

College Catalog 2014 - 2015

 **MASSBAY**  
COMMUNITY COLLEGE

*Your dreams. Our mission.*



## LETTER FROM THE PRESIDENT

At MassBay, our mission is to foster educational excellence and student success, prepare students for local and global citizenship, anticipate and respond to the needs of surrounding communities, and contribute to evolving regional economic development.

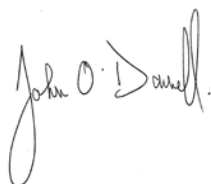
I believe our mission succinctly reflects our dynamic institution, where we provide you with the education and career skills you need to reach your academic goals, to fill the current and future jobs of the Massachusetts workforce, and to ultimately achieve your dreams.

The catalog can be a practical guide with the information you need to succeed as a MassBay student. In it, you will find the College mission, its values, and how we define our relationships with you, our students. As a prospective or current student opening the catalog, you may be seeking to make a decision about attending our college, selecting courses, choosing an academic program, planning for college transfer and/or your next step on a career path. Much of that information is here for you in this catalog.

I recommend that you take a next step after consulting the catalog, a step that is important to us and, we believe, crucial to both a full college experience for you at MassBay and to your academic success. That step is to meet with us – whether in the admissions or advising offices, with faculty advisors, or with any of the faculty and staff who are available to provide you counsel and direction.

Among the last pages of the catalog you will find a listing of our faculty and staff, their roles, and their academic credentials. For an optimal college experience, I recommend you build relationships with our faculty and staff. As you learn from coursework, you will also learn from knowing them.

With my best wishes for a successful experience at MassBay Community College,



John O'Donnell, Ph.D.

President



*Your dreams. Our mission.*

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# THE COLLEGE

## **MASSACHUSETTS PUBLIC HIGHER EDUCATION**

Massachusetts Public Higher Education is a system with a distinguished past, recognized as having one of the nation's most outstanding array of institutions. It is comprised of 15 community colleges, nine state universities, and the five campuses of the University of Massachusetts. The system exists to provide accessible, affordable, relevant and rigorous programs that adapt to meet changing individual and societal needs for education and employment. The public system is committed to continuous improvement and accountability in all aspects of teaching and learning. The Board of Higher Education, together with each respective Board of Trustees, expects all students, faculty, and staff to be held to exacting standards in the performance of their roles and responsibilities.

## **MASSACHUSETTS COMMUNITY COLLEGES MISSION STATEMENT**

Massachusetts Bay Community College (MassBay) is one of the 15 community colleges within the Commonwealth's public higher education system, a system that offers open access to high quality, affordable academic programs, including associate degree and certificate programs. Massachusetts' community colleges are committed to excellence in teaching and learning, and provide academic preparation for transfer to four-year institutions, career preparation for entry into high-demand occupational fields, developmental coursework, and lifelong learning opportunities.

Community colleges have a special responsibility for workforce development, and through partnerships with business and industry, provide job training, retraining, certification, and skills

improvement. In addition, they assume primary responsibility within the public system for offering developmental courses, programs and other educational services for individuals who seek to develop the skills needed to pursue college-level study or to enter the workforce.

Rooted in their communities, the colleges serve as community leaders, identifying opportunities and solutions to community problems and contributing to the region's intellectual, cultural and economic development. They collaborate with elementary and secondary education and work to ensure a smooth transition from secondary to post-secondary education. Through partnerships with baccalaureate institutions, they help to promote an efficient system of public higher education.

The community colleges offer an environment where the ideas and contributions of all students are respected. Academic, personal and financial support services are provided to ensure that all students have an opportunity to achieve academic and career success. No eligible student shall be deprived of the opportunity for a community college education in Massachusetts because of an inability to pay tuition and fees.

## **MASSBAY OVERVIEW**

MassBay is a comprehensive, open-access community college, offering over 70 associate degree and certificate programs. The College is dedicated to providing rigorous programs of study and unified support services that promote student retention, graduation, transfer, and employment. MassBay provides its diverse student body with a dynamic learning environment that encourages innovation, incorporates current technology, and fosters a learner-centered student experience. The College partners with high schools, four-year colleges and universities, and business and industry to provide clear educational and career pathways for students.



## THE MASSBAY MISSION

### *Your dreams. Our mission.*

MassBay Community College fosters educational excellence and student success, prepares students for local and global citizenship, anticipates and responds to the needs of surrounding communities, and contributes to evolving regional economic development.

MassBay proudly serves 27 MetroWest communities: Ashland, Bellingham, Belmont, Brookline, Dedham, Dover, Framingham, Franklin, Holliston, Hopkinton, Medfield, Medway, Millis, Needham, Natick, Newton, Norfolk, Norwood, Sherborn, Sudbury, Waltham, Watertown, Wayland, Wellesley, Weston, Westwood, and Wrentham.

### **MASSBAY IN THE COMMUNITY**

MassBay cares about the communities it serves, and the College strives to instill in its students, staff, and faculty the importance of the arts and culture, civic pride and volunteerism. Through alliances with various organizations, MassBay supports the diversity of its communities and offers students involvement and leadership opportunities in a wide range of rewarding activities. MassBay is proud to be the home of several artists in-residence, including the Wellesley Symphony Orchestra, All About Us Performing Arts, MassBay Players, MetroWest Youth Symphony Orchestra, and Newton Country Players. Events are normally free to the MassBay community and open to the public.

Visit [www.massbay.edu/events](http://www.massbay.edu/events) for updated information about upcoming events and activities in the community. Content is subject to change.

## ACCREDITATION

MassBay is accredited by the New England Association of Schools and Colleges, Inc. (NEASC), a non-governmental, nationally recognized organization whose affiliated institutions include elementary schools through collegiate institutions offering post-graduate instruction. Accreditation of an institution by NEASC indicates that it meets or exceeds criteria for the assessment of institutional quality periodically applied through a peer-group review process.

An accredited school or college is one that has available the necessary resources to achieve its stated purposes through appropriate educational programs, is substantially doing so, and gives reasonable evidence that it will continue to do so in the foreseeable future.

Institutional integrity is also addressed through accreditation. Accreditation by NEASC is not partial but applies to the institution as a whole. As such, it is not a guarantee of every course or program offered, nor 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 NEASC should be directed to the administrative staff of the school or college. Individuals may also contact the Association:

Commission on Institutions of Higher Education  
New England Association of Schools & Colleges  
3 Burlington Woods Drive, Suite 100  
Burlington, MA 01803-4531  
855-886-3272  
<http://cihe.neasc.org>

## THE MASSBAY VISION

MassBay Community College aspires to be a catalyst for transformation – calling for the best in students, preparing them as engaged citizens, and enabling them to realize their dreams.

Many of MassBay's individual academic programs are approved by external professional accrediting organizations and/ or by state regulatory agencies:

### **Automotive Technology**

Automotive Technicians Education Foundation (NATEF)  
101 Blue Seal Drive, S.E., Suite 101  
Leesburg, Virginia 20175  
703-669-6125  
[www.natef.org](http://www.natef.org)

### **Criminal Justice**

The Criminal Justice program is approved as a Police Career Incentive Program by the Massachusetts Board of Higher Education.

### **Early Childhood Education**

National Association for the Education of Young Children (NAEYC)  
1313 L Street, N.W., Suite 500  
Washington, D.C. 20005  
202-232-8777  
[www.naeyc.org](http://www.naeyc.org)

### **Emergency Medical Technician & Paramedicine**

The Massachusetts Department of Public Health  
Office of Emergency Medical Services  
99 Chauncy Street, 11th Floor  
Boston, MA 02111  
617-753-7300  
[www.mass.gov/dph/oems](http://www.mass.gov/dph/oems)

### **Nurse Assistant Training**

Massachusetts Department of Public Health  
Division of Health Quality  
99 Chauncey Street, 11th Floor  
Boston, MA 02111  
617-753-8000  
Approval #9162P0512

### **Nursing Associate Degree**

Massachusetts Board of Registration in Nursing  
239 Causeway Street, Suite 500, 5th Floor  
Boston, MA 02114  
800-414-0168; 617-973-0900  
[www.mass.gov/dph/boards/rn](http://www.mass.gov/dph/boards/rn)

Accreditation Commission for Education in Nursing (ACEN)  
3343 Peachtree Road, N.E. Suite 850  
Atlanta, Georgia 30326  
404-975-5000  
[www.acenursing.org](http://www.acenursing.org)

### **Practical Nursing**

Massachusetts Board of Registration in Nursing  
239 Causeway Street, Suite 500, 5th Floor  
Boston, MA 02114  
800-414-0168; 617-973-0900  
[www.mass.gov/dph/boards/rn](http://www.mass.gov/dph/boards/rn)

### **Radiologic Technology**

The Joint Review Committee on Education in Radiologic Technology (JRCERT)  
20 N. Wacker Drive, Suite 2850  
Chicago, IL 60606  
312-704-5300  
[www.jrcert.org](http://www.jrcert.org)

### **Surgical Technology**

Accreditation Review Council on Education in Surgical Technology and Surgical Assisting (ARC/STSA®)  
6 W. Dry Creek Circle, Suite #110  
Littleton, CO 80120  
303-694-9262  
[www.arcstsa.org](http://www.arcstsa.org)

Commission on Accreditation of Allied Health Education Programs (CAAHEP)  
1361 Park Street  
Clearwater, FL 33756  
727-210-2350  
[www.caahep.org](http://www.caahep.org)

# ENROLLMENT

## **ADMISSIONS APPLICATION INSTRUCTIONS**

Please review the admission requirements for your program of study. Some programs, such as Automotive Technology and several Allied Health programs, including Nursing are restricted. A restricted program has certain requirements that must be completed before you will be considered for admission.

Visit us at [www.massbay.edu](http://www.massbay.edu) and complete your free online application.

If you do not have access to a computer or the Internet, you may complete and submit a paper application. Please submit your completed application to:

MassBay Community College  
Office of Admissions  
50 Oakland Street  
Wellesley Hills, MA 02481-5307

Along with your application, please submit proof of high-school graduation or equivalency. The Office of Admissions will accept one of the following documents: an official final high school transcript, a copy of your high school diploma, a copy of a GED certificate, or an official college transcript indicating an associate degree or higher degree. If you are not applying to a Nursing or Allied Health program, you may self-certify your education credentials if you received a high school diploma or college degree from a school accredited by New England Association of Schools and Colleges (NEASC), or if you received your GED from Massachusetts or another New England state. Home-schooled students should consult the Home School Policy in this Catalog.

Students who have international documents must have these documents translated into English and evaluated to U.S. standards through a certified credentials agency. For more information, please contact the Office of Admissions at 781-239-2500.

If you have earned a college degree or college credits from other accredited colleges please forward your official transcript(s) to the Office of the Registrar on the Wellesley Hills or the Framingham campus to be evaluated for transfer credit.

Once accepted into a program of study, you will be expected to follow the curriculum and course requirements in place at the time of your admission. If you are continuously enrolled (i.e., with no interruption of an academic program longer than four semesters), you will be expected to fulfill the requirements for the specific program of study listed in the Catalog that was current at the time of your admission to MassBay. If you are not continuously enrolled, you are expected to meet the requirements current at the time of your readmission to MassBay. If you change your major, you are expected to follow the program requirements in effect at the time your Change of Major form is filed and processed.



## THE MASSBAY VALUES

### ***Accessibility and Affordability***

MassBay is an affordable, open-access public institution, which meets the immediate and long-term needs of diverse students and communities that the College serves.

### ***Communication***

MassBay is committed to a culture of open communication and transparency.

### ***Diversity***

MassBay values and pursues diversity, and teaches students the importance of inclusion and collaboration in a global context.

### ***Professional Development***

MassBay invests in professional development for faculty and staff to ensure the excellence of its programs and services.

### ***Respect***

MassBay promotes mutual respect and creates a forum for vigorous questioning and debate among faculty, staff and students.

## OFFICE OF ADMISSIONS

**Wellesley Hills Campus / Room 101 / 781-239-2500**  
**Framingham Campus / Front Desk / 508-270-4059**

## General College Admission Requirements

MassBay maintains an open-door admissions policy as defined by the regulations of the Massachusetts Board of Higher Education, offering those who express a desire to pursue a college education the opportunity to enroll.

Students who have earned a high school diploma, a General Education Development Credential (GED), or an associate degree or higher degree, are eligible for admission to MassBay.

Applicants are expected to perform college level work and conduct themselves in a manner appropriate for college students. In cases where placement tests or other indicators suggest the contrary, the College reserves the right to deny admission. All associate degree or certificate-seeking students are required to complete an application to MassBay and must be assessed in their reading, writing, and mathematics skills. MassBay offers placement testing throughout the year in multiple locations. Please refer to [www.massbay.edu/testing](http://www.massbay.edu/testing) for more information and to schedule a placement test.

## Writing Test Waiver

Students may be granted a waiver from the writing test requirement if they have successfully completed a college-level freshman composition course with a grade of "C" or better. The course must have been taken at an accredited U.S. college or university and be equivalent to the MassBay course Freshman English I. Students may also be exempt if they have completed a higher-level course (equivalent to Freshman English II) with a grade of "C" or better. Students who completed the equivalent of Freshman English I with a passing grade below "C" at another institution will not be required to take the placement test but must successfully complete Freshman English I. The College does not accept credits for transfer from courses with a grade below "C."

## Math Test Waiver

Math test waivers are available to students who can provide proof of completion, with a grade of "C" or better, of an appropriate college-level mathematics course taken at an accredited college or university.

## Residency Requirements

Massachusetts residency for in-state tuition is determined by the Office of Admissions as defined by the Department of Higher Education Residency Status for Tuition Classification Purposes Policy. A Massachusetts resident is currently defined as a U.S. citizen, permanent resident, or a lawful immigrant based on the policy. A resident must have proof of a minimum of six (6) consecutive months of permanent primary domicile in the Commonwealth of Massachusetts prior to the first day of the semester and present evidence of intent to live in Massachusetts indefinitely. Nonresidents may attend MassBay at the out-of state tuition rate. For more information please contact the Office of Admissions at 781-239-2500.

## Open Houses and Information Sessions

MassBay hosts fall and spring Open House events. In addition, MassBay offers general information sessions, Nursing and Allied Health information sessions on the Framingham Campus, and Automotive Technology information sessions at the Ashland Technology Center on a regular basis.

Anyone interested in enrolling at MassBay is encouraged to attend an appropriate event to learn more about the programs and what MassBay has to offer. To review the calendar of information sessions and to make a reservation, please visit the MassBay website at [www.massbay.edu/](http://www.massbay.edu/).

## Campus Tours

Campus tours can be scheduled by contacting the Office of Admissions at 781-239-2500.

## Non-Degree Seeking Students

Students who intend to take a course or courses to transfer, and do not intend to obtain an associate degree or certificate from MassBay, may register for classes without submitting an application for admission. Students who are enrolling in a course(s) that requires a prerequisite must meet with an academic advisor. Please note, students in this category are considered “non-matriculated” or “non-degree” seeking students and are not eligible for financial aid.

## Student Immunization

In accordance with Massachusetts General Law (MGL): 220.600 Immunization Requirements for College Students, students must provide evidence of immunization to the Office of Student Development in order to register for classes. These requirements of 105 CMR 220.600 shall not apply where:

- The student provides written documentation that he or she meets the standards for medical or religious exemption (as set forth in MGL. c. 76, § 15C);
- The student provides appropriate documentation, including a copy of a school immunization record indicating receipt of the required immunizations;
- In the case of measles, mumps or rubella, and hepatitis B, the student presents laboratory evidence of immunity.

Students may be registered on the condition that the required immunizations are obtained within 30 days of registration.



*Newly installed sculpture at the MassBay Wellesley Hills Campus, Liminal Bloom by Andy Zimmermann, welded and bolted aluminum, polypropylene; gifted to MassBay Community College through The Art Connection, in memory of MassBay alumna, Krystle Campbell, Class of 2005.*

## International Students

The Office of International Education & Study Abroad Programs is responsible for the enrollment and academic support services for all international students and administers the regulations governing their status. Support services are provided from acceptance to the College and continue throughout their academic experience. Students who have international documents must have these documents translated into English and evaluated to U.S. standards through a certified credentials agency. Please contact the Office of International Education & Study Abroad Programs at 781-239-2642 for more information.

When submitting an International Student Application, students should include the following:

1. A completed MassBay application;
2. TOEFL scores (62 iBT required only if applying outside of the US);
3. Proof of high school graduation or equivalency.

Once the College receives all required documents, the Office of Admissions will notify students in writing of their admission status. Upon receiving an acceptance letter, students must submit the following forms to the Office of International Education & Study Abroad Programs to receive their Certificate of Eligibility (I-20):

- I-20 Request Form;
- Completed immunization form;
- Notarized financial statement verifying that a student has at least \$21,249 in U.S. dollars that is available as their source of financial support for educational and living expenses while studying in the U.S. (Note, this amount is subject to change);
- If a student's sponsor is someone other than their parent or legal guardian, the sponsor must submit a letter to the Office of International Education & Study Abroad

Programs verifying that they will be assuming financial responsibility for the student;

- Copy of passport. International students must maintain a minimum of twelve (12) credit hours per semester and twenty-four (24) credits per year. Based on these requirements, the following is an estimate of expenses for a full academic year:

### International Student Tuition and All-College Fee

\$380 per credit (non-resident rate)	\$9,120
Facilities & Transportation Fee	\$80
Health Insurance	\$1,603
<b>Estimated Living Expenses (9 months)</b>	
Books and Supplies	\$446
Housing, food, transportation	\$10,000
<b>Total (Subject to Change)</b>	<b>\$21,249</b>

International students studying on an F1 Visa are required to pay the non-Massachusetts resident tuition and fees. International students are not eligible to apply for financial aid at MassBay.

Students seeking to transfer a Certificate of Eligibility I-20 from another U.S. SEVIS-authorized institution should seek assistance with this process from the Office of International Education & Study Abroad Programs at 781-239-2642.

Student housing is not available on any of the MassBay campuses. Apartment rentals, homestay companies, international student residences and furniture rentals are available in the MetroWest and greater Boston area. The Office of International Education & Study Abroad Programs solely provides a list of housing resources, and is not responsible for placement or details concerning all aspects of student housing.

## Under-Aged Students

The College reserves the right to limit or deny enrollment in a course or program to any student under the age of 16. Admission to the College will be based on a case-by-case review of a variety of factors including but not limited to: the student's maturity, life experience, placement test scores, prior education, course content, instructional methodology, and potential risks associated with participation in a particular course or program.

## Home Schooling Policy

All home-schooled students without a high school diploma or GED are eligible to apply for admission to a MassBay degree or certificate program provided they have successfully completed an approved home-school program in accordance with Massachusetts General Laws or the laws of their home state.

The College determines whether students have participated in an approved home-school program. Students shall submit with their application for admission evidence that the home-school program was approved by their school district superintendent or school committee. If home-schooled students are under the age of compulsory attendance of 16 years, a letter from the student's school district superintendent or school committee is required. The letter should expressly state that the student is not considered truant and would not be required to attend further schooling prior to enrolling in College. Home-schooled students who have not completed an approved home-school program will not be eligible to enroll in a MassBay degree or certificate program until they have obtained a GED.

## New England Regional Student Program

Under the New England Regional Student Program, if a student claims residency in a New England state other than Massachusetts which does not have a comparable associate degree program, the student may be able to attend MassBay for 150% of the in-state tuition rate, which is less than the out-of-state tuition rate. If a student's residence is in a New England state other than Massachusetts, he or she should contact the Office of Admissions to see whether their major qualifies for the New England Regional Student Program.

## Dual Enrollment

The Dual Enrollment program at MassBay allows qualified high school and home-schooled students to enroll in college courses. Participating students may receive both high school and college credit for their course work.

### *Dual Enrollment requirements:*

- Current high school student or currently participating in an approved home-school program.
- Completion of the Dual Enrollment Agreement.
- Overall high school grade point average (GPA) of 3.0 out of 4.0.
- Placement into college-level math and English classes.





## **Admission into Specialized & Restricted/Criteria-Based Programs**

Admission into some programs is restricted/criteria-based due to a limited number of openings. In addition to the general admission requirements, these programs have specific requirements. All applicants to restricted/criteria-based programs will initially be offered acceptance into the General Studies program. When admission requirements/criteria have been completed, a student will be considered for a restricted/criteria-based program.

### **AUTOMOTIVE TECHNOLOGY**

Each of the automotive technology programs involve physical requirements (commonly called Technical Standards) that candidates must be able to perform in order to participate. The ability to perform these tasks and functions is considered essential to the automotive technology programs.

A checklist of the specific Technical Standards necessary for each program is available through the Office of Admissions. Candidates are encouraged to review the list. Candidates with doubts about their ability to perform any of the functions should consult with health care providers. If candidates or their health care provider feel that some form of accommodation would allow candidates to meet the performance requirements, they should contact the Office of Disability Resources. For additional information, contact the Office of Admissions at 781-239-2500.

The Automotive Technology program curriculum features a cooperative education (co-op) component. Securing a dealer sponsorship commitment is strongly recommended prior to enrollment in a MassBay automotive technology program.

## **HEALTH SCIENCES PROGRAMS**

Students seeking admission to a health sciences program will be evaluated by grade point average (GPA) and pre-admissions requirements. Science courses must be repeated if they were taken more than five years before the time of matriculation/acceptance into a MassBay health sciences program. In some programs, sciences may only be repeated once.

Prospective applicants to health sciences programs are required to attend an information session as the first step in their application process. Sessions are regularly scheduled by the Office of Admissions. For a current schedule and to make a reservation, visit the MassBay website at [www.massbay.edu/](http://www.massbay.edu/), or contact the Office of Admissions at 781-239-2500.

Applicants to fall health sciences programs must have all admission requirements completed and evaluated by the preceding February 1<sup>st</sup> for priority consideration for the fall semester. Applicants to the spring health sciences programs must have all admission requirements completed and evaluated by the preceding June 1<sup>st</sup> for priority consideration for the spring semester.

### **CPR REQUIREMENTS**

Proof of CPR certification is required prior to clinical placement. The Health Care Provider Card (from the American Heart Association) and the Professional Rescuer Card (from the American Red Cross or National Safety Council) are the only types of CPR certification that meet this requirement.

Students who do not have this certification may enroll in a Health Care Provider course through the MassBay Center for Corporate Training & Community Education (CCTCE).

For more information about the CCTCE, please visit [www.massbay.edu/cctce](http://www.massbay.edu/cctce).

## HEALTH SCIENCES POLICIES

Students enrolled in MassBay health sciences programs must adhere to policies developed to meet the requirements of their accrediting and regulatory agencies. In addition to academic requirements, there are clinical and affective domain (behavioral) policies for each program. These policies are detailed in the Division of Health Sciences Student Handbook, which is available for viewing and downloading on the MassBay website. A hard copy of the handbook is provided to each student at the beginning of his or her program.

### Search of Records for Past Criminal or Sexual Offenses

Any MassBay health science program student whose course-work or clinical placement activity requires direct access to children, elderly, patients, or disabled or other at-risk populations, must submit to a background check. Acceptance or enrollment in a health sciences program does not in any way guarantee a student will be allowed to licensure. It is the student's responsibility to work with the appropriate state licensing board to determine eligibility to sit for a licensing examination. The purpose of the background check is to ensure public safety and avoid unacceptable risk to vulnerable populations.

There are three types of required background checks: CORI, SORI and Supplemental:

**CORI and SORI** – Students must complete the CORI (Criminal Offender Record Information) form to authorize a search of conviction and pending criminal case information under Standard Required Level I by the DCJIS (Department of Criminal Justice Information Services). As required, students must provide the last six digits of their social security number on the CORI form and present a valid government issued ID (such as a license or passport) to verifying staff. Students must also complete the SORI (Sex Offender Registry Information) form.

The CORI and SORI completion process occurs at program orientations prior to the beginning of health sciences programs, and may occur during the first or second week of each following semester. MassBay's Division of Health Sciences may conduct subsequent CORI checks within one year of the date the form was signed by a student. The Division of Health Sciences will first provide students with written notice of the check. Students may also be required to complete subsequent CORI and SORI request forms according to clinical facility requirements.

If a CORI and/or SORI Report or National County Background Check is returned with a finding(s), it may or may not prohibit progression in a health sciences program. CORI and/or SORI finding(s) will be forwarded to a College-wide Review Committee, and the student will be invited to the review session. The final decision regarding a student's progression in a health sciences program will be determined at that time.

### ADDITIONAL CLINICAL REQUIREMENTS

Some health care facilities may require additional information and/or screening from students prior to clinical placement. These include, but are not limited to, submission of social security number, finger printing, drug testing, CORI checks, and proof of immunizations. It is the policy of MassBay Community College to review these requirements prior to clinical placement to ensure that students' rights and privacy are protected in accordance with state and federal laws. Additional fees may also apply.



## HEALTH/IMMUNIZATION RECORDS

Health sciences students must have had a physical exam within one year prior to entry into a health program. Students must obtain their health care provider's documentation of a physical exam and verification that all required immunizations are current. Required immunizations include:

- Measles, Mumps, Rubella (MMR) 2-dose vaccine or Titer (laboratory evidence of immunity);
- Tetanus/Diphtheria/Pertussis (Td/TDAP) booster within the past 10 years;
- 2-Step Tuberculin Test within the last six months, QuantiFERON blood test, or chest x-ray with documentation of a negative symptom review check annually thereafter;
- Varicella 2-dose vaccine or Titer;
- Hepatitis B 3-dose vaccine series and a Titer 1 – 2 months following completion of the series, or a Titer if a previous Titer is more than five years old. This requirement must be completed prior to entry into a health sciences program. It takes six months to complete the Hepatitis B vaccination process;
- Seasonal influenza vaccine (when available);
- Titers must be submitted on official laboratory reports. The TB test and seasonal influenza vaccine must be updated annually.

All immunization and CPR documentation will be managed by Certified Profile/Certified Background, a secure, web-based platform. Once enrolled in a health sciences program, students will receive instructions on how to create a personal profile on and upload their immunization and CPR documentation using [www.certifiedbackground.com/](http://www.certifiedbackground.com/). Certified Background will send email alerts to students when documentation is missing, incomplete, or in need of updating. Health Sciences faculty will refer to Certified Background data to determine whether students are cleared to attend clinical or field experience rotations.

## Authorization for Release of Medical Information

The Physical Examination & Immunization Record form requires students' signature authorizing the release of immunization information to clinical affiliated agencies. College policies regarding student rights will be maintained. The Federal Family Education Rights in Privacy Act of 1974 (FERPA) prevents unauthorized individuals from gaining access to educational records, health records, and disability information. Students must provide written permission to release or disclose such information. Students must grant permission for the sharing of any information between the College and clinical facility that is relevant to the success of the clinical experience.

## MINIMUM TECHNICAL/PERFORMANCE STANDARDS

MassBay's health sciences programs have technical standards that candidates must be able to perform in order to successfully and safely complete the program. The categories of functions include muscular and skeletal, auditory visual, manual dexterity and fine motor skills, verbal, olfactory, and environmental.

A list of the technical standards for each program is available through the Division of Health Sciences, and students must sign the technical standards forms indicating their ability to perform. Prospective students are encouraged to review the list of physical requirements. Candidates with any concerns about their ability to perform any of the functions should consult with their health care provider. Should candidates or their health care provider feel that some form of accommodation would allow candidates to meet performance requirements, they should contact the Office of Disability Resources. For additional information, contact the Office of Admissions at 781-239-2500. Technical standards can also be found in the Division of Health Sciences Student Handbook and in the Office of Admissions.

## Fast Facts: How to Sign up for Classes

### *For new students applying for a degree program:*

- Complete an application for admission.
- Forward final high school transcript, copy of high school diploma, or GED certificate.
- Submit official college transcripts (if applicable).
- Apply for financial aid if necessary (Note: FAFSA deadlines are May 1st, and November 1st – dates may be subject to change).
- Take placement tests.
- Attend a SOAR (Student Orientation And Registration) to meet your Advisor, select courses, and register for classes
- Make payments or arrange for payment plan.

### *For visiting students:*

- Take placement tests.
- Search online listings and select courses.
- Register for classes.
- Make payments or arrange for payment plan.

### *For currently enrolled students:*

- Contact your advisor to schedule an appointment.
- Meet with your advisor and select your courses.
- Register for classes online via Bay Navigator.
- Make payments or arrange for payment plan.

### *Placement testing:*

To register for placement testing, contact the Academic Achievement Center at 781-239-2760 or register online at [www.massbay.edu/testing](http://www.massbay.edu/testing).

## Fast Facts: The Registration Process

### *Here are some points to remember to make your registration process smoother:*

- Students will not be allowed to register if they have an outstanding financial obligation with the College.
- Registration in math or English courses requires placement exam results unless the student has been waived from the placement test by the Advising Center.
- Students may not register for a course that has a prerequisite unless they have either completed the prerequisite or are currently enrolled in it at MassBay. If the prerequisite was completed at another school, students must submit proof of completion to the Advising Center.
- Students who have been accepted to a restricted program, such as many of the health sciences programs or automotive technology programs, must obtain their program advisor's signature to register for any courses.
- A full-time course load is 12 or more credits. However, it is necessary to complete more than 12 credits per semester in order to finish a degree program in the recommended time. Students may register for a maximum of 20 credits with an advisor's signature. To register for courses that total more than 20 credits in a semester, the signature of the program's dean is required.
- To obtain information on the semester schedule and class meeting times and places, please visit our website, [www.massbay.edu/testing](http://www.massbay.edu/testing).



## Readmission Policy

Students who have been dismissed or who have withdrawn from any program within the Division of Health Sciences at MassBay will be considered only once for readmission to the same program. Students who have not been successful in one health science program can apply for admission to a different health program if they have an overall College GPA of 2.0 or better. Students who have been dismissed or withdrawn from a program for reasons of “clinically unsafe practice/behavior” as defined in the DHS Student Handbook and Policy Manual (see E.14.0) or who violate the College’s Student Code of Conduct are not eligible for admission/readmission to any DHS program. See program addendums for specific requirements for admission/readmission.

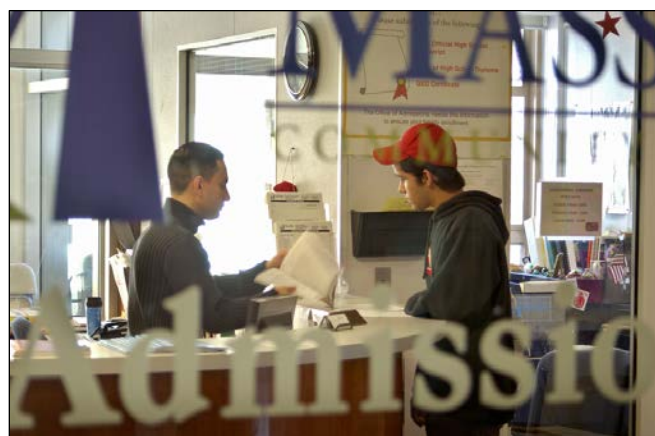
An application for readmission must be made within 12 months of withdrawal or dismissal from the original program. Readmission application deadlines are February 1 for the fall semester and June 1 for the spring semester. Qualified candidates will be selected from a readmission pool and based on the seat availability for that course and/or program.

Based on specific course/program requirements and accreditation standards, students may be required to retake courses, or take competency exams or skill testing prior to readmission, even if courses have been completed successfully. Should a student not attain a passing grade on skill or competency testing, they will be required to retake a course(s) in its entirety.

Limited spaces are available for applicants for readmission. A student seeking readmission to any restricted health sciences program must contact the Office of Admissions. For more information, please contact the Office of Admissions at 781-239-2500.

## Medical Leave Policy

Students who leave a course mid-semester with verified medical or family illness documentation will be withdrawn from the course but not from the restricted health science program. The withdrawal will not be counted against the student. Students who are granted a medical or family leave will be accommodated in the subsequent offering of that course on a space available basis, after first providing medical documentation approving their participation. Students seeking readmission must contact the Department Chair by the required date. Students will have 12 months to be reinstated in the withdrawn course for medical reasons. Students returning from medical leave will be required to pay tuition for all enrolled courses. Students are only eligible for medical leave during a semester. Medical leave will not be granted once the course is completed and/or grades have been issued.



## FINANCIAL AID

Wellesley Hills Campus / Room 111 / 781-239-2600  
Framingham Campus / Room 100 / 508-270-4010

### Office of Financial Aid Mission

MassBay Community College is committed to providing access to higher education by reducing economic barriers. The role of the Office of Financial Aid is to provide information about student aid programs and to assist eligible students in accessing these programs. Students are encouraged to apply for financial aid to help meet the expenses of attending college.

### Changes in federal, state, and/or institutional policy could affect information contained in this Catalog.

The U.S. government places the primary financial responsibility of a college education on the student and the student's family. Financial aid is considered only a supplement to a student's personal resources.

#### *To Receive Financial Aid*

A student's financial aid award will be adjusted to reflect any change in the number of credits for which they are currently registered.

#### **Please note:**

- Full time = 12 or more credits
- 3/4 time = 9-11 credits
- 1/2 time = 6-8 credits
- Less than 1/2 time = 5 credits or fewer

Certain financial programs require specific credit loads. Please visit the Office of Financial Aid for details. You may obtain a copy of the *Financial Aid Handbook*, which further explains the eligibility requirements for financial aid by visiting or calling the Office of Financial Aid.

### Financial Aid Eligibility Guidelines

In order to receive financial assistance from federal and state student aid programs, you must meet the following requirements:

- Be a citizen or eligible non-citizen of the U.S.
- Have a high school diploma, General Education Development (GED) certificate, or have completed a high school education in a home school setting that is recognized as a home school under state law.
- Enroll in an eligible program as a matriculated student seeking a degree or certificate. An admissions application must be completed and received by the Admissions Office.
- Be registered with the Selective Service, if required. Males age 18 through 25 are required to register.
- Meet satisfactory academic progress (SAP) standards.
- Certify that you are not in default on a federal loan or owe money on a federal grant.
- Certify that you will use federal student aid only for educational purposes.
- Certify that you have not been convicted for the possession or sale of illegal drugs for an offense that occurred while you were receiving federal student aid. For more information regarding your eligibility status related to this issue, please call the Federal Student Aid Information Center at 1-800-4-FED-AID (1-800-433-3243).

## Financial Aid Application Process

To apply for financial aid, follow these two easy steps:

1. Apply for a PIN number at [www.pin.ed.gov](http://www.pin.ed.gov), if you do not already have one. You will need a PIN to electronically sign your Free Application for Federal Student Aid (FAFSA). If you are a dependent student, a parent must also apply for a PIN so that they can electronically sign your FAFSA. Save your PIN to use again in future years.
2. Complete the 2014-2015 Free Application for Federal Student Aid (FAFSA) online at [www.fafsa.ed.gov](http://www.fafsa.ed.gov). The FAFSA is used to determine your eligibility for federal and state financial aid. List "Massachusetts Bay Community College" in the College Release Section; **our federal school code number is 002171**. Submit additional documents to the Office of Financial Aid if requested by MassBay.

The priority deadline for federal financial aid for the 2014-2015 academic year is May 1, 2014. Students who complete the application process by this date will have an award decision prior to the start of the fall semester. The priority deadline for those entering the College in January 2015 (i.e. spring semester) is November 1, 2014. If a student has not completed his or her file by the priority deadline, they may be responsible for settling their fall bill without the benefit of financial aid.

## Sources of Financial Aid

### ***Federal Work-Study (FWS)***

Federal Work-Study (FWS) is a federally funded program that provides part-time jobs in non-profit institutions on- and off-campus. FWS funds are awarded on a funds available basis. Eligibility is determined from the information provided on the FAFSA. If a student is awarded FWS, the amount shown on the financial aid award notification reflects the maximum amount he or she may earn during the *academic year*. FWS employees will receive a paycheck every two weeks based on the actual number of hours worked and the pay rate. FWS funds are not credited to a student's account. **Please be aware that a Federal Work-Study award does not guarantee a student a job.** If you are awarded FWS, please visit the Office of Financial Aid to view a listing of available positions and to complete any necessary paperwork.

### ***Federal Pell Grants***

The Federal Pell Grant is a need-based grant program from the federal government for undergraduate students with significant need. The maximum amount for the Federal Pell Grant is \$5,645 for a full-time student. In order to be eligible for a Pell Grant, a student must have a valid Expected Family Contribution (EFC), meet all of the general Title IV student eligibility requirements, and not have a prior bachelor's degree.

### ***Federal Supplemental Educational Opportunity Grants (FSEOG)***

The Federal Supplemental Educational Opportunity Grant is a need-based grant from the federal government for undergraduate students with significant financial need. FSEOG is awarded on a funds available basis, typically to students who are recipients of the Federal Pell Grant. The amount of a typical FSEOG is \$200.

### **William D. Ford Federal Direct Stafford Loan Program**

Stafford loans were created by the U.S. Department of Education, enabling students to borrow to help pay educational expenses. MassBay is responsible for determining eligibility based on the results of the FAFSA and current federal regulations. The loan(s) are taken out in the student's name, and there is no credit check required to qualify for this program. All recipients must complete federally mandated loan counseling and complete a master promissory note prior to the disbursement of funds. Exit counseling must be completed before graduation, at termination of enrollment, or if enrollment drops below six (6) credits in a semester. Students must be enrolled in at least six (6) credits in a semester to be eligible.

*Subsidized Direct Stafford Loans* are need-based and do not accrue interest while a student is enrolled at least half-time.

*Unsubsidized Direct Stafford Loans* are not need-based and accrue interest while a student is enrolled. Students may choose to defer the interest and pay it with the principal amount upon graduation or less than half-time enrollment, or pay the interest on a quarterly basis while still enrolled. Repayment for both Subsidized and Unsubsidized Federal Direct Stafford Loans begins six months after a student graduates, withdraws, or is attending school less than half-time (five credits or fewer).

For additional information regarding these federal loan programs including current interest rates, fees, and repayment options, please visit the Direct Loan website at [www.direct.ed.gov](http://www.direct.ed.gov).

### **Federal Parents' Loans for Undergraduate Students (PLUS)**

The PLUS loan is a federal government loan borrowed through the College in the parent's name. PLUS loan applications and master promissory notes are accessible online at [www.studentloans.gov/](http://www.studentloans.gov/). The disbursement of PLUS funds is administered by MassBay. Parents are eligible to borrow up to the cost of

attendance minus all other sources of financial aid. Repayment begins within 60 days after the second disbursement is applied to the student's account.

