data architecture components, data storage configurations, and information retrieval methods. Expands from the relational model to the multidimensional model, object–relational techniques, and Web–accessed data. Prerequisite: CT218 (Offered in the spring)

CT213 LINUX SYSTEM ADMINISTRATION 3 CREDITS
This course introduces the Linux file system, group administration, and system hardware controls. Topics include installation, creation and maintaining file systems, NIS client and DHCP client configuration, NFS, SMB/Samba, Configure X-Windows, Gnome, KDE, basic memory, processes and security. Students will write shell scripts and constructs to enhance and automate system administration activities, and, upon course completion, will be able to perform all system administration tasks including installation, configuring and attaching a new Linux workstation to an existing network. Prerequisite: CT134 (Offered in the fall)

CT231 WINDOWS SYSTEM ADMINISTRATION 3 CREDITS
This course provides the student with the knowledge and skills necessary to install, configure, and support Microsoft Windows servers. Topics covered include system administration procedures, configuring disks, users, groups, Remote Desktop, hardware, and printing and network connectivity. Students will be exposed to the Windows Power Shell command line and scripting environment, as well as optimization and troubleshooting techniques. Prerequisite: CT111 or EE101 (Offered in the fall)

CT242 JAVA OBJECT ORIENTED PROGRAMMING 4 CREDITS
This course provides a comprehensive introduction to the Java programming language. Students utilize the object–oriented features and main classes of the language to build a wide variety of Java applications and applets. In addition to object–oriented programming and classes, topics covered include flow control, streams, threads, packages, graphics and animation. Prerequisite: CT144 (Offered in the spring)

CT 245 INTRODUCTION TO MOBILE APPLICATION DEVELOPMENT USING ANDROID 4 CREDITS
This course is an introduction to mobile applications programming using Google’s development platform ‘Android’. Students will learn how to modify and write applications that can run on any device supporting the Android environment. In addition to the Android software development kit (SDK), students will become familiar with the Eclipse integrated development environment (IDE) as a key tool for building Android applications. As a final project students will be required to design and develop an original Android application of their own creation. (Offered in the spring)

CT249 SURVEY OF CONTEMPORARY PROGRAMMING LANGUAGES 4 CREDITS
This course looks at some of the more contemporary programming and scripting languages. Possible languages examined include Perl (Practical Extraction and Report Language), Python, ASP (Active Server Pages), ASP.Net, VBScript, Ruby, Ruby on Rails, Linux Shell Scripting and C# (C Sharp). Students write programs using all languages and examine the situations for which the different languages are best suited. Prerequisite: CT143 or CT145 (Offered in the spring)

CT261 DATA COMMUNICATIONS AND NETWORKING 4 CREDITS
This course provides students with an in-depth understanding of the planning, design, implementation, and operation of wired and wireless LANs (Local Area Networks). The course provides hands–on experience with end–user networking appliances such as wireless routers and switches. The course focuses on the LAN as a conduit for personal computers to intercommunicate and access the Internet. It will help students understand issues related to computers and general networking principles. The course will pay special attention to the end terminal network, switches, wired and wireless routers, the components of a network, and the roles each component plays in a home and in a business. The course will prepare students to build and operate a small LAN at home or in the workplace. Prerequisite: CT111 or EE101 (Offered in the fall)

CT263 APPLIED NETWORKING 4 CREDITS
This course continues and builds upon the hands–on laboratory work in CT261. It focuses on the design and implementation of state–of–the–art network architectures and solutions for enterprise networks. It provides an in-depth hands–on coverage of protocols and network technologies that are essential for building corporate infrastructures and seamlessly integrating them with the Internet. Special attention is paid to essential characteristics of high–quality e–business environments, such as scalability, reliability, and security. Hands–on laboratory work will be done on industry leading Cisco routers and switches. Students will develop and build small enterprise class networks. Prerequisite: CT261 (Offered in the spring)

CT271 INTRODUCTION TO NETWORKING 4 CREDITS
This course is the first of two courses leading to the Cisco Certified (CCENT) designation. Students are introduced to computer networking concepts using the TCP/IP and OSI networking models. Topics covered include the TCP/IP application, transport, Internet and network access layers, and the OSI layers and their functions. The fundamentals of LANs, including Ethernet data link protocols and basic cabling, are covered. This course uses a practical, technical introduction to computer networking and provides a thorough foundation through concept mastery and hands on activities. Prerequisite: CT111 (Offered in the fall)
CT273  ROUTING BASICS  4 CREDITS
This course, a continuation of Introduction to Networking, is the second of two courses leading to the Cisco Certified (CCENT) designation. It introduces the student to routing and router configuration design and management using the engineering design model described in the Mass DOE Technology framework. It covers the architecture, components, and operation of routers, along with the principles of routing and routing protocols. With the completion of CT271 Introduction to Networking and this course, students should be able to install and configure Cisco switches and routers in multiprotocol internetworks using LAN and WAN interfaces, provide Level 1 troubleshooting service, improve network performance and security, and perform entry level tasks in the planning, installation, operation, and troubleshooting of Ethernet and TCP/IP networks. Prerequisite: CT271 (Offered in the spring)

EE101  INTRODUCTION TO ELECTRO-MECHANICAL SYSTEMS 3 CREDITS
Fundamental principles will be applied to analyze simple electro-mechanical systems. Excel will be used to explore variations in parameters; Word will be used to document results and PowerPoint used in developing presentations. The course may include electrical components, sensors, or motors. Corequisite: EE110. (Offered in the fall and spring)

EE110  DC CIRCUITS  4 CREDITS
Introduction to basic DC circuit theory. Topics include a study of SI units; Ohm’s Law and Kirchhoff’s Law; series, parallel, and series-parallel circuits, power and energy relations. Also Thévenin’s, Norton’s and Maximum Power Theorems. Topics reviewed and reinforced in the accompanying laboratory. Prerequisites: Pass placement testing or complete MA105 with a GPA of at least 2.00. Corequisites: EE101, MA120 (Offered in the fall and spring)

EE113  AC CIRCUITS  4 CREDITS
Continuation of topics in EE110 with emphasis on basic AC circuit concepts, such as: capacitors, inductors, generation of single-phase alternating potential; average and RMS values of sinusoidal waveforms; phasors; power in AC circuits; application of general AC circuit analysis. Topics reviewed and reinforced in accompanying laboratory. Prerequisites: EE101, EE110, MA120.; Corequisite: MA130 (Offered in spring and summer)