For additional information regarding these federal loan programs, including current interest rates, fees and repayment options, please visit the Direct Loan website at [www.direct.ed.gov](http://www.direct.ed.gov).

### **GI Education Benefits**

MassBay is approved by the Department of Veterans Affairs to certify students eligible to receive Veterans Administration (V.A.) benefits. Veterans of the U.S. Armed Forces, reservists, and dependents of deceased veterans may be eligible for V.A. education benefits as a result of their service. Students may apply for educational benefits for full, three-quarter, or part-time enrollment. The V.A. Certifying Official provides the appropriate paperwork to apply for G.I. Bill benefits and is responsible for certifying enrollment status to the V.A., which results in the payment of benefits to a student. However, the V.A. Certifying Official does not determine eligibility for benefits.

Massachusetts residents who are members in good standing with the Massachusetts National Guard are eligible for a waiver of tuition and fees for day and evening credit classes. For information about eligibility requirements and application procedures, please see the Veterans Affairs Counselor located in the Office of Student Development, or visit [www.massbay.edu/veterans](http://www.massbay.edu/veterans).

### **MASSGrant**

This grant is awarded to full-time (12 credits or more each semester) students who are Massachusetts residents and who do not have a prior bachelor's degree. A FAFSA must be filed by the May 1 priority deadline to be considered for this grant.



### **Massachusetts Part-Time Grant**

This grant is awarded to Massachusetts residents who are enrolled in six to 11 credits each semester and do not have a prior bachelor's degree. The Massachusetts Part-Time Grant is awarded on a funds available basis.

### **Transfer Scholarships**

Various scholarships are available to assist MassBay graduates seeking transfer to four-year institutions. Below is a sample list. For more information on requirements and application deadlines for these and other transfer scholarships, please contact the College's Transfer Counselor or the four-year institution directly.

- **Boston University**  
Two (2) renewable scholarships for full tuition are available. Students must be a Boston public high school graduate, a U.S. citizen or permanent resident, have a 3.5 GPA, and have completed a minimum of 60 transferable credits
- **Boston University's Metropolitan College Community Scholars' Program**  
Boston University's Metropolitan College provides the opportunity to complete a Bachelor's degree in their evening and weekend program. This scholarship will cover 50% of tuition costs for up to 12 credits per semester, through the completion of a student's Bachelor's degree. Students must be graduating from MassBay with an Associate degree and a minimum GPA of 3.0. This scholarship is awarded each fall and spring semester.
- **UMass-Community College Scholars Program**  
This program awards up to \$10,000 per year for students transferring to any University of Massachusetts campus. Requirements include completion of an Associate degree, a minimum 3.75 GPA, Massachusetts residency, and full-time status upon transfer. The award may be renewable for up to two years and is awarded each fall and spring semester.
- **UMass-Amherst Community College Academic Honors Program**  
To be eligible for this program, a student must have a minimum 3.5 GPA and at least 45 earned academic credits towards a MassBay degree at the time of application, be completing an associate degree, be a U.S. citizen or permanent resident, and plan to enroll in the day division. Awards of up to \$2,500 per year are possible. This scholarship is awarded each fall and spring semester.
- **UMass-Boston Foster Furcolo Scholarship**  
This scholarship pays for two years' tuition and mandatory fees at UMass-Boston. To apply for this scholarship, a student must have completed or be completing an associate degree program at MassBay with a minimum 3.5 GPA. This scholarship is awarded each spring.
- **UMass-Boston Chancellor's Scholarship for Excellence**  
This scholarship can provide full tuition and mandatory fees while a student attends UMass-Boston. To qualify for the scholarship, a student must demonstrate one of the following: academic excellence with a 3.5 transfer GPA, excellence in the arts, or excellence in unpaid public or community service. This scholarship is awarded each fall and spring semester.
- **UMass-Boston Student Enrollment LEADERS Program**  
High-achieving, newly-entering students with a minimum 3.0 GPA who are interested in representing the University at key events are encouraged to apply to the Student Enrollment LEADERS Program. Applicants must plan to enroll full time. Recipients will receive approximately \$1,000 annually in scholarship funding. Additionally, they must work ten hours per week within one of the offices of the Division of Enrollment Services and University Communications. Enrollment LEADERS will also serve as tour guides and goodwill ambassadors at several admissions events throughout the year. NOTE: This program is open to out-of-state students.

- **UMass-Lowell Community College Transfer Scholarship**

To be eligible for this program, a student must have earned a minimum 3.7 GPA and at least 45 earned academic credits towards a MassBay degree at the time of application, be completing an associate degree, be a U.S. citizen or permanent resident, and plan to enroll in the day division. Awards of up to \$2,500 per year are possible. This scholarship is awarded each fall and spring semester.

- **New England Transfer Association Scholarship**

Three \$1,000 awards are granted each year to students who have earned an associate degree or completed 60 college-level credits with a 3.5 GPA. Recipients must be transferring to a New England Transfer Association (NETA) affiliated 4-year institution. A NETA member must nominate a student for consideration, and an essay is required. This scholarship is awarded each spring.

### **Senator Paul E. Tsongas Scholarship**

The Paul Tsongas Scholarship Program seeks to recognize achievement and reward Massachusetts students who have graduated from high school within three years with a grade point average (G.P.A.) of 3.75 and highly competitive Scholastic Aptitude Test (S.A.T.) scores (or the American College Testing [A.C.T.] equivalent) and who also meet the one year residency requirement for tuition classification at state colleges or universities. Students who meet the above residency requirement for tuition classification and who have pursued other endeavors for a minimum of five years are eligible to apply to a state college or university for the Paul Tsongas Scholarship Program under the exceptional life experience category set forth in the guidelines. Eligible students receive a waiver of tuition and mandatory fees at a Massachusetts state college or university.

To be eligible for a Paul Tsongas Scholarship, a student must:

- Meet eligibility criteria established by the state college or university and approved by the Massachusetts Board of Higher Education.
- Be a permanent resident of Massachusetts for at least one year prior to the opening of the academic year.
- Be a United States citizen or eligible noncitizen.
- Be in compliance with applicable Selective Service Registration Laws.
- Not be in default of any federal or state loan or owe a refund on any previously received financial aid.
- Maintain a G.P.A. of 3.3 for continued eligibility for the waiver for four years of study.





## MassBay Foundation Scholarships

([www.massbay.edu/scholarships](http://www.massbay.edu/scholarships))

A wide range of scholarships are offered to qualifying MassBay students attending MassBay. See below for a complete list of available scholarships.

- **Krystle Campbell Scholarship**

This scholarship is established in memory of Krystle Campbell, a Medford resident who tragically lost her life at the age of 29 in the Boston Marathon Bombings on April 15, 2013. She was a MassBay graduate of the class of 2005, with an Associate Degree in Business Administration who later transferred to the University of Massachusetts, Boston.

- **The General Scholarship**

\$1,000 scholarships are awarded annually from this fund to needy MassBay students who are in good academic standing. Scholarships are given in the fall and spring semesters to as many as 20 students.

- **2013 – 2014 Health Sciences Scholarship**

The purpose of this scholarship is to provide students in the Health Science fields with financial support who otherwise could not afford their first year in college. It is designed to give those who are financially or socially disadvantaged the help needed to start or restart their education and reach higher levels of employability. The spring deadline is April 15, 2014.

- **\$500 John F. McKenzie Scholarship**

For \$500 for one student in each public high school in MassBay's service area.

- **The Richard P. Carbone Scholarship Fund**

The Richard P. Carbone Scholarship was established in memory of Richard P. Carbone, a Wellesley High School Assistant Principal from 1968 until he retired in 1985. Toria Carbone, Richard's wife, recalls, "He was most proud that he never gave up on a kid." The scholarship will be awarded to a MassBay student to be used for tuition, books, and non-waive able fees. The candidates must be residents of the Commonwealth of Massachusetts. More than one scholarship will be awarded. Application deadline for the fall 2014 semester is April 15, 2014; October 15, 2014 for the spring 2015 semester.

- **Information Security Summit Scholarships (Full-Time and Part-Time)**

The Information Security Summit Scholarship was created and is supported by the generous sponsors of the Information Security Summit established by Towerwall and MassBay Community College. Sponsors include: Alien Vault, BROCADE, CDW-G, SOPHOS, TREND, VARIOS, VORMETRIC, WAVE, Gigamon, GovConnection Inc., HB Communications, Inc., HTS, McAfee, TCG Network Services, TIBCO LogLogic, and WatchGuard.

- **Scholarship for Reentry Students**

Minimum age requirement of 25 years old who have a minimum grade point average (GPA) of 3.5 or higher.

- **Summer Sessions Scholarship**  
Need-based for summer sessions; Up to eight scholarships will be awarded per summer semester.
- **The Leonce Cadet Berotte Scholarship**  
The Leonce Cadet Berotte Scholarship was established in honor of MassBay's Past President Berotte Joseph's father. The scholarship will be awarded annually to a deserving international/immigrant dream chaser, to be used towards tuition and fees up to \$1,000 per semester. The application deadline is April 15, 2014.
- **Scholar Athlete Scholarship**  
Given to student athlete(s) who have maintained a 3.0 grade point average (GPA) or higher through the fall and spring semesters. This award will be given at the beginning of a semester for up to 11 students. This scholarship could be used for tuition or non-waive able fees.
- **4.0 Scholarship**  
For a 2nd semester freshman carrying a full course load of at least 12 credits and has a cumulative grade point average (GPA) of 4.0 from their 1st semester. Scholarship is awarded toward spring semester tuition and non-waive able fees. Subsequent scholarship awards renewed if a 4.0 GPA is maintained.
- **Most Improved Student Scholarship**  
For up to 10 students as demonstrated by the student's grade point average (GPA) from the previous semester.
- **Rosemary Murphy Scholarship**  
The Rosemary Murphy Scholarship was established in memory of Rosemary Murphy, a life-long resident of Needham, MA to be given to a Needham resident. This \$500 scholarship is given to one student in the fall or spring semester and for two consecutive semesters. The application deadline is April 15, 2014.
- **The Virginia F. Sapienza Scholarship Fund**  
The Virginia F. Sapienza Scholarship Fund was established in honor of former long-time MassBay music professor Virginia Sapienza. The scholarship is a one-semester award given to provide support to a musician or other artist. The scholarship is for \$500, and given to one student in the fall semester and one student in the spring semester. The application deadline is April 15, 2014.
- **The President's Scholars Scholarship (Formerly known as The President's Top Ten Scholarship)**  
This scholarship is available to two academically superior high school students from the MassBay service area that is entering MassBay. Student must have a Grade Point Average of 3.0 and or be in the top 10% of their high school class. The scholarship covers recipients' tuition and fees for two full years at the College.
- **The Maxine Elmont Endowed Scholarship Fund**  
The Maxine Elmont Scholarship/s will be awarded for each spring semester to a student/s studying in the Human Services Department at Massachusetts Bay Community College. The value of the scholarship/s shall be determined each January by the Massachusetts Bay Community College Foundation Inc. Board of Directors Finance Committee.
- **Massachusetts Bay Community College Foundation, Inc. Single Parent Scholarship**  
This scholarship was created for MassBay students who are single parents with full/joint custody of their minor children.

For further information about these scholarships, please contact the MassBay Foundation Office at 781.239.3125, visit [www.massbay.edu/scholarships](http://www.massbay.edu/scholarships), or email inquiries to [tmortell@massbay.edu](mailto:tmortell@massbay.edu).



## STUDENT ACCOUNTS

**Wellesley Hills Campus / Room 114 / 781-239-2540**  
**Framingham Campus / Front Desk / 781-239-2540**

The Student Accounts Office collects all student tuition and fee monies and is also responsible for disbursement of funds owed to students. Tuition and fees are subject to change without notice. It is ultimately the student's responsibility to satisfy his or her financial obligations. Once a student registers, he or she is responsible for paying in full all tuition and fees by the posted due date. Checks or money orders for tuition and fees should be made payable to MassBay Community College. Visa, MasterCard, and Discover are also acceptable forms of payment. Payments may be made online at [www.massbay.edu](http://www.massbay.edu), in person, or by mail. In order to adjust or eliminate tuition and fee charges, a student must officially withdraw in writing within the appropriate timeline from the course(s) and/or the College. Lack of attendance or course abandonment does not constitute course withdrawal. If a student does not withdraw in accordance with College procedures, he or she will be subject to full payment of tuition and fees.

### Outstanding Financial Obligations

Students will be allowed to register for the next semester when outstanding balances from all prior semesters have been paid in full. MassBay reserves the right to remove any student from their class schedule for non-payment if financial clearance is not given by the tuition due date.

Students with outstanding financial obligations will not receive grade reports, attendance reports, transcripts of grades, or diplomas without the final approval of the Office of Student Accounts. An overdue student account is sufficient cause for administrative withdrawal from the College and/or other administrative penalties by the College. Unpaid accounts will be referred for collection, and students will bear all costs and charges incurred in collection and/or litigation.

MassBay is responsible for making diligent efforts to collect amounts due the Commonwealth. Diligent efforts shall include written billing and dunning notices and subsequent collection, intercept notification, and/or litigation. If a student disputes any charges applied to his or her account, it is the student's responsibility to inform the College.

### Residency Status

A Massachusetts resident is currently defined as a U.S. citizen or Resident Alien and having at least **six (6) consecutive months of permanent primary domicile in the Commonwealth prior to registration**. See the Office of Admissions for details.

### Federal/State Refund Policy / Return of Title IV Funds

If a recipient of Title IV financial aid funds withdraws or stops attending courses (including academic dismissal or expulsion) after beginning attendance for any reason he/she may no longer be eligible for the full amount of Title IV Funds. A proration calculation is used to determine the amount of federal and state funds the student has earned based on the number of days in the enrollment period and the number of days the student actually attended. If a student completes 60% or more of the semester, he/she is considered to have earned all of their federal aid and will not be required to return any funds.

The withdrawal date is either the day a student begins the withdrawal process prescribed by the school; the date a student otherwise provided the school with official notification of the intent to withdraw; or for the student who does not begin the school's withdrawal process or notify the school of his/her intent to withdraw, the last known date of an academically related activity.

## Tuition and Fees

All fees, tuition charges, refunds, and academic requirements are effective for the academic period 2013-2014 and are subject to change without notice by the College and/or the Board of Higher Education. Check [www.massbay.edu](http://www.massbay.edu) for current information.

### DAY RESIDENT

Tuition \$24  
All College Fee \$130  
Technology Fee \$20  
**Total per credit \$174**

### EW & Summer RESIDENT\*

Tuition \$24  
All College Fee \$130  
Technology Fee \$20  
**Total per credit \$174**

### DAY NURSING RESIDENT

Tuition \$24  
All College Fee \$130  
Technology Fee \$20  
Course/Lab Fee \$70  
**Total per credit \$244**

### DAY LPN RESIDENT

Tuition \$24  
All College Fee \$130  
Technology Fee \$20  
Course/Lab Fee \$70  
**Total per credit \$244**

### EW NURSING RES/NON-RESIDENT\*

Tuition \$128  
All College Fee \$130  
Technology Fee \$20  
Course/Lab Fee \$70  
**Total per credit \$348**

### DAY NON-RESIDENT

Tuition \$230  
All College Fee \$130  
Technology Fee \$20  
**Total per credit \$380**

### EW & Summer NON-RESIDENT\*

Tuition \$230  
All College Fee \$130  
Technology Fee \$20  
**Total per credit \$380**

### DAY NURSING NON-RESIDENT

Tuition \$230  
All College Fee \$130  
Technology Fee \$20  
Course/Lab Fee \$70  
**Total per credit \$450**

### DAY LPN NON-RESIDENT

Tuition \$230  
All College Fee \$130  
Technology Fee \$20  
Course/Lab Fee \$70  
**Total per credit \$450**

### EW LPN RESIDENT/NON-RESIDENT\*

Tuition \$100  
All College Fee \$130  
Technology Fee \$20  
Course/Lab Fee \$70  
**Total per credit \$320**

\*EW– EVENING AND WEEKEND PROGRAMMING

## College Fees

Textbook Fund	\$5 per semester (May be waived)
Parking & Transportation Fee	\$10 per semester
Facility & Improvement Fee	\$30 per semester
MASSPIRG	\$9 per semester (May be waived)
Health Insurance	\$1,603 full-year coverage beginning with fall semester (May be waived)
Health Insurance	\$1,067 half-year coverage beginning with spring semester (May be waived)
Transcript Fee	\$10 per transcript
Late Fee	\$50 applies only to students who register after the first day of classes

Tuition and Fees are subject to change without notice.

## ADDITIONAL REQUIRED FEES: COURSE, LAB & COLLEGE FEES

### COURSE/LAB FEES per credit

AR	Art	\$20
AB	Auto-BMW	\$50
AS	Auto-GM	\$50
AT	Auto-Toyota	\$50
AY	Auto-Chrysler	\$50
BI	Biology w/4 credits	\$30
BT	Biotechnology	\$50
CH	Chemistry w/4 credits	\$30
CS	Computer Science	\$30
CY	Central Processing	\$50
EE	Electrical Engineering	\$20
EL	Electronics	\$20
EM	EMT	\$50
EV	Environmental Sciences	\$30
HL	Health Science	\$30
MM	Materials Management	\$50
MN	Engineer CAD	\$30
MO	Medical Coding	\$30
MR	Medical Records	\$30
MX	Maxillofacial	\$60
NU	Nursing	\$70
PB	Phlebotomy	\$60
PM	Paramedicine	\$60
PN	LPN Nursing	\$70
PO	Photography	\$20
PY	Physics	\$30
RT	Radiology Tech	\$60
SX	Surgical Technology	\$60
WR	College Writing	\$20

### COURSE/LAB FEES per course

EN 090 Intro to Language	\$80
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## College Refund Policy

Students who withdraw from any course(s) or from MassBay may be granted a reduction of tuition and fees. Lack of attendance, course abandonment, etc., does not constitute an official withdrawal. Note that students will be subject to full payment of tuition and fees if they do not withdraw from MassBay in accordance with College procedures.

### REFUNDS ARE MADE ACCORDING TO THE FOLLOWING SCHEDULE:

#### TUITION

Before the first day of classes	100%
During the first week of scheduled college classes	100%
During the second week of scheduled college classes	50%
During the third week of scheduled college classes	25%
Thereafter	0%

#### FEES

Before the first day of classes	100%
After the add/drop period	0%

### REFUND SCHEDULE FOR OFFICIAL WITHDRAWAL FROM EVENING AND WEEKEND PROGRAMMING CREDIT COURSES:

#### TUITION

Before the second class meeting	100%
Before the third class meeting	50%
Before the fourth class meeting	25%
Thereafter	0%

#### FEES

Before the second class meeting	100%
Thereafter	0%

## Student Textbook Fund

The Student Government Association and the MassBay Foundation established this fund to help students defray the costs of educational items such as textbooks and other materials. This fee will be applied to both full- and part-time student bills. For more information, including how to apply, please contact the Office of Student Development at 781-239-3142. Students may waive this fee by using their self-service account in Bay Navigator.

## MASSPIRG

MASSPIRG (Massachusetts Student Public Interest Research Group) is a statewide, student-directed, non-partisan organization that conducts research, advocacy, public education and service on issues such as environmental protection, clean and safe energy, consumer protection, and hunger relief. MASSPIRG chapters across the state pool resources and hire a staff of professionals to work with students on issues that concern us as citizens. MASSPIRG started at MassBay in 1985 when students first voted to form and fund a chapter on campus.

MASSPIRG is directed solely by students. Day students are automatically assessed a \$9.00 per semester voluntary contribution to the MASSPIRG organization. Students may waive this fee by using their self-service account in Bay Navigator.

## Student Health Insurance

Massachusetts state law requires health insurance for all students carrying nine (9) or more credit hours. Coverage may be waived if a student provides written documentation that they are covered by a comparable health insurance policy, and if he or she completes the appropriate MassBay forms. The Commonwealth of Massachusetts, Executive Office of Health and Human Services requirements of 114.6 CMR3.00 define comparable coverage as follows: services covered under the health benefit plan are reasonably accessible to the student in the area where the student attends school. Programs that fall under the Uncompensated Care Pool, commonly known as "free care," are not health insurance and do not qualify as a health benefit program of comparable coverage. Health insurance is mandatory for students in health sciences programs regardless of the number of credits being taken. There are additional insurance fees specific to students in nursing and other allied health programs. Contact the Office of Student Accounts for more information.

## Liability Insurance

All health sciences students in good standing are covered by the College's approved professional liability insurance.

## Tuition Payment Plan

To help you meet your educational expenses, MassBay offers Nelnet Business Solutions (NBS, FACTS) as a convenient budget plan. This is not a loan program – there are no interest or finance charges assessed, and there is no credit check. There is a nominal, non-refundable enrollment fee administered per semester to establish your interest-free monthly payment plan. You may budget your tuition and fees via an automatic bank payment or by credit card.

## Senior Citizens' Tuition Waivers

Any citizen age 60 or older may enroll in day, state-supported credit courses tuition-free, or evening credit courses at 50% tuition, on a space-available basis the last day of registration. Please contact the Office of the Registrar for course availability and enrollment procedures. Students must provide written proof of age each semester to qualify. Senior citizens are responsible for payment of all fees associated with a course for which they register. Workshops or non-credit courses are not eligible for tuition waivers, registrants are responsible for all associated tuition and fees.

## STUDENT ORIENTATION, ADVISING AND REGISTRATION (SOAR)

MassBay's SOAR process provides new students with the tools they need to succeed. And since every student has unique needs, we have designed a SOAR process that meets each student's specific goals. **We strongly recommend that all new students attend a SOAR session.**

At SOAR, students:

- Explore their academic goals with MassBay advisors and faculty.
- Plan their first semester schedule, register for courses, and get their MassBay student ID.

- Become familiar with MassBay's technology, including their email, student account, and classroom tools.
- Learn about extracurricular and leadership opportunities available to them.
- Are introduced to a wide range of support services.

At SOAR, students will meet:

- MassBay faculty and staff, including academic counselors.
- Orientation leaders (current students).
- Fellow NEW MassBay students.

After attending SOAR, students will be ready to begin their first day of college classes and will:

- Have their printed schedule for their first semester.
- Have their MassBay Buc\$ ONE Card ID.
- Know how to log into their MassBay email, Blackboard, and Bay Navigator student account to pay their tuition, change their schedule, and view their grades.
- Be able to identify all of the resources available to them at MassBay.
- Be confident in beginning their first semester at MassBay.
- Have a plan for success.

## What is My SOAR Process?

For all new students, the first step in the SOAR process is to complete placement testing.

- For more information and to sign up for a placement test date, visit: [www.massbay.edu/placementtesting](http://www.massbay.edu/placementtesting).
- Students who have completed college level math and/or English courses may be eligible to waive placement testing; for more information, visit: [www.massbay.edu/placementtesting](http://www.massbay.edu/placementtesting)

Students who have already completed placement testing, visit [www.massbay.edu/soar](http://www.massbay.edu/soar) to find out which SOAR process is best for you.

For more information and questions please contact the SOAR office by emailing [SOAR@massbay.edu](mailto:SOAR@massbay.edu) or by calling 781-239-2721.



# ACADEMIC AFFAIRS

## **ACADEMIC DIVISIONS**

MassBay offers more than 70 associate degree and certificate programs through five academic divisions: Health Sciences; Humanities; Science, Technology, Engineering & Mathematics (STEM); Social Sciences & Professional Studies; and Transportation & Energy. Students benefit from a dynamic learning environment facilitated by accomplished faculty with experience in their respective fields and strong connections to business and industry.

Many associate degree programs are equivalent to two years of a bachelor's degree program at a four-year institution. Benefitting from MassBay's outstanding record of successful student transfers, and with transfer agreements with public and private four year colleges and universities, our students go on to achieve their academic goals thanks to the foundation of learning they built at MassBay.

There are also numerous associate degree and certificate programs which prepare students for entry-level positions in high-demand fields immediately upon graduation.

## **HEALTH SCIENCES**

The Division of Health Sciences is located on our Framingham campus and dedicated to offering high quality, competency-based associate degree and certificate programs that serve the needs of health care professionals and employers. The latest technology is incorporated into lecture, laboratory, and clinical and practicum experiences to provide optimal preparation for the workplace.

Program offerings within the Health Sciences Division include nursing, emergency medical technician (EMT), paramedicine, medical coding, nursing, practical nursing, medical office administrative assistant, maxillofacial technician, radiologic and surgical technology, phlebotomy, central services & material management, and central processing technology.

## **HUMANITIES**

The humanities have always been at the core of the college experience. The Division of Humanities offers programs which focus on a broad understanding of the world while developing writing, critical thinking, and problem solving skills. Humanities courses introduce students to the cultural forces that shape human existence from artistic, literary, philosophical and linguistic perspectives. Courses in this Division include art, art history, communications, critical thinking, English, film, foreign language, literature, music, philosophy, and photography.

## **SOCIAL SCIENCES & PROFESSIONAL STUDIES**

The Division of Social Sciences & Professional Studies prepares students for a variety of fulfilling and high-demand career options in human service, educational, professional, and legal settings. The Social Science programs focus on understanding people in their social context by studying the development of human societies around the world throughout time. Degree and certificate programs are offered in anthropology, education, human services, geography, history, psychology and sociology. Professional Studies courses focus on building an understanding of the contemporary world. Areas of study include accounting, business, criminal justice, government, law, management and marketing.

## SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS (STEM)

Science, technology, engineering, & mathematics (STEM) programs provide student with the academic background and training necessary to pursue an advanced degree, or to immediately launch a career in the workplace. Available programs cover a wide range of technical areas, such as biotechnology, mathematics and computer science, engineering technology, environmental and life sciences that are critical to daily life.

## TRANSPORTATION & ENERGY

The Division of Transportation & Energy offers training on the most advanced diagnostic equipment at our Automotive Technology Center. Programs are underwritten by the four major automotive brands: BMW, Chrysler, General Motors and Toyota/Lexus. Students receive technical, customer service and business management training, and benefit from the opportunity to work in local dealerships through paid cooperative education programs.

## PROGRAMS OF STUDY

MassBay offers two-year professional and liberal arts programs. From health, engineering, business, education, information systems and computer technology, automotive technology, physical sciences and liberal arts, MassBay students have a wide range of choices. Many of our professional programs include opportunities for students to learn not only in the classroom but also in the field, with hands-on experience. We also offer state-of-the-art labs that simulate the real experiences students will face in the relevant profession. Our liberal arts programs provide the foundation for further learning and career advancement.

Students who complete a MassBay program are fully prepared for further study at four-year institutions for a baccalaureate degree. They may be eligible for transfer status as a junior to many colleges and universities. Many of these

programs also qualify them for immediate employment in their chosen field. In addition to our degree programs, MassBay offers a number of certificate programs in communications, interior design, education, health, human services, liberal arts, and business. These certificates bolster the credentials of students as they enter a new field or advance in their current one. While every program has a set of required courses, students will also have the opportunity to choose some elective courses. Students are encouraged to work with an advisor in designing a specific course of study and in planning for further college study or employment. All College programs of study listed in this catalog are subject to change in accordance with College requirements. Courses may not be offered each semester, and some courses may be offered only in the evenings. Advisors provide students with current curriculum program sheets upon registration. These sheets detail each College program offering and include a listing of required courses and choices of elective courses for each degree and certificate program.

### What is a curriculum sheet?

A curriculum sheet outlines the courses required to complete an associate degree or certificate in a given program. Curriculum sheets list required courses and elective options necessary to complete the program. Please note, some prerequisite or preparatory courses in math and/or English may not be eligible for some programs at MassBay. Students should meet with their academic counselor when planning their academic pursuits.

### What are prerequisites?

A prerequisite is a course, condition, or a test that is needed prior to taking a course or a program. An example of a course prerequisite: *Biology 101 (BI 101) is a prerequisite for Anatomy and Physiology I (BI 115). This means you have to take BI 101 BEFORE you can take BI 115.*

An example of a program prerequisite: *EMT Certification is a prerequisite for the Paramedicine program. This means you have to complete the EMT Certification BEFORE you can be in the Paramedicine program.*

## ASSOCIATE DEGREE AND CERTIFICATE PROGRAMS

### HEALTH SCIENCES

#### **Associate Degrees of Science**

Nursing – Day Option  
Nursing – Evening Option  
Radiologic Technology – Day Option  
Radiologic Technology – Flex Option

#### **Certificates**

Central Processing Technology  
Central Services & Material Management  
Emergency Medical Technician  
Maxillofacial Assistant  
Medical Coding  
Medical Office Administrative Assistant  
Paramedicine – Day Option  
Paramedicine – Evening Option  
Phlebotomy  
Practical Nursing – Day Option  
Practical Nursing – Evening Option  
Surgical Technology – Day Option  
Surgical Technology – Evening Option

### HUMANITIES

#### **Associate Degrees of Arts**

General Studies  
Liberal Arts  
Liberal Arts: Communication

#### **Certificates**

Liberal Arts: Communications

### SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS

#### **Associate Degrees of Science**

Biotechnology  
Biotechnology: Forensic DNA Science  
Biotechnology: Marine Biotechnology  
Computer Information Systems  
Computer Science  
Electrical and Computer Engineering  
Electronics Technology  
Engineering  
Engineering Design  
Environmental Science & Safety  
General Studies  
General Studies: Bioinformatics  
General Studies: Lab Animal Care  
General Studies: Mathematics (Associate Degree of Arts)  
Information Systems Technology & Management:  
    Management Concentration  
Information Systems Technology & Management:  
    Technology Concentration  
Life Sciences  
Mechanical Engineering

#### **Certificates**

Computer-Aided Design (CAD)  
Cyber Security  
Information Technology  
Technology Support  
Web Designer  
Web Developer  
Web Master

### SOCIAL SCIENCES AND PROFESSIONAL STUDIES

#### **Associate Degrees**

Accounting (AS)  
Business Administration (AS)  
Criminal Justice (AS)  
Early Childhood Education (AS)  
General Business (AS)  
General Business: Hospitality Management (AS)  
General Business: International Business (AS)  
Liberal Arts: Community Health Option (AA)  
Liberal Arts: Early Childhood Education (AA)  
Liberal Arts: Elementary Education (AA)  
Liberal Arts: Global Studies (AA)  
Liberal Arts: Human Services (AA)  
Liberal Arts: Psychology/Sociology/Anthropology (AA)  
Paralegal Studies (AS)

#### **Certificates**

Accounting  
Business: Information Technology  
Early Childhood Education  
Early Childhood Education: Infant-Toddler Teacher  
General Business: Hospitality Management  
High Tech Sales  
Interior Design  
Liberal Arts: Community Health  
Liberal Arts: Human Services  
Management  
Paralegal Studies

### TRANSPORTATION AND ENERGY

#### **Associate Degrees of Science**

Automotive Technology: BMW  
Automotive Technology: Chrysler  
Automotive Technology: General Motors  
Automotive Technology: Toyota/Lexus

#### **Certificates**

Automotive Technology: Toyota/Lexus  
Automotive Technology: Technical Services Educational  
    Program (TSEP) I Undercarriage Repair  
Automotive Technology: TSEP II Drive Systems  
Automotive Technology: TSEP III Electrical/Engine  
    Performance/HVAC

## **EVENING, WEEKEND, AND ACCELERATED PROGRAMMING**

### **Evening Programming**

Evening courses are available Monday through Friday between 5:00 pm and 10:00 pm. The following degree and certificate programs may be completed by only taking evening courses:

#### ***Associate Degrees***

Business Administration  
 Computer Information Systems  
 Criminal Justice Early  
 Early Childhood Education  
 General Business  
 General Studies (AA)  
 General Studies (AS)  
 Liberal Arts  
 Liberal Arts: Communication  
 Liberal Arts: Community Health  
 Liberal Arts: Early Childhood  
 Liberal Arts: Elementary Education  
 Liberal Arts: Human Services  
 Life Sciences  
 Nursing - Evening  
 Radiological Technology (flex option)\*

#### ***Certificates***

Computer Aided Design  
 Early Childhood Education  
 Childhood Education: Infants/Toddlers  
 Emergency Medical Technician\*  
 Interior Design  
 Liberal Arts  
 Medical Coding  
 Medical Office Administrative Assistant  
 Paramedicine\*  
 Practical Nursing  
 Surgical Technology (flex option)\*

\*Class lectures & labs are held in the evening. Clinical sessions are held during day and evening hours.

### **Weekend Programming**

The following degrees can be completed in 21 months through a combination of online and on-campus courses on weekends: Liberal Arts (Associate of Arts); Business Administration (Associate of Science). Weekend hours for this course work are Friday 5:30 pm – 9:00 pm; Saturday 9:00 am – 4:00 pm; Sunday 12:30 – 4:30 pm. Three credit courses run for three weekends, four credit courses run for four weekends.

### **Accelerated Programming**

#### ***Summer Sessions***

Summer courses are offered in three sessions:

- 6 Week I – Begins the last week of May and runs until the first week of July.
- 6 Week II – Begins after Independence Day and runs through mid-August.
- 10 Week – Begins the last week of May and runs until the last week of July.

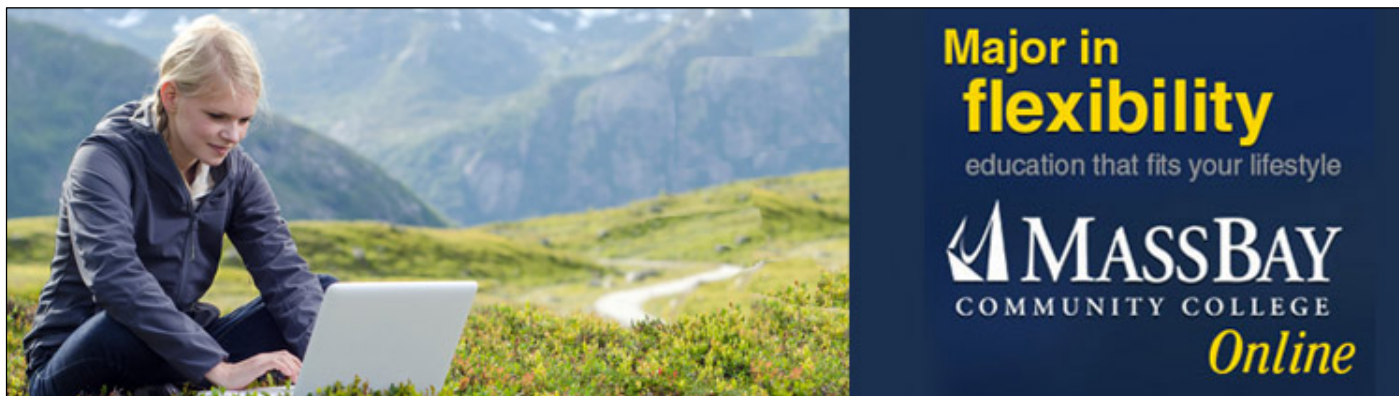
#### ***Winter Intersession***

Students can complete an entire course in 10 days. Classes run Monday through Friday for two consecutive weeks beginning the first week of January. Hours vary based on the number of credits: Three credits: 9:00 am – 2:00 pm; four credits: 9:00 am – 4:00 pm.

#### ***Science on Sundays***

Science courses take place every Sunday afternoon during the fall and spring semesters. Classes begin at 12:00 pm.





## **ONLINE AND HYBRID LEARNING**

MassBay offers over 100 academic online and hybrid courses. These for-credit courses are the same courses offered in the classroom and follow the same semester schedule. Online and hybrid classes are taught by MassBay faculty and are an appropriate choice for many students. Fully online courses typically require no class time on campus although may include an on-campus orientation session or proctored examinations.

Online courses are not self-paced. They include assignment deadlines and weekly course requirements. Online courses differ from classroom-based courses in that instruction is conducted entirely online using a variety of technologies. Technologies that students may use in online courses include: discussion boards, multimedia presentations, online quizzes and tests, and Web 2.0 tools (blogs, wikis, and ePortfolios).

Students in hybrid courses have reduced scheduled class time on campus and receive a portion of instruction online. The proportion of online instruction to classroom instruction may vary from course to course because instructors design hybrid courses based on specific instructional objectives.

The following degree and certificate programs may be completed by only taking online courses:

### **Associate Degrees**

General Studies (Associate of Arts)  
 General Studies (Associate of Science)  
 Liberal Arts  
 Liberal Arts: Psychology/Sociology/Anthropology  
 Business Administration  
 General Business

### **Certificates**

Management  
 High Tech Sales  
 Computer-Aided Design (CAD) - hybrid

## **CENTER FOR CORPORATE TRAINING & COMMUNITY EDUCATION (CCTCE)**

The Center for Corporate Training and Community Education (CCTCE) is a comprehensive educational training resource serving MetroWest employers, individuals, and community agencies. New courses, trainings, certifications, and programs are continually developed and offered to meet the needs of our current and future students. Additionally, some of our programs end with certification or lead to enhanced preparation for national certification exams.

CCTCE offers a wide variety of **corporate education** courses, programs, trainings, seminars, and workshops. Our staff specializes in designing customized programs to meet the specific training needs of area employers and residents. We are mobile and can train off-campus, as well as at any MassBay Community College locations in Wellesley Hills, Framingham, or Ashland. The CCTCE is dedicated to creating strong partnerships that lead to individual and employer success, and we welcome the opportunity to contribute to the growth and development of our MetroWest service area.

Another area of expertise and interest is helping individuals with **professional development**. For individuals seeking to take their career to the next level, or in a different direction, we offer a wide variety of courses and programs for individual, professional advancement. We are excited to help people succeed and are highly responsive to the needs of our current and potential students.

For individuals seeking to learn a fun, new skill or explore an area of interest, **cultural and personal enrichment** seminars and courses are also available on a continuing basis, changing with expressed interests of students.

CCTCE has partnered with Ed2Go and MindEdge to offer **online and hybrid courses**, programs, and certifications. The number of courses offered in an online (or hybrid) format is extensive. If your schedule does not allow time to train with us in person, you can now learn from the comfort of your own home or office.

For more information about CCTCE, please contact us by email at [cctce@massbay.edu](mailto:cctce@massbay.edu) or call 781-239-2700 to speak with one of our friendly and knowledgeable staff members.

## **LEARNING OPPORTUNITIES**

### **Internships**

Internships are a form of experiential learning that integrates knowledge and theory learned in the classroom with practical application and skills development in a professional setting. Internships give students the opportunity to gain valuable applied experience and make connections in the professional fields they are considering for career paths; and give employers the opportunity to guide and evaluate talent (National Association of Colleges and Employers, 2011, p.2).

MassBay students have the opportunity to participate in credit (number of credit varies)/non-credit and required/elective internships. In order to participate in an internship, students must have completed at least 12 credits in their major and have a Grade Point Average of 2.0 or above. The Office of Career Services collaborates with MassBay faculty in guiding students through the process of finding and securing internships in their field of interest. For more information contact the Office of Career Services at 781-239-3142.

### **Directed Study**

Under certain circumstances, courses that are not on the course schedule may be available through directed study. Students and their instructor develop a contract for an individualized course of instruction for a directed study course.

## Learning Communities

Learning communities link two or more courses with a common cohort of students, and often use integrated readings and assignments to explore a central theme. Students participating in learning communities have a stronger sense of belonging, increased engagement in their studies, and often achieve noteworthy academic success. MassBay has select opportunities for students to participate in a learning community, connecting students with different academic disciplines and to each other.

## Service Learning Courses & Activities

Service learning encourages students to validate course concepts through engagement in activities that address community needs. Students gain practical experience while applying lessons learned in the classroom to real life situations. Students at MassBay can also participate in our Study Abroad Program to Costa Rica, which involves civic engagement by volunteer involvement in a specific project. In a service learning class, students deepen their understanding of classroom lessons by participating in a real-world project and reflecting on it in relation to the academic content of the course.

## Study Abroad

The Office of International Education and Study Abroad provides a variety of opportunities for MassBay students who are interested in travel, study, and exchange programs abroad. The Office works with interested faculty and staff to facilitate and establish these programs while ensuring compliance with the policies and guidelines of the College, the Commonwealth of Massachusetts and the U.S. Department of Homeland Security. In addition, The Office of International and Study Abroad staff can make arrangements through local cooperating colleges and universities, as well as through various organizations, for students to study abroad for a semester or a full academic year with academic credit.

## Honors Courses

Students are admitted to MassBay's Honors courses based on academic achievement. Honors courses may include enhanced traditional courses, a seminar in advanced writing, independent study, or specially designed Honors Seminars. These courses enable students to study in small groups and to work independently with selected professors on intellectually challenging topics and projects while pursuing their degree or certificate.

## Honor Societies

*Alpha Beta Gamma*, the National Business Honor Society, was established in 1970 to recognize and encourage scholarship among two-year-college students in business programs. *Alpha Beta Gamma* provides leadership opportunities and forums for the exchange of ideas, and promotes academic excellence. MassBay's chapter of the Society is *Kappa Epsilon*. To be eligible, students must be enrolled in a business division program, have completed at least 15 credits, and have a cumulative GPA of 3.0.

*Alpha Kappa Lambda*, MassBay's chapter of the international honor society of two-year colleges, *Phi Theta Kappa (PTK)*, was chartered at MassBay in 1984. The Society recognizes and encourages scholarship in the community and on campus by providing leadership opportunities and service experiences, and by offering an intellectual climate where members can exchange ideas and ideals, participate in a lively fellowship among scholars, and find encouragement for continuing academic excellence. In order to be inducted into *PTK*, students must have earned a GPA of 3.75 for 15-29 credits, or a GPA of 3.5 with 30 or more credits earned at MassBay.

MassBay sponsors a chapter of *Psi Beta*, the National Psychology Honor Society. Students must have completed at least 12 semester hours, taken a minimum of three courses in psychology, have earned a grade of "B+" or better in each course, and have attained an overall grade point average of 3.5 to be eligible for membership.

## **LABORATORIES**

### **Biotechnology**

The biotechnology laboratories at MassBay's Wellesley Hills campus are considered by industry and the National Science Foundation to be one of the most sophisticated undergraduate research facilities in the United States. It houses three A.S. degree programs: Biotechnology, Marine Biotechnology, and the only degree program in forensic DNA science in the world. The Biotechnology facility contains over \$4.5 million of state-of-the-art equipment in which students, under the guidance of program faculty, train in cutting-edge research including analysis of gene regulation, DNA sequencing, genetic engineering, real-time polymerase chain reaction (RT-PCR), fluorescence microscopy, enzyme-linked immunosorbent assay (ELISA), bioreactor production of cellular molecules, mammalian cell culture and tissue engineering. Students in the Forensic DNA Science program are trained by their direct participation in actual criminal-, anthropological- and cold cases conducted with law enforcement or defense attorneys and use the most advanced mitochondrial DNA and allele analysis methodologies in the solving of these cases. The independent research projects conducted by students are global in nature and involve collaborations with academic and industry scientist worldwide.

### **CAD Lab/Engineering**

MassBay operates a state-of-the-art CAD laboratory equipped with industry standard software including: AutoCAD, Autodesk Revit Architecture, Pro/ENGINEER/Creo, SolidWorks, and MasterCAM, products. The CAD lab houses Rapid Prototyping and 3D Scanning Technology (uPrint/Dimension Printer and Next Engine Laser Scanner) and a professional-grade plotter.

The engineering lab includes state-of-the-art instrumentation and measurement software such as Matlab to enable students to design, develop, program, and test novel engineering

applications. The engineering lab also includes industry standard strength of materials testing equipment such as a Universal Testing Machine (UTM) and a torsion testing machine.

The Electronics lab houses electronics industry standard software such as Cadence OrCAD and Matlab as well as electronic parts and tools that students use to experiment and create novel designs.

Areas of study include: engineering, mechanical engineering, electrical and computer engineering, mechanical design, architectural design, electromechanical design, electronics and multimedia.

### **Computing Labs/Virtual Labs**

The virtualized laboratory provides virtual access to multiple operating systems and network environments. The configuration of this lab allows running multiple courses in one semester, where each course requires different application and network resources in addition to a range of student administrative access to operating systems such as Windows and Linux. An additional dedicated laboratory currently features a dual-boot configuration so that both Windows and Linux operating systems are available. Dedicated laboratory rooms support the multimedia software required by our web-related and digital-imaging courses.

### **General Science Laboratories**

MassBay Community College's laboratories provide a comprehensive, hands-on learning environment for science students. MassBay labs feature a total of six 24-station general science laboratories dedicated to the study of biology, chemistry, anatomy, physiology, environmental sciences, and microbiology. Labs are well stocked with modern equipment and new digital technology to accommodate the learning needs of today's students.

Students seeking a degree within a science discipline or taking science courses as an elective will learn the fundamentals of chemistry and



biosciences utilizing hands-on investigations, data visualization tools, and lifelike anatomical models. These tools help students deepen their understanding of scientific concepts, and inspire them to develop professional scientific skills.

MassBay also offers students looking to further build on their laboratory experience a variety of higher-level science courses. Interested students may choose Organic Chemistry I & II, where they practice how to detect the presence of specific impurities and identify the presence of certain functional groups in a molecule using a state-of-the-art Fourier Transform Infrared (FTIR) system. Also offered is Molecular Biology, where students study the properties of organic and inorganic substances using the phenomena of fluorescence and phosphorescence with the aid of epi-fluorescent microscopes. MassBay also offers biochemistry and immunology courses that are enhanced by advanced laboratory components.

### **Environmental Sciences & Safety**

This lab is housed on the fifth floor of the Wellesley Hills campus and is equipped with many sophisticated tools such as Gas Chromatography, UV/Visible Spectrophotometers, a DNA sequencer, advanced water and soil analysis systems, and many other microbiology-based pieces of equipment. The lab is used for teaching and for research and was used to discover a new, previously-undescribed bacterium, *Bacillus samanii*.

### **Nursing & Practical Nursing**

The Nursing Lab on the Framingham campus for both associate degree and practical nursing students provides a state-of-the-art learning environment where students acquire psychomotor and physical skills necessary for direct patient care. Under the supervision of trained faculty and staff, students practice with human simulators, mannequins and health care equipment in a mock clinical setting.

### **Nursing Simulation**

The Nursing Simulation Lab on the Framingham campus contains multi-functional human patient simulation equipment. The Human Patient Simulator, a programmable mannequin, can simulate hundreds of medical conditions, exhibit all physiologic functions, and respond in real-time to treatment and medication.

### **Paramedic and Emergency Medical Technician (EMT)**

The lab on the Framingham campus contains state-of-the-art equipment, a mock ambulance training center, the latest in monitoring and defibrillation equipment, ECG machines, a ratio of 2:1 intravenous practice mannequins, 3:1 ratio of intubation mannequins, and many other devices offering the latest technology to enhance student training.

### **Photography Imaging**

The Photography Imaging Laboratory on the Wellesley Hills campus houses digital and chemical darkroom facilities including enlargers for 35mm and 4"x5" film, a digital scanner, a printer and a personal computer.

### **Radiologic Technology**

The Radiologic Lab on the Framingham campus is equipped with Radiologic Technology patient simulation, Computed Radiography (CR) equipment and a variety of both energized and non-energized x-ray equipment. This state-of-the-art laboratory provides an excellent learning environment to prepare for the actual clinical experiences provided in the program.

### **Surgical Technology**

The Surgical Technology Lab on the Framingham campus is a state-of-the-art operating room (OR) with OR tables, positioning equipment, an anesthesia machine, automated and manual blood pressure monitors and accessories. Many other devices, including mannequins and sterilizers, provide students with the technology and lab practice they require. The lab is also available to Central Processing Technology students.

## **LIBRARIES**

**Wellesley Hills Campus / Second Floor / 781-239-2610**  
**Framingham Campus / Third Floor / 508-270-4210**

The MassBay libraries provide resources and services crucial for student success, including information literacy instruction, quality library materials, and an academic learning environment. The libraries serve as an information gateway and deliver library services to students and faculty both on and off campus with an online catalog and subject guides that link to a host of digital resources, including full-text magazines, journals, books, and videos. Tablets and other electronic devices can be borrowed.

The libraries have books, magazines, newspapers, journals, eBooks, eAudiobooks and other resources. These materials are augmented by resources available through the library's participation in the Minuteman Library Network, the Massachusetts Library System, and other national library organizations.

## **ACADEMIC ACHIEVEMENT CENTER**

**Wellesley Hills Campus / Second Floor / 781-239-2632**  
**Framingham Campus / Third Floor / 508-270-4213**

MassBay's Academic Achievement Center (AAC) employs professional learning specialists and peer tutors across subjects. The AAC helps students with reading and study skills, writing for any class, and all levels of math and science. It also offers a range of services for students with disabilities.

The Academic Achievement Center includes Disability Resources, Testing Services, Peer Tutoring, Online Tutoring, the Reading and Writing Center, and the Math and Science Center. The AAC is a warm and friendly environment where all MassBay students can receive assistance in achieving their academic goals.

## **Disability Resources**

**Wellesley Hills Campus / Room 216 / 781-239-2234**  
**Framingham Campus / Room 306 / 508-270-4267**

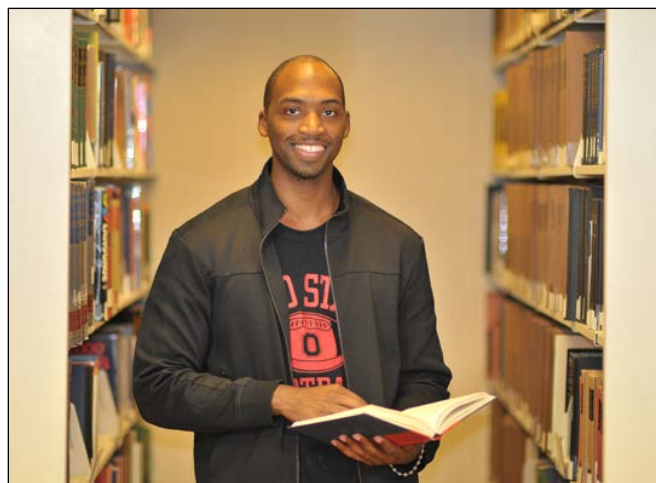
MassBay provides equal access for each student who self-discloses a disability and requests accommodations for learning, testing, and other areas of need. Students can:

- Make an appointment with a disability specialist;
- Provide appropriate documentation of the disability; and
- Request accommodations that will facilitate academic success.

Disability specialists collaborate with faculty, providing guidance to students in the areas of:

- Self-advocacy;
- Applying learning strategies for academic success;
- Advising during course enrollment; and
- Finding mentoring and support opportunities.

Disability Resources welcomes each student by providing an open academic environment that facilitates academic excellence.



## Testing Services

**Wellesley Hills Campus / Room 210 / 781-239-2632**

**Framingham Campus / Room 307 / 508-270-4213**

### Make-Up Exams

The AAC provides testing services for make-up exams. Faculty members may arrange for a student who misses an exam for an approved reason to take a make-up test. Please note: Photo identification is required for all exams.

### Placement Testing

All students new to MassBay and seeking a degree or certificate are required by the Massachusetts Board of Higher Education to complete placement testing soon after being accepted to the College. Placement tests determine the English and math classes in which students will begin their academic careers. A photo ID and an appointment are required to take a placement test in the AAC.

Placement Testing is the first step in the SOAR (Student Orientation, Advising, and Registration) process. The following tests are required:

1. Mathematics; and
2. English for native speakers OR English as a Second Language (ESL).

Math and English tests together take approximately three (3) hours to complete.

### Placement Test Workshops

The AAC offers a workshop series to help students prepare for the Accuplacer placement tests. These free, two-to-three-hour workshops help students refresh their skills in arithmetic, algebra, reading, and writing. Please visit [www.massbay.edu/placementworkshops](http://www.massbay.edu/placementworkshops) for a list of upcoming workshops.

## Peer Tutoring

**Wellesley Hills Campus / Room 206 / 781-239-2620**

**Framingham Campus / Room 307 / 508-270-4213**

The Peer Tutoring program offers free, student-based assistance in a wide range of subjects. Peer tutors excel in their areas of study and enjoy helping fellow students achieve academic success. Tutors' goal is to help students become active, independent learners. Tutors use a variety of teaching techniques including questioning, modeling, listening, and demonstration.

### Online Tutoring

MassBay students can utilize a free online tutoring service, SMARTHINKING, from the MassBay Blackboard site. SMARTHINKING is available 24/7 and is used for many subjects.

## Reading and Writing Center

**Wellesley Hills Campus / Room 215 / 781-239-2633**

**Framingham Campus / Room 303 / 508-270-4285**

In the Reading and Writing Center, professional learning specialists support and engage MassBay students from every program in developing as readers and writers. Learning specialists hold individual conferences with students. They focus on specific coursework and improvement of drafts at every stage of the writing process—from getting started with an assignment to revising a paper. Students often focus on improving the following skills:

- Setting challenging, achievable academic goals;
- Understanding a reading/writing assignment for any class;
- Separating an assignment into clear and manageable steps;
- Organizing and outlining ideas;
- Using ideas and notes to plan/revise an essay;
- Examining sources and evidence to establish credibility and authority;
- Revising a paper for improved grammar, punctuation, or word choice;
- Developing effective reading and study skills;
- Becoming a more fluent writer as a non-native English speaker; and
- Citing sources in MLA or APA format.

Both walk-ins and appointments are welcome.

## Math and Science Center

**Wellesley Hills Campus / Room 214 / 781-239-2774**

**Framingham Campus / Room 308 / 508-270-4211**

In the Math and Science Center, professional learning specialists work with students on their individual learning goals. They hold individual and small-group conferences with students who are working on math or science for any MassBay class. The Math and Science Center offers:

- Individual and group instruction in scientific, nursing, and mathematical course content;
- Opportunities for study groups and homework help with fellow students;
- Consultations for general study skills and subject-specific strategies;
- Resources for self-paced learning, review, and self-testing; and
- Online learning tools.

Walk-ins welcome; no appointment needed.

## ACADEMIC ADVISING AND TRANSFER

**Wellesley Hills Campus / Room 113 / 781-239-2775**

**Framingham Campus / 1st Floor Enrollment Center / 781-239-2775**

### Academic Advising Center

The Academic Advising Center is committed to assisting students in the development of meaningful academic plans that are compatible with their professional and life goals. Academic Advisors guide students from their first contact with the College through graduation and beyond. We introduce incoming students to the opportunities and resources of the College, inform new and returning students of the requirements of academic programs, assist students with the selection of a major and the appropriate courses to ensure academic success, and counsel students regarding transfer opportunities. All registered degree/certificate seeking students are assigned an academic advisor who may be a member of the faculty, professional staff or an academic advisor in the Advising Center. The name and contact information for one's advisor is available on the Student Center page of Bay Navigator. Advisor

assignments are generally made after the add/drop period in the fall and spring semesters.

Other services provided by the Academic Advising Center include:

- Assistance with course registration, adding and dropping classes and course withdrawals
- Transfer Credit Evaluation
- Information on Challenge Exams and CLEP exams
- Change of Advisor
- Change of Major
- MassTransfer and Transfer Counseling
- Permission to take courses at other institutions
- Graduation Reviews
- Referrals to other campus resources

## Transfer Credit Information & Policies

### Acceptance of Transfer Credit from Other Colleges

Transfer of course credits from other colleges or universities will be permitted if such credits were earned at a regionally accredited institution and are equivalent to MassBay's courses. Prior to MassBay's acceptance of transfer credits, students must be accepted into a program of study. In addition, students must submit official transcripts provided by the registrars of all schools, colleges, or universities attended. Students must have earned at least a "C" in the course or courses for which they are requesting transfer credit (some restricted program coursework must be a C+ or higher. Please refer to Admission into Restricted Programs). A preliminary evaluation of course credits to be transferred to the College may be made by an academic advisor at the time of application. Please be aware that this evaluation is preliminary only, and acceptance of transfer credit is subject to review when students are formally accepted to their chosen program. Credit that is accepted according to general College policy is not necessarily acceptable for specific programs of study.



**Transcript Evaluation for Transfer Credit**

- Students must be accepted to the college and have a declared major (degree or certificate program).
- Request an official (in a sealed envelope) transcript from the registrars of all institutions, or the military, that a student previously attended for which they wish to transfer credit.
- Submit the official transcript(s) to MassBay for Transfer Credit Evaluation. Students may have transcripts mailed to:

MassBay Community College  
Office of the Registrar  
50 Oakland Street  
Wellesley Hills, MA 02481-5307

Or, students may deliver transcripts in the sealed envelope to either the Wellesley Hills or Framingham campus at the Office of the Registrar.

- Students should submit official transcript(s) at least six (6) weeks prior to the time that they wish to register for upcoming classes to ensure credit is evaluated and posted prior to registration.
- Once courses have been officially approved and transferred, they will appear on a student's MassBay transcript. Students will also receive a letter from the Advising Center informing them as to which of their courses transferred in.

**Policies Regarding Transfer of Credit**

- MassBay only accepts transfer credit from regionally accredited colleges or universities, and the American Council on Education.
- Credits may be transferred in only if they apply to a student's current major on record.
- Students must have earned a grade of "C" or better in the course(s) for which they are requesting transfer credit. Please note: transfer credits are not calculated into the MassBay GPA.

- MassBay will not accept Pass/Fail coursework for transfer credit unless the official transcript clearly indicates that a Pass grade is equivalent to a C or higher.
- A maximum of one-half of the total credits within the degree or certificate program may be earned by transfer credit.
- Transferred Science and Computer Science courses must have been taken within the last five (5) years.
- Foreign documents must be translated and evaluated by a credible agency, such as the Center for Educational Documentation ([www.cedevaluations.com](http://www.cedevaluations.com)).
- Credit that is accepted according to general college policy is not necessarily acceptable for specific programs of study.
- The College reserves the right to refuse recognition for courses that were taken more than ten years prior to the date that students apply for transfer.
- Coursework must be represented in credit hours (clock hours will not be converted to MassBay credit hours).

**MassBay's VALOR Act Academic Credit Policy**

In accordance with the VALOR Act, Massachusetts Bay Community College evaluates credit earned for military education, training, experience, or coursework using the same standards as those applied to coursework from accredited colleges and universities. MassBay reviews all military transcripts and discharge documents (DD214), including SMART, ACE, and AARTS, as well as CLEP and DANTES Subject Standardized Tests in accordance with college policies for transferability of credit to the student's intended major or program of study. Such evaluation shall be in accordance with existing Mass Transfer agreement policies. Students shall receive accurate and complete academic counseling from the Veterans' Coordinator in collaboration with the Academic Advising Center.

## Transfer Advising

([www.massbay.edu/transfer](http://www.massbay.edu/transfer))

MassBay Community College is committed to assisting students in furthering their education beyond the Associate Degree. Transfer Advising (located in the Office of Academic Advising) has resources to assist students in making informed choices about their academic plan in order to make a smooth transition to a 4-year institution.

### **Transfer Workshops**

Transfer Workshops are held throughout the year on the Wellesley Hills and Framingham campuses. These workshops present an overview of the transfer process and provide students an opportunity to meet the transfer coordinator. These workshops are designed to answer some of the 'big picture' questions about transferring into a four-year institution. All students interested in transferring to another school should attend a Transfer Workshop early in their academic career at MassBay.

### **Transfer Fairs**

There is a Transfer Fair in both the fall and spring semesters of each academic year. Over 35 colleges and universities are invited to attend the transfer fairs each semester. At the fair, students have the opportunity to meet with admissions representatives about the requirements for transferring into the school. The transfer fair is also a great time to learn more about the institutions that you are interested in applying to after your time at MassBay.

### **Transfer Advising Appointments**

The transfer coordinator is available by appointment to meet with students who have already attended a Transfer Workshop. The transfer coordinator assists students in navigating the transfer process and other academic planning needs.

## MassTransfer Program

([www.mass.edu/masstransfer](http://www.mass.edu/masstransfer))

MassTransfer is a statewide transfer program that has replaced the old Joint Admissions Program. MassTransfer links community college students with Massachusetts public universities and the University of Massachusetts through a multitude of programs:

- MassTransfer Block
- MassTransfer Associate Degrees
  - MassTransfer
  - MassTransfer ATA (Alternative Transfer Agreements)
  - MassTransfer Education Compacts

### **MassTransfer Block**

Every four-year public institution (state universities and UMass campuses) has a different set of general education requirements. The MassTransfer Block refers to a set of general education, core, or distribution requirements, consisting of 34 college-level credits. These credits, when completed together with a 2.0 or higher GPA, fully transfer to any Massachusetts public higher education institution...even if you don't have your associate degree. These credits also satisfy general education/distribution/core requirements at any other Massachusetts public higher education institution, with the receiving institution being able to add no more than six additional credits/two courses.

Those requirements include the following:

*English Composition/Writing* (6 credits)  
EN101 and EN102

*Behavioral & Social Sciences* (9 credits)

Anthropology (AN), Economics (EC), Geography (GG), Government (GV), History (HS), Law (LA), Psychology (PS), Sociology (SO).

*Humanities & Fine Arts* (9 credits)

Art (AR), Communication (CO), Critical Thinking (CT), French (FR), Humanities (HU), Literature (LI), Music (MU), Philosophy (PH), Photography (PO), Speech/Theater/Film (SF), (SL), Spanish (SP).

*Natural & Physical Sciences* (7 credits)  
Biology (BI), Chemistry (CH), Environmental Sciences & Safety (EV), Physics (PY), Science (SC), Nutrition (NS).

*Mathematics* (3 credits)  
MA100-level math or higher  
(MAC100 & MAC131 not eligible)

Total: 34 college-level credits

### **MassTransfer Associate Degrees**

Associate degrees approved in MassTransfer include the MassTransfer Block. The remaining credits in the program have been reviewed by four-year public institutions to ensure transferability.

Students that graduate from these programs will receive the following benefits based on their final GPA at graduation:

- 2.0 GPA
  - No admission fee or essay.
  - Transfer of 60 credits applied to the bachelor's degree.
  - Automatic satisfaction of the general education requirements at the receiving institution.
- 2.5 GPA
  - All of the above benefits, plus guaranteed admission.
- 3.0 GPA
  - All of the above benefits, plus a 33% tuition waiver  
(UMass at Amherst and UMass at Lowell provide 100% tuition waiver)

### **MassTransfer ATA (Alternative Transfer Agreement)**

Not all programs at community colleges will qualify for MassTransfer since many programs don't have the appropriate courses to satisfy the MassTransfer Block requirement.

To address these concerns the MassTransfer ATA agreement has been created. Programs approved through the MassTransfer ATA program still receive all of the benefits listed above in the traditional MassTransfer program, however, students will not receive the general education waiver.

Four-year public institutions will only approve programs through MassTransfer ATA when a student transfers 60 or more credits.

### **MassTransfer Education Compact**

The Education Compact has been moved under the MassTransfer Program. This compact is specifically for Elementary Education and Early Childhood Education majors at MassBay. The compact ensures that students are completing Massachusetts Department of Education course requirements to teach in their selected fields.

Students must take and pass the MTEL licensure exam before transferring. Students will receive all of the benefits listed in the traditional MassTransfer program.



## REGISTRAR'S OFFICE

**Wellesley Hills Campus / Enrollment Center, 1<sup>st</sup> Floor / 781-239-2550**

**Framingham Campus / Enrollment Center, 1<sup>st</sup> Floor / 508-270-4050**

Students may register for classes on campus or online. To register on campus, students should meet with their academic advisor to select appropriate courses and fill out a registration form. This form, signed by an academic advisor, should be submitted to the Registrar's Office on either campus. Barring any conflicts with restricted or full courses, registration staff will enroll students in the selected courses. To register online, it is important to speak with an academic advisor prior to registering.

The academic year consists of a fall and spring semester, each approximately 16 weeks. Summer term consists of two accelerated sessions beginning in late May and mid-July and one 10-week session. Winter session is held in early January and provides an opportunity for accelerated study. MassBay programs lead to an associate in arts degree, an associate in science degree, or a certificate. Completion time will vary depending upon the requirements of the degree program/certificate and the number of courses completed each semester.

MassBay recognizes federal regulatory language, defining a credit hour as an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutional established equivalency that reasonably approximates not less than: (1) One hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately 15 weeks for one semester or trimester hour of credit, or ten to 12 weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time; or (2) At least an equivalent amount of work as required in section (1) of this definition for other academic activities as established by the institution including laboratory or studio work, internships, practica, and other academic work leading to the award of credit hours.

## Grading System and Grade Point Average

Qualitative Letter Grade	Approximate % Equivalent	Honors Points Per Credit Hour
A	4.000	94-100
A-	3.700	90-93
B+	3.300	87-89
B	3.000	83-86
B-	2.700	80-82
C+	2.300	77-79
C	2.000	73-76
C-	1.700	70-72
D+	1.300	67-69
D	1.000	63-66
F	0.000	Failing

## Student Status

### *Full-Time Status*

A full-time student is defined as one who is officially registered in twelve (12) credit hours or more in any academic semester.

### *Part-Time Status*

A part-time student is defined as one who is officially registered in eleven (11) credit hours or fewer in any academic semester.

### *Audit Status*

When students audit a course, they are expected to attend class regularly but do not receive college credit. The course instructor will decide the extent to which students will participate in class assignments. To audit a course, students must designate an audit status at the time of registration. A record of the audit shall be entered on a student's transcript as "AU" at the time of registration. It cannot be converted to a letter grade. Audited courses require full course payment.



## Change of Major

Students seeking to change from one academic program to another must meet with an advisor and complete a Change of Major form, available in the Registrar's Office or the Advising Center. Once a student's change of program request is approved, he or she will matriculate and follow the curriculum and course requirements in place for that program at the time of their change in major. In some instances, students' science and/or computer science courses may not apply to their new degree depending on the time of completion of these courses.

## Course Add/Drop

Students may add or drop a course without penalty until the end of add/drop period in each semester. Generally the add/drop period extends through the first week of classes, but evening, weekend, and off-cycle classes may have different add/drop periods. For the add/drop dates in a given semester, consult the official academic calendar for that semester, or the Office of the Registrar.

## Official Withdrawal from a Course

Students may officially withdraw from a course after the add/drop period has ended. The last date students may withdraw from a course is published in the official academic calendar each semester. Students who wish to withdraw from a course must do so online or complete the withdrawal section of the College's Add/Drop/Withdrawal form, available at [www.massbay.edu/registrar](http://www.massbay.edu/registrar) or in the Registrar's Office. Students who withdraw from a class will receive a grade of "W" on their transcript, which is not counted in the GPA calculation. Lack of attendance or course abandonment does not constitute automatic or official course withdrawal. Students who do not officially withdraw in accordance with College procedures are subject to full payment of tuition and fees, and may receive the failing grade of 'F' for the course. The official withdrawal date is the date all forms are completed and turned into the proper office, or the system date if the official

withdrawal is conducted online. Frequent withdrawal from courses may affect a student's academic standing and financial aid status, among other ramifications.

## Repeating a Course

Students may repeat a course at any time, although MassBay reserves the right to limit the number of times students may repeat the same course. When a course is repeated, the new letter grade, whether higher or lower than the original grade, is used to calculate the GPA and is listed on the permanent record. The original grade will be retained on the permanent record but is removed from the GPA calculation.

## Science and Computer Science Courses

Science and computer science courses completed at MassBay, or granted as transfer credit within five years of enrollment, may fulfill graduation requirements regardless of a change of program as long as the student has not had an interruption of enrollment of two years or four semesters. If students interrupt their MassBay studies for longer than two years or four semesters, and their science and/or computer science courses are five years or older upon readmission to the College, those science and computer science courses will not be accepted toward graduation.

## Transcripts

The permanent academic record of students listing all courses taken and grades achieved is documented on a transcript. An official transcript (one bearing the seal of the College and signature of the Registrar), can be mailed directly to the institution or persons considering the applicant for admission or employment, only upon receiving a written request from the student. No transcript or record will be released without the signature of the student to whom the record belongs. A Request for Transcript form is available in the Registrar's Office or online: [www.massbay.edu/registrar](http://www.massbay.edu/registrar). Students may obtain an unofficial transcript (an academic record without the College seal and signature of the Registrar) via Bay Navigator.

## Grading Policies and Requirements

### *Credit Hours*

The number of hours per week that courses meet are counted as equivalent credits for financial aid and used to determine a student's status as a full or part-time student. Credit hours are units earned for successfully completing a course during a given semester. The number of credit hours associated with each course is listed in this Catalog in the course descriptions section. At the end of each academic term, students receive a grade in every credit course in which they were enrolled. A letter grade is assigned for each credit course completed. Each letter grade carries an honor point value. These grades represent levels of accomplishment and carry the number of honor points per credit hour attempted, as indicated in the letter grade chart. This honor point value is multiplied by the number of credits earned for a particular course. Each semester you receive a semester Grade Point Average (GPA) based on the classes you took that semester, and a cumulative GPA which accounts for all of the college level courses you have taken up to the current date. The GPA is calculated by dividing the total number of points earned by the total number of college-level credits attempted. The GPA affects a student's academic progress with regard to graduation, academic honors, probation, and dismissal.

### *Mid-semester Grades*

During the mid-point in the fall and spring semesters, faculty submits grades as indicators of student performance. If a student's mid-year grade is a "D" or "F", or a "C-" in Health Sciences courses, he or she should meet with their instructor and academic advisor to review options for improvement.

### *Final Examinations*

Final examinations are given in most credit courses. If a student is absent for a final examination, he/she should immediately contact the class instructor to request a makeup exam. It is up to the instructor whether a make-up exam is allowable, and the circumstances under which it may be given.

### *Other Course Outcomes*

Although the following letter designations are not used in computing grade point average, some of them may have an impact on a student's financial aid status:

W, WC, WR, I, UC, AU, S, U, T.

Designations of W, WC, WR are not grades. They may be assigned under the following circumstances:

**W** (Official Withdrawal): From the day after the end of the add/drop period before the end of the twelfth week of fifteen-week courses, the fourth week of six-week classes, the sixth week of eight-week courses, or the eighth week of ten-week classes in any semester, a student may withdraw from a course without penalty. The notation of "W" will be made on a student's permanent record.

**WC** (Withdrawal from the College): When a student officially withdraws from all courses and files the appropriate notification with the Office of Student Development, the notation of "WC" will be made on the student's permanent record for these courses, indicating official College withdrawal.

**WR** (Administrative Withdrawal): When there is no record that a student ever attended a course for which they were enrolled or if a student stopped attending a course but did not withdraw, the notation of "WR" will be made on a student's permanent record for that course. The "WR" designation will be accompanied by the student's last known date of attendance.

Designations of I, UC, AU, S, U, or T may be assigned under the following circumstances:

**I** (Incomplete): A temporary designation assigned to a student if he or she fails to complete the requirements of a course. An "I" designation may result from one of two causes: failure to take a final examination, or failure to complete all the required assignments. If a student received an "I," he or she should contact the instructor and obtain, in writing, the requirements for course completion. A student may be given up to one semester after the semester in which the "I" was assigned to complete all course requirements. The designation of "I" automatically becomes a Failing ("F") grade if a student does not complete the missed work within the following semester.

**UC** (Unsafe Clinical): Unacceptable performance in a clinical assignment.

**AU** (Audit): This status is assigned to a student who requests to register for and participate in a credit course on a no-credit basis. A student may audit any credit-bearing course at MassBay, but he or she must state their intention to audit the course on their registration form. Audit status cannot be changed after the drop/add period.

**S** (Satisfactory): Acceptable performance in a pass/fail course.

**U** (Unsatisfactory): Unacceptable performance in a pass/fail course.

**T** (Transfer Course): Course credits transferred from another college.

## Graduation Requirements

The requirements for graduation are both academic and non-academic. Candidates for degrees and certificates must fulfill the following requirements:

1. Completion of the "Application for Graduation" form online or in the Registrar's Office.
2. Completion of program requirements, including all credit hours and Grade Point Average (GPA) requirements, of the particular academic program.
3. At least half the coursework must be taken at MassBay.
4. An overall cumulative Grade Point Average (GPA) of 2.000 or better.
5. Fulfillment of all College obligations, including financial, as well as completion of all exit forms by students receiving financial aid.

Students must complete the College's exit survey. Course requirements for graduation are specified in this catalog under your program of study.

### *Grade Changes and Challenges*

Grades reported by the instructor are considered permanent and final. There are, however, some circumstances in which a change of grade may be requested to correct clerical or procedural errors. Students must submit a written request to the instructor for re-evaluation. The final decision regarding grades rests with the instructor. However, students may appeal a grade by following the grade appeal process as outlined in the Student Handbook. No appeal challenging a grade may be initiated later than 30 calendar days following the last day of the instructional period for which the grade was granted.

### *Attendance Policy*

Students are expected to attend all scheduled meetings of the courses in which they have enrolled, and they are responsible for any work missed due to absence. For each course, the policies regarding class and/or laboratory attendance and make-ups (if any) are developed by the instructor and will be specified in the course syllabus. The course instructor has full and final authority to allow make-up work. If student absences exceed five (5) class hours, the instructor may withdraw him/her from the course by notifying the Registrar with the student's last known date of attendance. This action will result in the recording of the "WR" designation for course abandonment on the student's academic record. Lack of attendance or course abandonment does not constitute automatic or official course withdrawal. Students who do not officially withdraw in accordance with College procedures are subject to full payment of tuition and fees, and may receive the failing grade of 'F' for the course(s). The date of official withdrawal is determined by the date all forms are completed and turned into the proper office, or the system date if the official withdrawal is conducted online, via Bay Navigator. Frequent withdrawal from courses may affect academic standing and financial aid status, among others.

### *Religious Observances*

Under the Massachusetts General Laws, Chapter 151C, any student who cannot attend classes or take an exam, study, or fulfill work requirements on a particular day due to his or her religious beliefs shall be excused from such a scheduled obligation. Students must be provided with an opportunity for make-up as long as it does not create an unreasonable burden upon the institution.

### *Academic Progress*

At each semester's end, MassBay reviews student academic performance. The College requires students to complete each semester with a minimum cumulative GPA of 2.000. Students who fail to meet the minimum GPA are subject to probation or dismissal. Grades in pre-college-level courses are not included in calculating the GPA or in the calculation of credits toward graduation.

### *Dean's List*

To be eligible for the Dean's List, students must be full-time, enrolled in least 12 credits of college-level courses, in good standing with the College, maintain a 3.500 term GPA or higher, and have no course grade lower than 2.000 at the end of an academic semester. Only college-level course credits and grades are used to compute the term GPA for the Dean's List. If a student has any incompletes for the semester, even if he/she eventually completes them, he/she will not be eligible. Dean's List eligibility is not retroactive.

### **Active Military Duty**

Students who are called to active U.S. military duty shall, upon verification, be granted exceptional consideration for making up any missed work should their service cause a temporary interruption in the semester. Students who are unable to complete a semester because they are called to active U.S. military duty shall, upon verification, be granted non-punitive withdrawals in all courses from which they are required to withdraw. Students may also submit a Student Financial Petition for a full, or partial, refund with the Office of Student Accounts. For verification, students must provide the Dean of Students, Registrar, or Veterans' Counselor with a copy of their Order to Active Duty within one week of receiving the Order. Students who have received any form of financial aid, including a scholarship or student loan, or who expect to receive such, must contact the Office of Financial Aid and the Veterans' Counselor to make arrangements.

### **Student Evaluations**

MassBay is committed to the continual improvement of the quality of education at the institution. The periodic evaluation of instruction by students is an important component of this commitment. Student evaluations are conducted during a designated period at the end of each semester. More information is available in the Office of Strategic Planning, Institutional Effectiveness, and Grants Development.

### **Grade Requirements for Health Sciences Programs**

Students enrolled in health sciences programs must complete all science courses with a grade of "C" or "C+" or better, depending on the program. Science courses must be repeated if they were taken more than five years before the time of application to the health sciences programs. Students who are uncertain of the validity of their science courses should consult with an academic counselor in the Academic Advising Center.

### **Academic Probation and Academic Dismissal**

Student placed on probation should meet with their academic advisor to discuss MassBay's support services, which can help improve academic performance. While on probation, students may not participate in any extra-curricular activities, including athletics. In addition, he or she must immediately resign any position of responsibility, including the Student Government Association (SGA), Student Trustee, etc. Students may attend social and academic functions, as well as participate in work-study. Once on probation, students must earn a minimum cumulative GPA of 2.000 in one annual academic cycle (two academic semesters). Failure to achieve the above standard will result in dismissal from the College. Academic dismissal means that students are prohibited from enrolling in the College. If a student is dismissed, he or she may appeal their status with the College Appeals Board.