EE122  ELECTRONICS I  4 CREDITS
Basic electronics including energy levels and bands, semiconductor construction, electron-hole conduction characteristics and areas of application of various bipolar semiconductor devices. Application of diodes and rectifier circuits and filters. Transistor operation analysis for common emitter configurations. Topics include DC biasing arrangements, stabilization methods for DC operating point and AC gain, input impedance and output impedance. Prerequisites: EE101, EE110, MA120; Corequisite: EE113, MA130 (Offered in the spring and summer)
EE250  ELECTRONIC COMMUNICATIONS  4 CREDITS
This course will cover the concept of electronic communications and networking. It will provide students with a practical focus that can better prepare them for real life practices and experiences. The contents are: fundamental concepts, Fourier Series, amplitude modulation and demodulation, analog to digital conversion, digital to analog conversion, Ethernet, and TCP/IP protocol. Prerequisites: EE113, EE223, MA240 (Offered in the spring)

EE254  NETWORKING FOR END USERS  4 CREDITS
This course is intended for those who need to install, configure, troubleshoot, repair computers or instrumentation to connect to the local area network in the workplace. Connections to wired 802.3 and wireless 802.11 networks will be discussed. (Offered in the spring)

EL090  OSHA 10-HOUR CONSTRUCTION  0 CREDITS
An orientation to occupational safety and health in the construction field. Provides entry level construction workers general awareness on recognizing and preventing hazards on a construction site. Emphasis is placed on hazard identification, avoidance control, and prevention. Topics of discussion include the OSHA Focus Four Hazards: Fall Protection, Electrical, Struck By, and Caught in/between. Optional topics include Personal Protective Equipment, hand and power tool safety, and scaffold and ladder safety. Participants successfully completing the hourly and course requirements will receive an OSHA 10-hour Dept. of Labor course completion card. (Offered in the fall and spring)

EL110  CIRCUIT THEORY I  4 CREDITS
Introduction to basic DC Circuit Theory. Topics include introduction to SI units and a study of Ohm’s Law and Kirchhoff’s Voltage and Current Laws; series, parallel, and series-parallel circuit analysis, and power and energy relations and analysis. Theory and application of inductors and capacitors. National Electrical Code application of DC Theory. Topics reviewed and reinforced in the accompanying laboratory exercises. (Offered in the fall and spring)

EL127  ELECTRICAL DESIGN AND LAYOUT I/ NEC I  5 CREDITS
An introduction to the National and Massachusetts Electrical Codes and study of the fundamentals of electrical design, based on the requirements of these codes. Topics focus on residential applications and include polarity identification of systems and circuits; safety rules for working on electrical systems; electrical symbols; factors affecting conductor size and type of insulation; application of switches; and an emphasis on circuit wiring diagrams. Application of general wiring methods, boxes, fittings and cabinets. Laboratory included. (Offered in the fall and spring)

EL129  ELECTRICAL DESIGN AND LAYOUT II/ NEC II  5 CREDITS
A continuation of the topics covered in EL127. Continued study of the National and Massachusetts Electrical Codes and fundamentals of electrical design. Topics include requirements for calculating branch circuit sizing and loading; principles of overcurrent protection; grounding and bonding; residential special purpose outlets; and Service-Entrance equipment and calculations. Laboratory included. Prerequisite EL127 (Offered in the spring and summer)

EL213  CIRCUIT THEORY II  4 CREDITS
Continuation of topics covered in EL110. Emphasis will be on basic AC circuit concepts as applied to the generation of single-phase alternating current voltages. Analysis of Peak and RMS voltages. Study of the differences between sinusoidal and non-sinusoidal waveforms. Analysis of power in AC circuits and the effects of inductive and capacitive elements on electrical systems. Study and analysis of the relationships between voltage, current, and impedance in AC circuits. National Electrical Code application of AC Theory. Topics reviewed and reinforced in the accompanying laboratory exercises. Prerequisite EL110 (Offered in the fall and summer)

EL 214  LOW VOLTAGE SYSTEMS AND CONTROLS  4 CREDITS
Topics include Fire Warnings and Security Systems, Fiber, Data and Communications Wiring and Systems. Study will focus on the application of the current National and Massachusetts Electrical Codes as they pertain to these systems. (Offered in the spring and summer)

EL222  ELECTRICAL DESIGN AND LAYOUT III/ NEC III  4 CREDITS
Continued study of the National and Massachusetts Electrical Codes and fundamentals of electrical design as they pertain to Commercial applications. An introduction to a variety of wiring methods, including EMT, RMC, IMC, PVC, and types AC and MC cable. Topics include interpreting blueprints and specifications; calculating types of luminaires and their application; electrical loads; motor and appliance circuits, and feeder sizing. Laboratory included. Prerequisite EL129 (Offered in the fall)

EL229  ELECTRICAL DESIGN AND LAYOUT IV/ NEC IV  4 CREDITS
Continued study of the National and Massachusetts Electrical Codes with emphasis on advanced topics, including hazardous locations and requirements for special occupancies. Other topics include commercial branch circuits, feeders and electrical services; feeder diagram calculations; motor and motor control installations; motor load calculations; and principles of grounding systems and equipment. Laboratory included. Prerequisite EL222 (Offered in the spring)
EN091 READING AND WRITING FOR ACADEMIC SUCCESS 4 CREDITS
This Academic Development course integrates the development of both critical reading strategies and academic writing skills. Students are introduced to the writing process and a deeper understanding and application of academic writing conventions. In order to enhance their participation in an academic environment, students will develop critical reading, thinking, note-taking and writing skills by working through high-interest readings. (Offered in fall, spring, and summer)

EN110 ORAL COMMUNICATIONS 3 CREDITS
This course is intended to provide students with a basic understanding of the communication process and to enable them to develop their communication competence in various contexts. We will study the styles of speech used in these contexts, and will explore issues of audience, purpose, and tone. The course aim is to develop an awareness of the many ways in which we communicate with one another, and to promote confidence and overall speaking skills. The course will provide numerous and varied opportunities for students to practice communication techniques. At the conclusion of the course, all students should be knowledgeable of the elements of effective communication and capable of recognizing and participating in varied contexts. (Offered in the fall and spring)

EN112 INTRODUCTION TO PROFESSIONAL COMMUNICATION 3 CREDITS
This course is intended as an introduction to provide students with a basic understanding of the communication process and to consider their competence as workplace communicators. The course focuses on gathering, organizing, and presenting written, oral, and visual information. Team-building skills are developed through collaborative learning environments. Technical communication skills are emphasized. (Offered in the fall and spring)