## Withdrawal from the College

Students intending to withdraw from class(es), whereby there are no remaining classes for the enrolled semester, must meet with the Dean of Students to complete the withdrawal process. The withdrawal date is determined by the date all forms are completed and turned into the appropriate offices.

## Readmission to the College

Students who fall under any of the following conditions must apply for readmission to MassBay:

- MassBay graduate entering a new program.
- Official withdrawal from MassBay.
- Academic dismissal from MassBay.
- Interruption of academic program of more than four semesters or two years.

To reapply to the College, contact the Office of Admissions or the Academic Advising Office for appropriate procedure and forms.

## College Appeals Board for Readmission

Students who are dismissed from an academic program or the College may appeal for reinstatement through the College Appeals Board process. Appeal forms are available in the Office of Student Development. Students may only appear before the College Appeals Board one time for reinstatement. Students who have been academically dismissed may be readmitted to the College a maximum of two (2) times.

## General Education Requirements

All associate degree programs include at least 21 credits of general education requirements from the arts, humanities, mathematics, sciences, and social sciences. Please refer to individual curriculum sheets for program requirements.

## Graduation Honors

Associate degree candidates for graduation whose cumulative grade point average is 3.700 or above will graduate with Highest Honors; those with GPAs of 3.500 – 3.699 will graduate with High Honors.

# STUDENT LIFE

## Wellesley Hills Campus / Framingham Campus

Outside the classroom, MassBay offers many services and activities that can enhance the college experience. Diverse co-curricular activities are available to foster a sense of community and to afford students the opportunity to seize leadership and decision-making roles. The MassBay Student Handbook is an important resource for students, describing in detail various services available, as well as rights and responsibilities. The condensed Handbook includes an academic year calendar/ planner, and the full Handbook can be found online at [www.massbay.edu](http://www.massbay.edu).

## Automotive Technology Center

The Automotive Technology Center located in Ashland has become the premier technical training facility in New England. This state-of-the-art facility houses MassBay's ASE Master certified training programs for General Motors, Chrysler/JEEP/Dodge Ram, Toyota/Lexus, and BMW. The Center also provides technical training and resources for AC Delco, the Commonwealth of Massachusetts, Delphi, Hunter Engineering, Raytheon Systems Co., Sullivan Tire, and others. The Automotive Technology Center is an innovative learning environment where education meets industry.

## Recreation & Wellness Center

The MassBay Recreation & Wellness Center (RWC) is home to numerous recreation and physical fitness opportunities, offering a multi-purpose gymnasium and a fitness & wellness room with exercise equipment. The RWC signifies the College's commitment to provide an environment that promotes the total fitness and wellness of its students. The RWC is available free of charge to students. A campus identification card is required to use the facility, its equipment and locker rooms.

## Athletics

The College supports an intercollegiate athletic program. Full-time status (12 or more credit hours per semester) and a cumulative GPA of 2.00 are eligibility requirements for student participation in all intercollegiate programs. Team selection is determined through tryouts. MassBay offers the following athletic programs, depending on demand:

- Men's and Women's Soccer
- Men's and Women's Basketball
- Men's Baseball
- Men's and Women's Golf
- Men's and Women's Track & Field (club)

MassBay is a member of the Massachusetts Community College Athletic Conference (MCCAC) and the National Junior College Athletic Association (NJCAA). MassBay student-athletes compete for state, regional, and national honors and championships. All MassBay students are admitted free to all home games. Other club sports may be offered as well, depending on student interest. All full and part-time students are invited to participate in these activities. Offerings may include ice hockey, tennis, indoor soccer, and volleyball.

## Student Government, Clubs and Organizations

All enrolled students at MassBay are members of the Student Government Association (SGA). The SGA serves as an advocate to address student concerns and sponsors a variety of student activities and student-interest programs. The elected governing body of the College SGA is the Student Senate, comprised of representatives elected by the student body at-large. All clubs and social organizations that receive funding are under the jurisdiction of the SGA. A copy of the Student Government Association Constitution is included in the MassBay Student Handbook. Social, cultural, and recreational activities, as well as trips, outings, and informal get-togethers, are planned by committees of the Student Senate and the Office of Student Activities each semester. Students

must be in good academic and disciplinary standing to assume and continue to hold a leadership position in the SGA or in a club. Contact the Office of Student Activities or visit [www.massbay.edu/studentactivities](http://www.massbay.edu/studentactivities) for a current list of active clubs. Students may join an existing club or start a new one by contacting the Office of Student Activities.

## Identification Cards (ONE Card)

### MassBay Buc\$ ONE Card (Student ID)

The "ONE CARD" is the official identification card of MassBay Community College issued to every student and employee. The ONE CARD is an essential key to campus life. In addition to being an official form of identification, it is used for many other College services; MASSBAY BUC\$ can be used to make purchases in the cafeteria, bookstore and vending machines. The ONE CARD is also a Minuteman Library Network card. MASSBAY BUC\$ ONE CARDS are available to MassBay students registered for at least one credit and to College employees.

The "ONE card" must be carried at all times and may not be used by anyone other than the student named on the card. It remains the property of the College and must be surrendered to the College upon demand. When necessary, students are required to identify themselves and to show their MassBay ONE Cards at the request of a College official (this includes, but is not limited to, admission to exams, buildings, and College events). Alteration or use of the card for any unauthorized purpose will result in confiscation and/or disciplinary action.

For more information; please contact the ONE Card office: [onecard@massbay.edu](mailto:onecard@massbay.edu) or call either campus (Wellesley Hills) 781-239-2518 (Framingham) 508-270-4065.

## Bookstore

Textbooks for classes are available for purchase or for rental from the bookstores located on the Wellesley Hills and Framingham campuses, and online at [www.efollet.com](http://www.efollet.com). Used textbooks may be available at a 25% savings off the new book price. Many textbooks are also available in digital format. A book buyback program throughout the year is also offered, where students can sell their unwanted textbooks for cash (market prices apply). The bookstore offers extended hours during the first and last week of each semester.

## Parking and Transportation

Parking is available free of charge to MassBay students displaying a valid MassBay student decal (available from Public Safety). Please park in lots designated as "Student Parking." MassBay offers limited shuttle service to and from the Riverside MBTA stop to the Wellesley Hills and Framingham campuses. Current schedules are distributed during orientation and are available in the Office of Student Development and on the College website throughout the year.

## Counseling Services

Licensed mental health counselors are available to help enrolled students address personal issues that may negatively affect their academic and personal well-being including anxiety, stress, depression, relationship issues, and life balance. Counseling Services provides individual therapy for students and makes referrals to specialists in the area. Services are private and confidential as defined by law. Counseling Services also provides consultation to faculty and staff about student mental health issues and offers educational programs on a variety of topics throughout the academic year. Students may call Counseling Services at 781-239-3142 or come to the Office of Student Development in Wellesley Hills or Framingham to make an appointment.

## Career Development

MassBay career counselors provide on-going career planning assistance for students and alumni seeking career direction. Students have access to current information on potential careers. They are encouraged to have regular contact with counselors throughout their college experience to strategize and to explore their choices. Printed resources and career software programs are housed in the Career Center on both campuses. These tools help students make informed decisions about career and educational goals. Career and interest inventories, including the Myers-Briggs Type Indicator, are available for all students and alumni. Job placement assistance is available through the Office of Career Development for all students and alumni. Students may register online to access job postings and to meet with a counselor to develop an individualized job search strategy. Workshops and individual assistance with résumé writing, interviewing, and job search strategies are also offered to help with the job search. Career fairs and other on-campus recruiting events are held periodically throughout the academic year. The Office of Career Development can also assist students in finding internship opportunities that fit their career path. Internships are a valuable experience that allows students to gain experience in a particular field of interest and develop professional contacts.

## International Student Services

MassBay celebrates our diverse College community. The College is committed to supporting the academic success of international students by providing services to meet their specific needs. The Office of International Education & Study Abroad Programs offers comprehensive support for international students on both academic and personal levels. Services include but are not limited to international admissions, immigration compliance and advice, orientation and informational sessions, work authorization, and cultural adjustment and academic support.

## Curriculum Sheets for Degree and Certificate Programs



*Your dreams. Our mission.*



# Nursing–Day Option

## Associate in Science

### DIVISION OF HEALTH SCIENCES

#### Fall Semester Start

This program is designed to meet the educational needs of students pursuing a career in nursing who wish to attend college full-time during the day. The day-option core curriculum is a full time program that is designed to be completed over four semesters.

The theoretical and clinical components of nursing courses must be taken concurrently and sequentially as outlined in the applicable curriculum sheet.

Graduates are eligible to take the National Council Licensure Examination for Registered Nurses.

The Associate in Science Degree in Nursing is accredited by the Accreditation Commission for Education in Nursing (ACEN) and approved by the Massachusetts Board of Registration in Nursing.

Upon completion, The Associate in Science in Nursing degree is awarded.

### ADMISSIONS REQUIREMENTS

Students seeking admission to the Associate Degree Nursing Program (ADN) will be individually evaluated on the basis of Grade Point Average (GPA), and performance on the HESI A2 Entrance Exam.

In order to be considered for admission students must have all the following:

- High school diploma or equivalent, or associate degree or higher
- An overall GPA of 2.5 or higher
- HESI Admission (A2) exam score of 75 or better in all subtest scores except Chemistry which requires a subtest score of at least 65 percent. (Note: Student may take the HESI exam for a total of 2 times. Students repeating the exam must take a second version. There must be a 6-month period between each exam. HESI exams are only good for two years, and then the exam must be retaken. If you have applied to another program and have taken the most recent version of the TEAS test, adjusted subtest scores of 58% or better in English, reading, science and math may be considered at the discretion of the admissions committee.)

Applicants must also meet the following additional criteria for acceptance into the nursing program:

- Freshman English I (EN 101) with a grade of C or higher.
- MassBay placement into College Algebra (MA 102) OR Pre-Calculus Mathematics (MA 104) or completion of Intermediate Algebra (MA 098) with a grade of C or higher.
- Completion of BI 115 Anatomy and Physiology I, BI 116 Anatomy and Physiology II and BI 123 Fundamentals of Microbiology within a five (5) year time frame with a grade of C+ or higher at the time student records are reviewed for matriculation into the nursing program (Note: Students cannot have multiple attempts to achieve a C+ or higher in any one science course within the required 5 year period).
- Completion of Chemistry I with a grade of C+ or higher (High School Chemistry or College Chemistry (CH 101) within 10 years of acceptance into the nursing program).

- Successful completion of Reading Assessment Test with a score of 72 or better.
- Documentation from a healthcare provider stating that you have a positive Hepatitis B titer, or have completed the Hepatitis B vaccine series and are a “non-responder” to the vaccine. You must allow a minimum of 6 months to complete this process.

Once students have been admitted to the program the following pre-program requirements must be completed:

Orientation: Nursing students are required to attend an orientation and registration session in the spring and complete a **mandatory** two-day orientation scheduled on the first Tuesday and Wednesday in August. Students who do not complete this two-day orientation will be withdrawn from the program and be considered for readmission at a later date.

#### Required Pre-entry Documentation:

**In order to be eligible to start class and remain in the program** all new and progressing students are required to have certifiedbackgroundcheck.com accounts initiated **at least 6 weeks** in advance of the **first day of class**. All required forms and documentation outlined below\* must be uploaded to **certifiedbackgroundcheck.com** accounts at least 4 weeks prior to the first day of class. Failure to have completed this step will result in the student being withdrawn from the program. Students who are withdrawn will be considered for readmission at a later date.

- Medical clearance and proof of immunizations as outlined in the Division of Health Sciences handbook and in admission paperwork.
- Proof of CPR certification. The Healthcare Provider Card (from the American Heart Association) and the Professional Rescuer Card (from American Red Cross or National Safety Council) are the only types of CPR certification that meet this requirement (Copies of both sides and a valid signature required).
- Completion of CORI (Criminal Offender Record Information) and SORI (Sexual Offender Registry Information) in accordance with state regulations (CORI and SORI results are confidential).

#### PROGRAM FOOTNOTES:

All Nursing (NU) courses must be completed with a grade of C (73%) or higher.

**Competency in Mathematics** is MassBay graduation requirement. Prior to graduation, students must demonstrate competency at 100-level math. This may be accomplished by an appropriate placement test score or completion of a 100-level math course (not MAC).

**Competency in Critical Thinking** is a MassBay graduation requirement. Students who achieve a C or higher in the Nursing Capstone course (NU 275) have demonstrated competency in critical thinking and have met the required graduation requirement.

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts.

**See next page for curriculum sheet.**

AY '14-'15

**Associate Degree Nursing Program Day Curriculum Sheet**

This program qualifies as an Alternative Transfer Agreement (MassTransfer) with select public institutions in Massachusetts. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
BI 115	Anatomy and Physiology I w/ Lab	4*
BI 116	Anatomy and Physiology II w/ Lab	4
BI 123	Fundamentals of Microbiology w/ Lab	4*
EN 101	Freshman English I	3
	<b>Subtotal for Program Requirements</b>	<b>19</b>

\*BI 101 (4 credits) pre-requisite

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester I (Fall)</i>	
NU 130	Introduction to Professional/Humanistic Nursing Concepts	2
NU 125	Introduction to Biophysical Concepts and Pharmacology in Nursing	4
HL 110	Health Assessment and Skills	1
EN 102	Freshman English II	3
PS 101	Introduction to Psychology	3
	<b>credits:</b>	<b>13</b>
<i>First Year</i>	<i>Semester II (Spring)</i>	
NU 135	Introduction to Psychosocial Nursing Concepts Across the Lifespan	4
NU 160	Concepts in Nursing Care Across the Lifespan I	4
NU 161	Concepts in Nursing Care Across the Lifespan I Practicum	4
CS 100	Computers and Technology	3
	<b>credits:</b>	<b>15</b>
<i>Second Year</i>	<i>Semester I (Fall)</i>	
NU 225	Concepts in Nursing Care Across the Lifespan II	3
NU 226	Concepts in Nursing Care Across the Lifespan II Practicum	2
NU 235	Concepts in Family Nursing	3
NU 236	Concepts in Family Nursing Practicum	2
	Humanities elective	3
	<b>credits:</b>	<b>13</b>
<i>Second Year</i>	<i>Semester II (Spring)</i>	
NU 260	Concepts in Nursing Care Across the Lifespan III	4
NU 261	Concepts in Nursing Care Across the Lifespan III Practicum	4
NU 275	Nursing Capstone	4
	<b>credits:</b>	<b>12</b>
	<b>Total Program Credits</b>	<b>72</b>

# Nursing–Evening Option

## Associate in Science

### DIVISION OF HEALTH SCIENCES

#### Fall Semester Start

This program is designed to meet the educational needs of students pursuing a career in nursing who are unable or do not desire to complete the program on a full-time basis. Thirty weeks is the equivalent of fifteen in the day program, with requisite requirements being completed over two semesters. The prescribed course sequence and requirements for both programs are identical, but the core curriculum is a part time program completed over 6 semesters and two summers. The theoretical and clinical components of nursing courses must be taken concurrently and sequentially as outlined in the applicable curriculum sheet.

Graduates are eligible to take the National Council Licensure Examination for Registered Nurses.

The Associate in Science Degree in Nursing is accredited by the Accreditation Commission for Education in Nursing (ACEN) and approved by the Massachusetts Board of Registration in Nursing.

Upon completion, the Associate in Science in Nursing degree is awarded.

#### ADMISSIONS REQUIREMENTS

Students seeking admission to the Associate Degree Nursing Program (ADN) will be individually evaluated on the basis of Grade Point Average (GPA), and performance on the HESI A2 Entrance Exam.

In order to be considered for admission students must have all the following:

- High school diploma or equivalent, or associate degree or higher
- An overall GPA of 2.5 or higher
- HESI Admission (A2) exam score of 75 or better in all subtest scores except Chemistry which requires a subtest score of at least 65 percent. (Note: Student may take the HESI exam for a total of 2 times. Students repeating the exam must take a second version. There must be a 6-month period between each exam. HESI exams are only good for two years, and then the exam must be retaken. If you have applied to another program and have taken the most recent version of the TEAS test, adjusted subtest scores of 58% or better in English, reading, science and math may be considered at the discretion of the admissions committee.)

Applicants must also meet the following additional criteria for acceptance into the nursing program:

- Freshman English I (EN 101) with a grade of C or higher.
- MassBay placement into College Algebra (MA 102) OR Pre-Calculus Mathematics (MA 104) or completion of Intermediate Algebra (MA 098) with a grade of C or higher.
- Completion of BI 115 Anatomy and Physiology I, BI 116 Anatomy and Physiology II and BI 123 Fundamentals of Microbiology within a five (5) year time frame with a grade of C+ or higher at the time student records are reviewed for matriculation into the nursing program (Note: Students cannot have multiple attempts to achieve a C+ or higher in any one science course within the required 5 year period).

- Completion of Chemistry I with a grade of C+ or higher (High School Chemistry or College Chemistry (CH 101) within 10 years of acceptance into the nursing program).
- Successful completion of Reading Assessment Test with a score of 72 or better
- Documentation from a healthcare provider stating that you have a positive Hepatitis B titer, or have completed the Hepatitis B vaccine series and are a “non-responder” to the vaccine. You must allow a minimum of 6 months to complete this process.

Once Students have been admitted to the program the following pre-program requirements must be completed:

**Orientation:** Nursing students are required to attend an orientation and registration session in the spring and complete a **mandatory** two-day orientation scheduled on the first Tuesday and Wednesday in August. Students who do not complete this two-day orientation will be withdrawn from the program and be considered for readmission at a later date.

#### Required Pre-entry Documentation:

**In order to be eligible to start class and remain in the program** all new and progressing students are required to have certifiedbackgroundcheck.com accounts initiated **at least 6** weeks in advance of the **first day of class**. All required forms and documentation outlined below must be uploaded to **certifiedbackgroundcheck.com** accounts at least 4 weeks prior to the first day of class. Failure to have completed this step will result in the student being withdrawn from the program. Students who are withdrawn will be considered for readmission at a later date.

- Medical clearance and proof of immunizations as outlined in the Division of Health Sciences handbook and in admission paperwork.
- Proof of CPR certification. The Healthcare Provider Card (from the American Heart Association) and the Professional Rescuer Card (from American Red Cross or National Safety Council) are the only types of CPR certification that meet this requirement (Copies of both sides and a valid signature required).
- Completion of CORI (Criminal Offender Record Information) and SORI (Sexual Offender Registry Information) in accordance with state regulations (CORI and SORI results are confidential).

#### PROGRAM FOOTNOTES:

All Nursing (NU) courses must be completed with a grade of C (73%) or higher.

**Competency in Mathematics** is a MassBay graduation requirement. Prior to graduation, students must demonstrate competency at 100-level math. This may be accomplished by an appropriate placement test score or completion of a 100-level math course (not MAC).

**Competency in Critical Thinking** is a MassBay graduation requirement. Students who achieve a C or higher in the Nursing Capstone course (NU 275) have demonstrated competency in critical thinking and have met the required graduation requirement.

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts.

**See next page for curriculum sheet.**

**Associate Degree Nursing Program Part-Time Evening Curriculum Sheet**

COURSE	COURSE TITLE	CREDITS
BI 115	Anatomy and Physiology I with Lab	4*
BI 116	Anatomy and Physiology II with Lab	4
BI 123	Fundamentals of Microbiology with Lab	4*
EN 101	Freshman English I	3
	<b>Subtotal for Program Requirements</b>	<b>19</b>

\*BI 101 (4 credits) pre-requisite

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester I (Fall)</i>	
NU 130	Introduction to Professional/ Humanistic Nursing Concepts	2
NU 125	Introduction to Biophysical Concepts and Pharmacology in Nursing	4
	<b>credits:</b>	<b>6</b>
<i>First Year</i>	<i>Semester II (Spring)</i>	
HL 110	Health Assessment and Skills	1
EN 102	Freshman English II	3
PS 101	Introduction to Psychology	3
	<b>credits:</b>	<b>7</b>
<i>First Year</i>	<i>Semester III (Summer)</i>	
NU 135	Introduction to Psychosocial Nursing Concepts Across the Lifespan	4
CS 100	Computers and Technology	3
	<b>credits:</b>	<b>7</b>
<i>Second Year</i>	<i>Semester I (Fall)</i>	
NU 160	Concepts in Nursing Care Across the Lifespan I	4
NU 161	Concepts in Nursing Care Across the Lifespan I Practicum	4
	<b>credits:</b>	<b>8</b>
	<i>Semester II (Spring)</i>	
NU 235	Concepts in Family Nursing	3
NU 236	Concepts in Family Nursing Practicum	2
	Humanities elective	3
	<b>credits:</b>	<b>8</b>
<i>Second Year</i>	<i>Semester III (Summer)</i>	
NU 225	Concepts in Nursing Care Across the Lifespan II	3
NU 226	Concepts in Nursing Care Across the Lifespan II Practicum	2
	<b>credits:</b>	<b>5</b>
<i>Third Year</i>	<i>Semester I (Fall)</i>	
NU 260	Concepts in Nursing Care Across the Lifespan III	4
NU 261	Concepts in Nursing Care Across the Lifespan III Practicum	4
	<b>credits:</b>	<b>8</b>
<i>Third Year</i>	<i>Semester II (Spring)</i>	
NU 275	Nursing Capstone	4
	<b>credits:</b>	<b>4</b>
	<b>Total Program Credits</b>	<b>72</b>

This program qualifies as an Alternative Transfer Agreement (MassTransfer) with select public institutions in Massachusetts. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).



# Radiologic Technology

## Associate in Science

### DIVISION OF HEALTH SCIENCES

Fall Semester Start

The radiologic technologist provides diagnostic imaging services to patients in hospitals, clinics, private imaging centers, and medical offices. Comprehensive, rigorous, multi-faceted, and interrelated experiences in the classroom, laboratory, and clinical settings are designed to prepare the student to enter the field as a competent, compassionate professional. The successful program graduate will be capable of assuming many responsibilities associated with meeting each patient's needs, satisfying the requirements associated with the performance of high-quality imaging exams, and assuming accountability for the radiation safety of the patient as well as oneself. Graduates of the program are eligible to seek Massachusetts State Licensing and take the American Registry of Radiologic Technologists Examination.

The Radiological Technology Program is accredited by the Joint Review Committee on Education in Radiologic Technology.

### ADMISSION REQUIREMENTS

Admission to the Radiologic Technology program is competitive. Students seeking admission to the Radiologic Technology Program will be evaluated by GPA and total number of college-level credits completed at MassBay. Once the selected students have met the minimum requirements of GPA, admission is based on a core GPA point ranking system. Though core sciences courses can be taken concurrently, consideration will be given to students who have already completed all core science courses as well as college level algebra. Priority for admission is given to current MassBay students and to those applicants having the highest point rating (core GPA) of the core science classes. Applicants must also meet all other required course prerequisites for the program. Minimum eligibility for admissions to this program includes:

- High School diploma or equivalent, or Associate Degree or higher
- MassBay Placement into Freshman English I (EN 101) or completion of College Writing (EN 100) with a grade of C or higher.
- MassBay Placement into College Algebra (MA 102)/Pre-Calculus Mathematics (MA 104) or completion of Intermediate Algebra (MA 098) with a grade of C or higher.
- Successful completion of Reading Assessment Test with a score of 72 or higher.

Upon acceptance into the Radiologic Technology program, students are expected to attend a program-specific orientation. Students in the program are required to obtain certain immunization and health records and submit documentation thereof by published deadlines which are program-specific and determined by clinical rotation start dates. A complete list of the required immunizations can be found on Division of Health Sciences' web pages of the MassBay website by clicking the link, "[Health and Background Check Requirements](#)." Immunization requirements are in accordance with clinical site requirements and Massachusetts state law. If the student does not meet the initial published deadline, s/he will not attend the clinical rotation.

Proof of CPR certification is required for the program. The Healthcare Provider Card (from the American Heart Association) and the CPR/AED for the Professional Rescuer Card (from the American Red Cross) are the only types of CPR certification that meet this requirement.

The student must complete the CORI (Criminal Offender Record Information) form to authorize a search of conviction and pending criminal case information under Standard Required Level I by the DCJIS (Department of Criminal Justice Information Services). The student must also complete the SORI (Sex Offender Registry Information) form. The CORI and SORI completion process will occur prior to the beginning of clinical/practicum experiences. If a CORI and SORI completion process will occur prior to the beginning of clinical/practicum experiences. If a

CORI and/or SORI Report is returned with a finding(s), it may or may not prohibit progression in a Health Sciences Program. A National County Criminal Background check will be conducted as a part of the student's completion of the clinical requirements.

More information is available on the [Division of Health Sciences](#) pages on the MassBay website.

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
BI 115*	Anatomy and Physiology I	4
CT 100	Critical Thinking	3
EN 101	Freshman English I	3
RT 101	Radiographic Positioning I	3
RT 111	Radiographic Technique I	3
RT 121	Clinical Education I	3
	<b>credits:</b>	19
<i>First Year</i>	<i>Semester 2</i>	
BI 116	Anatomy and Physiology II	4
RT 102	Radiographic Positioning II	3
RT 112	Radiographic Technique II	3
RT 122	Clinical Education II	3
RT 131	Radiographic Physics	4
	<b>credits:</b>	17
<i>First Year</i>	<i>Summer</i>	
RT 123	Clinical Education III	6
	<b>credits:</b>	6
<i>Second Year</i>	<i>Semester 1</i>	
CS 100	Computers and Technology	3
EN 102	Freshman English II	3
RT 203	Radiographic Positioning III	3
RT 213	Radiobiology and Radiation Protection	2
RT 214	Radiographic Technique III	2
RT 221	Clinical Education IV	4
	<b>credits:</b>	17
<i>Second Year</i>	<i>Semester 2</i>	
RT 216	Medical and Surgical Diseases	3
RT 217	Advanced Radiographic Technology	3
RT 222	Clinical Education V	4
	Social Science Elective	3
	Humanities Elective	3
	Humanities or Social Science Elective	3
	<b>credits:</b>	19
	<b>Total Credits:</b>	<b>78</b>

### PROGRAM FOOTNOTES

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230), Psychology, Sociology

\*Prerequisite General Biology I (BI 101) with a grade of C or higher in the last five years.

A grade of C or higher is required in all Radiologic Technology (RT) and science courses.

Competency in mathematics is a MassBay graduation requirement. Prior to graduation, students must demonstrate competency at 100-level math. This may be accomplished by an appropriate placement test score or completion of a 100-level math course (not MAC).

# Radiologic Technology– Flex Option

## Associate in Science

### DIVISION OF HEALTH SCIENCES

#### Spring Semester Start

Courses are scheduled in the evening on the Framingham campus for the first two years. Clinicals occur during the day.

The radiologic technologist provides diagnostic imaging services to patients in hospitals, clinics, private imaging centers, and medical offices. Comprehensive, rigorous, multi-faceted, and interrelated experiences in the classroom, laboratory, and clinical settings are designed to prepare the student to enter the field as a competent, compassionate professional. The successful program graduate will be capable of assuming many responsibilities associated with meeting each patient's needs, satisfying the requirements associated with the performance of high-quality imaging exams, and assuming accountability for the radiation safety of the patient as well as oneself. Courses are scheduled in the evening on the Framingham campus for the first two years. Clinicals occur during the day. This flexible schedule allows an opportunity for students to complete the majority of courses required for the RT program in a non-traditional, flexible, and structured manner. Graduates of the program are eligible to seek Massachusetts State Licensing and take the American Registry of Radiologic Technologists Examination.

The Radiological Technology Program is accredited by the Joint Review Committee on Education in Radiologic Technology.

### ADMISSION REQUIREMENTS

Admission to the Radiologic Technology program is competitive. Students seeking admission to the Radiologic Technology Program will be evaluated by GPA and total number of college-level credits completed at MassBay. Once the selected students have met the minimum requirements of GPA, admission is based on a core GPA point ranking system. Though core sciences courses can be taken concurrently, consideration will be given to students who have already completed all core science courses as well as college level algebra. Priority for admission is given to current MassBay students and to those applicants having the highest point rating (core GPA) of the core science classes. Applicants must also meet all other required course prerequisites for the program. Minimum eligibility for admissions to this program includes:

- High School diploma or equivalent, or Associate Degree or higher
- MassBay Placement into Freshman English I (EN 101) or completion of College Writing (EN 100) with a grade of C or higher.
- MassBay Placement into College Algebra (MA 102)/Pre-Calculus Mathematics (MA 104) or completion of Intermediate Algebra (MA 098) with a grade of C or higher.
- Successful completion of Reading Assessment Test with a score of 72 or higher.

Upon acceptance into the Radiologic Technology program, students are expected to attend a program-specific orientation. Students in the program are required to obtain certain immunization and health records and submit documentation thereof by published deadlines which are program-specific and determined by clinical rotation start dates. A complete list of the required immunizations can be found on Division of Health Sciences' web pages of the MassBay website by clicking the link, "Health and Background Check Requirements." Immunization requirements are in accordance with clinical site requirements and Massachusetts state law. If the student does not meet the initial published deadline, s/he will not attend the clinical rotation.

Proof of CPR certification is required for the program. The Healthcare Provider Card (from the American Heart Association) and the CPR/AED for

the Professional Rescuer Card (from the American Red Cross) are the only types of CPR certification that meet this requirement.

The student must complete the CORI (Criminal Offender Record Information) form to authorize a search of conviction and pending criminal case information under Standard Required Level I by the DCJIS (Department of Criminal Justice Information Services). The student must also complete the SORI (Sex Offender Registry Information) form. The CORI and SORI completion process will occur prior to the beginning of clinical/practicum experiences. If a CORI and SORI completion process will occur prior to the beginning of clinical/practicum experiences. If a CORI and/or SORI Report is returned with a finding(s), it may or may not prohibit progression in a Health Sciences Program. A National County Criminal Background check will be conducted as a part of the student's completion of the clinical requirements.

More information is available on the [Division of Health Sciences pages](#) on the MassBay website.

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Spring Semester</i>	
BI 115*	Anatomy and Physiology I	4
RT 131	Radiographic Physics I	4
	<b>credits:</b>	8
<i>First Year</i>	<i>Summer Session</i>	
BI 116	Anatomy and Physiology II	4
RT 213	Radiation Biology & Protection	2
	<b>credits:</b>	6
<i>Second Year</i>	<i>Fall Semester</i>	
RT 101	Radiographic Positioning I	3
RT 111	Radiographic Technique I	3
	<b>credits:</b>	6
<i>Second Year</i>	<i>Semester 4 (Spring)</i>	
RT 102	Radiographic Positioning II	3
RT 112	Radiographic Technique II	3
	<b>credits:</b>	6
<i>Second Year</i>	<i>Summer Session</i>	
RT 203	Radiographic Positioning III	3
RT 214	Radiographic Technique III	2
	<b>credits:</b>	5

\*\* The following courses must also be completed by the student prior to commencing the Clinical phase (Third Year) of this program. A student may complete some or all of these courses prior to admission. Alternatively a student may add one or two additional courses each of the semesters above depending on specific course prerequisite and availability.

CT 100	Critical Thinking	3
CS 100	Computers and Technology	3
EN 101	Freshman English I	3
EN 102	Freshman English II	3
	Humanities Elective	3
	Social Science Elective	3
	Humanities or Social Science Elective	3
	<b>credits:</b>	21

<i>Third Year</i>	<i>Semester 6 (Fall)</i>	
RT 121	Clinical Education I	3
RT 221	Clinical Education IV	4
	<b>credits:</b>	7
<i>Third Year</i>	<i>Semester 7 (Spring)</i>	
RT 122	Clinical Education II	3
RT 222	Clinical Education V	4
	<b>credits:</b>	7
<i>Third Year</i>	<i>Summer Session</i>	
RT 123	Clinical Education III	6
RT 216	Medical AND Surgical Diseases	3
RT 217	Advanced Radiographic Technology	3
	<b>credits:</b>	12
	<b>Total Credits:</b>	78

See next page for Program Footnotes.

AY '14-'15

**PROGRAM FOOTNOTES**

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law AND Society (LA 230), Psychology, Sociology  
Competency in mathematics is a MassBay graduation requirement. Prior to graduation, students must demonstrate competency at 100-level math. This may be accomplished by an appropriate placement test score or completion of a 100-level math course (not MAC).

A grade of C or higher is required in all Radiologic Technology (RT) and science courses.

\*Prerequisites: General Biology I (BI 101) with a grade of C or higher in the last five years



# Central Processing Technology

## Certificate

### ***DIVISION OF HEALTH SCIENCES***

*Evenings, Fall, Spring, And Summer Semester Starts*

The goal of this program is to prepare graduates for a rewarding career in hospitals, physician and dental offices, biotech and veterinary hospitals, and surgical centers. Lecture and Laboratory classes occur in the evening. Clinical experiences take place in the late afternoon and early evening. Central services is the “hub” of the medical care environment especially in those health care agencies performing surgical procedures and need equipment that is sterile, packed correctly, and delivered on time to the operating room. Central Service Technicians also provide critical services to all departments, healthcare professionals and patients.

Graduates are prepared to take the International Certification Exam offered by the International Association of Healthcare Central Service Material Management (IAHCSCMM), whose primary role is to provide education and certification to Central Service and Material Management professionals.

### **ADMISSION REQUIREMENTS**

High School diploma or equivalent, or Associate Degree or higher

Upon acceptance into the Central Processing Technology program, students are expected to attend a program-specific orientation. Students in the program are required to obtain certain immunization and health records and submit documentation thereof by published deadlines which are program-specific and determined by clinical rotation start dates. A complete list of the required immunizations can be found on Division of Health Sciences’ web pages of the MassBay website by clicking the link, “[Health and Background Check Requirements](#).” Immunization requirements are in accordance with clinical site requirements and Massachusetts state law. If the student does not meet the initial published deadline, s/he will not attend the clinical rotation.

For more information about the costs of this program and employment opportunities after completion, please visit our gainful employment page: <http://www.massbay.edu/gainfulemployment.aspx>

COURSE	COURSE TITLE	CREDITS
CY 101	Principles of Central Processing Technology	4
	<b>credits:</b>	<b>4</b>
	<b>Total Credits:</b>	<b>4</b>

A grade of C or higher is required in the Principles of Central Processing Technology course.



# Central Services & Material Management

## Certificate

### DIVISION OF HEALTH SCIENCES

The goal of this program is to prepare graduates to function as directors and managers for Central Service, technical advisors in healthcare, quality assurance, sales and marketing representative's specialists, but not limited to health care products and equipment.

Graduates are eligible for the International Association of Healthcare Central Services Material Management (IAHCSMM) certifying examination and the Certification in Health Care Material Management Concepts (CHMMC).

### ADMISSION REQUIREMENTS

High School diploma or equivalent, or Associate Degree or higher.

Completion of the MassBay Central Processing Technology Certificate program or national certification by the IAHCSMM.

Upon acceptance into the Central Services and Material Management program, students are expected to attend a program-specific orientation. Students in the program are required to obtain certain immunization and health records and submit documentation thereof by published deadlines which are program-specific and determined by clinical rotation start dates. A complete list of the required immunizations can be found on Division of Health Sciences' web pages of the MassBay website by clicking the link, "[Health and Background Check Requirements.](#)" Immunization requirements are in accordance with clinical site requirements and Massachusetts state law. If the student does not meet the initial published deadline, s/he will not attend the clinical rotation.

The student must complete the CORI (Criminal Offender Record Information) form to authorize a search of conviction and pending criminal case information under Standard Required Level I by the DCJIS (Department of Criminal Justice Information Services). The student must also complete the SORI (Sex Offender Registry Information) form. The CORI and SORI completion process will occur prior to the beginning of clinical/practicum experiences. If a CORI and/or SORI report is returned with a finding(s), it may or may not prohibit progression in a Health Sciences Program. A National County Criminal Background check will be conducted as a part of the student's completion of the clinical requirements.

More information is available on the [Division of Health Sciences pages](#) on the MassBay website.

COURSE	COURSE TITLE	CREDITS
<i>Semester 1</i>		
BI 101	General Biology I w/ Lab	4
MM 101	Principles and Practice I	3
	<b>credits:</b>	<b>7</b>
<i>Semester 2</i>		
MM 102	Principles and Practice II	6
CS 104	Microcomputer Applications/Business	3
	<b>credits:</b>	<b>9</b>
<i>Semester 3</i>		
MM 103	Principles and Practice III	6
MAC 100	Business Math	3
EN 100*	College Writing	4
	<b>credits:</b>	<b>13</b>
	<b>Total Credits:</b>	<b>28/29</b>

### PROGRAM FOOTNOTES

A grade of C or higher is required in Central Services (MM) courses.

\*EN 101 may be substituted for this requirement.

# Emergency Medical Technician

## Certificate

### DIVISION OF HEALTH SCIENCES

*Days and Evenings, Fall, Spring, And Summer Semester Starts*

The primary focus of the Emergency Medical Technician is to provide basic emergency medical care and transportation for critical and emergent patients who access the emergency medical system. This individual possesses the basic knowledge and skills necessary to provide patient care and transportation. Emergency Medical Technicians function as part of a comprehensive EMS response, under medical oversight. Emergency Medical Technicians perform interventions with the basic equipment typically found on an ambulance. The Emergency Medical Technician is a link from the scene to the emergency health care system. The EMT Certificate prepares students for careers in Emergency Medical Services as EMT's in the private and public service areas upon completion of coursework and National Registry of Emergency Medical Technicians Certification Examination.

The EMT Program is accredited by the Department of Public Health: Office of Emergency Medical Services.

### ADMISSION REQUIREMENTS

High School diploma or equivalent, or Associate Degree or higher.

Upon acceptance into the Emergency Medical Technician program, students are expected to attend a program-specific orientation. Students in the program are required to obtain certain immunization and health records and submit documentation thereof by published deadlines which are program-specific and determined by clinical rotation start dates. A complete list of the required immunizations can be found on Division of Health Sciences' web pages of the MassBay website by clicking the link, "[Health and Background Check Requirements.](#)" Immunization requirements are in accordance with clinical site requirements and Massachusetts state law. If the student does not meet the initial published deadline, s/he will not attend the clinical rotation.

The student must complete the CORI (Criminal Offender Record Information) form to authorize a search of conviction and pending criminal case information under Standard Required Level I by the DCJIS (Department of Criminal Justice Information Services). The student must also complete the SORI (Sex Offender Registry Information) form. The CORI and SORI completion process will occur prior to the beginning of clinical/practicum experiences. If a CORI and SORI completion process will occur prior to the beginning of clinical/practicum experiences. If a CORI and/or SORI Report is returned with a finding(s), it may or may not prohibit progression in a Health Sciences Program. A National County Criminal Background check will be conducted as a part of the student's completion of the clinical requirements.