EN130 COLLEGE COMPOSITION I 3 CREDITS
This course invites students to investigate the ways in which language is used in various settings. By examining how language is connected to issues of identity, students see the importance of using spoken and written communications appropriate to particular contexts. The course is structured around three main projects: a memoir where students explore their own experiences with language and identity, and two ethnographic studies where they look closely at two distinct communities, one informal and one professional, to see how people interact in those settings. The course calls for frequent informal written responses that build toward larger formal texts. Students are invited to become reflective of their writing processes as they are involved in a constant process of revising. They receive feedback from their instructor and classmates, and discuss many ideas and concepts in groups. (Offered in the fall, spring, and summer)
EN140  COLLEGE COMPOSITION II  3 CREDITS
A continuation of College Composition I, this class considers many written genres while focusing on such issues as work, social class, culture, and identity. By examining these issues through the genres of journal articles, oral history, narrative, short story, poetry, drama, and film, students will build on their abilities to work reflectively, develop their responses, and incorporate the voices of others into their own texts through the use of quotations. Students will have the opportunity to write texts similar to the ones they are reading, as well as academic essays. Through the practice of close reading and expository writing, students will develop the ability to comment on not only specific genres, but also on the world around them. They will also have the opportunity to participate in the kinds of group and presentational work that might be practiced in a professional setting. Prerequisite: EN130  (Offered in the spring and summer)

EN320  TECHNICAL COMMUNICATION  3 CREDITS
Principles of effective communication on both the employee and organizational levels are emphasized in this course. Students create professional written documents and there is a strong emphasis on oral communications. Through class discussions, working groups, and formal presentations, students will consider and present on various workplace scenarios. These situations will provide students the opportunity to practice negotiation, conflict management, ethical decision-making, leadership roles, and presentation skills. Professionalism in all forms of communication will be expected.  (Offered in the fall and spring)

HV101  THEORY OF HEAT  4 CREDITS
This course covers refrigeration and heat transfer. Students also develop an understanding of basic electricity principles, refrigeration, refrigerants and pressure and temperature relationships.  (Offered in the fall and spring)

HV102  SAFETY, TOOLS, EQUIPMENT AND SHOP PRACTICES  4 CREDITS
This portion of the program covers basic hand tools and their uses. In addition, students examine safe workshop practices, the use of vacuum pumps, charging refrigeration systems, tubing and piping, and leak detection. The course includes a 10-hour OSHA safety course.  (Offered in the fall and spring)

HV103  ELECTRICITY FOR HVAC&R  3 CREDITS
A. Basic Controls: This section of the course covers basic electricity and magnetism, the use of automatic controls, components and their applications. Also, troubleshooting basics, automatic and programmable controls.

B. Electric Motors: This section of the course covers types of motors and related wiring, motor applications and problem diagnosis, troubleshooting electric motors and their controls.  (Offered in the fall and spring)

HV104  EPA (ENVIRONMENTAL PROTECTION AGENCY) REGULATIONS  3 CREDITS
Recovery, Reclamation and Recycling Program: This course concentrates on Federal EPA certification test preparation, R410A certification, 10-hour OSHA Safety Certification and the use of recovery equipment.  (Offered in the fall and spring)

HV201  COMMERCIAL REFRIGERATION  4 CREDITS
Students will study commercial applications of evaporators as applied to commercial refrigeration condensers and compressors, including ice machines and walk-in units. This course will also include different types of expansion devices for these applications, special refrigeration systems, troubleshooting and typical operating conditions.  (Offered in the spring and summer)

HV202  AIR CONDITIONING, HEATING AND HUMIDIFICATION  4 CREDITS
This course covers electric and gas heat and oil-fired systems, hydronic systems and indoor air quality. Students will also examine rooftop units, A/C installation, air distribution, balance and controls for the operation of these systems. Typical operating conditions and troubleshooting will also be presented.  (Offered in the spring and summer)

HV203  COMMERCIAL AND INDUSTRIAL AIR CONDITIONING  4 CREDITS
A. Students will study all weather systems that incorporate electric, gas-fired and oil-fired systems. Other topics will include air source and geothermal heat pumps.

B. Covered in this section will be high and low pressure chillers, absorption chill water systems, cooling towers, condensers and chill water pumps. Operation, maintenance and troubleshooting will also be covered.  (Offered in the spring and summer)

HV204  ELECTRICAL CODES AND SCHEMATICS  2 CREDITS
This course introduces students to electrical blueprints used in the design and implementation of HVAC&R systems in a variety of environments. In addition, students are acquainted with current electrical code standards. We will also be focused on energy management/controls and solar thermal skills and knowledge.  (Offered in the spring and summer)

MA080  FUNDAMENTAL MATHEMATICS  3 CREDITS

MA090  FUNDAMENTAL MATHEMATICS  6 CREDITS
This course is an introduction to fundamental algebra, as well as a reinforcement of the foundational properties of arithmetic. Topics covered include fractions, mixed numbers, decimals, fraction to decimal conversion, ordered pairs, coordinate systems, basic rules of algebra, real numbers and operations, exponents, order of operations, linear equations, formulas, percents, graphing, and an introduction to problem solving. In this class, the use of calculators will not be allowed in most instances.  (Offered in the fall, spring, and summer)
MA 099  TECHNICAL MATHEMATICS SEMINAR  0 CREDITS
This course is an independent seminar where the students utilize online resources. Students will work independently on the material outside the classroom. Upon successful completion of the online material and a final assessment, a student may enter into MA 120 College Algebra and Trigonometry. Topics covered include solving linear equations, systems of linear equations, slope and graphs of linear equations, algebraic fractions, metric units, scientific notation, and percentages. MA 099 is offered on an as needed basis and is not scheduled to run regularly during the academic year.

MA 105  TECHNICAL MATHEMATICS I  3 CREDITS
This course is designed as an overview of the standard topics in Algebra as they apply to technical applications. Practical examples of the math as it is used in the various technical fields are employed as much as possible. Topics covered include: linear equations, systems of linear equations, literal equations, slope, a review of fractions, metric units, scientific notation, and intermediate problem solving. Prerequisite: MA090 or Placement Exam (Offered in the fall, spring, and summer)

MA 106  TECHNICAL MATHEMATICS II  3 CREDITS
This course, the second in the technical math sequence, continues to develop the students' understanding of algebra through the use of practical examples. An emphasis is placed on practical examples from the automotive field and project assignments are used to refine problem solving, critical thinking and communication skills. Prerequisite: MA105 (Offered in the spring and summer)

MA 107  OPTICAL MATH  3 CREDITS
Optical Math provides the Opticianry student with an opportunity to become familiarized with mathematical concepts and formulae that are commonly used in ophthalmic science. The student will be introduced to optical formulae that contain mathematical concepts involving positive and negative integers, definition of infinity, algebra, trigonometry and approximations. In addition, students will learn how to solve complex optical formulae using a scientific calculator. (Offered in the spring)

MA 115  PLANE AND SOLID GEOMETRY  4 CREDITS
This course introduces the study of Euclidean geometry, focusing on lines and angles, measurement and units, triangle properties, parallelograms, trapezoids, polygons, circles, spheres, conic sections, pyramids, areas and volumes. Applications to the field of Architectural Technology will be stressed. Prerequisite: MA105 (Offered in the spring and summer)