More information is available on the [Emergency Medical Services Program](#) pages on the MassBay website.

COURSE	COURSE TITLE	CREDITS
EM 101	Emergency Medical Technician	6
EM 105	EMT Field Internship	2
	<b>credits:</b>	<b>8</b>
	<b>Total Credits:</b>	<b>8</b>

### PROGRAM FOOTNOTES

A grade of C+ (77%) is required to pass EM 101 and EM 105.

Students must complete both EM 101 and 105 before they are eligible for certification exams.

Students must be 18 years of age at the time of the National Registry of EMT's Emergency Medical Technician certification exam and Massachusetts EMT Licensure.

For more information about the costs of this program and employment opportunities after completion, please visit our gainful employment page: <http://www.massbay.edu/gainfulemployment.aspx>

# Maxillofacial Assistant

## Certificate

### DIVISION OF HEALTH SCIENCES

*Spring Semester Start; Weekends, Plus One Week Night*

The Maxillofacial Assistant Program is designed to prepare students for career opportunities in a specialized area of Otorhinolaryngologic Surgery. The content of the program includes extended theory and clinical hours to provide the training and education to meet required industry safety standards, meet national recommended standards, and provide patients with technicians who are properly trained. Graduates from this program will not only be able to work in a dental office, but a hospital operating room as well.

### ADMISSION REQUIREMENTS

Applicants seeking admission to Health Profession programs are considered on an individual basis. Student seeking admission to the Maxillofacial Assistant program will be evaluated by GPA and total number of college-level credits completed at MassBay. Priority for admission is given to current MassBay students. Applicants must also meet all other required course prerequisite for the program. Minimum eligibility for admission to this program includes:

- High School diploma or equivalent, or Associate Degree or higher
- Evidence provided of a background in the medical or dental fields i.e., nursing (RN, PN), dental assistant, dental hygienists, surgical technology, physician, Certified Nurse Assistant or Central Processing.
- MassBay Placement into Introductory Algebra (MA 095) or completion of Basic Math Studies (MA 090) with a grade of C or higher.
- MassBay placement into College Writing (EN100) or completion of Intro to Language (EN 090) with a grade of C or higher.
- Successful completion of Reading Assessment Test with a score of 72 or higher.

Upon acceptance into the Maxillofacial Assistant program, students are expected to attend a program-specific orientation. Students in the program are required to obtain certain immunization and health records and submit documentation thereof by published deadlines which are program-specific and determined by clinical rotation start dates. A complete list of the required immunizations can be found on Division of Health Sciences' web pages of the MassBay website by clicking the link, "[Health and Background Check Requirements.](#)" Immunization requirements are in accordance with clinical site requirements and Massachusetts state law. If the student does not meet the initial published deadline, s/he will not attend the clinical rotation.

The student must complete the CORI (Criminal Offender Record Information) form to authorize a search of conviction and pending criminal case information under Standard Required Level I by the DCJIS (Department of Criminal Justice Information Services). The student must also complete the SORI (Sex Offender Registry Information) form. The CORI and SORI completion process will occur prior to the beginning of clinical/ practicum experiences. A National County Criminal Background Check will be conducted as a part of the student's completion of the clinical requirements.

More information is available on the [Division of Health Sciences](#) pages on the MassBay Website

COURSE	COURSE TITLE	CREDITS
<i>Semester 1</i>		
MX 101	Principles & Practice of Maxillofacial I w/ Lab	6
EN 101	Freshman English I	3
	<b>credits:</b>	9
<i>Semester 2</i>		
MX 102	Principles & Practice of Maxillofacial II	3
MX 103	Clinical Practicum for Maxillofacial Surgery	4
	<b>credits:</b>	7
	<b>Total Credits:</b>	16

### PROGRAM FOOTNOTES

A grade of C is required for all Maxillofacial Assistant (MX) courses.

# Medical Coding

## Certificate

### DIVISION OF HEALTH SCIENCES

*Fall Semester Start; Evenings*

This program is designed to prepare students in medical records coding in either an inpatient or outpatient setting. This program offers training in medical terminology; inpatient and outpatient medical office administrative practice; pathophysiology and pharmacology for medical coding; medical records management, ICD-CM, CPT-4 and HCPCS coding, coding regulatory issues, medical-legal and ethical issues, computer usage and medical data entry, and insurance and billing practices. It is appropriate for entry-level job candidates, and for those wishing to build on a current skill base in order to make a career change.

Upon successful completion, the Certificate in Medical Coding is awarded.

### ADMISSIONS REQUIREMENTS

High School diploma or equivalent, or Associate Degree or higher

For more information about the costs of this program and employment opportunities after completion, please visit our gainful employment page: <http://www.massbay.edu/gainfulemployment.aspx>

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
BI 113	Essentials of Anatomy and Physiology w/ Lab	3
MO 120	Medical Office Insurance and Billing	4
HL 103	Medical Terminology	3
	<b>credits:</b>	10
<i>First Year</i>	<i>Semester 2</i>	
EN 101	Freshman English I	3
MR 120	Pathophysiology for Medical Coding	3
MR 206	Coding: Current Procedural Terminology (CPT)	4
	<b>credits:</b>	10
<i>First Year</i>	<i>Semester 3 (Summer)</i>	
MR 203	Coding: International Classification of Diseases (ICD-CM)	4
MR 207	HIPAA Standards and Ethics for Medical Coders	3
	<b>credits:</b>	7
	<b>Total Credits:</b>	<b>27</b>

### PROGRAM FOOTNOTES

A grade of C or higher is required in all Medical Coding (HL, MR and MO) courses.

*Your dreams. Our mission.*



# Medical Office Administrative Assistant

## Certificate

### DIVISION OF HEALTH SCIENCES

*Fall Semester Start; Evenings*

This program is designed to prepare the students for administrative assistant career opportunities in a variety of health care settings, including medical clinics, physician practices, hospital-based practices or units, or in health-related businesses. This is a hands-on training course in administrative procedures and computer usage specific to a medical facility or business. It is appropriate for entry-level job candidates, as well as for those wishing to make a career change.

### ADMISSION REQUIREMENTS

High School diploma or equivalent, or Associate Degree or higher

For more information about the costs of this program and employment opportunities after completion, please visit our gainful employment page:

<http://www.massbay.edu/gainfulemployment.aspx>

COURSE	COURSE TITLE	CREDITS
<i>Semester 1</i>		
HL 103	Medical Terminology	3
MO 101	Medical Office Procedures I	5
EN 100*	College Writing	4
	<b>credits:</b>	12
<i>Semester 2</i>		
MO 110	Medical Office Procedures II	5
MO 120	Medical Office Insurance and Billing	4
	Humanities Elective	3
	<b>or</b>	
	Social Science Elective	3
	<b>credits:</b>	12
	<b>Total Credits:</b>	<b>23/24</b>

### PROGRAM FOOTNOTES

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230), Psychology, Sociology

\*EN 101 or higher may be substituted for this requirement.

MASSBAY  
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# Paramedicine–Day Option

## Certificate

### DIVISION OF HEALTH SCIENCES

#### FALL SEMESTER START

The Paramedicine program prepares students to become members of the health care team and function as paramedics in a variety of different settings. The philosophy and structure of this program are parallel to those of the National EMS Education Standards and the National Scope of Practice Model for the Paramedic. This program provides students with a working knowledge of the concepts and skills requisite to caring for patients with acute and critical illness with the respect to all body systems. Students will learn how to recognize signs and symptoms that pertain to the infant, child, adolescent, adult, and geriatric age groups. Students practice current techniques to care for all patients with acute medical problems as well as trauma situations. The curriculum combines didactic, laboratory, and clinical experience as well as a field internship to provide students with the skills required to prepare for certification and practice.

Graduates are eligible to take the National Registry of EMT Paramedics Certification Examination.

MassBay's Paramedicine Program is accredited by the Massachusetts Department of Public Health: Office of Emergency Medical Services.

### ADMISSION REQUIREMENTS

Applicants seeking admission to health profession programs will be evaluated on an individual basis. Students seeking admission to the Paramedicine program will be evaluated by GPA and total number of college-level credits completed at MassBay. Priority for admission is given to current MassBay students. Applicants must also meet all other required course prerequisites for the program. Minimum eligibility for admissions to this program includes:

- High school diploma or equivalent, or Associate Degree or higher
- 18 years of age at time of the National Registry of EMTs Paramedic certification examination.
- Current Massachusetts EMT or NREMT certification.
- Current CPR certification (AHA BLS or ARC Professional Rescuer).
- MassBay Placement into College Writing (EN 100) or completion of Intro to Language (EN 090).
- MassBay Placement into Introductory Algebra (MA 095) or completion of Basic Math Studies (MA 090) with a grade of C or higher.
- Successful completion of Reading Assessment test with a score of 72 or higher.

Upon acceptance into the Paramedicine program, students are expected to attend a program-specific orientation. Students in the program are required to obtain certain immunization and health records and submit documentation thereof by published deadlines which are program-specific and determined by clinical rotation start dates. A complete list of the required immunizations can be found on Division of Health Sciences' web pages of the MassBay website by clicking the link, "[Health and Background Check Requirements.](#)" Immunization requirements are in accordance with clinical site requirements

and Massachusetts state law. If the student does not meet the initial published deadline, s/he will not attend the clinical rotation. The student must complete the CORI (Criminal Offender Record Information) form to authorize a search of conviction and pending criminal case information under Standard Required Level I by the DCJIS (Department of Criminal Justice Information Services). The student must also complete the SORI (Sex Offender Registry Information) form. The CORI and SORI completion process will occur prior to the beginning of clinical/ practicum experiences. If a CORI and/ or SORI Report is returned with a finding(s), it may or may not prohibit progression in a Health Sciences Program. A National County Criminal Background check will be conducted as a part of the student's completion of the clinical requirements.

More information is available on the [Division of Health Sciences pages](#) on the MassBay website.

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Fall</i>	
BI 113*	Essentials of Anatomy and Physiology w/ Lab	3
PM 101	Foundations of Paramedicine	4
PM 102	Prehospital Pharmacology	2
PM 103	Trends for the Paramedic	1
PM 104	Cardiology	5
PM 105	Medical Emergencies	3
	<b>credits:</b>	18
<i>First Year</i>	<i>Spring I (8 week 1st Session)</i>	
PM 110	Special Care Aspects Paramedic	4
PM 111	Advanced Medical Life Support	1
PM 112	Pediatric Advanced Life Support Provider	1
PM 113	Neonatal Advanced Life Support Provider	1
		7
<i>First Year</i>	<i>Spring II (8 week 2nd Session)</i>	
PM 210	Clinical I	3
		3
<i>First Year</i>	<i>Summer I (6 week 1st session)</i>	
PM 211	Clinical II	4
	<b>credits:</b>	4
<i>First Year</i>	<i>Summer II (6 week 2nd session)</i>	
PM 212	Field Internship	5
	<b>credits:</b>	5
	<b>Total Credits:</b>	<b>37</b>

### PROGRAM FOOTNOTES

A grade of C+ (77%) or higher is required in all Paramedicine (PM) courses. A grade of C is required in all sciences courses.

\* A combination of Anatomy and Physiology I (BI 115) and Anatomy and Physiology II (BI 116) fulfills this requirement.

# Paramedicine–Evening Option

## Certificate

### DIVISION OF HEALTH SCIENCES

#### Spring Semester Start

The Paramedicine program prepares students to become members of the health care team and function as paramedics in a variety of different settings. The philosophy and structure of this program are parallel to those of the National EMS Education Standards and the National Scope of Practice Model for the Paramedic. This program provides students with a working knowledge of the concepts and skills requisite to caring for patients with acute and critical illness with the respect to all body systems. Students will learn how to recognize signs and symptoms that pertain to the infant, child, adolescent, adult, and geriatric age groups. Students practice current techniques to care for all patients with acute medical problems as well as trauma situations. The curriculum combines didactic, laboratory, and clinical experience as well as a field internship to provide students with the skills required to prepare for certification and practice.

Graduates are eligible to take the National Registry of EMT Paramedics Certification Examination.

MassBay's Paramedicine Program is accredited by the Massachusetts Department of Public Health: Office of Emergency Medical Services.

### ADMISSION REQUIREMENTS

Applicants seeking admission to health profession programs will be evaluated on an individual basis. Students seeking admission to the Paramedicine program will be evaluated by GPA and total number of college-level credits completed at MassBay. Priority for admission is given to current MassBay students. Applicants must also meet all other required course prerequisites for the program. Minimum eligibility for admissions to this program includes:

- High school diploma or equivalent, or Associate Degree or higher
- 18 years of age at time of the National Registry of EMTs Paramedic certification examination.
- Current Massachusetts EMT or NREMT certification.
- Current CPR certification (AHA BLS or ARC Professional Rescuer).
- MassBay Placement into College Writing (EN 100) or completion of Intro to Language (EN 090).
- MassBay Placement into Introductory Algebra (MA 095) or completion of Basic Math Studies (MA 090) with a grade of C or higher.
- Successful completion of Reading Assessment test with a score of 72 or higher.

Upon acceptance into the Paramedicine program, students are expected to attend a program-specific orientation. Students in the program are required to obtain certain immunization and health records and submit documentation thereof by published deadlines which are program-specific and determined by clinical rotation start dates. A complete list of the required immunizations can be found on Division of Health Sciences' web pages of the MassBay website by clicking the link, "[Health and Background Check Requirements.](#)" Immunization requirements are in accordance with clinical site requirements and Massachusetts state law. If the student does not meet the initial published deadline, s/he will not attend the clinical rotation.

The student must complete the CORI (Criminal Offender Record Information) form to authorize a search of conviction and pending criminal case information under Standard Required Level I by the DCJIS (Department of Criminal Justice Information Services). The student must also complete the SORI (Sex Offender Registry Information) form. The CORI and SORI completion process will occur prior to the beginning of clinical/ practicum experiences. If a CORI and/ or SORI Report is returned with a finding(s), it may or may not prohibit progression in a Health Sciences Program. A National County Criminal Background check will be conducted as a part of the student's completion of the clinical requirements.

More information is available on the [Division of Health Sciences pages](#) on the MassBay website.

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Spring</i>	
BI 113*	Essentials of Anatomy and Physiology w/ Lab	3
PM 101	Foundations of Paramedicine	4
PM 102	Prehospital Pharmacology	2
PM 103	Trends for the Paramedic	1
	<b>credits:</b>	10
<i>First Year</i>	<i>Summer (10 week session)</i>	
PM 104	Cardiology	5
PM 105	Medical Emergencies	3
	<b>credits:</b>	8
<i>First Year</i>	<i>Fall I (8 week 1<sup>st</sup> Session)</i>	
PM 110	Special Care Aspects Paramedic	4
PM 111	Advanced Medical Life Support	1
PM 112	Pediatric Advanced Life Support Provider	1
PM 113	Neonatal Advanced Life Support Provider	1
	<b>credits:</b>	7
<i>First Year</i>	<i>Fall II (8 week 2<sup>nd</sup> Session)</i>	
PM 210	Clinical I	3
	<b>credits:</b>	3
<i>Second Year</i>	<i>Spring I (8 week 1<sup>st</sup> Session)</i>	
PM 211	Clinical II	4
	<b>credits:</b>	4
<i>Second Year</i>	<i>Spring II (8 week 2<sup>nd</sup> Session)</i>	
PM 212	Field Internship	5
	<b>credits:</b>	5
	<b>Total Credits:</b>	<b>37</b>

### PROGRAM FOOTNOTES

A grade of C+ (77%) or higher is required in all Paramedicine (PM) courses. A grade of C is required in all sciences courses.

\* A combination of Anatomy and Physiology I (BI 115) and Anatomy and Physiology II (BI 116) fulfills this requirement with a C or higher.

# Phlebotomy

## Certificate

### DIVISION OF HEALTH SCIENCES

FALL/SPRING: 8-WEEK SATURDAY CLASS, 8-WEEK WEEKDAY CLINICAL  
SUMMER: 6-WEEK WEEKDAY CLASS, 6-WEEK WEEKDAY CLINICAL

A phlebotomist is skilled in blood collection, and in the preparation of certain specimens for diagnostic laboratory testing as ordered by a physician. This is a one-semester program that prepares students for a career as a phlebotomist in various health care settings such as hospitals, physician offices, HMOs, surgical centers, and independent laboratories.

This program includes the profession's history; medical terminology; venipuncture; microsampling; special blood collection procedures; OSHA and safety procedures involving bloodborne pathogens; basic preanalytical and post-analytical laboratory procedures, and point of care testing; and electrocardiography procedures.

Course objectives and competency are accomplished through formal coursework, laboratory practice, and a clinical practicum. In the fall and spring semesters, the classroom portion takes place on Saturdays. The clinical practicum takes place Monday through Friday during daytime business hours. The program may be completed in one semester.

### ADMISSION REQUIREMENTS

High School diploma or equivalent, or Associate Degree or higher

Upon acceptance into the Phlebotomy program, students are expected to attend a mandatory new student program orientation. Students in the program are required to obtain certain immunization and health records and submit documentation thereof by published deadlines which are program-specific and determined by clinical rotation start dates. A complete list of the required immunization and determined by clinical rotation start dates. A complete list of the required immunizations can be found on Division of Health Sciences' web pages of the MassBay website by clicking the link, "[Health and Background Check Requirements](#)." Immunization requirements are in accordance with clinical site requirements and Massachusetts state law. If the student does not meet the initial published deadline, s/he will not attend the clinical rotation.

Proof of CPR certification is required for the program. The Healthcare Provider Card (from the American Heart Association) and the CPR/AED for the Professional Rescuer Card (from the American Red Cross) are the only types of CPR certification that meet this requirement.

The student must complete the CORI (Criminal Offender Records Information) form to authorize a search of conviction and pending criminal case information under Standard Required Level I by the DCJIS (Department of Criminal Justice Information Services). The student must also complete the SORI (Sex Offender Registry Information) form. The CORI and SORI completion process will occur prior to the beginning of the clinical-practicum experiences. If a CORI and SORI Report is returned with a finding(s), it may or may not prohibit progression in a Health Sciences Program. A National County Criminal Background check will be conducted as a part of the student's completion of the clinical requirements.

More information is available on the [Division of Health Sciences pages](#) on the MassBay website.

COURSE	COURSE TITLE	CREDITS
PB 100	Principles & Methods of Phlebotomy	3
PB 105	Clinical Practicum Phlebotomy	4
	<b>credits:</b>	7
	<b>Total Credits:</b>	7

### PROGRAM FOOTNOTES

A grade of C or higher is required in all Phlebotomy (PB) courses. The clinical is completed with a pass/fail grade.

For more information about the costs of this program and employment opportunities after completion, please visit our gainful employment page: <http://www.massbay.edu/gainfulemployment.aspx>



# Practical Nursing–Day Option

## Certificate

### DIVISION OF HEALTH SCIENCES

#### Fall Semester Start

The Practical Nursing Certificate program is designated to meet the educational of those who wish career entry as a licensed health care worker. Graduates are employed in various health care settings such as long term care facilities, hospitals, clinics, physician offices, home health, and community health facilities. The day option of the Practical Nursing Program is conducted over a 40-week period beginning in the fall and continued through June. Classes, labs, and clinicals are scheduled full-time during the day. The theoretical, lab and clinical components of nursing courses must be taken concurrently and sequentially.

The Practical Nursing Program has been approved by the Massachusetts Board of Registration in Nursing. Graduates are eligible to take the National Council Licensure Examination for Practical Nurses.

A minimum grade of C, 75% is required for progression in all Practical Nursing courses.

### ADMISSION REQUIREMENTS

Students seeking admission to the Practical Nursing Program (PN) will be individually evaluated on the basis of the Grade Point Average (GPA) and a points system rubric. Students must also meet the following additional criteria for eligibility for acceptance into the practical nursing program:

- High School diploma or equivalent, or Associate Degree or higher
- MassBay Placement into Freshman English I (EN 101) or completion of College Writing (EN 100) or with a grade of C or higher.
- MassBay Placement into Intermediate Algebra (MA 098) or completion of Introductory Algebra (MA 095) with a grade of C or higher.
- Successful completion of Reading Assessment Test with a score of 72 or higher.
- HESI Admission (A2) exam score of 70% or better in Overall Composite (all subjects combined) will be given priority, but scores greater than 60% will be considered. Student may take the HESI exam a total of 4 times. HESI exam scores are valid for one year, at which time the exam must be retaken.
- Completion of BI 115 Anatomy & Physiology I (BI 101 required), BI 116 Anatomy & Physiology II, and BI 118 Elements of Microbiology within a five (5) year timeframe with a grade of C or higher at the time of matriculation into the Practical

Nursing Program. Students can repeat each science course only once to achieve C or higher.

- In addition to the pre-requisites and co-requisites for the Practical Nursing Program, the following courses are included in the points system to be considered in the competitive admissions process: EN 101, CH 101, MA 098, SK 096, PS 101, BI 123 (see admission scoring rubric on website: <http://www.massbay.edu/Academics/Health-Sciences/Nursing-Program/Practical-Nursing-Program.aspx>).

Upon acceptance into the Practical Nursing program, students are expected to attend a mandatory new student program orientation. Students in the program are required to obtain certain immunization and health records and submit documentation thereof by published deadlines which are program-specific and determined by clinical rotation start dates. A complete list of the required immunizations can be found on Division of Health Sciences' web pages of the MassBay website by clicking the link, "[Health and Background Check Requirements](#)." Immunization requirements are in accordance with clinical site requirements and Massachusetts state law. If the student does not meet the initial published deadline, s/he will not attend the clinical rotation.

Proof of CPR certification is required for the program. The Healthcare Provider Card (from the American Heart Association) and the CPR/AED for the Professional Rescuer Card (from the American Red Cross) are the only types of CPR certification that meet this requirement.

The student must complete the CORI (Criminal Offender Record Information) form to authorize a search of conviction and pending criminal case information under Standard Required Level I by the DCJIS (Department of Criminal Justice Information Services). The student must also complete the SORI (Sex Offender Registry Information) form. The CORI and SORI completion process will occur prior to the beginning of clinical/practicum experiences. If a CORI and/or SORI report is returned with a finding(s), it may or may not prohibit progression in a Health Sciences Program A National County Criminal Background check will be conducted as a part of the student's completion of the clinical requirements.

More information is available on the [Division of Health Sciences pages](#) on the MassBay website.

For more information about the costs of this program and employment opportunities after completion, please visit our gainful employment page: <http://www.massbay.edu/gainfulemployment.aspx>

**See next page for curriculum sheet.**

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
HL 103	Medical Terminology	3
HL 111	Essentials of Nutrition	3
PN 102	Foundations of Practical Nursing	10
PN 105	Issues and Trends in Practical Nursing	1
PN 107	Principles of Pharmacology I	3
	<b>credits:</b>	20
	<i>Intercession</i>	
PN 109	Introduction to Medical/ Surgical Nursing	2
	<b>credits:</b>	2
<i>First Year</i>	<i>Semester 2</i>	
PS 118	Life Span Psychology	3
PN 110	Principles of Pharmacology II	3
PN121	Medical/ Surgical Nursing I	7
PN 122	Medical/ Surgical Nursing II	7
	<b>credits:</b>	20
	<i>Summer</i>	
PN 130	Care of the Family	7
	<b>credits:</b>	
	<b>Total Credits:</b>	49

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# Practical Nursing–Evening Option

## Certificate

### DIVISION OF HEALTH SCIENCES

#### Fall Semester Start

The Practical Nursing Program is designed to meet the educational needs of those who wish career entry as a licensed health care worker. Graduates are employed in various health care settings such as extended care facilities, hospitals, clinics, and offices. The evening option curriculum of the Practical Nursing Program is conducted over two academic years and two summer sessions beginning in the fall semester. Classes and clinicals are scheduled on various evenings, typically between 4:00 pm and 11:30 pm. The theoretical, lab, and clinical components of nursing courses must be taken concurrently and sequentially.

The Practical Nursing Program has been approved by the Board of Registration in Nursing in Massachusetts. Graduates are eligible to take the National Council Licensure Exam for Practical Nurses.

A minimum grade of 75% is required for progression in all Practical Nursing courses.

### ADMISSION REQUIREMENTS

Students seeking admission to the Practical Nursing Program (PN) will be individually evaluated on the basis of Grade Point Average (GPA) and a point's system rubric. Students must also meet the following additional criteria for eligibility for acceptance into the practical nursing program:

- High School diploma or equivalent, or Associate Degree or higher
- MassBay Placement into Freshman English I (EN 101) or completion of College Writing (EN 100) or with a grade of C or higher.
- MassBay Placement into Intermediate Algebra (MA 098) or completion of Introductory Algebra (MA 095) with a grade of C or higher.
- Successful completion of Reading Assessment Test with a score of 72 or higher.
- HESI admission (A2) exam score of 70% or better in Overall Composite (all subjects combined) will be given priority. Students may take the HESI exam a total of 4 times. HESI exam scores are valid for one year, at which time the exam must be retaken.
- Completion of BI 115 Anatomy & Physiology I (BI 101 required), BI 116 Anatomy & Physiology II, and BI 118 Elements of Microbiology within a five (5) year timeframe with a grade of C or higher at the time of matriculation into the Practical Nursing Program. Students can repeat a science course only once to achieve C or higher.
- In addition to the pre-requisites and co-requisites for the Practical Nursing Program, the following courses are included in the points system to be considered in the competitive admissions process: EN 101, CH 101, MA 098, SK 96, PS 101, BI 123 (see admission scoring rubric on website: <http://www.massbay.edu/Academics/Health-Sciences/Nursing-Program/Practical-Nursing-Program.aspx>).

Upon acceptance into the Practical Nursing program, students are expected to attend a mandatory new student program orientation. Students in the program are required to obtain certain immunization and health records and submit documentation thereof by published deadlines which are program-specific and determined by clinical rotation start dates. A complete list of the required immunizations can be found on Division of Health Sciences' web pages of the MassBay website by clicking the link, "[Health and Background Check Requirements](#)." Immunization requirements are in accordance with clinical site requirements and Massachusetts state law. If the student does not meet the initial published deadline, s/he will not attend the clinical rotation.

Proof of CPR certification is required for the program. The Healthcare Provider Card (from the American Heart Association) and the CPR/AED for the Professional Rescuer Card (from the American Red Cross) are the only types of CPR certification that meet this requirement.

The student must complete the CORI (Criminal Offender Record Information) form to authorize a search of conviction and pending criminal case information under Standard Required Level I by the DCJIS (Department of Criminal Justice Information Services). The student must also complete the SORI (Sex Offender Registry Information) form. The CORI and/ or SORI Report is returned with a finding(s), it may or may not prohibit progression in a Health Sciences Program. A National County Criminal Background check will be conducted as a part of the student's completion of the clinical requirements.

More information is available on the [Division of Health Sciences pages](#) on the MassBay website.

For more information about the costs of this program and employment opportunities after completion, please visit our gainful employment page: <http://www.massbay.edu/gainfulemployment.aspx>

**See next page for curriculum sheet.**

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
HL 103	Medical Terminology	3
HL 111	Essentials of Nutrition	3
PN 105	Issues & Trends in Practical Nursing I	1
PN 107	Principles of Pharmacology I	2
	<b>credits:</b>	10
<i>First Year</i>	<i>Semester 2</i>	
PN 102	Foundations of Practical Nursing	10
	<b>credits:</b>	10
<i>First Year</i>	<i>Summer</i>	
PN 109	Introduction to Medical/ Surgical Nursing	2
PS 118	Life Span Psychology	3
	<b>credits:</b>	5
<i>Second Year</i>	<i>Semester 1</i>	
PN 110	Principles of Pharmacology II	3
PN 121	Medical/ Surgical Nursing I	7
	<b>credits:</b>	10
<i>Second Year</i>	<i>Semester 2</i>	
PN 122	Medical/ Surgical Nursing II	7
PN 130	Care of the Family	7
	<b>credits:</b>	14
	<b>Total Credits:</b>	<b>49</b>



# Surgical Technology

## Certificate

### DIVISION OF HEALTH SCIENCES

Fall Semester Start; Days and Spring Semester Start; Evenings

The Surgical Technology Program prepares graduates to function as members of the surgical team, assisting the surgeon, professional nurse, or anesthetist in a variety of surgical arenas. Theory and practice of surgical asepsis are the focuses of the program. Students develop knowledge and skills in maintaining aseptic technique within the surgical areas of health care delivery. The curriculum combines didactic, college laboratory and clinical experience with an emphasis on acquiring clinical skills. The study of operating room technology is planned sequentially, making use of all prior learning so that students can synthesize course material and focus on applying it in operating room practice. Students will have clinical experiences in a variety of surgical cases, including endoscopic and obstetrics. Students must pass the NBSTSA (National Board of Surgical Technology and Surgical Assisting Association) Certifying Examination, which is approved by the NBSTSA Advisory Board.

The Surgical Technology Program is accredited by the Accreditation Review Committee on Education in Surgical Technology.

### ADMISSION REQUIREMENTS

Students seeking admission to the Surgical Technology program will be evaluated by GPA and total number of college-level credits completed at MassBay. Priority for admission is given to current MassBay students. Applicants must also meet all other required course prerequisites for the program. Minimum eligibility for admissions to this program includes:

- High School diploma or equivalent, or Associate Degree or higher
- MassBay Placement into College Writing (EN 100) or completion of Intro to Language (EN 090).
- MassBay Placement into Introductory Algebra (MA 095) or completion of Basic Math Studies (MA 090) with a grade of C or higher.
- Successful completion of Reading Assessment Test with a score of 72 or higher.

Upon acceptance into the Surgical Technology program, students are expected to attend a program-specific orientation. Students in the program are required to obtain certain immunization and health records and submit documentation thereof by published deadlines which are program-specific and determined by clinical rotation start dates. A complete list of the required immunizations can be found on Division of Health Sciences' web pages of the MassBay website by clicking the link, "Health and Background Check Requirements." Immunization requirements are in accordance with clinical site requirements and Massachusetts state law. If the student does not meet the initial published deadline, s/he will not attend the clinical rotation.

Proof of CPR certification is required for the program. The Healthcare Provider Card (from the American Heart Association) and the CPR/AED for

the Professional Rescuer Card (from the American Red Cross) are the only types of CPR certification that meet this requirement.

The student must complete the CORI (Criminal Offender Record Information) form to authorize a search of conviction and pending criminal case information under Standard Required Level I by the DCJIS (Department of Criminal Justice Information Services). The student must also complete the SORI (Sex Offender Registry Information) form. The CORI and SORI completion process will occur prior to the beginning of clinical/practicum experiences. If a CORI and/or SORI report is returned with a finding(s), it may or may not prohibit progression in a Health Sciences Program. A National County Criminal Background check will be conducted as a part of the student's completion of the clinical requirements.

More information is available on the [Division of Health Sciences](#) pages on the MassBay website.

COURSE	COURSE TITLE	CREDITS
<i>Semester 1</i>		
BI 101	General Biology I w/ Lab	4
BI 113*	Essentials of Anatomy and Physiology w/ Lab	3
SX 110	Principles of Surgical Technology I	8
	<b>credits:</b>	15
<i>Semester 2</i>		
BI 123	Fundamentals of Microbiology w/ Lab	4
SX 120	Principles of Surgical Technology II	8
	<b>credits:</b>	12
<i>Semester 3</i>		
SX 130	Principles of Surgical Technology III	7
	Social Science Elective	3
	<b>credits:</b>	10
	<b>Total Credits:</b>	<b>37</b>

### PROGRAM FOOTNOTES

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230) Psychology, Sociology

A grade of C or higher is required for all Surgical Technology (SX) and science courses. Science courses must be taken within five (5) years of acceptance in the Surgical Technology program.

\* A combination of Anatomy & Physiology I (BI 115) and Anatomy & Physiology II with a C or higher (BI 116) fulfills this requirement.

For more information about the costs of this program and employment opportunities after completion, please visit our gainful employment page: <http://www.massbay.edu/gainfulemployment.aspx>



***HUMANITIES***

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# General Studies

## Associate in Arts



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### DIVISION OF HUMANITIES

This program enables students to explore a variety of interests and choices from a wide range of subject areas including business, science, health sciences, and liberal arts. Students also complete a course in a career/ life planning to help them assess their options and develop a degree plan to meet their individual needs.

Upon successful completion, the Associate in Arts Degree in General Studies is awarded.

#### History Sequence:

HS 101 Western Civilization I & HS 102 Western Civilization II, or HS 103 World Civilization I & HS 104 World Civilization II, or HS 105 United States History to 1877 & HS 106 United States History Since 1877

#### Laboratory Science Sequence:

BI 101 General Biology I & BI 102 General Biology II, or BI 110 Principles of Biology I & BI 120 Principles of Biology II, or BI 115 Anatomy and Physiology I & BI 116 Anatomy and Physiology II, or CH 101 College Chemistry I & CH 102 College Chemistry II, or CH 110 Principles of Chemistry I & CH 120 Principles of Chemistry II, or EV 103 Environmental Studies I & EV 104 Environmental Studies II, or PY 101 College Physics I & PY 102 College Physics II, or PY 103 Engineering Physics I & PY 104 Engineering Physics II, or SC 102 Integrated Science I & SC 103 Integrated Science II,

#### Literature Sequence:

LI 201 World Literature I & LI 202 World Literature II, or LI 203 American Literature I & LI 204 American Literature II, or LI 205 British Literature I & LI 206 British Literature II

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Math/Science Electives:** Biology, Chemistry, Environmental Science, Integrated Science, Contemporary Nutrition (NS 101), 100-Level Mathematics or higher (not MAC), Physics

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230), Psychology, Sociology

**Program Electives:** Any college-level courses offered at the College.

Competency in mathematics is a MassBay graduation requirement. Prior to graduation, students must demonstrate competency at 100-level math. This may be accomplished by an appropriate placement test score or completion of any 100-level mathematics course or higher, except mathematics courses with a MAC prefix.

The program qualifies for MassTransfer with select public Institutions in Massachusetts. Students should use course equivalencies for program electives. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
CS 100	Computers and Technology	3
CT 100	Critical Thinking	3
EN 101	Freshman English I	3
PS 150	Career/ Life Planning	3
	History Sequence	3
	<b>credits:</b>	15
<i>First Year</i>	<i>Semester 2</i>	
EN 102	Freshman English II	3
	History Sequence	3
	Program Elective	3
	Program Elective	3
	Math/Science Elective	3/4
	<b>credits:</b>	15/16
<i>Second Year</i>	<i>Semester 1</i>	
	Literature Sequence	3
	Laboratory Science Sequence	4
	Program Elective	3
	Program Elective	3
	Program Elective	3
	<b>credits:</b>	16
<i>Second Year</i>	<i>Semester 2</i>	
	Literature Sequence	3
	Laboratory Science Sequence	4
	Social Science Elective	3
	Humanities Elective	3
	Program Elective	3
	Program Elective	3
	<b>credits:</b>	19
	<b>Total Credits:</b>	<b>65/66</b>

# Liberal Arts

## Associate in Arts



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### DIVISION OF HUMANITIES

This program is the equivalent of the freshman and sophomore years of a Bachelor of Arts program at a four-year college or university. Students gain a broad knowledge of the arts, literature, history, psychology, social sciences, science, and mathematics. In addition, students develop writing and speaking competencies, critical thinking and problem solving skills.

Upon successful completion, the Associate in Arts Degree in Liberal Arts is awarded.

#### History Sequence:

HS 101 Western Civilization I & HS 102 Western Civilization II, or  
HS 103 World Civilization I & HS 104 World Civilization II, or  
HS 106 United States History to 1877 & HS 106 United States History Since 1877

#### Laboratory Science Sequence:

BI 101 General Biology I & BI 102 General Biology II, or  
BI 110 Principles of Biology I & BI 120 Principles of Biology II, or  
BI 115 Anatomy and Physiology I & BI 116 Anatomy and Physiology II, or  
CH 101 College Chemistry I & CH 102 College Chemistry II, or  
CH 110 Principles of Chemistry I & CH 120 Principles of Chemistry II, or  
EV 103 Environmental Studies I & EV 104 Environmental Studies II, or  
PY 101 College Physics I & PY 102 College Physics II, or  
PY 103 Engineering Physics I & PY 104 Engineering Physics II, or  
SC 102 Integrated Science I & SC 103 Integrated Science II

#### Literature Sequence:

LI 201 World Literature I & LI 202 World Literature II, or  
LI 203 American Literature I & LI 204 American Literature II, or  
LI 205 British Literature I & LI 206 British Literature II

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230), Psychology, Sociology

**Program Electives:** Any Liberal Arts Elective or Accounting, Business, Business Communication, Criminal Justice, Computer Science, Education, Electrical Engineering, Essentials of Nutrition (HL 111), Human Services, Law, Management, Marketing, Mechanical Engineering, Nutrition.

**Liberal Arts Electives:** Any college-level elective in the Humanities, Social Science, or Mathematics & Science areas.

Math elective must be 100-level or higher (not MAC).

This program qualifies for MassTransfer with select public institutions in Massachusetts. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
EN 101	Freshman English I	3
CS 100	Computers and Technology	3
CT 100	Critical Thinking	3
	History Sequence	3
	Laboratory Science Sequence	4
	<b>credits:</b>	16
<i>First Year</i>	<i>Semester 2</i>	
EN 102	Freshman English II	3
	History Sequence	3
	Laboratory Science Sequence	4
	Humanities Elective	3
	Math Elective	3/4
	<b>credits:</b>	16/17
<i>Second Year</i>	<i>Semester 1</i>	
	Literature Sequence	3
	Liberal Arts Elective	3
	Liberal Arts Elective	3
	Social Science Elective	3
	Program Elective	3
	<b>credits:</b>	15
<i>Second Year</i>	<i>Semester 2</i>	
	Literature Sequence	3
	Liberal Arts Elective	3
	Liberal Arts Elective	3
	Liberal Arts Elective	3
	Program Elective	3
	<b>credits:</b>	15
	<b>Total Credits:</b>	<b>62/63</b>



# Liberal Arts: Communication

## Associate in Arts



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### DIVISION OF HUMANITIES

This communication program combines liberal arts and business to provide the basic knowledge and skills needed for a communications-related career in business. The curriculum offers students the flexibility to develop a concentration that meets a student's particular interests and needs.