MA 120  COLLEGE ALGEBRA AND TRIGONOMETRY  3 CREDITS
This course begins with a review of the metric system to be applied throughout the semester. Students' understanding of algebra is developed through methods of solving algebraic fractions, systems of linear equations and quadratic equations. The introduction to the basics of functions and their graphs leads into the study of logarithmic and exponential functions. The course concludes with problem solving involving right triangles and an introduction to vectors. Applications from various technical fields will be stressed. Prerequisite: MA105 or MA115 or Placement Exam (Offered in the fall, spring, and summer)

MA 130  PRE-CALCULUS  3 CREDITS
This course extends the student's knowledge of trigonometry by developing the graphs of the trigonometric functions. The course continues by solving trigonometric equations, proving trigonometric identities, and finding trigonometric derivatives algebraically and graphically. Complex numbers are covered in rectilinear and polar coordinates. To prepare the student for calculus, properties of polynomial and rational functions are reviewed. Prerequisite: MA120 (Offered in the fall, spring, and summer)

MA 240  CALCULUS I  4 CREDITS
This course introduces differential and integral calculus. It begins with the study of limits and continuity, which naturally leads to the development of the derivative. Topics covered include, the rules of differentiation for exponential, logarithmic, trigonometric, inverse-trigonometric, and polynomial functions, rates of change, implicit differentiation, maximization/minimization problems, and an introduction to integration. Prerequisite: MA130 (Offered in the fall)

MA 250  CALCULUS II  4 CREDITS
This course builds and expands upon the techniques and applications covered in Calculus I. Topics include the indefinite and definite integral, the fundamental theorem of calculus, integration by substitution, an introduction to differential equations, advanced integration techniques, area of region between two curves, parametric equations, improper integrals, applications of integration to volumes. Prerequisite: MA 240 (Offered in the spring)

MA 265  FINITE MATHEMATICS  3 CREDITS
This course serves as a broad overview of topics in finite math and a brief introduction to topics in statistics. Topics covered include linear equations, linear systems, linear programming, mathematics of finance, matrix math, probability, and an introduction to statistics. Prerequisite: MA 106 (Offered in the fall)
MA270  STATISTICS  3 CREDITS
This course studies the collection, analysis and presentation of data, frequency distributions, probability and probability distributions. Making inferences from statistical data and the techniques used for making business and management decisions will be discussed. Data analysis and presentation make use of statistical software. Prerequisite: MA265 or MA120  (Offered in the spring)

MD223  MEDICAL INSTRUMENTATION I  4 CREDITS
Study of medical devices and transducers used in Intensive Care Units and general patient floors. Covers typical circuits, applications, safe usage of devices, and interpretation of derived data. Emphasis on troubleshooting and repair techniques as applied to medical devices. Prerequisites: A GPA of 2.0 in EE110, EE113, EE122, EE131 or a waiver from the department chair. (Offered in the fall)

MD225  MEDICAL INSTRUMENTATION II  4 CREDITS
A continuation of MD223. More complex medical devices are introduced that incorporate both previously learned technologies as well as new concepts. Increased emphasis is placed on safety and equipment testing. Opportunities to use troubleshooting and repair techniques are provided. Prerequisite: MD223  (Offered in the spring)

MD238  HUMAN PHYSIOLOGY  4 CREDITS
Introduction to the basic structure and function of the various organ systems of the human body. Discussion of normal, as well as some pathological physiology. Presentation of terminology encountered in a medical environment. Examination of basic properties of nerves and muscles and their relationships with the central nervous system in producing motion and sensation. Study of various functions of the respiratory and cardiovascular systems. Introduction to instrumentation and techniques for evaluation of normal and abnormal functions. (Offered in the fall)

MD242  CLINICAL INTERNSHIP  4 CREDITS
Student is placed in a hospital clinical engineering department to gain experience in a professional working environment. Students will perform various assigned duties, some of which involve preventive maintenance or repair of medical equipment and will become familiar with equipment and specialty tools used in the biomedical field. Prerequisite: MD223 Corequisite: MD225  (Offered in the spring)

ME105  CAD WITH SOLIDWORKS  3 CREDITS
Introduction to the use of CAD systems for the production of engineering drawings through lectures and hands-on laboratory sessions. SolidWorks software is used to create basic drawings related to mechanical equipment and machine parts. Modifying existing drawings similar to those produced in mechanical engineering firms. (Offered in the fall)

ME106  ADVANCED CAD  3 CREDITS
The use of SolidWorks to generate complicated 3D Assembly Models. Extensive projects given to challenge the student and extend their knowledge. Prerequisite: ME105  (Offered in the spring)

ME110  STATICS  4 CREDITS
Study of fundamental concepts and principles governing the equilibrium of rigid bodies under the action of forces. Resolution and addition of forces by graphic and analytical methods, moment of a force, couples, equivalent systems of forces, analysis of trusses and frames, and distributed loads. Also, centroids and centers of gravity, and friction. Prerequisite: MA120  (Offered in the fall)

ME141  MATERIALS  3 CREDITS
The study of metals and non-metals. A basic understanding of crystal structures, heat treating, annealing, cold working and how they affect mechanical properties. Stress-strain diagrams. Phase diagrams, Time Temperature Transformation diagrams and failure analysis of engineering materials. (Offered in the spring)

ME150  INTRODUCTION TO MANUFACTURING  4 CREDITS
Introduction to the basic processes related to machining and cutting engineering materials. Methods of joining both mechanical and welding, brazing, and soldering. The use of measuring instruments for the production of accurate parts. (Offered in the fall)

ME151  MANUFACTURING PROCESSES AND CNC MACHINING  4 CREDITS
The study of advanced manufacturing processes such as forging, casting, forming processes, injection molding, thermo forming and composite layups. Programming and operation of CNC equipment including an introduction to Robotics. Prerequisites: ME105, ME150  (Offered in the spring)

ME240  MACHINE DESIGN WITH SOLIDWORKS  4 CREDITS
The study of the fundamentals of machine design using SolidWorks. Technical drawings as a method of solving engineering problems with the use of Cosmos as an analytical tool. Prerequisites: ME106, MA120  (Offered in the spring)

ME250  ADVANCED MANUFACTURING AND CNC  4 CREDITS
Rapid prototyping is covered from concept to completed part. The use of SolidWorks models to generate CNC programs and parts. Prerequisites: ME106, ME151  (Offered in the spring)
ME252  THERMODYNAMICS  4 CREDITS
First and Second Law of Thermodynamics; thermodynamic properties of substances; reversible and irreversible processes, entropy; thermodynamic processes, power and refrigeration cycles; three modes of heat transfer, conduction, convection and radiation; heat transfer through plain surfaces and fins, in tube flow and in heat exchangers. Prerequisites: MA130, ME141. Co–requisite: ME110 (Offered in the fall)