Upon successful completion, the Associate in Arts Degree in Liberal Arts with a concentration in Communication is awarded.

#### History Sequence:

HS 101 Western Civilization I & HS 102 Western Civilization II, or  
HS 103 World Civilization I & HS 104 World Civilization II, or  
HS 105 United States History to 1877 & HS 106 United States History Since 1877

#### Laboratory Science Sequence:

BI 101 General Biology I & BI 102 General Biology II, or  
BI 110 Principles of Biology I & BI 120 Principles of Biology II, or  
BI 115 Anatomy and Physiology I & BI 116 Anatomy and Physiology II, or  
CH 101 College Chemistry I & CH 102 College Chemistry II, or  
CH 110 Principles of Chemistry I & CH 120 Principles of Chemistry II, or  
EV 103 Environmental Studies I & EV 104 Environmental Studies II, or  
PY 101 College Physics I & PY 102 College Physics II, or  
PY 103 Engineering Physics I & PY 104 Engineering Physics II, or  
SC 102 Integrated Science I & SC 103 Integrated Science II,

#### Literature Sequence:

LI 201 World Literature I & LI 202 World Literature II, or  
LI 203 American Literature I & LI 204 American Literature II, or  
LI 205 British Literature I & LI 206 British Literature II

**Math/Science Electives:** Biology, Chemistry, Contemporary Nutrition (NS 101), Environmental Science, Integrated Science, 100-Level Mathematics or higher (not MAC), Physics

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230), Psychology, Sociology

**Program Electives:** CO 103 Intercultural Communication, CO 107 Broadcast Journalism, CO 105 Journalism I, CO 106 Global Journalism, CO 200 Principles of Persuasion, CO 201 Fundamentals of Public Relations, CO 210 Communications Internship, MK 103 Principles of Marketing, MK 213 Principles of Sales, MK 215 Principles of Advertising, PO 115 Photography I

**Free Electives:** Any college-level course offered at the College.

Competency in mathematics is a MassBay graduation requirement. Prior to graduation, students must demonstrate competency at 100-level math. This may be accomplished by an appropriate placement

test score or completion of any 100-level mathematics course or higher, except mathematics courses with a MAC prefix.

This program qualifies for MassTransfer with select public institutions in Massachusetts. (Student must take a 100 level math course for the math/science elective) For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
CO 100	Introduction to Communication	3
CT 100	Critical Thinking	3
EN 101	Freshman English I	3
SF 131	Oral Communication	3
	History Sequence	3
	Social Science Elective	3
	<b>credits:</b>	18
<i>First Year</i>	<i>Semester 2</i>	
CO 101	Introduction to Mass Media	3
CS 100	Computers and Technology	3
EN 102	Freshman English II	3
	History Sequence	3
	Math/Science Elective	3/4
	<b>credits:</b>	15/16
<i>Second Year</i>	<i>Semester 1</i>	
	Program Elective	3
	Program Elective	3
	Program Elective	3
	Literature Sequence	3
	Laboratory Science Sequence	4
	<b>credits:</b>	16
<i>Second Year</i>	<i>Semester 2</i>	
	Program Elective	3
	Program Elective	3
	Literature Sequence	3
	Laboratory Science Sequence	4
	Free Elective	3
	<b>credits:</b>	16
	<b>Total Credits:</b>	<b>65/66</b>

# Liberal Arts: Communication

## Certificate



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

COURSE	COURSE TITLE	CREDITS
CO 100	Introduction to Communication	3
CO 101	Introduction to Mass Media	3
SF 131	Oral Communication	3
	Program Elective	3
	Program Elective	3
	Program Elective	3
	Program Elective	3
	Program Elective	3
	Program Elective	3
	<b>Total Credits:</b>	<b>24</b>

### ***DIVISION OF HUMANITIES***

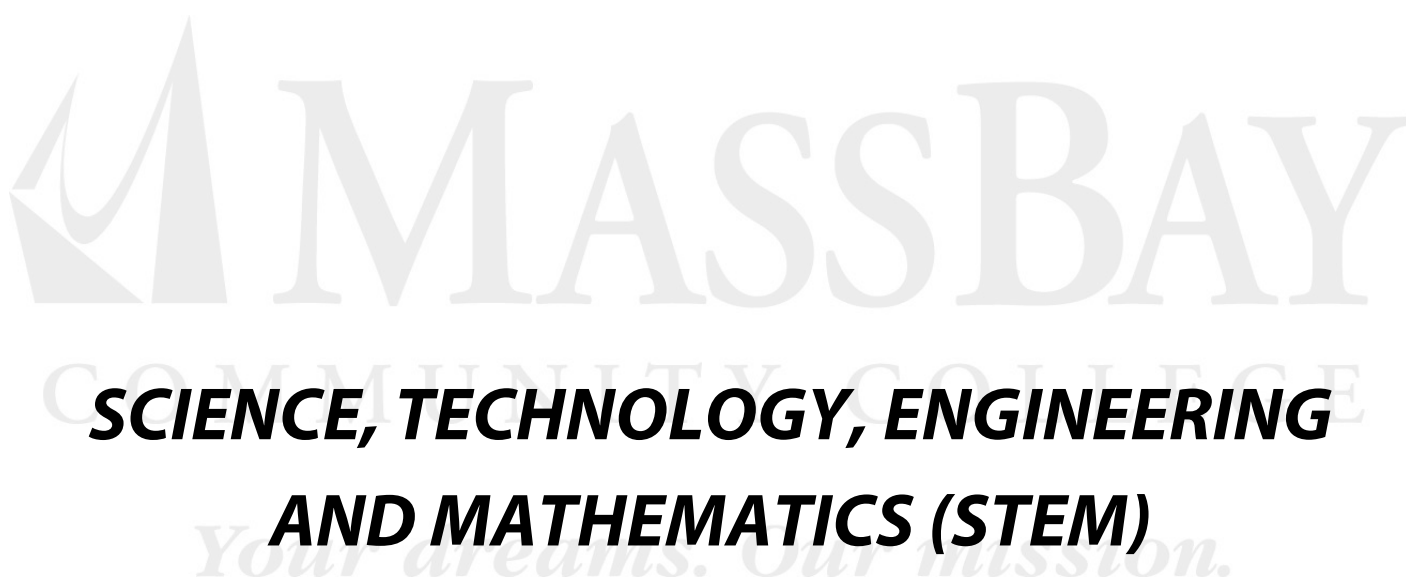
This comprehensive program enables students to pursue a career in the communications industry. Students choose 15 credits from a wide range of elective offerings across various disciplines. This certificate program will meet the needs of students who are enrolled in the Liberal Arts MassTransfer Certificate program or are seeking to upgrade or develop their skills.

Upon successful completion, the Certificate in Communication is awarded.

### **PROGRAM FOOTNOTES**


**Program Electives:** CO 103 Intercultural Communication CO 105 Journalism I, CO 106 Global Journalism, CO 107 Broadcast Journalism, CO 200 Principles of Persuasion, CO 201 Fundamentals of Public Relations, CO 210 Communications Internship, MK 103 Principles of Marketing, MK 213 Principles of Sales, MK 215 Principles of Advertising, PO 115 Photography I

*Your dreams. Our mission.*



# Biotechnology

## Associate in Science

 MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### ***DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS***

Our Biotechnology program is internationally renowned and offers exciting, hands-on, and research-based study in this rapidly expanding scientific area. Through participation in national research collaborations, students are trained in the scientific disciplines most in demand by the biotechnology industry and government laboratories, including recombinant DNA technology, mammalian cell culture, and chromatography with special emphasis on High Performance Liquid Chromatography. Biotechnology students intern at some of the most prestigious research institutions in the world, such as Dana Farber (Boston), Boston Medical Center, The University of Edinburgh (Scotland), Moscow State University (Russia), University of the Amazon (Brazil), and the University of Quebec at Trois-Rivières (Canada).

Upon successful completion, the Associate in Science Degree in Biotechnology is awarded.

### **PROGRAM FOOTNOTES**

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230), Psychology, Sociology

A grade of C or higher is required for all Biotechnology (BT) courses.


\*Pre-Calculus Mathematics (MA 104) may substitute.

This program qualifies as an Alternative Transfer Agreement (MassTransfer) with select public institutions in Massachusetts. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
BI 110	Principles of Biology I	4
BT 101	Introduction to Biotechnology and Laboratory	2
CH 110	Principles of Chemistry I	4
EN 101	Freshman English I	3
MA 102 *	College Algebra	3
	<b>credits:</b>	16
<i>First Year</i>	<i>Semester 2</i>	
BI 120	Principles of Biology II	4
	<b>or</b>	
BI 240	Forensic Microbiology	4
BT 201	Cell Culture	3
CH 120	Principles of Chemistry II	4
CS 100	Computers and Technology	3
EN 102	Freshman English II	3
	<b>credits:</b>	17
<i>First Year</i>	<i>Summer</i>	
CT 100	Critical Thinking	3
	Social Science Elective	3
	<b>credits:</b>	6
<i>Second Year</i>	<i>Semester 1</i>	
BI 210	Molecular Biology	4
BT 211	Independent Research: Protein Purification/Nucleic Acid Analysis	3
CH 201	Organic Chemistry I	4
	Humanities Elective	3
	<b>credits:</b>	14
<i>Second Year</i>	<i>Semester 2</i>	
BI 220	Immunology	4
CH 202	Organic Chemistry II	4
CH 210	Biochemistry I	4
	Humanities Elective	3
	<b>or</b>	
	Social Sciences Elective	3
	<b>credits:</b>	15
<i>Second Year</i>	<i>Summer</i>	
BT 240	Biotechnology Internship	4
	<b>Total Credits:</b>	<b>72</b>

# Biotechnology: Forensic DNA Science

## Associate in Science

 MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS

The Associate Degree in Forensic DNA Science is the first and only undergraduate degree program in this field in the world. The training of the program is unique for several reasons. First, students are trained by participating in actual criminal and anthropological cases involving DNA evidence collection and analysis. Second, forensic training is entirely hands-on and confers on students extensive skills in DNA analysis. Third, students learn to perform mitochondrial DNA analysis, a high-demand forensic methodology used to determine the identity of unidentified human remains. Further, students intern with the world's most renowned forensic institutions, including the FBI, Armed Forces DNA Identification Labs, and Royal Canadian Mounted Police.

Upon successful completion, the Associate in Science Degree in Biotechnology with a concentration in Forensic DNA Science is awarded.

#### PROGRAM FOOTNOTES

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230), Psychology, Sociology

A grade of C or higher is required for all Biotechnology (BT) courses.

This program qualifies as an Alternative Transfer Agreement (MassTransfer) with select public institutions in Massachusetts. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).


COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
BI 110	Principles of Biology I w/ Lab	4
BT 101	Introduction to Biotechnology and Laboratory Rotation I	2
CH 110	Principles of Chemistry I w/ Lab	4
EN 101	Freshman English I	3
MA 102*	College Algebra	3
	<b>credits:</b>	16
<i>First Year</i>	<i>Semester 2</i>	
BI 120	Principles of Biology II w/ Lab	4
	<b>or</b>	
BI 240	Forensic Microbiology w/ Lab	4
BT 107	Forensic Rotation I	3
CH 120	Principles of Chemistry II w/ Lab	4
CS 100	Computers and Technology	3
LA 228	Criminal Law and Procedures	3
	<b>credits:</b>	17
<i>First Year</i>	<i>Summer</i>	
CT 100	Critical Thinking	3
EN 102	Freshman English II	3
	<b>credits:</b>	6
<i>Second Year</i>	<i>Semester 1</i>	
BI 210	Molecular Biology w/ Lab	4
BT 205	Forensic DNA Science II	3
CH 201	Organic Chemistry I w/ Lab	4
CJ 217	Criminal Evidence	3
	Humanities/ Social Science Elective	3
	<b>credits:</b>	17
<i>Second Year</i>	<i>Semester 2</i>	
CH 202	Organic Chemistry II w/ Lab	4
CH 210	Biochemistry I	4
LA 241	DNA Law	3
	Humanities/ Social Science Elective	3
	<b>credits:</b>	14
<i>Second Year</i>	<i>Summer</i>	
BT 241	Forensic Internship	4
	<b>Total Credits:</b>	<b>74</b>

\*Pre-Calculus Mathematics (MA 104) may be substituted.



# Biotechnology: Marine Biotechnology

## Associate in Science

 MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS

The goal of the Marine Biotechnology program is to train students to work as technicians in sophisticated field and laboratory marine settings where multiple molecular disciplines converge to solve complex marine problems. The emphasis of this program, however, is to provide extensive and novel research experiences, career mentoring and academic bridging networks for the individual whose career goal is to work in the marine sciences as an independent, doctoral-level investigator. Marine Biotechnology applies technology and molecular biology to marine biological systems, living organisms (e.g. algae, fish or plankton) or derivatives thereof, to make or modify products or processes for specific use such as pharmaceuticals and food. Hence, the program's training entails the integration of molecular biology and marine sciences.

Upon successful completion, the Associate in Science Degree in Biotechnology with a concentration in Marine Biotechnology is awarded.

### PROGRAM FOOTNOTES:

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society, (LA 230), Psychology, Sociology

\*Pre-Calculus Mathematics (MA 104) may be substituted.

A grade of C or higher is required for all Biotechnology (BT) courses.

This program qualifies as an Alternative Transfer Agreement (MassTransfer) with select public institutions in Massachusetts. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
BI 110	Principles of Biology I	4
BT 101	Introduction to Biotechnology and Laboratory	2
CH 110	Principles of Chemistry I	4
EN 101	Freshman English I	3
MA 102*	College Algebra	3
	<b>credits:</b>	16
<i>First Year</i>	<i>Semester 2</i>	
BI 120	Principles of Biology II	4
BT 108	Marine Rotation I	3
CH 120	Principles of Chemistry II	4
CS 100	Computers and Technology	3
EN 102	Freshman English II	3
	<b>credits:</b>	17
<i>First Year</i>	<i>Summer 1</i>	
CT 100	Critical Thinking	3
	Social Science Elective	3
	<b>credits:</b>	6
<i>Second Year</i>	<i>Semester 1</i>	
BI 210	Molecular Biology	4
BT 206	Marine Rotation II	3
CH 201	Organic Chemistry I	4
	Humanities Elective	3
	<b>credits:</b>	14
<i>Second Year</i>	<i>Semester 2</i>	
BI 220	Immunology	4
CH 202	Organic Chemistry II	4
CH 210	Biochemistry I	4
	Humanities Elective	3
	<b>or</b>	
	Social Science Elective	3
	<b>credits:</b>	15
<i>Second Year</i>	<i>Summer 2</i>	
BT 240	Biotechnology Internship	4
	<b>Total Credits:</b>	<b>72</b>

# Computer Information Systems

## Associate in Science



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### ***DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS***

This program is designed to prepare students for employment in the computer information industry or to transfer and pursue a baccalaureate degree in computer information or any related field.

Computer courses give the students a sound background in computer programming, data modeling and database design, computer networks, web design and development, accounting and financial skills.

Upon successful completion, the Associate in Science Degree in Computer Information Systems is awarded.

#### **PROGRAM FOOTNOTES**

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society, (LA 230), Psychology, Sociology


**Program Electives:** CS 116 Fundamentals of Cyber Security, CS 126 Digital Imaging, CS 140 Interactive Multimedia, CS 176 Web Design, CS 230 Information Systems Administration and Management, MK 214 E-Commerce, MN140 Project Management

The program qualifies as an Alternative Transfer Agreement (MassTransfer) with select public institutions in Massachusetts. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
CS 110	Introduction to Computer Science	4
CS 205	Introduction to Computation	4
CT 100	Critical Thinking	3
EC 201	Principles of Macroeconomics	3
EN 101	Freshman English I	3
	<b>credits:</b>	17
<i>First Year</i>	<i>Semester 2</i>	
CS 120	Programming I	4
CS 160	Applications Software Strategies	4
EN 102	Freshman English II	3
MA 105	Intro to Statistics	3
	Humanities Elective	3
	<b>credits:</b>	17
<i>Second Year</i>	<i>Semester 1</i>	
AC 101	Financial Accounting I	4
CS 200	Programming II	4
CS 213	Database Management Systems	4
CS 242	Computer Networks	4
	<b>credits:</b>	16
<i>Second Year</i>	<i>Semester 2</i>	
AC 102	Financial Accounting II	4
CS 235	Information Systems Analysis and Design	4
CS 241	Web Site Development	4
	Program Elective	3/4
	Humanities Elective or Social Science Elective	3
	<b>credits:</b>	18/19
	<b>Total Credits:</b>	<b>68/69</b>

# Computer Science

## Associate in Science

 MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### ***DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS***

This program enables students to practice developing larger applications and study computer architecture and operating systems. Students learn object-oriented and modular programming techniques, including the use, design, and analysis of data structures and associated algorithms. This program prepares students for transfer to a four-year institution so they may pursue a baccalaureate degree in computer science.

Upon successful completion, the Associate in Science Degree in Computer Science is awarded.

#### **PROGRAM FOOTNOTES**

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230), Psychology, Sociology

**Program Electives:** CS 141 Linux System Management, CS 213 Data Management Systems I, CS 241 Web Site Development, CS 242 Computer Networks

This program qualifies as an Alternative Transfer Agreement (MassTransfer) with select public institutions in Massachusetts. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
CS 120	Programming I	4
CS 205	Introduction to Computation	4
EN 101	Freshman English I	3
MA 200	Calculus I	4
	<b>credits:</b>	15
<i>First Year</i>	<i>Semester 2</i>	
CS 200	Programming II	4
CS 214	Computer Architecture and Assembly Language	4
EN 102	Freshman English II	3
MA 201	Calculus II	4
	<b>credits:</b>	15
<i>First Year</i>	<i>Semester 1 or 2</i>	
CT 100	Critical Thinking	3
	Social Science Elective	3
	<b>credits:</b>	6
<i>Second Year</i>	<i>Semester 1</i>	
CS 208	Data Structures	4
CS 212	Systems Programming with C	4
PY 103	Engineering Physics I	4
	Humanities Elective	3
	<b>credits:</b>	15
<i>Second Year</i>	<i>Semester 2</i>	
CS 225	Software Design	3
MA 210	Introduction to Linear Algebra	4
PY 104	Engineering Physics II	4
	Program Elective	4
	<b>credits:</b>	15
<i>Second Year</i>	<i>Semester 1 or 2</i>	
	Humanities Elective	3
	<b>or</b>	
	Social Science Elective	3
	<b>Total Credits:</b>	<b>69</b>

# Electrical & Computer Engineering

## Associate in Science



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS

This comprehensive program provides students an overview of the electrical and computer engineering field. Students explore such areas as computer hardware, digital electronics, computer science, and engineering.

Upon successful completion, the Associate in Science Degree in Electrical and Computer Engineering is awarded.

#### PROGRAM FOOTNOTES

**Computer Science Electives:** CS 120 Programming I, CS 212 Systems Programming with "C," CS 116 Fundamentals of Cyber Security

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230), Psychology, Sociology

This program qualifies as an Alternative Transfer Agreement (MassTransfer) with select public institutions in Massachusetts. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
CH 110	Principles of Chemistry I w/ Lab	4
CS 110	Introduction to Computer Science	4
CT 100	Critical Thinking	3
EE 120	Digital Electronics	4
EN 101	Freshman English I	3
MA 200	Calculus I	4
	<b>credits:</b>	22
<i>First Year</i>	<i>Semester 2</i>	
CH 120	Principles of Chemistry II w/ Lab	4
EE 125	Digital Computer Systems	4
EN 102	Freshman English II	3
MA 201	Calculus II	4
	Computer Science Elective	4
	<b>credits:</b>	19
<i>Second Year</i>	<i>Semester 1</i>	
EE 110	Circuit Analysis I	4
EE 150	Microprocessors	4
MA 202	Calculus III	4
PY 103	Engineering Physics I w/ Lab	4
	Humanities Elective	3
	Social Science Elective	3
	<b>credits:</b>	22
<i>Second Year</i>	<i>Semester 2</i>	
EE 115	Circuit Analysis II	4
EE 231	Hardware Organization and Design	4
MA 211	Differential Equations	4
PY 104	Engineering Physics II w/ Lab	4
	Humanities Elective	3
	<b>or</b>	
	Social Science Elective	3
	<b>credits:</b>	19
	<b>Total Credits:</b>	<b>82</b>

# Electronics Technology

## Associate in Science



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS

This program offers students the foundation they will need to enter the exciting field of electronics technology. Students gain expertise in electronics, electrical and electronics design (CAD), computer science, digital electronics, digital computer systems, printed circuit design, and semiconductor devices. With a strong commitment to hands-on training, the program prepares students for entry-level positions in the high-tech industry.

Upon successful completion, the Associate in Science Degree in Electronics Technology is awarded.

#### PROGRAM FOOTNOTES

**Computer Science Electives:** CS 120 Programming I, CS 212 Systems Programming with "C", CS 116 Fundamentals of Cyber Security

**Math/Science Electives:** Biology, Chemistry, Environmental Science, Contemporary Nutrition (NS 101), Integrated Sciences, 100-Level Mathematics or Higher (not MAC), Physics

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230), Psychology, Sociology


This program qualifies as an Alternative Transfer Agreement (MassTransfer) with select public institutions in Massachusetts. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
CS 110	Introduction to Computer Science	4
CT 100	Critical Thinking	3
EE 120	Digital Electronics	4
EL 101	Fundamentals of Electronics	4
EN 101	Freshman English I	3
	<b>credits:</b>	18
<i>First Year</i>	<i>Semester 2</i>	
EE 125	Digital Computer Systems	4
EL 102	Fundamentals of Electronics II	4
MN 101	Introduction to Computer Aided Design and Drafting	4
EN 102	Freshman English II	3
MA 104	Pre-Calculus Mathematics	4
	<b>credits:</b>	19
<i>First Year</i>	<i>Summer</i>	
EL 125	Internship	4
	<b>credits:</b>	4
<i>Second Year</i>	<i>Semester 1</i>	
EL 151	Electronics I	4
SF 131	Oral Communication	3
	Math/Science Elective	3/4
	Social Science Elective	3
	<b>credits:</b>	13/14
<i>Second Year</i>	<i>Semester 2</i>	
EL 220	Semiconductor Devices	4
EL 152	Electronics II	4
	Computer Science Elective	3/4
	Math/Science Elective	3/4
	Social Science Elective	3
	<b>credits:</b>	17/19
	<b>Total Credits:</b>	<b>71/74</b>



# Engineering

## Associate in Science

 MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### ***DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS***

This program is designed to enhance students' interest in the math and science fields by pursuing a career in engineering. The program's core curriculum emphasizes mathematics, physics, and chemistry -- the foundation for all engineering projects. The core curriculum is complemented with courses in engineering design, engineering mechanics, and engineering physics.

Upon successful completion, the Associate in Science Degree in Engineering is awarded.

### **CAREER PATHWAY**

Students are advised to select career pathway electives after careful consideration of their career choices in their second year. Some electives may or may not transfer to an engineering program at some four-year institutions

#### **Career Pathway Electives:**

MN 118 Ethics for Engineers and Technologists  
EC 201 Principles of Macroeconomics (fall),  
EC 202 Principles of Microeconomics (spring)  
(recommended for transferring to UMass Lowell),  
BI 110 Principles of Biology I (fall)  
(recommended for transfer to Northeastern University  
Mechanical Engineering program)

#### **Career Pathway Electives:**

CS 120 Programming I (fall), CS 200 Programming II (spring), or  
Computer Science (CS) courses higher than CS 110  
(for transfer to UMass Lowell for Electrical Engineering/Computer  
Science double major program)

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communications, Philosophy, Photography, Sign Language, Theater Arts

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law & Society (LA 230), Psychology, Sociology

### **PROGRAM FOOTNOTE**


Students are advised to check transfer requirements at four year institutions. Some Institutions require 2(two) Chemistry Courses for specific engineering programs. CH 110 and CH 120 sequence is recommended in such cases.

This program qualifies as an Alternative Transfer Agreement (MassTransfer) with select public institutions in Massachusetts. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
PY 103	Engineering Physics I w/ Lab	4
EN 101	Freshman English I	3
MA 200	Calculus I	4
MN 130	Engineering Design with CAD I	4
	<b>credits:</b>	15
<i>First Year</i>	<i>Semester 2</i>	
PY 104	Engineering Physics II w/ Lab	4
MN 125	Engineering Computation with Application Software	4
EN 102	Freshman English II	3
MA 201	Calculus II	4
CT 100	Critical Thinking	3
	<b>credits:</b>	18
<i>Second Year</i>	<i>Semester 1</i>	
CH 110	Principles of Chemistry I w/ Lab	4
	<b>or</b>	
CH 140	Chemistry for Engineers w/ Lab	4
CS 110	Introduction to Computer Science	4
MA 202	Calculus III	4
MN 203	Engineering Mechanics: Statics	3
	Social Science Elective	3
	<b>credits:</b>	18
<i>Second Year</i>	<i>Semester 2</i>	
MA 211	Differential Equations	4
MN 204	Engineering Mechanics: Dynamics	3
MN 210	Strength of Materials I	4
	<b>or</b>	
	Career Pathway Elective	3/4
	Humanities Elective	3
	Humanities Elective	3
	<b>or</b>	
	Social Science Elective	3
	<b>credits:</b>	16/17
	<b>Total Credits:</b>	<b>67/68</b>

# Engineering Design

## Associate in Science

 MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### ***DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS***

Designers translate the ideas, sketches, and specifications of engineers into workable plans and models. Students develop skills and techniques by using the most modern equipment and software, such as AutoCAD®, AutoDesk Revit®, PTC Creo®, SolidWorks®, and MS Project®. Instruction is given in mechanical, electrical, electro-mechanical, architectural, and multimedia design. Students will use the acquired computer and manual drafting skills from various courses to complete projects in the areas of their interest. Graduates may seek positions as detailers/designers/schedulers.

Upon successful completion, the Associate in Science Degree in Engineering Design is awarded.

#### **PROGRAM FOOTNOTES**

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law & Society (LA 230), Psychology, Sociology


**Program Electives:** IN 102 Architectural Drawing for Interior Design, MN 241 Architectural Design, MN 251 Electro-Mechanical Design, MN 271 Project Design, MN 272 Designing Plastic Parts, and/or courses in Biology, Computer Science, (except CS 100), Chemistry, Electronics, Engineering, Environmental Science, Mathematics, Mechanical Engineering, Physics

This program qualifies as an Alternative Transfer Agreement (MassTransfer) with select public institutions in Massachusetts. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
EN 101	Freshman English I	3
MN 101	Introduction to Computer Aided Design and Drafting	4
MN 130	Engineering Design with CAD I	4
MA 104	Pre-Calculus Mathematics	4
	<b>credits:</b>	15
<i>First Year</i>	<i>Semester 2</i>	
CS 110	Introduction to Computer Science	4
CT 100	Critical Thinking	3
EN 102	Freshman English II	3
MN 135	Engineering Design with CAD II	4
MN 141	Architecture & Civil CAD Applications	4
	<b>credits:</b>	18
<i>Second Year</i>	<i>Semester 1</i>	
MN 121	Mechanical Detailing	4
	Humanities Elective	3
	Program Elective	4
	Social Science Elective	3
	<b>credits:</b>	14
<i>Second Year</i>	<i>Semester 2</i>	
MN 261	Animation Materials 3D Molding	4
MN 140	Project Management	4
	Program Elective	3/4
	Humanities Elective	3
	<b>or</b>	
	Social Science Elective	3
	<b>credits:</b>	14/15
	<b>Total Credits:</b>	<b>61/62</b>

# Environmental Sciences & Safety

## Associate in Science

 MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS

This program focuses on environmental science issues such as air and water testing and analysis, industrial waste treatment, municipal wastewater treatment, and environmental law. In obtaining an understanding of the complex interrelationships that exist at the earth's surface, students learn how to interpret environmental stresses, such as ground and surface water contamination, pesticide, degradation, and solid waste disposal. Students also learn how to apply this knowledge to occupational safety and protection.

Upon successful completion, the Associate in Science Degree in Environmental Sciences & Safety is awarded.

### PROGRAM FOOTNOTES

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Math Electives:** 100-Level Mathematics or Higher (not MAC)

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230), Psychology, Sociology

The program qualifies as an Alternative Transfer Agreement (MassTransfer) with select public institutions in Massachusetts. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
BI 110	Principles of Biology I w/ Lab	4
CH 110	Principles of Chemistry I w/ Lab	4
EN 101	Freshman English I	3
EV 110	Principles of Environmental Sciences & Safety	4
	Math Elective	3/4
	<b>credits:</b>	18/19
<i>First Year</i>	<i>Semester 2</i>	
BI 120	Principles of Biology II w/ Lab	4
CH 120	Principles of Chemistry II w/ Lab	4
CS 100	Computers and Technology	3
EN 102	Freshman English II	3
EV 201	Environmental Health & Safety	4
	<b>credits:</b>	18
<i>Second Year</i>	<i>Semester 1</i>	
CT 100	Critical Thinking	3
EV 210	Environmental Microbiology	4
	Humanities Elective	3
	Social Science Elective	3
	<b>credits:</b>	13
<i>Second Year</i>	<i>Semester 2</i>	
EV 220	Environmental Organization Issues & Analysis	3
EV 240	Environmental Toxicology	4
EV 242	Environmental Sciences Directed Research Study	4
	Humanities Elective	3
	<b>or</b>	
	Social Science Elective	3
	<b>credits:</b>	14
	<b>Total Credits:</b>	<b>63/64</b>

# General Studies

## Associate in Science



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS

This program offers students the opportunity to explore a variety of interests and choices while completing a broad background of study through our core science and advanced technology competencies.

Upon successful completion, the Associate in Science Degree in General Studies is awarded.

#### PROGRAM FOOTNOTES

##### Laboratory Science Sequence:

BI 101 General Biology I & BI 102 General Biology II, or  
BI 110 Principles of Biology I & BI 120 Principles of Biology II, or  
BI 115 Anatomy and Physiology I & BI 116 Anatomy and Physiology II, or  
CH 101 College Chemistry I & CH 102 College Chemistry II, or  
CH 110 Principles of Chemistry I & CH 120 Principles of Chemistry II, or, EV  
103 Environmental Studies I & EV 104 Environmental Studies II, or, PY 101  
College Physics I & PY 102 College Physics II, or PY 103 Engineering  
Physics I & PY 104 Engineering Physics II, or  
SC 102 Integrated Science I & SC 103 Integrated Science II

**Math Sequence:** MA 200 Calculus I & Math 201 Calculus II

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Music, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Math/Science Electives:** Astronomy, Biology, Chemistry, Contemporary Nutrition (NS 101) Environmental Science, Integrated Science, 100-Level Mathematics or higher (not MAC), Meteorology, Physics

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230), Psychology, Sociology

**Program Electives:** Any college-level courses offered at the College.

Competency in mathematics is a MassBay graduation requirement. Prior to graduation, students must demonstrate competency at 100-level math. This may be accomplished by an appropriate placement test score or completion of a 100-level mathematics course or higher, except mathematics courses with a MAC prefix.

This program qualifies for MassTransfer with select public institutions in Massachusetts. Student should use course equivalencies for program electives. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
CS 100	Computers and Technology	3
CT 100	Critical Thinking	3
EN 101	Freshman English I	3
PS 150	Career/Life Planning	3
	Laboratory Science Sequence	4
	<b>or</b>	
	Math Sequence	4
	<b>credits:</b>	16
<i>First Year</i>	<i>Semester 2</i>	
EN 102	Freshman English II	3
	Humanities Elective	3
	Laboratory Science Sequence	4
	<b>or</b>	
	Math Sequence	4
	Program Elective	3
	Program Elective	3
	Program Elective	3
	<b>credits:</b>	19
<i>Second Year</i>	<i>Semester 1</i>	
	Math/Science Elective	3/4
	Social Science Elective	3
	Program Elective	3
	Program Elective	3
	Program Elective	3
	<b>credits:</b>	15/16
<i>Second Year</i>	<i>Semester 2</i>	
	Humanities Elective	3
	Social Science Elective	3
	Program Elective	3
	Program Elective	3
	Program Elective	3
	<b>credits:</b>	15
	<b>Total Credits:</b>	<b>65/66</b>

# General Studies:

## Bioinformatics

### Associate in Science



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

#### DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS

Bioinformatics is an interdisciplinary science that includes calculus, biological sciences-based courses complemented by computer science and programming courses. Graduates of the program are very versatile and knowledgeable in acquiring scientific results, computational approaches, and applying such information.

The Bioinformatics program prepares students for 21st century science and beyond. Graduates are prepared to enter the rapidly growing field of bioinformatics as technicians in biotechnology companies, the pharmaceutical sector, research facilities and academic institutions. Courses are designed to accommodate students seeking to enter the workforce or transfer to four-year institutions upon completion of their degree. This program involves traditional teaching methods and research-based courses that enhance students' academic experience.

Upon successful completion, the Associate in Science Degree in General Studies with a concentration in Bioinformatics is awarded.

#### PROGRAM FOOTNOTES

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230), Psychology, Sociology

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester I</i>	
BI 110	Principles of Biology I w/ Lab	4
CH 110	Principles of Chemistry I w/ Lab	4
EN 101	Freshman English I	3
MA 200	Calculus I	4
CS 205	Introduction to Computation	4
	<b>credits:</b>	19
<i>First Year</i>	<i>Semester II</i>	
BI 170	Principles of Bioinformatics I w/ Lab	4
EN 102	Freshman English II	3
BI 120	Principles of Biology II w/ Lab	4
CS 120	Programming I	4
CT 100	Critical Thinking	3
	<b>credits:</b>	18
<i>Second Year</i>	<b>Semester I</b>	
BI 171	Principles of Bioinformatics II w/ Lab	4
CS 200	Programming II	4
BI 260	Computational Biology w/ Lab	4
	Humanities Elective	3
	<b>credits:</b>	15
<i>Second Year</i>	<i>Semester II</i>	
CS 208	Data Structures	4
BI 270	Directed Research/ Internship	4
	Social Science Elective	3
	Humanities Elective	3
	<b>or</b>	
	Social Science Elective	3
	<b>credits:</b>	14
	<b>Total Credits:</b>	<b>66</b>



# General Studies: Lab

## Animal Care

### Associate in Science



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

#### ***DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS***

This program teaches students techniques and training required to care for animals used in all aspects of biomedical and biological research. It offers scientific lessons and hands-on experience in the field of Lab Animal Care through academic and research-based study. Courses are taught in our state-of-the-art laboratories, and in off-campus veterinary clinics that further enhance students' experience.

The Massachusetts Society for Medical Research estimates biomedical and biological research to be a \$3.6 billion a year industry. Graduates of this program are prepared to enter this growing field as technicians in Lab Animal Care, supporting scientists and other specialists that use animals in their research facility.

Upon successful completion, the Associate in Science Degree in General Studies with a concentration in Lab Animal Care is awarded.

#### **PROGRAM FOOTNOTES**

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Music, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230), Psychology, Sociology

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester I</i>	
BI 110	Principles of Biology I w/ Lab	4
CH 110	Principles of Chemistry I w/ Lab	4
EN 101	Freshman English I	3
MA 105	Intro to Statistics	3
CT 100	Critical Thinking	3
	<b>credits:</b>	17
<i>First Year</i>	<i>Semester II</i>	
BI 120	Principles of Biology II w/ Lab	4
CH 120	Principles of Chemistry II w/ Lab	4
CS 100	Computers and Technology	3
EN 102	Freshman English II	3
	Social Science Elective	3
	<b>credits:</b>	17
<i>Second Year</i>	<i>Semester I</i>	
EV 215	Lab Animal Science & Care I w/ Lab	4
EV 210	Environmental Microbiology	4
EV 235	Animal Nutrition	3
	Humanities Elective	3
	Humanities Elective	3
	<b>or</b>	
	Social Science Elective	3
	<b>credits:</b>	17
<i>Second Year</i>	<i>Semester II</i>	
BI 220	Immunology w/ Lab	4
EV 216	Lab Animal Science & Care II w/ Lab	4
EV 240	Environmental Toxicology	4
EV 242	Environmental Sciences Directed Research Study	4
	<b>credits:</b>	16
	<b>Total Credits:</b>	<b>67</b>

# General Studies:

## Mathematics

### Associate in Arts



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

#### **DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS**

This program offers students a solid foundation in mathematics, while providing the opportunity to explore a variety of interests and choices from all divisions, including economics, science, nutrition and liberal arts. Students complete a course in career/life planning to help them assess their options and develop a degree plan to meet their individual needs.

Upon successful completion, the Associate in Arts Degree in General Studies with a concentration in Mathematics is awarded.

#### **PROGRAM FOOTNOTES**

##### **History Sequence:**

HS 101 Western Civilization I & HS 102 Western Civilization II, or  
HS 103 World Civilization I & HS 104 World Civilization II, or  
HS 105 United States History to 1877 & HS 106 United States History Since 1877

##### **Laboratory Science Sequence:**

BI 101 General Biology I & BI 102 General Biology II, or  
BI 110 Principles of Biology I & BI 120 Principles of Biology II, or  
BI 115 Anatomy and Physiology I & BI 116 Anatomy and Physiology II, or  
CH 101 College Chemistry I & CH 102 College Chemistry II, or  
CH 110 Principles of Chemistry I & CH 120 Principles of Chemistry II, or EV 103 Environmental Studies I & EV 104 Environmental Studies II, or PY 101 College Physics I & PY 102 College Physics II, or  
PY 103 Engineering Physics I & PY 104 Engineering Physics II, or  
SC 102 Integrated Science I & SC 103 Integrated Science II

##### **Literature Sequence:**

LI 201 World Literature I & LI 202 World Literature II  
LI 203 American Literature I & LI 204 American Literature II, or  
LI 205 British Literature I & LI 206 British Literature II, or

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230), Psychology, Sociology

**Program Elective:** Any college-level courses offered at the College.

This program qualifies for MassTransfer with select public institutions in Massachusetts. Student should use course equivalencies for program electives. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
CS 100	Computers and Technology	3
CT 100	Critical Thinking	3
EN 101	Freshman English I	3
MA 104	Pre-Calculus Mathematics	4
	History Sequence	3
	<b>credits:</b>	16
<i>First Year</i>	<i>Semester 2</i>	
PS 150	Career/Life Planning	3
EN 102	Freshman English II	3
MA 105	Intro to Statistics	3
MA 200	Calculus I	4
	History Sequence	3
	<b>credits:</b>	16
<i>Second Year</i>	<i>Semester 1</i>	
MA 201	Calculus II	4
	Laboratory Science Sequence	3
	Literature Sequence	4
	Program Elective	3
	Program Elective	3
	<b>credits:</b>	17
<i>Second Year</i>	<i>Semester 2</i>	
MA 202	Calculus III	4
	Laboratory Science Sequence	3
	Literature Sequence	4
	Humanities Elective	3
	Social Science Elective	3
	<b>credits:</b>	17
	<b>Total Credits:</b>	<b>66</b>

AY '14-'15

# Information Systems Technology & Management: Management Concentration

## Associate in Science



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS

In the Information Systems Technology and Management program, students acquire the skills to solve information and management problems using computer hardware and software. Computer courses give students a solid background in Windows, database design, computer networks, web page design, and various software applications. Second year courses provide a strong emphasis on business and management related applications.

Upon successful completion, the Associate in Science Degree in Information Systems Technology & Management is awarded.

#### PROGRAM FOOTNOTES

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230), Psychology, Sociology


**Program Electives:** CS 176 Web Design, CS 140 Interactive Multimedia, CS 241 Web Site Development, CS 126 Digital Imaging, CS 141 Linux Management, MG 101 Principles of Management, MN 140 Project Management

This program qualifies as an Alternative Transfer Agreement (MassTransfer) with select public institutions in Massachusetts. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
CS 104	Microcomputer Applications/ Business	3
CS 110	Introduction to Computer Science	4
CS 118	Scripting	3
CT 100	Critical Thinking	3
EN 101	Freshman English I	3
	<b>credits:</b>	16
<i>First Year</i>	<i>Semester 2</i>	
CS 116	Fundamentals of Cyber Security	3
CS 160	Application Software Strategies	4
EN 102	Freshman English II	3
MA 105	Intro to Statistics	3
	<b>credits:</b>	13
<i>Second Year</i>	<i>Semester 1</i>	
AC 101	Financial Accounting I	4
CS 213	Database Management Systems	4
CS 230	Information Systems Administration and Management	4
CS 242	Computer Networks	4
CS 280	Computer Science Internship	1
	<b>credits:</b>	17
<i>Second Year</i>	<i>Semester 2</i>	
CS 235	Information Systems Analysis and Design	4
EC 201	Principles of Macroeconomics	3
	Humanities Elective	3
	Humanities Elective	3
	<b>or</b>	
	Social Science Elective	3
	Program Elective	3/4
	<b>credits:</b>	16/17
	<b>Total Credits:</b>	<b>62/63</b>

# Information Systems Technology & Management: Technology Concentration

## Associate in Science

 MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### ***DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS***

Students completing Information Systems Technology & Management: Technology will be knowledgeable and experienced in systems and technologies. Students will be able to: support various types of technologies related to operating systems, have experience working with various web technologies related to design, understand fundamental cyber security issues, know how to support and build Computer Networks in Windows and Linux, design, create and use databases, write scripts to perform administrative operations related to computer systems.

The current job market requires that students have a broader background that includes exposure to the latest technologies related to web technologies as well as cyber security and exposure to administrative tasks in the Windows and Linux systems. This degree will prepare students for careers in fields related to helpdesk, technology, networks, and web support.

Upon successful completion, the Associate in Science Degree in Information Systems Technology & Management: Technology is awarded.

#### **PROGRAM FOOTNOTES**

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts


**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230), Psychology, Sociology

**Program Electives:** CS 120 Programming I, CS 126 Digital Imaging, CS 140 Interactive Multimedia, CS 141 Linux Management, CS 176 Web Design, CS 200 Programming II, CS 235 Systems Analysis and Design, CS 241 Web Site Development, CS 246 Web Server Administration, MN 141 Project Management

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
CS 107	Intro to the Internet	1
CS 108	Web Site Development I	1
CS 109	Website Development II	1
CS 110	Introduction to Computer Science	4
CT 100	Critical Thinking	3
EN 101	Freshman English I	3
	<b>credits:</b>	13
<i>First Year</i>	<i>Semester 2</i>	
CS 118	Scripting	3
CS 160	Application Software Strategies	4
CS 116	Fundamentals of Cyber Security	3
EN 102	Freshman English II	3
	Program Elective	3/4
	<b>credits:</b>	16/17
<i>Second Year</i>	<i>Semester 1</i>	
CS 213	Database Management Systems	4
CS 242	Computer Networks	4
MA 105	Introduction to Statistics	3
	Program Elective	3/4
	<b>credits:</b>	14/15
<i>Second Year</i>	<i>Semester 2</i>	
	Social Science Elective	3
	Humanities Elective	3
	Humanities Elective	3
	OR	
	Social Science Elective	3
	Program Elective	3
	Program Elective	4
	<b>credits:</b>	16
<i>Summer</i>		
CS 280	Computer Science Internship	1
	<b>Total Credits:</b>	<b>60/62</b>

# Life Sciences

## Associate in Science

 MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### ***DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS***

This program provides a solid foundation in biological sciences and liberal arts, which can translate into a number of exciting career opportunities. The program is designed to prepare students for transfer to a four-year bachelor's degree program in biology or pre-med.

Upon successful completion, the Associate in Science Degree in Life Sciences is awarded.

#### **PROGRAM FOOTNOTES**

**Advanced Lab Science Electives:** BI 123 Fundamentals of Microbiology, BI 210 Molecular Biology, BI 220 Immunology

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230), Psychology, Sociology


This program qualifies as an Alternative Transfer Agreement (MassTransfer) with select public institutions in Massachusetts. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
BI 110	Principles of Biology I w/ Lab	4
CH 110	Principles of Chemistry I w/ Lab	4
CT 100	Critical Thinking	3
EN 101	Freshman English I	3
MA 104	Pre-Calculus Mathematics	4
	<b>credits:</b>	18
<i>First Year</i>	<i>Semester 2</i>	
BI 120	Principles of Biology II w/ Lab	4
CH 120	Principles of Chemistry II w/ Lab	4
CS 100	Computers and Technology	3
EN 102	Freshman English II	3
	Social Science Elective	3
	<b>credits:</b>	17
<i>Second Year</i>	<i>Semester 1</i>	
BI 115	Anatomy and Physiology I w/ Lab	4
CH 201	Organic Chemistry I w/ Lab	4
PY 101	College Physics I	4
	Humanities Elective	3
	<b>credits:</b>	15
<i>Second Year</i>	<i>Semester 2</i>	
BI 116	Anatomy & Physiology II w/ Lab	4
CH 202	Organic Chemistry II w/ Lab	4
PY 102	College Physics II w/ Lab	4
	Humanities Elective	3
	<b>or</b>	
	Social Science Elective	3
	Advanced Laboratory Science Elective	4
	<b>credits:</b>	19
	<b>Total Credits:</b>	<b>69</b>



# Mechanical Engineering

## Associate in Science

 MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### ***DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS***

Mechanical engineers are active in all engineering functions of a product including creative design, research and development, production and management. Energy, airplanes, automobiles, space vehicles, machinery, earth-moving equipment and medical hardware are but a few examples of the infinite number of products that mechanical engineers have produced through their use of the basic laws of physical sciences.

Upon successful completion, the Associate in Science Degree in Mechanical Engineering is awarded.

### **CAREER PATHWAY**

Students are advised to select career pathway electives after careful consideration of their career choices in their second year. Some electives may not transfer to engineering programs at some four-year institutions.

### **Career Pathway Electives:**

MN 118 Ethics for Engineers and Technologists  
EC 201 Principles of Macroeconomics (fall),  
EC 202 Principles of Microeconomics (spring;  
recommended for transferring to UMass Lowell),  
BI 110 Principles of Biology I (fall)  
(recommended for transfer to Northeastern University  
Mechanical Engineering program)

### **Career Pathway Electives:**

CS 120 Programming I (fall), CS 200 Programming II (spring), or  
Computer Science (CS) courses higher than CS 110  
(for transfer to UMass Lowell for Electrical Engineering/Computer  
Science double major program)

**Humanities Electives:** Art, Communications, Film, Foreign Language,  
Humanities, Literature, Music, Oral Communication, Philosophy,  
Photography, Sign Language, Theater Arts

**Social Science Electives:** Anthropology, Geography, History, Economics,  
Government, Law & Society (LA 230), Psychology, Sociology

### **PROGRAM FOOTNOTE**

Students are advised to check transfer requirements at four year institutions. Some institutions require 2 (two) Chemistry courses for specific engineering programs. CH 110 and CH 120 sequence is recommended in such cases.

This program qualifies as an Alternative Transfer Agreement (MassTransfer) with select public institutions in Massachusetts. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
CT 100	Critical Thinking	3
PY 103	Engineering Physics I w/ Lab	4
EN 101	Freshman English I	3
MA 200	Calculus I	4
MN 130	Engineering Design with CAD I	4
	<b>credits:</b>	18
<i>First Year</i>	<i>Semester 2</i>	
MN 125	Engineering Computation with Application Software	4
PY 104	Engineering Physics II w/ Lab	4
EN 102	Freshman English II	3
	Humanities Elective	3
MA 201	Calculus II	4
	<b>credits:</b>	18
<i>Second Year</i>	<i>Semester 1</i>	
CH 110	Principles of Chemistry w/ Lab	4
	<b>or</b>	
CH 140	Chemistry for Engineers w/ Lab	4
MA 202	Calculus III	4
CS 110	Introduction to Computer Science	4
MN 203	Engineering Mechanics: Statics	3
	Social Science Elective	3
	<b>credits:</b>	18
<i>Second Year</i>	<i>Semester 2</i>	
MN 204	Engineering Mechanics: Dynamics	3
MA 211	Differential Equations	4
MN 210	Strength of Materials I	4
	Career Pathway Elective	3/4
	Humanities Elective	3
	<b>or</b>	
	Social Science Elective	3
	<b>credits:</b>	17/18
	<b>Total Credits:</b>	<b>71/72</b>

# Computer-Aided Design (CAD)

## Certificate



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

COURSE ID	COURSE TITLE	CREDITS
MN 101	Introduction to Computer Aided Design and Drafting	4
MN 130	Engineering Design with CAD I	4
MN 135	Engineering Design with CAD II	4
	Program Elective	4
	Program Elective	4
	<b>credits:</b>	20
	<b>Total Credits:</b>	<b>20</b>

### ***DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS***

Students develop CAD skills and techniques by using the most modern equipment and software such as AutoCAD®, Pro/ENGINEER®, SolidWorks®, and MS Project®. Instruction is given in mechanical, electrical, and architectural design. Students will use the acquired computer skills from various courses to complete projects in the areas of their interest. Graduates may seek positions as detailers/drafters/CAD operators.

Upon successful completion, the Certificate in Computer-Aided Design is awarded.

#### **PROGRAM FOOTNOTES**

**Program Electives:** MN 121 Mechanical Detailing, MN 140 Project Management, MN 141 Architecture & Civil CAD Applications, MN 241 Architectural Design, MN 251 Electro-Mechanical Design, MN 261 Animation Materials 3D Molding, MN 271 Project Design, MN 272 Designing Plastic Parts

For more information about the costs of this program and employment opportunities after completion, please visit our gainful employment page:

<http://www.massbay.edu/gainfulemployment.aspx>

# Cyber Security

## Certificate



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

COURSE	COURSE TITLE	CREDITS
CS 118	Scripting	3
CS 242	Computer Networks	4
CS 116	Fundamentals of Cyber Security	3
CS 243	Computer Networks II	4
	<b>credits:</b>	14
	<b>Total Credits:</b>	<b>14</b>

### ***DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS***

This certificate is designed to prepare students with the knowledge and skills that will enable them to perform network and security technician jobs. Students will be able to administer and configure networks while applying cyber security best practices.

Students completing this certificate are encouraged to gain industry credentials by taking CompTIA's Network+ and Security+ exams, as well as CISCO's ICND1.

#### *Career outlook*

This certificate prepares students with necessary knowledge and skills for the cyber security field. The courses in this certificate are aligned with NIST's NICE Framework; hence, students are trained with consistent and current technology and concepts to help them secure a position as an entry-level network and/ or security specialist.

Upon successful completion, the Certificate in Cyber Security is awarded.

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# Information Technology

## Certificate



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### ***DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS***

The world of Information Technology continues to grow and evolve, offering long-term job security. For students who are interested in entering this field, but have little or no computer-related experience, this program offers a wide-ranging introduction. The curriculum focuses on business related applications to provide students with the computer skills needed for a successful entry-level position in the Information Technology field.

Upon successful completion, the Certificate in Information Technology is awarded.

COURSE	COURSE TITLE	CREDITS
CS 104	Microcomputer Applications/ Business	3
CS 110	Introduction to Computer Science	4
CS 118	Scripting	3
CS 160	Application Software Strategies	4
CS 213	Database Management Systems	4
CS 230	Information Systems Administration and Management	4
	<b>or</b>	
CS 235	Information Systems Analysis and Design	4
CS 242	Computer Networks	4
	<b>credits:</b>	26
	<b>Total Credits:</b>	<b>26</b>

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# Technology Support

## Certificate



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### ***DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS***

There is an increased need for technology support specialists that are knowledgeable in systems (Linux and Windows) and web technologies. The purpose of this certificate is to expose students (re-entering or new to the Information Technology field) to a series of technologies and skills that as a whole will provide a strong foundation to work as a support technician or helpdesk support in the technology field. The certificate will require students to complete a summer internship to provide students with the experience needed for a first job. Some of the courses in this certificate will provide students with pathways to industry certifications that are widely used as standards in the IT industry.

### **PROGRAM FOOTNOTES**

**Program Electives:** CS 213 Database Management Systems, CS 246 Web Server Administration, MN 140 Project Management.

Students are encouraged to get MOS certified before graduating from the program.

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
CS 107	Introduction to the Internet	1
CS 108	Web Page Development I	1
CS 109	Web Page Development II	1
CS 110	Introduction to Computer Science	4
CS 141	Linux System Management	3
CS 118	Scripting	3
	<b>credits:</b>	13
<i>First Year</i>	<i>Semester 2</i>	
CS 116	Fundamentals of Cyber Security	3
CS 242	Computer Networks	4
	Program Elective	3/4
CS 280	Computer Science Internship	1
	<b>credits:</b>	11/12
	<b>Total Credits:</b>	24/25

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# Web Designer

## Certificate



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### ***DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS***

This certificate introduces students to client-side web technologies. The emphasis of this certificate is on content presentation. Students learn to design and develop websites using professional authoring and scripting tools.

Students completing the Web Designer Certificate will be proficient in the visual arts and creating the images and designs that capture and keep visitors' interest. They will know how to present aesthetically enticing designs that meet the requirements and preferences of their audience.

Upon successful completion, the Certificate in Web Design is awarded.

For more information about the costs of this program and employment opportunities after completion, please visit our gainful employment page:

<http://www.massbay.edu/gainfulemployment.aspx>

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
CS 107	Introduction to the Internet	1
CS 108	Web Page Development I	1
CS 109	Web Page Development II	1
CS 110	Introduction to Computer Science	4
CS 118	Scripting	3
CS 126	Digital Imaging	3
	<b>credits:</b>	13
<i>First Year</i>	<i>Semester 2</i>	
CS 140	Interactive Multimedia	3
CS 176	Web Design	4
CS 242	Computer Networks	4
	<b>credits:</b>	11
	<b>Total Credits:</b>	<b>24</b>

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# Web Developer

## Certificate



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### ***DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS***

This certificate introduces students to client- and server-side web technologies. The program provides students with the basic skills in client- and server-side scripting to build dynamic data-driven web applications. Students learn to design and develop database-driven websites. Students completing a Web Developer Certificate are proficient at creating website structure and interactivity. They know how to use database tools and custom applications to prepare the site for dynamic presentation of content to visitors.

Upon successful completion, the Certificate in Web Developer is awarded.

### **PROGRAM FOOTNOTES**

#### **Program Electives:**

CS 116 Fundamentals of Cyber Security, CS 126 Digital Imaging, CS 140 Interactive Multimedia, CS 141 Linux Management.

For more information about the costs of this program and employment opportunities after completion, please visit our gainful employment page:

<http://www.massbay.edu/gainfulemployment.aspx>

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
CS 118	Scripting	3
CS 176	Web Design	4
MN 140	Project Management	4
	<b>credits:</b>	11
<i>First Year</i>	<i>Semester 2</i>	
CS 213	Database Management Systems	4
CS 241	Website Development	4
CS 242	Computer Networks	4
	Program Elective	3
	<b>credits:</b>	15
	<b>Total Credits:</b>	<b>26</b>

# Web Master

## Certificate



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### ***DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS***

This certificate introduces students to the web technologies required to create, manage, and host a web site. Students completing a Web Master Certificate are proficient at blending the art of HTML-coding with the visual arts to create pages that are content rich and visually pleasing. They are proficient at page layout, image creation and manipulation, interactivity, content creation, as well as project and business management.

Upon successful completion, the Certificate in Web Master is awarded.

### **PROGRAM FOOTNOTES**

Program Electives:  
CS 116 Fundamentals of Cyber Security, CS 141 Linux System Management

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
CS 126	Digital Imaging	3
CS 176	Web Design	4
CS 140	Interactive Media	3
CS 118	Scripting	3
	<b>credits:</b>	13
<i>First Year</i>	<i>Semester 2</i>	
CS 242	Computer Networks	4
CS 246	Web Server Administration	3
MN 140	Project Management	4
	Program Elective	3
	<b>credits:</b>	14
	<b>Total Credits:</b>	<b>27</b>

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# Liberal Arts: Community

## Health Option

### Associate in Arts



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

#### DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES

The Community Health Option combines courses in social sciences with courses, seminars, and field work in the community health field. In addition to acquiring the necessary professional skills such as interviewing, report writing, behavior modification, and human relations, students gain a broad background in the liberal arts. Upon completion, students are prepared for entry level or other positions related to their professional experience in health centers and social agencies.

Upon successful completion, the Associate in Arts Degree in Liberal Arts with a concentration in Community Health is awarded.

#### ADMISSION REQUIREMENTS

CORI (Criminal Offender Record Information) and SORI (Sexual Offender Registry Information) background checks are required prior to practicum placement and will be conducted in accordance with state regulations. CORI and SORI results are confidential.

#### PROGRAM FOOTNOTES

##### History Sequence:

HS 101 Western Civilization I & HS 102 Western Civilization II, or HS 103 World Civilization I & HS 104 World Civilization II, or HS 105 United States History to 1877 & HS 106 United States History since 1877

##### Laboratory Science Sequence:

BI 101 General Biology I & BI 102 General Biology II, or BI 110 Principles of Biology I & BI 120 Principles of Biology II, or BI 115 Anatomy and Physiology I & BI 116 Anatomy and Physiology II, or CH 101 College Chemistry I & CH 102 College Chemistry II, or CH 110 Principles of Chemistry I & CH 120 Principles of Chemistry II, or EV 103 Environmental Studies I & EV 104 Environmental Studies II, or PY 101 College Physics I & PY 102 College Physics II, or PY 103 Engineering Physics I & PY 104 Engineering Physics II, or SC 102 Integrated Science I & SC 103 Integrated Science II

##### Literature Sequence:

LI 201 World Literature I & LI 202 World Literature II, or LI 203 American Literature I & LI 204 American Literature II, or LI 205 British Literature I & LI 206 British Literature II

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Math/Science Electives:** Biology, Chemistry, Contemporary Nutrition (NS 101) Environmental Science, Integrated Science, 100-level Mathematics or higher (not MAC), Physics

Competency in mathematics is a MassBay graduation requirement. Prior to graduation, students must demonstrate competency at 100 level

math. This may be accomplished by an appropriate placement test score or completion of any 100-level mathematics course or higher, except mathematics courses with a MAC prefix.

This program qualifies for MassTransfer with select public institutions in Massachusetts. (Student must take a 100 level math course for the math/science elective) For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
CX 101*	Introduction to Community Health	4
EN 101	Freshman English I	3
SO 203	Ethnic Studies	3
PS 118	Life Span Psychology	3
	History Sequence	3
	<b>credits:</b>	16
<i>First Year</i>	<i>Semester 2</i>	
CS 100	Computers and Technology	3
EN 102	Freshman English II	3
CT 100	Critical Thinking	3
SO 120	Disabilities: Diagnosis and Interventions	3
CX 104	Promoting Health in the Community	3
	History Sequence	3
	<b>credits:</b>	18
<i>Second Year</i>	<i>Semester 1</i>	
PS 241	Group Process	3
SO 101	Introduction to Sociology	3
	Literature Sequence	3
	Humanities Elective	3
	Laboratory Science Sequence	4
	<b>credits:</b>	16
<i>Second Year</i>	<i>Semester 2</i>	
CX 201	Practicum/Seminar for Community Health Majors	6
	Literature Sequence	3
	Laboratory Science Sequence	4
	Math/Science Elective	3/4
	<b>credits:</b>	16/17
	<b>Total Credits:</b>	<b>66/67</b>

\*Course to be taken first semester.



**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society, (LA 230), Psychology, Sociology

A grade of C or higher is required in all Education (ED) courses and PS 222 Child Development.

This program qualifies for the Education Compact in the MassTransfer program with select public institutions in Massachusetts. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

# Liberal Arts: Early Childhood Education

## Associate in Arts



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES

The Department of Higher Education has established an early childhood education transfer compact for students transferring from Massachusetts community colleges to public colleges and universities that offer early childhood (pre K-grade 2) public school teacher licensure at the baccalaureate level. Students must complete the courses required for this transfer compact with a 2.75 cumulative GPA. The program prepares students for the early childhood education licensure program at Massachusetts state colleges or university campuses. Up to 60 credits earned by students who fulfill the core requirements may be accepted as transfer credits by the receiving institution.

Upon successful completion, the Associate in Arts Degree in Liberal Arts with a concentration in Early Childhood Education is awarded.

### ADMISSION REQUIREMENTS

To be admitted to the education department of a Massachusetts state college or university, students must achieve a passing score on the Communication and Literacy Skills Test (CLST) of the Massachusetts Test for Educator Licensure (MTEL). This requirement may be completed after receiving the Associate in Arts Degree. Students need a minimum of 2.75 GPA to be accepted into an education program at a four-year college or university.

CORI (Criminal Offender Record Information) and SORI (Sexual Offender Registry Information) background checks are required prior to practicum placement and will be conducted in accordance with state regulations. CORI and SORI results are confidential.

### PROGRAM FOOTNOTES

#### History Sequence:


HS 101 Western Civilization I & HS 102 Western Civilization II, or HS 103 World Civilization I & HS 104 World Civilization II, or HS 105 United States History to 1877 & HS 106 United States History Since 1877

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
EN 101	Freshman English I	3
CS 100	Computers & Technology	3
CT 100	Critical Thinking	3
PS 222	Child Development	3
SC 102	Integrated Science I	4
	<b>credits:</b>	16
<i>First Year</i>	<i>Semester 2</i>	
EN 102	Freshman English II	3
ED 112	Early Childhood Education	3
LI 104	Children's Literature	3
SC 103	Integrated Science II	4
SO 120	Disabilities: Diagnosis and Interventions	3
	<b>credits:</b>	16
<i>Second Year</i>	<i>Semester 1</i>	
ED 203	Early Childhood Curriculum	3
MA 109	Elements of Mathematics I	3
	History Sequence	3
	Humanities Elective	3
	Social Science Elective	3
	<b>credits:</b>	15
<i>Second Year</i>	<i>Semester 2</i>	
ED 230	Practicum and Seminar in Early Childhood	6
	<b>or</b>	
ED 240	Practicum/ Seminar in Early Childhood	6
MA 119	Elements of Math II	3
	History Sequence	3
	Humanities Elective	3
	<b>credits:</b>	15
	<b>Total Credits:</b>	<b>62</b>

# Liberal Arts: Elementary Education

## Associate in Arts

 MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES

The Department of Higher Education has established an elementary (grades 1-6) education transfer compact for students transferring from Massachusetts community colleges to public colleges and universities that offer elementary education public school teacher licensure at the baccalaureate level. Completion of the courses required for this transfer compact with a 2.75 cumulative GPA prepares students for the elementary licensure programs at Massachusetts state colleges or university campuses.

Upon successful completion, the Associate in Arts Degree in Liberal Arts with a concentration in Elementary Education is awarded.

### ADMISSION REQUIREMENTS

Students are required to attend an Orientation to Teacher Education during the first semester of attendance and to maintain frequent contact with an Education advisor to avoid delays in degree achievement.

To be admitted for transfer into the education department of a Massachusetts state college or university, students must achieve a passing score on the Communication and Literacy Skills Test (CLST) of the Massachusetts Test for Educator Licensure (MTEL). Students are urged to take this test immediately after completing EN 102 to assess the need for additional preparation. Students need a minimum of 2.75 GPA to be accepted into an Education program at a four-year college or university.

CORI (Criminal Offender Record Information) and SORI (Sexual Offender Registry Information) background checks will be required by schools prior to fieldwork.

### PROGRAM FOOTNOTES

Students should consult an Education Department Advisor before selecting electives. Transfer institutions may differ in requirements for general education courses. The planned Liberal Arts major after transfer (required of Education students) should also be considered in course selection.

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230), Psychology, Sociology


A grade of C or higher is required in ED 115 Education in American Society and PS 222 Child Development. For transfer purposes, all other course grades should be C or higher.

This program qualifies for MassTransfer with select public institutions in Massachusetts. For more information please visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
EN 101	Freshman English I	3
CS 100	Computers and Technology	3
CT 100	Critical Thinking	3
PS 101	Introduction to Psychology	3
SC 102	Integrated Science I	4
	<b>credits:</b>	16
<i>First Year</i>	<i>Semester 2</i>	
EN 102	Freshman English II	3
PS 222	Child Development	3
SC 103	Integrated Science II	4
	Social Science Elective	3
	Humanities Elective	3
	<b>credits:</b>	16
<i>Second Year</i>	<i>Semester 1</i>	
ED 115	Education in American Society	4
HS 105	United States History to 1877	3
LI 104	Children's Literature	3
MA 109	Elements of Mathematics I	3
	Humanities Elective	3
	<b>credits:</b>	16
<i>Second Year</i>	<i>Semester 2</i>	
HS 106	United States History Since 1877	3
MA 119	Elements of Mathematics II	3
SO 120	Disabilities: Diagnosis and Interventions	3
	Social Science Elective	3
	Humanities Elective	3
	<b>credits:</b>	15
	<b>Total Credits:</b>	<b>63</b>

# Liberal Arts: Global Studies

## Associate in Arts

 MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES

The Global Studies concentration provides students with the opportunity to deepen their understanding of the problems and forces shaping today's changing world. A cluster of liberal arts courses explore contemporary trends and the historical, social, and economic factors that shape them. In addition, students gain a broad background in the skills of the liberal arts: writing, speaking, critical thinking, and problem solving. The concentration provides a solid background for students interested in transferring to four-year institutions in a variety of majors and for their futures living and working in an increasingly global society.

Upon successful completion, the Associate in Arts Degree in Liberal Arts with a concentration in Global Studies is awarded.

### PROGRAM FOOTNOTES

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

#### Laboratory Science Sequence:

BI 101 General Biology I & BI 102 General Biology II, or BI 110 Principles of Biology I & BI 120 Principles of Biology II, or BI 115 Anatomy and Physiology I & BI 116 Anatomy and Physiology II, or CH 101 College Chemistry I & CH 102 College Chemistry II, or CH 110 Principles of Chemistry I & CH 120 Principles of Chemistry II, or EV 103 Environmental Studies I & EV 104 Environmental Studies II, or PY 101 College Physics I & PY 102 College Physics II, or PY 103 Engineering Physics I & PY 104 Engineering Physics II, or SC 102 Integrated Science I & SC 103 Integrated Science II

**Math/Science Electives:** Biology, Chemistry, Contemporary Nutrition (NS101), Environmental Science, Integrated Science, 100-level Mathematics or higher (not MAC), Physics

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230), Psychology, Sociology

**Program Electives:** Foreign Language, Global Journalism (CO 106), Myth, Magic & Mystery (HU 110), World Religions (HU105), World Traditions (HU 120), Ethnic Studies (SO 203)

Competency in mathematics is a MassBay graduation requirement. Prior to graduation, students must demonstrate competency at 100-level math. This may be accomplished by an appropriate placement test score or completion of any 100-level mathematics course or higher, except mathematics courses with a MAC prefix.

This program qualifies for MassTransfer with select public institutions in Massachusetts. (Student must take a 100 level math course for the math/science elective) For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
GG 103	Introduction to Geography	3
CT 100	Critical Thinking	3
EN 101	Freshman English I	3
HS 103	World Civilization I	3
CS 100	Computers and Technology	3
	Math/Science Elective	3/4
	<b>credits:</b>	18/19
<i>First Year</i>	<i>Semester 2</i>	
GG 105	World Regional Geography	3
EN 102	Freshman English II	3
GV 210	Contemporary Global Issues	3
HS 104	World Civilization II	3
	Program Elective	3
	<b>credits:</b>	15
<i>Second Year</i>	<i>Semester 1</i>	
AN 203	Introduction to Cultural Anthropology	3
EC 201	Principles of Macroeconomics	3
LI 201	World Literature I	3
	Laboratory Science Sequence	4
	Humanities Elective	3
	<b>credits:</b>	16
<i>Second Year</i>	<i>Semester 2</i>	
LI 202	World Literature II	3
	Program Elective	3
	Social Science Elective	3
	Social Science Elective	3
	Laboratory Science Sequence	4
	<b>credits:</b>	16
	<b>Total Credits:</b>	<b>65/66</b>

# Liberal Arts: Human Services

## Associate in Arts



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES

The Human Services program combines courses in social sciences, primarily psychology and sociology, with seminars and field work in the human and social services field. In addition to obtaining the necessary professional skills such as interviewing, report writing, behavior modification, and human relations, students gain a broad background in the liberal arts. Upon graduation, students are prepared to work in a variety of social agencies related to their educational credentials and work experience.

Upon successful completion, the Associate in Arts Degree in Liberal Arts with a concentration in Human Services is awarded.

### ADMISSION REQUIREMENTS

CORI (Criminal Offender Record Information) and SORI (Sexual Offender Registry Information) background checks are required prior to practicum placement and will be conducted in accordance with state regulations. CORI and SORI results are confidential.

### PROGRAM FOOTNOTES

#### History Sequence:

HS 101 Western Civilization I & HS 102 Western Civilization II, or HS 103 World Civilization I & HS 104 World Civilization II, or HS 105 United States History to 1877 & HS 106 United States History Since 1877

#### Laboratory Science Sequence:

BI 101 General Biology I & BI 102 General Biology II, or BI 110 Principles of Biology I & BI 120 Principles of Biology II, or BI 115 Anatomy and Physiology I & BI 116 Anatomy and Physiology II, or CH 101 College Chemistry I & CH 102 College Chemistry II, or CH 110 Principles of Chemistry I & CH 120 Principles of Chemistry II, or EV 103 Environmental Studies I & EV 104 Environmental Studies II, or PY 101 College Physics I & PY 102 College Physics II, or PY 103 Engineering Physics I & PY 104 Engineering Physics II, or SC 102 Integrated Science I & SC 103 Integrated Science II

#### Literature Sequence:

LI 201 World Literature I & LI 202 World Literature II, or LI 203 American Literature I & LI 204 American Literature II, or LI 205 British Literature I & LI 206 British Literature II

**Math/Science Electives:** Biology, Chemistry, Contemporary Nutrition (NS101), Environmental Science, Integrated Science, 100-level Mathematics or higher (not MAC), Physics

**Program Electives:** SP 101 Beginning Spanish I, SP 102 Beginning Spanish II, FR 101 Beginning French, FR 102 Beginning French II, SL 101 Intro to American Sign Language I, SO 203 Ethnic Studies, SO 222 Aging and Society, SO 224 Sociology of Developmental Disabilities, other courses with permission of the Program Coordinator.

Competency in mathematics is a MassBay graduation requirement. Prior to graduation, students must demonstrate competency at 100-level math. This may be accomplished by an appropriate placement test score or completion of any 100-level Mathematics course or higher, except mathematics courses with a MAC prefix.

This program qualifies for MassTransfer with select public institutions in Massachusetts. (Student must take a 100 level math course for the math/science elective) For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
CS 100	Computers and Technology	3
CT 100	Critical Thinking	3
EN 101	Freshman English I	3
SO 101	Introduction to Sociology	3
SW 101 *	Introduction to Social Welfare	4
	History Sequence	3
	<b>credits:</b>	19
<i>First Year</i>	<i>Semester 2</i>	
EN 102	Freshman English II	3
PS 101	Introduction to Psychology	3
	Program Elective	3
	History Sequence	3
	Math/Science Elective	3/4
	<b>credits:</b>	15/16
<i>Second Year</i>	<i>Semester 1</i>	
PS 118	Life Span Psychology	3
SO 120	Disabilities: Diagnosis and Interventions	3
SO 221	Drugs, People, and Problems	3
	Literature Sequence	3
	Laboratory Science Sequence	4
	<b>credits:</b>	16
<i>Second Year</i>	<i>Semester 2</i>	
PS 241	Group Process	3
SW 201	Practicum/Seminar	6
	Literature Sequence	3
	Laboratory Science Sequence	4
	<b>credits:</b>	16
	<b>Total Credits:</b>	<b>66/67</b>

\* Course to be taken first semester.

# Liberal Arts:

## Psychology/Sociology/Anthropology

### Associate in Arts



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

#### DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES

This program is for students who want to specialize in the social and behavioral sciences. Students gain a solid foundation in the fields of psychology, sociology, and anthropology, to be used in the workforce or to further their education.

Upon successful completion, the Associate of Arts Degree in Liberal Arts with a concentration in Psychology, Sociology, and Anthropology is awarded.

#### PROGRAM FOOTNOTES:

##### History Sequence:

HS 101 Western Civilization I & HS 102 Western Civilization II, or HS 103 World Civilization I & HS 104 World Civilization II, or HS 105 United States History to 1877 & HS 106 United States History Since 1877

##### Laboratory Science Sequence:

BI 101 General Biology I & BI 102 General Biology II, or BI 110 Principles of Biology I & BI 120 Principles of Biology II, or BI 115 Anatomy and Physiology I & BI 116 Anatomy and Physiology II, or CH 101 College Chemistry I & CH 102 College Chemistry II, or CH 110 Principles of Chemistry I & CH 120 Principles of Chemistry II, or EV 103 Environmental Studies I & EV 104 Environmental Studies II, or PY 101 College Physics I & PY 102 College Physics II, or PY 103 Engineering Physics I & PY 104 Engineering Physics II, or SC 102 Integrated Science I & SC 103 Integrated Science II

##### Literature Sequence:

LI 201 World Literature I & LI 202 World Literature II, or LI 203 American Literature I & LI 204 American Literature II, or LI 205 British Literature I & LI 206 British Literature II

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Math/Science Electives:** Biology, Chemistry, Contemporary Nutrition (NS101), Environmental Science, Integrated Science, 100-level Mathematics or higher (not MAC), Physics

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230), Psychology, Sociology

**Program Electives:** Any Anthropology, Psychology, Sociology courses

This program qualifies for MassTransfer with select public institutions in Massachusetts. (Student must take a 100 level course for the math/science elective) For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
CS 100	Computers and Technology	3
CT 100	Critical Thinking	3
EN 101	Freshman English I	3
	History Sequence	3
	Laboratory Science Sequence	4
	<b>credits:</b>	16
<i>First Year</i>	<i>Semester 2</i>	
AN 203	Introduction to Cultural Anthropology	3
EN 102	Freshman English II	3
PS 101	Introduction to Psychology	3
	History Sequence	3
	Laboratory Science Sequence	4
	<b>credits:</b>	16
<i>Second Year</i>	<i>Semester 1</i>	
PH 102	Philosophy: Ethics	3
	Literature Sequence	3
	Math/Science Elective	3/4
	Social Science Elective	3
	Program Elective	3
	Program Elective	3
	<b>credits:</b>	18/19
<i>Second Year</i>	<i>Semester 2</i>	
SO 101	Introduction to Sociology	3
	Literature Sequence	3
	Humanities Elective	3
	Program Elective	3
	Program Elective	3
	<b>credits:</b>	15
	<b>Total Credits:</b>	<b>65/66</b>



# Accounting

## Associate in Science



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES

This professional program serves two purposes. First, it prepares students for entry level positions in accounting including accounts receivable, accounts payable, bookkeeping, and as junior accountants and auditors. Second, it prepares students to transfer to four-year colleges to continue their education. Interested students are on track to take the CPA examination after fulfilling the more advanced course requirements at a transfer institution.

Upon successful completion, the Associate in Science Degree in Accounting is awarded.

### PROGRAM FOOTNOTES

**Economics Electives:** EC 104 Contemporary Economic Issues, EC 201 Principles of Macroeconomics, EC 202 Principles of Microeconomics

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Math Electives:** 100-level Mathematics or higher (not MAC)

**Science Electives:** Biology, Chemistry, Contemporary Nutrition (NS 101), Environmental Science, Integrated Science, Physics

**Social Science Electives:** Anthropology, Geography, History, Economics, Government, Law and Society (LA 230), Psychology, Sociology

This program meets the MassTransfer with select public institutions in Massachusetts. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
AC 101	Financial Accounting I	4
CS 104	Microcomputer Applications/Business	3
CT 100	Critical Thinking	3
EN 101	Freshman English I	3
MG 101	Principles of Management	3
	Math Elective	3/4
	<b>credits:</b>	19/20
<i>First Year</i>	<i>Semester 2</i>	
AC 102	Financial Accounting II	4
EN 102	Freshman English II	3
MK 103	Principles of Marketing	3
	Economics Elective	3
	Humanities Elective	3
	<b>credits:</b>	16
<i>Second Year</i>	<i>Semester 1</i>	
AC 201*	Intermediate Accounting I	4
AC 206	Managerial Accounting	4
LA 221	Principles of Business Law I	3
	Humanities Elective	3
	Science Elective	4
	<b>credits:</b>	18
<i>Second Year</i>	<i>Semester 2</i>	
AC 202**	Intermediate Accounting II	4
AC 207**	Introduction to Taxation	3
	Humanities Elective	3
	Science Elective	3/4
	Social Science Elective	3
	<b>credits:</b>	16/17
	<b>Total Credits:</b>	<b>69/71</b>

\* Fall semester offering only.