OA111  HISTORY TAKING I  3 CREDITS
OA131  HISTORY TAKING II  1 CREDIT
These courses provide instruction and practical experience in the proper methods and procedures in conducting a comprehensive case history of the patient prior to being examined by the ophthalmologist. Students learn aspects of taking a case history and proper recording of medical information as it relates to presenting complaint and history of illness, past ocular history, family history, systemic illness, medications, allergies & drug reactions and partially sighted patients (OA111 is offered in the fall and OA112 is offered in the spring)

OA113  INSTRUMENTATION I  2 CREDITS
OA133  INSTRUMENTATION II  1 CREDIT
In these courses, students will learn how to use and care for all of the medical instruments that are used by ophthalmic assistants in evaluating the ocular health of a patient. Some of the instruments that are featured in the course curriculum include lensometer, keratometer, biomicroscope, phoropter, A–Scan biometer, ophthalmoscope, retinoscope and pupillometer. (OA113 is offered in the fall and OA125 is offered in the spring)

OA114  MEDICAL ETHICS, LEGAL & REGULATORY  1 CREDIT
In this course, students will learn the legal, regulatory and medical ethical aspects as they relate to the ophthalmic profession. Among many of the topics presented are third party coding, government and institutional rules and regulations, quality assurance, ethical and legal standards, scribing, charting, confidentiality and informed consent. (Offered in the fall)

OA115  MEDICAL TERMINOLOGY AND KNOWLEDGE I  3 CREDITS
OA125  MEDICAL TERMINOLOGY AND KNOWLEDGE II  3 CREDITS
In these courses, students will learn the medical terminology and depth of knowledge associated with being an ophthalmic assistant. Topics of ocular health that are presented in this course include anatomy, physiology, systemic diseases, ocular diseases, ocular emergencies and metric conversions. (OA115 is offered in the fall and OA125 is offered in the spring)

OA116  PROFESSIONAL OBSERVATION (8 TO 16 HOURS, OBSERVATION ONLY)  1 CREDIT
In this course, students will be introduced to the many different aspects and working environments in which an ophthalmic assistant is employed. Students will be assigned a minimum of 8 hours of clinical observation during the first semester. Students will present and share their clinical experiences, using a multi-media presentation at the conclusion of the course. (Offered in the fall)

OA118  OPHTHALMIC PATIENT SERVICES & EDUCATION I  3 CREDITS
OA128  OPHTHALMIC PATIENT SERVICES & EDUCATION II  1 CREDIT
In these courses, students will learn the many specific types of services and care techniques, which ophthalmic assistants provide for their patients. In addition, students will learn patient management systems and protocol in managing their patients. Specific topics which will be presented are patient education, surgery, systemic and ocular disease, anatomy and physiology, general & ocular, safety glasses, patient instruction, medication, tests, procedures, treatments, eye dressings, patient flow, triage, forms & manuals, legal forms for government services, vital signs, version and duction, function and anomalies, cover tests, stereocuity, nystagmus and CPR training. (OA118 is offered in the fall and OA128 is offered in the spring)

OA119  VISUAL FIELDS AND ASSESSMENT  1 CREDIT
In this course, students will learn how to conduct pre-testing for all forms of visual acuity and peripheral field analysis. Forms of acuity and peripheral field tests include adult and pediatric visual acuity, pinhole acuity, Amsler grid, confrontation fields and automated perimetry. (Offered in the fall)

OA129  OPHTHALMIC SKILLS  1 CREDIT
This course will present a series of basic tests and procedures that are related to an overall analysis of the patient’s general ocular health. Tests which the students will learn to perform as a result of this course include spectacle skills (transpose cylinder readings), IOL power calculations, anterior chamber depth, pachymetry, calibration of biometry instruments, tear tests, glare testing, color vision testing, A-scan, laser interferometry and tonometry. (Offered in the spring)

OA130  REFRACTOMETRY  2 CREDITS
In this course, students will learn the proper procedures and protocol in conducting a refraction of the eye. Topics presented in this course include basic optical theory, refractive error (automated), manifest refractometry and basic spectacle designs & dispensing. (Offered in the spring)
OA 132 IN-OFFICE SURGICAL PROCEDURES AND SURGICAL ASSISTING 1 CREDIT
In this course, students will learn the protocol and procedures that are related to assisting an ophthalmologist during in-office surgery. Types of surgical procedures, protocol and advanced technology that are presented as part of the course include instrument preparation, refractive, sterile fields, aseptic technique, non-refractive laser therapy, intraocular injections, Yag laser, site identification and laser safety. *(Offered in the spring)*

OA 136 OCULAR IMAGING 2 CREDITS
In this course, students will learn the art of ocular photography as a means to diagnose ocular abnormalities and diseases. Photographic ocular equipment that will be introduced to the student includes the slit lamp and anterior segment photography, fundus photography, external photography, A-scan, corneal topography and scanning laser tests for glaucoma and retinal diseases. *(Offered in the spring)*

OA 137 OCULAR PHARMACOLOGY 1 CREDIT
This course offers students a comprehensive curriculum of ocular pharmacology. Students will learn how to identify ocular medications, instill medications, and educate the patient on medication and their drug-related reactions. *(Offered in the spring)*

OA 140 CLINICAL EXTERNSHIP 2 CREDITS (60 TO 120 HOURS)
During the second semester, students in good academic and financial standing will be placed in a 60- to 120-hour externship, as part of the graduate requirements for the program. The one year certificate for Ophthalmic Assisting will be granted upon successful completion of the clinical assignment. *(Offered in the spring)*

OP 105 ANATOMY AND PHYSIOLOGY OF THE EYE 3 CREDITS
This course is designed to give the opticianry student an insight into the anatomical structure of the eye and its adnexa. The student will also learn the function of the parts of the eye as they relate to vision, eyewear, and contact lenses. The learner will be presented with common pathologies of the eye and ocular pharmacology.

OP 110 OPHTHALMIC OPTICS I 3 CREDITS
This course is a three-hour lecture course designed to include a brief history of glass and plastic, the various sphere, cylinder, and prism powers, review of the optical cross, flat and toric transposition, history and types of multifocals, and the lens aberrations.

OP 115 PRINCIPLES AND PRACTICES IN OPTICIANRY I 3 CREDITS
The lab portion of this course will introduce the student to terms, instruments, equipment, lenses and materials to be used in the surfacing and finishing of ophthalmic prescription eyewear. Special emphasis will be placed on the procedures used to surface ophthalmic lenses including calculations, layout, blocking, generating, fining, polishing and inspection.

The clinical portion of this course will offer students an opportunity to gain real life exposure to the designing, fitting and dispensing of prescription eyewear in an optical business setting. The students will learn to operate an optical business, as well as the intricacy of quality patient care.

The optical shoppe is open during the regular academic year and is operated by the students under the direct supervision of licensed opticians. The operating clinic offers students the opportunity to learn the practical aspects of opticianry through weekly presentations and assignments, as well as actual patient care.

OP 120 OPHTHALMIC OPTICS II 3 CREDITS
It will include seg OC location, image jump, vertical imbalance using charts, correction of small amounts of vertical imbalance, sagital values, and center and edge thickness based upon vertex depth, specular images, and lens aberrations.

OP 122 OPHTHALMIC DESIGN & DISPENSING THEORY I 3 CREDITS
This course is a hybrid course in which a portion of the course (approximately 75%) is offered as distance learning, and another portion meets physically on campus (approximately 25%). Ideally, students will engage in weekly distance learning sessions and assignments, a weekly on-campus lab for a practical quiz and/or assignment, and a monthly regular on-campus lecture session.

This course is designed to introduce the student to the dispensing procedures. This course is designed to instruct the student in the process for ordering an Rx from the lab, the insertion and removal of lenses from frames and mountings, the alignment and adjustment of the frames and mountings for standard alignment and for the client’s face. The lab portion of the course is designed to introduce the student to the practical dispensing of optical products. Practical topics covered in the course include the neutralization of single vision and multifocal lenses for duplication of an Rx, measurement of frames and mountings, measurements of pupillary distance (PD’s), and the demonstration and calculation of the placement of multifocal segments. *(Offered in the fall)*
OP125  PRINCIPLES AND PRACTICES IN OPTICIANS II  3 CREDITS
This course will consist of lectures, demonstrations, and practice time to develop skills in the fabrication of single vision eyewear. It will include surfacing procedures, the use of the lensometer for verification and the layout of single vision lenses for edging. Blocking, automatic edging, hand beveling, lens tempering, lens insertion, pattern making, and machinery maintenance will also be covered.

The clinical portion of this course will offer students an opportunity to gain real life exposure to the designing, fitting and dispensing of prescription eyewear in an optical business setting. The students will learn to operate an optical business, as well as the intricacy of quality patient care.

The optical shoppe is open during the regular academic year and is operated by the students under the direct supervision of licensed opticians. The operating clinic offers students the opportunity to learn the practical aspects of opticianry through weekly presentations and assignments, as well as actual patient care.

OP128  LOW VISION DISPENSING  2 CREDITS
Students will explore the most common forms of vision loss and their cause. In addition, students will develop first-hand experience as to vision impairment through the use of vision impairment simulators and exercises. Students will also learn proper conduct and professional guidance as a sighted guide for the visually impaired.

OP230  CONTACT LENS THEORY I  3 CREDITS
OP231  CONTACT LENS THEORY I LAB  1 CREDIT
This course is designed as a basic introduction to the fitting of rigid and soft contact lenses. It will include terminology, instrumentation for the fitting of contact lenses, the development and history of lenses, patient selection, and the assessment of the fit. The lab portion of the course is designed to introduce the student to the handling of contact lens materials and the operation and maintenance of instruments used in the fitting and designing of contact lenses. Primary instruments that students will be operating include a keratometer, measuring loupes, lensmeter, phoptor, biomicroscope, radiuscope, and corneal topographer.

OP232  OPHTHALMIC DESIGN & DISPENSING II  3 CREDITS
OP233  OPHTHALMIC DESIGN & DISPENSING II LAB  1 CREDIT
This course is a hybrid course in which a portion of the course (approximately 75%) is offered as distance learning, and another portion meets physically on campus (approximately 25%). Ideally, student will engage in weekly distance learning sessions and assignments, a weekly on-campus lab for a practical quiz and/or assignment, and a monthly regular on-campus lecture session.

The course is designed to further explore topics learned in Ophthalmic Design & Dispensing I and Ophthalmic Design & Dispensing Lab I. Students will review frame alignment and adjustments, techniques for fitting multifocals, and lens identification. The course will expand into troubleshooting of visual problems, repairing of frames, applying safety standards in the optical workplace and lifestyle dispensing. Students will become familiar with progressive lenses, lens options / coatings, and the techniques for ordering lenses, frames and optical supplies. The lab portion of the course is designed to further explore topics learned in Ophthalmic Design & Dispensing I and Ophthalmic Design & Dispensing II. Students will review frame alignment and adjustments, techniques for fitting multifocals, and lens identification. The course will expand into troubleshooting of visual problems, repairing of frames, applying safety standards in the optical workplace and lifestyle dispensing. Students will become familiar with progressive lenses, lens options / coatings, and the techniques for ordering lenses, frames and optical supplies. (Offered in the spring)

OP235  PRINCIPLES AND PRACTICES IN OPTICIANS III  3 CREDITS
In this progression course, students will be able to hone and perfect the lab finishing skills in the fabrication of prescription eyewear. Students will learn the advances in spectacle finishing and manufacturing. Students will be expected to complete lab assignments which contain multiple jobs of varying levels of difficulty within a timed period. Students will also learn to work as a team as the finishing lab is turned into a wholesale production facility.

The clinical portion of this course will offer students an opportunity to gain real life exposure to the designing, fitting and dispensing of prescription eyewear in an optical business setting. The students will learn to operate an optical business, as well as the intricacy of quality patient care.

The optical shoppe is open during the regular academic year and is operated by the students under the direct supervision of licensed opticians. The operating clinic offers students the opportunity to learn the practical aspects of opticianry through weekly presentations and assignments, as well as actual patient care.
OP 240  CONTACT LENS THEORY II  3 CREDITS
This course is a continuation of Contact Lens Theory I, emphasizing contact lens verification, dispensing, and follow-up care. The fitting of astigmatic, presbyopic, and special needs patients will also be covered. The lab portion of the course is a continuation of Contact Lens Lab I emphasizing contact lens verification, dispensing, and follow-up care. The fitting of astigmatic, presbyopic, and special needs patients will also be covered.

The lab portion of the course is designed to introduce advanced levels of clinical instrumentation and their use in determining the proper contact lens fit on the eye. Student will also be able to refine and hone their expertise in the handling of contact lens materials and the operation and maintenance of instruments used in the fitting and designing of contact lenses. Primary instruments that students will be operating include a keratometer, measuring loupes, lensmeter, phoptor, biomicroscope, radiuscope, and corneal topographer.

OP 243  PRINCIPLES AND PRACTICES IN OPTICIANRY IV  3 CREDITS
This course is designed to educate students in the technical skills of performing various procedures within the ophthalmic visual assessment area of a dispensary. The course will present technical equipment procedures, maintenance and use, as well as the skills needed in assisting Optometrists and patients with various procedures such as administering medicines and pharmacology identification and uses.

The clinical portion of this course will offer students an opportunity to gain real life exposure to the designing, fitting and dispensing of prescription eyewear in an optical business setting. The students will learn to operate an optical business, as well as the intricacy of quality patient care.

The optical shoppe is open during the regular academic year and is operated by the students under the direct supervision of licensed opticians. The operating clinic offers students the opportunity to learn the practical aspects of opticianry through weekly presentations and assignments, as well as actual patient care.

OP 245  VISION ASSESSMENT  3 CREDITS
This course is designed to instruct the student in the theories behind the various tests given during a routine refraction. Topics include anatomy and physiology of the eye (review), mechanics of ametropias, epidemiology and etiology of refractive errors. Trends in visual acuity and accommodative / convergence relationships in the myopic, hyperopic and presbyopic eye will be discussed. Also included will be problems in binocular vision and retinoscopy.

OP 281  OPTICIANRY TECHNICAL SKILLS AND SERVICE LAB 1  1 CREDIT
The topics of this course are designed to introduce the opticianry student to current and relevant issues related to public health and aspects of clinical care. Students will develop an awareness and identify areas of the community that are in need of optical care. The course presents students with the tangible opportunity to learn from community involvement and helping to engage and address areas of social, ethical, economic and policy-limiting concerns within our own environment.

Students will engage in several aspects of service learning projects and professional inter-disciplinary presentations.

Clinical patient care offers students an opportunity to rotate among a variety of opticianry businesses. Students will begin to gain real life exposure to the opticianry industry, which will ultimately allow them to better understand client service and management, as well as allow them to explore different career paths.

Assigned research and professional presentation projects offer students an opportunity to explore optical health issues related to eye health and their many possible developing solutions based upon advanced ocular health procedures and treatments. Assigned projects may also include collaborative research and presentation with students from optometry in order to promote inter-disciplinary professional problem solving and eye care that is routinely practiced throughout the profession.

The course is designed to fully support the College mission of community service learning. Students will be evaluated on the successful completion of two projects: a community based service learning project where students engage in providing clinical care to a worthwhile organization event, project or population.

The poster project is an education awareness campaign designed to educate the public as to a particular segment of “Healthy Sight For Life”. The project will be presented and displayed at the end of the academic year at a college wide vision health fair as a poster session. Presentations are judged in a competitive format during the Vision Health fair by optical experts representing the profession.

PH 102  PHYSICS  3 CREDITS
This course is an introduction to the physics of mechanics and basic concepts in chemistry, including the study of motion, Newton’s Laws, energy, conservation laws, physics of matter, temperature, heat transfer, the atom, the periodic table, chemical bonding, the Mole, and balancing chemical equations. There is no lab co-requisite for this course. (Offered in the spring and summer)
PH201 PHYSICS FOR ELECTRICIANS I 3 CREDITS
This course is an algebra-based introduction to physics for students in the electrical
technologies. Topics include, but are not limited to, an introduction to the physics of
mechanics, temperature, heat and its effects, electromagnetic waves, luminous flux
and intensity, illumination, coulomb's law, electrical fields, magnetic fields, force on
current carrying wire, and Faraday’s Law. Prerequisite: MA120. Co-requisite:
PH 204 (Offered in the spring)

PH204 PHYSICS LAB 1 CREDIT
This lab focuses on supporting the topics in PH 201. This lab offers the opportunity
to practice laboratory techniques, data collection, and written reports. Topics include
but are not limited to, temperature, heat and effects of heat, and mechanical waves.
(Offered in the spring)

PH212 PHYSICS I 3 CREDITS
This course is an algebra-based introduction to the physics of mechanics that includes,
a math review (algebra, geometry and trigonometry), scalars and vectors, force, mass,
equilibrium, torque, acceleration, gravity, Newton’s Laws, work, energy, power,
impulse, momentum, circular motion and rotation of rigid bodies. Prerequisite:
MA115 or MA120. Co-requisite: PH215 (Offered in the fall and spring)

PH215 PHYSICS LAB I 1 CREDIT
This lab focuses on supporting the topics in the physics lectures, PH212 and PH222.
This lab offers the opportunity to practice laboratory techniques, data collection, and
written reports. Topics include kinematics and mechanics. (Offered in the fall and spring)

PH222 UNIVERSITY PHYSICS I 3 CREDITS
The course is a calculus-based approach to the physics of mechanics. The topics
include scalars, vectors, and up to vector calculus; the kinematics of translation; force,
mass and dynamics of translation; static’s, equilibrium, and torque; angular quantities
and dynamics of rotation; friction, work, energy and power; impulse and momentum;
simple harmonic motion and oscillations; Universal Law of Gravitation; the mechanics
of solids and fluids; wave motion and wave equations; sound including Doppler Effect;
superposition principle. A math review is not included. Co-requisite: MA240 and
PH215 (Offered in the fall)

PH223 UNIVERSITY PHYSICS II 3 CREDITS
The course is a calculus-based approach to the physics of thermodynamics, waves,
electricity and magnetism. The topics include the study of fluids and fluid dynamics,
harmonic motion and wave phenomenon, thermodynamics and heat, and electricity
and magnetism. Prerequisite: PH222, Co-requisite: PH225 (Offered in the spring)

PH225 PHYSICS LAB II 1 CREDIT
This lab focuses on supporting the topics in the physics lectures for PH223. This lab
offers the opportunity to practice laboratory techniques, data collection, and written
reports. Topics include: mechanics, thermodynamics, harmonic motion, electric
charge, and optics. Prerequisite: PH215 (Offered in the spring)

PL101 AND PL102 FOR TIERS 1 AND 2
The plumbing program is designed and aligned with the State 5-tier code requirement
and also the State Continuing Education code requirements. The certificate consists
of 110 class hours per tier. Each tier takes approximately five months to complete.
Students are responsible for their own code books. The tiers are currently taught by
a Boston City plumbing inspector.

SS105 TWENTIETH CENTURY HISTORY 3 CREDITS
A concentration on major world events including significant social, economic and
political shifts and changes viewed through various media including film, fiction,
historical articles and non-fiction essays. Through discussions, written responses,
presentations and creative projects, students will not only engage in historical studies,
but will also use analytical and critical thinking skills to consider the ethical im-
portance of historical events and to determine how accurately history is recorded, taught
and represented in education, art, politics, the media and society.

SS109 TECHNOLOGY AND SOCIETY 3 CREDITS
This course examines the role of technology in contemporary social life. An overview
of technological evolution and its impact on society from the Industrial Revolution
to the present is explored, with emphasis on current technologies and the debates
surrounding them. Through discussion, papers, projects, and presentations, students
explore the impact of particular technologies on various aspects of human life,
including society’s increasing reliance on technology and the consequences on human
existence.

SS115 INTRODUCTION TO PSYCHOLOGY 3 CREDITS
A basic course introducing the major content areas of psychology as a scientific study of
human behavior and mental processes through an acquaintance with the fundamental
process of human behavior. Topics include: the nature of psychology, biological
processes, human development, individual differences, personality and mental health.
SS135 INTRODUCTION TO ANTHROPOLOGY 3 CREDITS
An introductory course that studies human cultures across time and place in their various environmental and historical contexts. The majority of the course focuses on cultural anthropology, and the evolution and development of human societies. Some topics explored might be community, kinship, economic structure, and political order. In addition, the ways in which culture shapes experience is discussed, and students will be called to recognize their role as both creators and byproducts of culture.

SS205 CONTEMPORARY SOCIAL ISSUES 3 CREDITS
A course that analyzes in both empirical and theoretical terms many of the social problems currently facing Americans. Among these are deepening inequality and poverty among working and middle-class Americans, particularly racial minorities, women, and youth; related problems of racism and sexism; growing unemployment; deterioration of the health system; crime; and war and militarism. Strategies and political options for solving these problems are considered.

SS215 RACE, CLASS, AND GENDER 3 CREDITS
This course will provide an analysis of society based on the interrelationships between these three factors and their influence on our social structure and behavior. There will be special focus on the ways in which any type of minority status impacts the social experience and the definition of personal and cultural roles. Both historical and contemporary perspectives will be explored through selected articles and films. Prepared and thoughtful discussion will be integral to the student’s experience.

SS233 FILM AND SOCIETY 3 CREDITS
Through the analysis of film and television as a text, this course explores social issues such as race, class, gender, politics, education, religion, social and historical change, and considers the ways film affects and is affected by society and social behavior. Students will reflect on the connections between film and society through in-depth discussions, presentations, readings, written responses, and research.

SS235 FINANCIAL PLANNING AND PRINCIPLES 3 CREDITS
This course provides a framework for personal financial planning through the study of economic principles including emphasis on the current economy and its effects on the individual and society as a whole. Through discussions, projects, and presentations students will gain an understanding of principles such as budgeting, credit and debt, and processes such as mortgages and retirement planning.

SS245 PHOTOGRAPHY AND THE HUMAN CONDITION 3 CREDITS
This course provides students with a general introduction to photography as an art form and reflection of the human condition. In this course, students will study the history of photography, famous photographers and photographs, photographs as a record of their subject, and also the artistic value of photographs. Students will explore various photographs to consider not only their aesthetic value, but also the relationships between artist, subject, and audience, as well as the social, historical, and cultural significance of these images. Students will pay particular attention to the stories photographs tell, from their subject matter to the way they are composed. Students will consider these stories when viewing and also when taking photographs, telling stories of their own.

SS255 SELECT TOPICS IN PSYCHOLOGY 3 CREDITS
An exploration of the ways in which human behavior and mental processes relate to everyday life. Basic concepts of psychology are introduced with special emphasis on their application to the students’ understanding of themselves and their interactions with others.

SS260 POSITIVE PSYCHOLOGY 3 CREDITS
Psychology is the study of cognitions, emotions, and behavior. This course is designed to provide a basic understanding of psychology, what we have learned about ourselves, and how psychology is applied to help improve our lives. The course focuses on the psychological aspects of a fulfilling and flourishing life. Psychology has often focused on deficits and disability. Recently, however, more focus has been placed on the more positive aspects of life. This course focuses on each person’s unique potential for positive growth and development. Topics include happiness, self-esteem, empathy, friendship, goal setting, love, achievement, creativity, mindfulness, spirituality, and humor.

SS265 EXPLORING ETHICAL ISSUES 3 CREDITS
This course invites students to explore specific ethical dilemmas that arise in societal and professional settings and to consider how to approach and resolve these issues. Students have the opportunity to develop their abilities to reason and debate scenarios involving ethical questions. By developing practical models for thinking and refining techniques of approaching ethical dilemmas, students will pay particular attention to issues that arise in social and industrial settings.

SS295 THE PSYCHOLOGY OF LEADERSHIP 3 CREDITS
Drawing on psychological research at the level of the individual, group, and organization, the class focuses on how leaders think, feel, and behave. This course provides an opportunity for students to learn and discuss leadership theories, and to develop a personal leadership philosophy. Topics include visionary leadership, leadership development, goal setting, ethics, storytelling, charisma, systems thinking, and crucible experiences.
SS304  SOCIETY IN COMICS, MANGA, AND GRAPHIC NOVELS  3 CREDITS
Through an exploration of comics as text, this course will explore the role that comics and cartoons have played as forms of social critique, commentary, education, and protest throughout modern society. Students will examine a variety of forms, including editorial cartoons, comics, journalism, memoir/biography, literary fiction, and even manga and superheroes. Students will look at how these works have attempted to influence opinion on a range of social issues, including race, class, gender, politics, education, and religion, and will further reflect on how comics engage in social commentary through in-depth discussions, presentations, readings, written responses and research.

SS309  SUSTAINABILITY AND THE HUMAN CONDITION  3 CREDITS
Through study of films, readings, websites and political policy, students will explore principles of sustainability with emphasis on how to meet human needs and reduce hunger and poverty while maintaining the life-support systems of the planet. Focus will be placed on discovering real ways that individuals, organizations, and governments can manage resources in a responsible manner, with minimal impact on the earth and its inhabitants. Discussion of solutions will include technological innovation, government and corporate policy, community organizations and individual advocacy.

SS395  THE IMPACT OF THE AUTOMOBILE ON AMERICAN CULTURE  3 CREDITS
Few inventions have redefined American life quite as dramatically as the automobile; it created new concepts of work and leisure, brought all Americans closer together, changed the shape of our cities and country, and even altered our understanding of “freedom” itself. This course will explore representations of the automobile’s role in American culture through various media, including text, film, and music, culminating in a major research project on an aspect of the automobile’s influence on American life.

TS201  ENVIRONMENTAL SCIENCE  3 CREDITS
An introduction to general science and 21st century issues faced. Topics include earth’s systems and resources, water and land use, the living world, population and pollution. The course focuses on energy resources and consumption as a prerequisite to the Study of Photovoltaics and Renewable Energies. (Offered in the fall)

TS310  GENERAL CHEMISTRY  4 CREDITS
Introduction to the fundamental principles of chemistry including atomic structure, stoichiometry, the periodic table of the elements, chemical bonding, molecular structure, and states of matter based on kinetic theory. Laboratory work presents an introduction to methods of quantitative chemical techniques. (Offered in the fall)
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