\*\* Spring semester offering only.

# Business Administration

## Associate in Science



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES

The program provides a general overview of accounting, economics, management, marketing, computer technology, and a strong foundation in the liberal arts. This comprehensive degree program is designed to prepare you to transfer to a bachelor's degree program in Business Administration, Accounting or other business specific programs.

Upon successful completion, the Associate in Science Degree in Business Administration is awarded.

### PROGRAM FOOTNOTES

**Business Electives:** AC 201 Intermediate Accounting I, AC 202 Intermediate Accounting II, AC 207 Introduction to Taxation, BF 203 Principles of Finance, BF 232 Personal Finance, BU 100 Introduction to Business, BU 201 Global Business, LA 221 Principles of Business Law, LA 227 Legal Environment of Business Management, LA 230 Law and Society, MG 102 Small Business Management, MG 204 Human Resource Management, MK 213 Principles of Sales, MK 214 E-Commerce, MK 215 Principles of Advertising, OA 201 Business Communication

#### History Sequence:

HS 101 Western Civilization I & HS 102 Western Civilization II, or HS 103 World Civilization I & HS 104 World Civilization II, or HS 105 United States History to 1877 & HS 106 United States History Since 1877

#### Literature Sequence:

LI 201 World Literature I & LI 202 World Literature II, or LI 203 American Literature I & LI 204 American Literature II, or LI 205 British Literature I & LI 206 British Literature II

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Math Electives:** MA 104 Pre-calculus Mathematics or a 200-level course

**Science Electives:** Biology, Chemistry, Contemporary Nutrition (NS 101), Environmental Science, Integrated Science, Physics

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230), Psychology, Sociology

This program qualifies for MassTransfer with select public institutions in Massachusetts. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
AC 101	Financial Accounting I	4
CS 104	Microcomputer Applications/ Business	3
CT 100	Critical Thinking	3
EN 101	Freshman English I	3
MG 101	Principles of Management	3
	History Sequence	3
	<b>credits:</b>	19
<i>First Year</i>	<i>Semester 2</i>	
AC 102	Financial Accounting II	4
EN 102	Freshman English II	3
MK 103	Principles of Marketing	3
	History Sequence	3
	Math Elective	4
	<b>credits:</b>	17
<i>Second Year</i>	<i>Semester 1</i>	
AC 206	Managerial Accounting	4
EC 201	Principles of Macroeconomics	3
	Literature Sequence	3
	Science Elective	4
	Social Science Elective	3
	<b>credits:</b>	17
<i>Second Year</i>	<i>Semester 2</i>	
EC 202	Principles of Microeconomics	3
	Business Elective	3/4
	Humanities Elective	3
	Literature Sequence	3
	Science Elective	3/4
	<b>credits:</b>	16/17
	<b>Total Credits:</b>	<b>68/70</b>

# Criminal Justice

## Associate in Science



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES

This program combines professional courses with a broad background in liberal arts. The curriculum is designed to prepare you for a career in law enforcement, corrections, private security, and related fields, as well as to provide you with academic preparation for study at the baccalaureate level.

The Criminal Justice program is approved as a Police Career Incentive Program by the Massachusetts Board of Higher Education.

Upon successful completion, the Associate in Science Degree in Criminal Justice is awarded.

### PROGRAM FOOTNOTES

**Criminal Justice Electives:** CJ 141 Introduction to Corrections, CJ 151 Introduction to Law Enforcement, CJ 209 Organization and Management of Police, CJ 215 Criminal Investigation, CJ 217 Criminal Evidence, GV 203 United States Constitutional History, GV 230 Civil Rights and Civil Liberties, LA 230 Law and Society, PH 102 Philosophy: Ethics, PS 223 Psychology of Criminal Behavior, PS 240 Abnormal Psychology, SO 221 Drugs, People, and Problems

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Math/Science Electives:** Biology, Chemistry, Contemporary Nutrition (NS101), Environmental Science, Integrated Science, 100-level Mathematics or higher (not MAC), Physics

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230), Psychology, Sociology


This program qualifies as an Alternative Transfer Agreement (Mass Transfer) with select public institutions in Massachusetts. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
CJ 101	Introduction to Criminal Justice	3
CT 100	Critical Thinking	3
EN 101	Freshman English I	3
LA 228	Criminal Law and Procedures	3
SF 131	Oral Communication	3
	Social Science Elective	3
	<b>credits:</b>	18
<i>First Year</i>	<i>Semester 2</i>	
CS 100	Computers and Technology	3
EN 102	Freshman English II	3
	Humanities Elective	3
	Criminal Justice Elective	3
	Criminal Justice Elective	3
	<b>credits:</b>	15
<i>Second Year</i>	<i>Semester 1</i>	
CJ 221*	Introduction to Criminology	3
CJ 241	Juvenile Offenders	3
MAC 100	Business Math	3
SO 101	Introduction to Sociology	3
	Humanities Elective	3
	<b>credits:</b>	15
<i>Second Year</i>	<i>Semester 2</i>	
PS 101	Introduction to Psychology	3
	Social Science Elective	3
	Math/Science Elective	3/4
	Criminal Justice Elective	3
	Criminal Justice Elective	3
	<b>credits:</b>	15/16
	<b>Total Credits:</b>	<b>63/64</b>

\*Spring semester offering only.

# Early Childhood Education

## Associate in Science

 MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### ***DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES***

The Early Childhood Education program prepares students for positions working with children in a variety of settings including child care centers, nursery schools, family child care centers, and after school programs. The professional courses in the program provide a broad, basic understanding of children's developmental needs and a repertoire of specialized skills. Field work in approved early childhood centers, in conjunction with seminars, expose students to the practical aspects of working with children, thereby supplementing classroom theory. Electives across a variety of disciplines offer opportunity for a well-rounded education.

Graduates of the program meet the Massachusetts Department of Early Education and Care requirements for Child Care Teachers and Lead Teachers.

Students choosing to pursue public school teacher licensure programs at the bachelor's degree level should complete the Liberal Arts: Early Childhood Education or Liberal Arts: Elementary Education Program at MassBay.

Upon successful completion, the Associate in Science Degree in Early Childhood Education is awarded.

### **ADMISSION REQUIREMENTS**

CORI (Criminal Offender Record Information) and SORI (Sexual Offender Registry Information) background checks are required prior to practicum placement and will be conducted in accordance with state regulations. CORI and SORI results are confidential.

### **PROGRAM FOOTNOTES**

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society, (LA 230), Psychology, Sociology

A grade of C or higher is required in all Education (ED) and PS 222 Child Development courses.

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
SC 102	Integrated Science I	4
	OR	
BI 131	Health Science and Emergency Care	3
CS 100	Computers and Technology	3
CT 100	Critical Thinking	3
EN 101	Freshman English I	3
PS 222	Child Development	3
	<b>credits:</b>	15/16
<i>First Year</i>	<i>Semester 2</i>	
LI 104	Children's Literature	3
ED 108	Art and Music for Young Children	3
	OR	
ED 228	Behavior Management	3
ED 112	Introduction to Early Childhood Education	3
EN 102	Freshman English II	3
SC 103	Integrated Science II	4
	OR	
BI 131	Health Science and Emergency Care	3
	<b>credits:</b>	15/16
<i>Second Year</i>	<i>Semester 1</i>	
ED 203	Early Childhood Curriculum	3
ED 230	Practicum and Seminar in Early Childhood	6
MA 109	Elements of Mathematics I	3
	Humanities Elective	3
	<b>credits:</b>	15
<i>Second Year</i>	<i>Semester 2</i>	
ED 240	Practicum and Seminar in Early Childhood	6
SO 120	Disabilities: Diagnosis and Interventions	3
	Humanities Elective	3
	Social Science Elective	3
	<b>credits:</b>	15
	<b>Total Credits:</b>	<b>61/62</b>

# General Business

## Associate in Science



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES

This program provides students with the basic skills necessary to pursue a rewarding career as a business professional. The program offers students the flexibility of pursuing career opportunities in a variety of business disciplines. Students can choose specialized business and liberal arts electives that best meet their interests and goals.

Upon successful completion, the Associate in Science Degree in General Business is awarded.

### PROGRAM FOOTNOTES

**Business Electives:** AC 201 Intermediate Accounting I, AC 202 Intermediate Accounting II, AC 206 Managerial Accounting, AC 207 Introduction to Taxation, BF 203 Principles of Finance, BF232 Personal Finance, BU 100 Introduction to Business, BU 201 Global Business, EC104 Contemporary Economic Issues, EC 201 Principles of Macroeconomics, EC 202 Principles of Microeconomics, LA 227 Legal Environment of Business, LA 230 Law and Society, MG 102 Small Business Management, MG 204 Human Resource Management, MK213 Principles of Sales, MK 214 E-Commerce, MK 215 Principles of Advertising

**Economics Electives:** EC104 Contemporary Economic Issues, EC201 Macroeconomics, EC202 Microeconomics

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Math Electives:** 100-level Mathematics or higher (not MAC)

**Science Electives:** Biology, Chemistry, Environmental Science, Integrated Science, Physics, Contemporary Nutrition (NS101)

**Social Science Electives:** Anthropology, Economics, Geography, Government, History, Law and Society (LA 230), Psychology, Sociology

This program qualifies for MassTransfer with select public institutions in Massachusetts. For more information please, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
AC 101	Financial Accounting I	4
CS 104	Microcomputer Applications/ Business	3
CT 100	Critical Thinking	3
EN 101	Freshman English I	3
MG 101	Principles of Management	3
	<b>credits:</b>	16
<i>First Year</i>	<i>Semester 2</i>	
AC 102	Financial Accounting II	4
EN 102	Freshman English II	3
MK 103	Principles of Marketing	3
OA 201	Business Communication	3
	Economics Elective	3
	Humanities Elective	3
	<b>credits:</b>	19
<i>Second Year</i>	<i>Semester 1</i>	
LA 221	Principles of Business Law I	3
	Business Elective	3/4
	Humanities Elective	3
	Math Elective	3/4
	Science Elective	4
	<b>credits:</b>	16/18
<i>Second Year</i>	<i>Semester 2</i>	
	Business Elective	3/4
	Business Elective	3/4
	Humanities Elective	3
	Science Elective	3/4
	Social Science Elective	3
	<b>credits:</b>	15/18
	<b>Total Credits:</b>	<b>66/71</b>



# General Business: Hospitality Management

## Associate in Science



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES

Gain an overview of the exciting hospitality industry through this comprehensive program. You'll receive an introduction to all aspects of the hotel, resort, and restaurant management sectors, as well as critical thinking and communication skills necessary for dealing with the general public. The hospitality industry is a growth industry, and its expansion is expected to continue. The industry seeks employees with marketing and management backgrounds, and the MassBay program includes courses in both areas. Students will have internship opportunities at excellent locations in Boston.

Students receive a broad background in general business administration and the liberal arts.

Upon completion, the associate in science degree in general business with a concentration in hospitality management is awarded.

### PROGRAM FOOTNOTES

**Business Electives:** AC 201 Intermediate Accounting I, AC 202 Intermediate Accounting II, AC 206 Managerial Accounting, AC 207 Introduction to Taxation, BF 131 Principles of Finance, BF 232 Personal Finance, BU 100 Introduction to Business, BU 201 Global Business, EC 104 Contemporary Economic Issues, EC 201 Macroeconomics, EC 202 Microeconomics, LA 230 Law & Society, MG 102 Small Business Management, MG 204 Human Resource Management, MK 213 Principles of Sales, MK 215 Principles of Advertising, OA 201 Business Communication, LA 227 Legal Environment of Business, MK 214 ECommerce.

**Economics Electives:** EC 104 Contemporary Economic Issues, EC 201 Principles of Macroeconomics, EC 202 Principles of Microeconomics

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Math/Science Elective:** Biology, Chemistry, Contemporary Nutrition (NS 101), Environmental Science, Integrated Science, 100-level Mathematics or higher (not MAC), Physics

**Math Electives:** 100-level Mathematics or higher (not MAC)


This program qualifies as an Alternative Transfer Agreement (MassTransfer) with select public institutions in Massachusetts. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
CS 104	Microcomputer Applications for Business	3
CT 100	Critical Thinking	3
EN 101	Freshman English I	3
HM 101	Introduction to Hospitality	3
MK 103	Principles of Marketing	3
	<b>credits:</b>	15
<i>First Year</i>	<i>Semester 2</i>	
EN 102	Freshman English II	3
GG 103	Introduction to Geography	3
	or	
GG 105	World Regional Geography	3
HM 102	Front Office Management	3
	Business Elective	3
	Math Elective	3
	<b>credits:</b>	15
<i>Second Year</i>	<i>Semester 1</i>	
AC 101	Financial Accounting I	4
HM 201	Food & Beverage Management	3
SF 131	Oral Communication	3
	Math/Science Elective	3/4
	Business Elective	3
	<b>credits:</b>	16/17
<i>Second Year</i>	<i>Semester 2</i>	
AC 102	Financial Accounting II	4
BU 250*	Service Industry Internship	4
MG 101	Principles of Management	3
	Economics Elective	3
	Humanities Elective	3
	<b>credits:</b>	17
	<b>Total Credits:</b>	<b>63/64</b>

\*Must be taken in the final semester

# General Business: International Business

## Associate in Science

 MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### ***DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES***

Students will learn how American and international businesses interrelate. An in-depth study of American and international strategies and business practices is performed using case analysis, experiential learning exercises, team activities, guest speakers and the writing and presenting of student research/reaction papers. The concentration includes the following topics: international trade and banking policies and procedures, the impact of culture, demographics and infrastructure on global trade, and how marketing, law, politics, management and human resources are performed in the international marketplace. Also, a broad academic foundation in the sciences, humanities, communications and social sciences is part of the concentration. The program includes a language component, an optional internship, and the development of a team-based export business plan.

International internships and study abroad opportunities are strongly encouraged, and are available through the collaboration of the Business Department and MassBay's Office of International Education and Study Abroad Programs.

Students who complete the International Business Associate degree can take the certified Global Business Professional certification offered by the National Association of Small Business International Trade Educators to earn the Certified Global Business Professional certification. This prestigious certification designates a level of professionalism in various aspects of international business.

Upon successful completion, the Associate in Science in General Business with a concentration in International Business is awarded.

The degree prepares students for entry-level positions in global firms and organizations and provides a strong foundation for transfer to baccalaureate programs in international business.

### **PROGRAM FOOTNOTES**

**Foreign languages – Language Sequence:** French, Hindi, Italian and Spanish

**Science Electives:** Biology, Chemistry, Contemporary Nutrition (NS 101), Environmental Science, Integrated Science, Physics

**Math Elective:** 100-level Mathematics or higher (not MAC). MA 104 Pre-calculus math is strongly recommended

**Business Electives:** AC 202 Intermediate Accounting, AC 206 Managerial Accounting, BF 131 Principles of Finance, BU 901 Internship, EC 201 Microeconomics, EC 205 Money & Banking, MG 204 Human Resources, MK 215 Principles of Advertising


In order to fulfill the critical thinking graduate competency, students must pass the Critical Thinking Challenge Exam or complete CT 100 Critical Thinking.

This program may qualify for MassTransfer with select public institutions in Massachusetts. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
AC 101	Financial Accounting I	4
CS 104	Microcomputer Applications/Business	3
EN 101	Freshman English I	3
MG 101	Principles of Management	3
	<b>credits:</b>	13
<i>First Year</i>	<i>Semester 2</i>	
AC 102	Financial Accounting II	4
BU 201	Global Business	3
EN 102	Freshman English II	3
GG 105	World Regional Geography	3
MK 103	Principles of Marketing	3
	<b>credits:</b>	16
<i>Second Year</i>	<i>Semester 1</i>	
MK 220	Global Marketing	3
EC 201	Macroeconomics	3
	Language Sequence	3/4
	Math Elective	3/4
	Science Elective	4
	<b>credits:</b>	16/18
<i>Second Year</i>	<i>Semester 2</i>	
	Business Elective	3/4
CO 103	Intercultural Communications	3
	Language Sequence	3/4
	Science Elective	3/4
LA 221	Principles of Business Law	3
	<b>credits:</b>	15/18
	<b>Total Credits:</b>	60/65

# Paralegal Studies

## Associate in Science

 MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES

For students interested in the law, the paralegal profession is a great start to an exciting, challenging, and lucrative field. This program teaches students to prepare and draft legal documents, investigate and research legal issues, interview clients and witnesses, and render practical procedural assistance in law-related matters. This program combines a college curriculum of business, liberal arts, and legal courses, as well as hands-on experience in a law firm.

Students also receive training in a variety of on-line research methods used in many law offices that provide the legal researcher with immediate access to cases, statutes, administrative regulations, and numerous other authorities.

Upon successful completion, the Associate in Science Degree in Paralegal Studies is awarded.

#### Unauthorized Practice of Law Statement

A paralegal may work only under the supervision of an attorney and is not authorized to engage in the practice of law. The American Bar Association defines paralegal as "a person, qualified by education, training, or work experience who is employed or retained by a lawyer, law office, corporation, governmental agency or other entity and who performs specifically delegated substantive legal work for which a lawyer is responsible."

#### PROGRAM FOOTNOTES

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

**Math/Science Electives:** Biology, Chemistry, Environmental Science, Integrated Science, 100-level Mathematics or higher (not MAC), Physics

**Economics Electives:** EC 104 Contemporary Economic Issues, EC 201 Principles of Macroeconomics, or EC 202 Principles of Microeconomics

**Social Science Electives:** may be satisfied by taking Law and Society (LA 230), or any Anthropology, Geography, Government, History, Psychology, or Sociology course

**Program Electives:** CS 116 Fundamentals of Cyber Security, LA 228 Criminal Law and Procedures, PA 203 Real Estate for Paralegals (fall semester), PA 205 Family Law for Paralegals, PA 251 Paralegal Internship\*\*\*

This program qualifies as an Alternative Transfer Agreement (MassTransfer) with select public institutions in Massachusetts. For more information, visit [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
AC 101	Financial Accounting I	4
CS 104	Microcomputer Applications/ Business	3
CT 100	Critical Thinking	3
EN 101	Freshman English I	3
PA 100*	Introduction to Paralegal Studies	3
	<b>credits:</b>	16
<i>First Year</i>	<i>Semester 2</i>	
AC 102	Financial Accounting II	4
EN 102	Freshman English II	3
LA 221	Principles of Business Law I	3
MG 101	Principles of Management	3
	Humanities Elective	3
	<b>credits:</b>	16
<i>Second Year</i>	<i>Semester 1</i>	
MA 105	Intro to Statistics	3
PA 104**	Litigation for Paralegals	3
PA 201	Legal Research and Writing I	3
	Program Elective	3
	Economics Elective	3
	<b>credits:</b>	15
<i>Second Year</i>	<i>Semester 2</i>	
PA 202	Legal Research and Writing II	3
	Humanities Elective	3
	Program Elective	3
	Math/ Science Elective	3/4
	Social Science Elective	3
	<b>credits:</b>	15/16
	<b>Total Credits:</b>	<b>62/63</b>

\*Courses must be taken first semester

\*\*Fall semester only

\*\*\*PA 100, PA 104, and PA 201 are pre-requisites for PA 251 Paralegal Internship

# Accounting

## Certificate



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### ***DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES***

This certificate program will prepare students for careers that provide technical assistance to the professional accountant such as classifying, recording, and summarizing business events.

Upon successful completion, the Certificate in Accounting is awarded.

For more information about the costs of this program and employment opportunities after completion, please visit our gainful employment page:

<http://www.massbay.edu/gainfulemployment.aspx>

COURSE	COURSE TITLE	CREDITS
AC 101	Financial Accounting I	4
AC 102	Financial Accounting II	4
AC 201 *	Intermediate Accounting I	4
AC 202 **	Intermediate Accounting II	4
AC 206	Managerial Accounting	4
AC 207 **	Introduction to Taxation	3
CS 104	Microcomputer Applications/ Business	3
OA 201	Business Communication	3
	<b>credits:</b>	29
	<b>Total Credits:</b>	<b>29</b>

\* Fall semester offering only.

\*\* Spring semester offering only.

MASSBAY  
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# Business: Information Technology

## Certificate



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### ***DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES***

The Business Information Technology Certificate integrates aspects of the business and computer science curricula. This certificate provides students with the technical knowledge needed to use and apply information technology in a business setting.

Upon successful completion, the Certificate in Business Information Technology is awarded.

### **PROGRAM FOOTNOTES**

**Business Electives:** AC 206 Managerial Accounting, MG 101 Principles of Management, MK 103 Principles of Marketing

**Economics Electives:** EC 104 Contemporary Economic Issues, EC 201 Principles of Macroeconomics, EC 202 Principles of Microeconomics

**Program Electives:** CS 126 Digital Imaging, CS 140 Interactive Multimedia.

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
AC 101	Financial Accounting I	4
CS 104	Microcomputer Applications/ Business	3
	Economics Elective	3
	Program Elective	3
	<b>credits:</b>	13
<i>First Year</i>	<i>Semester 2</i>	
AC 102	Financial Accounting II	4
CS 176	Web Design	4
CS 230	Information Systems Administration and Management	4
	Business Elective	3/4
	<b>credits:</b>	15/16
	<b>Total Credits:</b>	<b>28/29</b>

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# Early Childhood Education

## Certificate



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### ***DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES***

This program is designed to qualify students to meet the Massachusetts Department of Early Education and Care requirements for teachers in group child care centers.

Holders of this certificate are eligible to apply for EEC professional qualification as a preschool teacher. A one-semester supervised field work component in an approved center gives students valuable practical experience, thereby supplementing classroom theory and learning.

Upon successful completion, the Certificate in Early Childhood Education is awarded.

### **ADMISSION REQUIREMENTS**

CORI (Criminal Offender Record Information) and SORI (Sexual Offender Registry Information) background checks are required prior to practicum placement and will be conducted in accordance with state regulations. CORI and SORI results are confidential.

### **PROGRAM FOOTNOTES**

Students should consult an Education Advisor after program completion for assistance in applying for EEC Teacher Qualification and for information about Lead Teacher Qualification, which requires additional experience.

A grade of C or higher is required in Education (ED) courses and PS 222 Child Development.

PS 222 Child Development should be taken before ED 203.

ED 203 is a pre- or co-requisite for ED 230 and ED 240.

COURSE	COURSE TITLE	CREDITS
PS 222*	Child Development	3
ED 112	Early Childhood Education	3
	<b>or</b>	
ED 228	Behavior Management	3
LI 104	Children's Literature	3
	<b>or</b>	
ED 108	Art and Music for Young Children	3
ED 203	Early Childhood Curriculum	3
ED 230	Practicum and Seminar in Early Childhood	6
	<b>or</b>	
ED 240	Practicum/ Seminar in Early Childhood	6
	<b>credits:</b>	18
	<b>Total Credits:</b>	<b>18</b>

\*Course to be taken first semester.

# Early Childhood Education: Infant-Toddler Teacher

## Certificate



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### ***DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES***

This program is designed to qualify students to meet the Massachusetts Department of Early Education and Care requirements for teachers in group infant/toddler and child care centers. Only EEC-qualified individuals may accept positions as teachers in classrooms serving children ages 0-3 years. A one-semester supervised field work component in an approved infant-toddler center gives students valuable practical experience, thereby supplementing classroom theory and learning.

Upon successful completion, the Certificate in Early Childhood Education with a concentration in Infant-Toddler Teacher is awarded.

### **ADMISSION REQUIREMENTS**

CORI (Criminal Offender Record Information) and SORI (Sexual Offender Registry Information) background checks are required prior to practicum placement and will be conducted in accordance with state regulations. CORI and SORI results are confidential.

### **PROGRAM FOOTNOTES**

Students should apply to the Department of Early Education and Care for Infant-Toddler Teacher qualifications after completing the Certificate. Additional qualifying work experience will later enable the student to apply for the Infant-Toddler Lead Teacher qualification.

A grade of C or higher is required in all Education (ED) courses and PS 222 Child Development.

PS 222 Child Development should be taken before ED 203.

ED 203 is a pre- or co-requisite for ED 230 and ED 240.

For more information about the costs of this program and employment opportunities after completion, please visit our gainful employment page: <http://www.massbay.edu/gainfulemployment.aspx>

COURSE	COURSE TITLE	CREDITS
PS 222*	Child Development	3
ED 223	Infants and Toddlers	3
LI 104	Children's Literature	3
	<b>or</b>	
ED 108	Art and Music for Young Children	3
ED 203	Early Childhood Curriculum	3
ED 230	Practicum and Seminar in Early Childhood	6
	<b>or</b>	
ED 240	Practicum/ Seminar in Early Childhood	6
	<b>credits:</b>	<b>18</b>
	<b>Total Credits:</b>	<b>18</b>

\*Course to be taken first semester.

# General Business: Hospitality Management Certificate



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

## ***DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES***

This program allows you to add a business component to your current skills in the hospitality industry. The hospitality industry is a growth industry, and its expansion is expected to continue. The industry seeks employees with marketing and management backgrounds, and the MassBay program includes courses in both areas. Students will have internship opportunities at excellent locations in Boston.

You can take the certificate program independently or with another program with appropriate liberal studies courses leading to an associate degree in general business.

Upon completion, the certificate in general business with a concentration in hospitality management is awarded.

COURSE	COURSE TITLE	CREDITS
BU 250	Service Industry Internship	4
CS 104	Microcomputer Applications for Business	3
GG 103	Introduction to Geography	3
	or	
GG 105	World Regional Geography	3
HM 101	Introduction to Hospitality	3
HM 102	Front Office Management	3
HM 201	Food & Beverage Management	3
MG 101	Principles of Management	3
	<b>credits:</b>	22
	<b>Total Credits:</b>	22

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# High Tech Sales

## Certificate



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### ***DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES***

MassBay's High Tech Sales certificate provides students with real world knowledge to pursue a career in sales within an organization. The High Tech Sales certificate offers a concentrated curriculum in business, a sound foundation in sales and marketing, and course work in the fundamentals of management, business communications, computer applications, and e-commerce. This is an important foundation for students preparing for a High Tech Sales role so that they understand how business works, how decisions are made, the different roles and responsibilities within an organization and how to establish value by understanding the general functioning of a business.

The certificate prepares student for careers as sales representatives for wholesalers and manufacturers of technical and scientific products.

Upon successful completion, the Certificate in High Tech Sales is awarded.

COURSE	COURSE TITLE	CREDITS
BU 100	Introduction to Business	3
CS 104	Microcomputer Applications for Business	3
MG 101	Principles of Management	3
MG 102	Small Business Management	3
MK 103	Principles of Marketing	3
MK 213	Principles of Sales	3
MK 214	E-Commerce	3
OA 201	Business Communications	3
BU 901	Internship	3
	<b>credits:</b>	27
	<b>Total Credits:</b>	<b>27</b>

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# Interior Design

## Certificate



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### ***DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES***

The program provides the following: the study of interior space planning, the coordination and application of currently manufactured products, knowledge of building codes and materials of design, use of color, history of furnishings, the decorative arts, and preparation and delivery of creative graphic and oral residential and commercial presentations.

The Interior Design certificate develops students' knowledge in space design, materials and furnishing. Interior Design is not just decorating; it involves many aspects of architectural design and planning as well. Students will apply the principles of good design when planning the arrangement of furnishings and aesthetic details for an environment in which people live and work. The use of CAD (computer assisted design)/ AutoCAD software will be introduced. Students will also learn the principles, methods and tools for establishing and running their own Interior Design business in the Small Business Management course. The Internship provides the "capstone" that synthesizes the student's learning in a directed portfolio project.

Upon completion, the Certificate in Interior Design is awarded.

### **PROGRAM FOOTNOTES**

In addition to textbooks, an architectural drawing kit and CAD/AutoCAD software are also required.

Massachusetts Building Codes will be integrated into each course and activity as applicable.

For more information about the costs of this program and employment opportunities after completion, please visit our gainful employment page: <http://www.massbay.edu/gainfulemployment.aspx>

COURSE	COURSE TITLE	CREDITS
<i>1st Year</i>	<i>Semester 1</i>	
IN 101	Introduction to Interior Design	3
IN 102	Architectural Drawing for Interior Design	3
IN 202	Materials in Design	3
IN 103	History of Home Furnishings	3
	<b>credits:</b>	12
<i>1st Year</i>	<i>Semester 2</i>	
IN 104	Interior Design with CAD/AutoCAD	3
IN 201	Color Theory and Techniques	3
IN 205	Commercial and Residential Presentation Techniques	3
MG 102	Small Business Management	3
BU 901*	Business Internship	3
	<b>credits:</b>	15
	<b>Total Credits:</b>	<b>27</b>

\*Must be taken in the final semester



# Liberal Arts:

## Community Health

### Certificate



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

#### ***DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES***

This certificate program meets the needs of those who are looking to enter the community health field, upgrade skills in a current community health position, and/or are interested in pursuing further studies in community health. Upon completion, students are prepared for entry-level positions in community health centers hospitals, and social agencies dealing with public and community health issues.

This program combines coursework in the social sciences with community health courses. Students gain knowledge of the field and develop professional skills such as communication, report writing, behavior modification, and human relations. The 150-hour field experience and weekly seminar will complement the coursework.

Upon successful completion, the Certificate in Liberal Arts with a concentration in Community Health is awarded.

#### **ADMISSION REQUIREMENTS**

CORI (Criminal Offender Record Information) and SORI (Sexual Offender Registry Information) background checks are required prior to practicum placement and will be conducted in accordance with state regulations. CORI and SORI results are confidential.

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
CX 101*	Introduction to Community Health	4
PS 118	Life Span Psychology	3
SO 101	Introduction to Sociology	3
	<b>credits:</b>	10
<i>First Year</i>	<i>Semester 2</i>	
PS 241	Group Process	3
CX 104	Promoting Health in the Community	3
SO 203	Ethnic Studies	3
	<b>credits:</b>	9
<i>Second Year</i>	<i>Semester 1</i>	
CX 201	Practicum/Seminar for Community Health Majors	6
	<b>credits:</b>	6
	<b>Total Credits:</b>	25

\*Course to be taken first semester.

# Liberal Arts: Human Services

## Certificate



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### ***DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES***

This certificate program meets the needs of students looking to enter the social service field, upgrade their skills in their current human services position, or are interested in pursuing further studies in the human services or social work fields. Upon graduation, students are prepared for entry-level positions in a variety of human services agencies such as YMCAs, Boys and Girls Clubs, settlement houses, community centers, and multiservice agencies.

The program combines course work in the social sciences, primarily psychology and sociology, with human services courses and seminars. Students gain knowledge of the field and develop professional skills such as communication, observation, listening, report writing, behavior modification and human relations. Students complement their classroom studies with experimental learning through a 150-hour field placement and weekly seminar.

Upon successful completion, the Certificate in Liberal Arts with a concentration in Human Services is awarded.

### **ADMISSION REQUIREMENTS**

CORI (Criminal Offender Record Information) and SORI (Sexual Offender Registry Information) background checks are required prior to practicum placement and will be conducted in accordance with state regulations. CORI and SORI results are confidential.

For more information about the costs of this program and employment opportunities after completion, please visit our gainful employment page: <http://www.massbay.edu/gainfulemployment.aspx>

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
SW 101	Introduction to Social Welfare	4
PS 101	Introduction to Psychology	3
SO 101	Introduction to Sociology	3
SO 120	Disabilities: Diagnosis and Interventions	3
	<b>or</b>	
SO 221	Drugs, People, and Problems	3
	<b>credits:</b>	13
<i>First Year</i>	<i>Semester 2</i>	
PS 118	Life Span Psychology	3
PS 241	Group Process	3
SW 201	Practicum/Seminar	6
	<b>credits:</b>	12
	<b>Total Credits:</b>	<b>25</b>

# Management

## Certificate



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### ***DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES***

The Management Certificate is designed for students who want to broaden their current careers, or to establish a framework for further business studies, or to provide the foundation for transferring into a business oriented Associate Degree program. The Certificate is also an ideal introduction to various areas of management studies for students who have a technical or liberal arts education/vocation and are considering adding a business education component to their training. The Certificate offers a concentrated curriculum in management, a sound foundation in accounting and business law, and course work in the fundamentals of management, human resources, computer applications, marketing, and microeconomics. The Management Certificate also allows students to select from a variety of electives in business and business related psychology.

Upon successful completion, the Certificate in Management is awarded.

### **PROGRAM FOOTNOTES**

Electives: AC 102 Financial Accounting II, BF 131 Principles of Finance, BU 100 Introduction to Business, BU 201 Global Business, BU 290 Internship, EC 201 Macroeconomics, EC 202 Microeconomics, MG 201 Small Business Management, MK 213 Principles of Sales, MK 214 E-Commerce, MK 215 Principles of Advertising, MN 140 Project Management, OA 201 Business Communications, PS 241 Group Process, PS 260 Psychology in Business and Industry.

COURSE	COURSE TITLE	CREDITS
AC 101	Financial Accounting I	4
CS 104	Microcomputer Applications for Business	3
EC 202	Principles of Microeconomics	3
MG 101	Principles of Management	3
LA 221	Principles of Business Law	3
MG 204	Human Resource Management	3
MK 103	Principles of Marketing	3
	Elective	3/4
	<b>credits:</b>	25/26
	<b>Total Credits:</b>	<b>25/26</b>

# Paralegal Studies

## Certificate



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### DIVISION OF SOCIAL SCIENCES & PROFESSIONAL STUDIES

This program prepares students to work under the supervision of attorneys to prepare legal documents, investigate and research legal issues, interview clients and witnesses, and render practical procedural assistance in law related matters.

The paralegal curriculum provides a solid foundation in all aspects of the field including litigation, legal research and writing. Through this program, students will have the opportunity to take elective courses in specialty areas of interest such as real estate, family law, business law, and trusts & wills.

Students also receive training in a variety of on-line research methods used in many law offices that provide the legal researcher with immediate access to cases, statutes, administrative regulations, and numerous other authorities.

Upon successful completion, the Certificate in Paralegal Studies is awarded.

### Unauthorized Practice of Law Statement

A paralegal may work only under the supervision of an attorney and is not authorized to engage in the practice of law. The American Bar Association defines a paralegal or legal assistant as "a person, qualified by education, training or work experience qualified by education, training or work experience who is employed or retained by a lawyer, law office, corporation, governmental agency or other entity and who performs specifically delegated substantive legal work for which a lawyer is responsible."

### PROGRAM FOOTNOTES

**Program Electives:** PA 203 Real Estate for Paralegal (offered fall semester), PA 205 Family Law for Paralegal (offered spring semester), LA 230 Law and Society, LA 228 Criminal Law and Procedures, PA 251 Paralegal Internship\*\*\*, CS 104 Microcomputer Applications/ Business

For more information about the costs of this program and employment opportunities after completion, please visit our gainful employment page: <http://www.massbay.edu/gainfulemployment.aspx>

COURSE	COURSE TITLE	CREDITS
<i>First Year</i>	<i>Semester 1</i>	
PA 100*	Introduction to Paralegal Studies	3
PA 201	Legal Research and Writing I	3
LA 221	Principles of Business Law I	3
	Program Elective	3
	<b>credits:</b>	12
<i>First Year</i>	<i>Semester 2</i>	
PA 104	Litigation for Paralegals	3
PA 202	Legal Research and Writing II	3
	Program Elective	3
	Program Elective	3
	Program Elective	3
	<b>credits:</b>	15
	<b>Total Credits:</b>	<b>27</b>

\*Course must be taken first semester

\*\*\*PA 100, PA 104, and PA 201 are pre-requisites for PA 251 Paralegal Internship



*Your dreams. Our mission.*



# Automotive Technology

## BMW

### Associate in Science



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

#### DIVISION OF TRANSPORTATION & ENERGY

The BMW Associate Degree Program (ADP) is designed to provide the technical competence and professional level of the incoming dealership technician. The program involves academic as well as automotive lecture/laboratory instruction focusing on BMW products at the MassBay Automotive Technology Center. Students are also required to work at a BMW dealership as part of the cooperative education phase of their training. The BMW Program is a collaborative effort MassBay Community College and BMW. The College retains academic and administrative responsibility for the program and is certified by the National Automotive Technicians Education Foundation (NATEF) in all eight performance areas.

Upon completion, the associate in science degree in Automotive Technology with a concentration in BMW is awarded.

#### ADMISSION REQUIREMENTS

Minimum eligibility for admission to this program includes:

- MassBay placement into College Writing EN 100 or completion of Intro to Language EN 090.
- MassBay placement into Intermediate Algebra MA 098 or completion of Introductory Algebra MA 095.
- Valid driver's license (May be subject to dealership review of driving record and drug testing).

#### PROGRAM FOOTNOTES

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Oral Communication, Sign Language, Theater Arts

**Social Science Electives:** Anthropology, Geography, History, Economics, Government, Psychology, Sociology, Law & Society (LA 230)

COURSE	COURSE TITLE	CREDITS
Semester 1		
AB 100	Automotive Fundamentals	5
AB 102	Automotive Electrical Fundamentals	4
CS 100	Computers and Technology	3
MAC 101	Technical Math	3
CT 100	Critical Thinking	3
	<b>credits:</b>	18
Semester 2		
AB 103	Automotive Engine Diagnostic and Repairs	5
AB 105	Heating and Air Conditioning Theory	3
AB 106	Automotive Brake Systems	3
EN 101	Freshman English I	3
SF 131	Oral Communication	3
	<b>credits:</b>	17
Semester 3		
	Summer (12 weeks)	
AB 121	Cooperative Education I	3
	<b>credits:</b>	3
Semester 4		
AB 200	Advanced Engine Performance	5
AB 205	Automotive Transmissions, Manual Transmission, and Drive Systems	6
EN 102	Freshman English II	3
	Humanities Elective	3
	<b>credits:</b>	17
Semester 5		
PS 260	Psychology in Business and Industry	3
AB 201	Electronics Fuel and Ignition Systems	4
AB 204	Auto Suspension Systems	4
AB 208	Advanced Automotive Electronics	3
	Social Science Elective	3
	<b>credits:</b>	17
	<b>Total Credits:</b>	<b>72</b>

# Automotive Technology

## Chrysler

### Associate in Science



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

#### DIVISION OF TRANSPORTATION & ENERGY

The MOPAR College Automotive program (MCAP) is designed to provide the technical competence and professional level of the incoming dealership technician. The MCAP program involves academic as well as automotive lecture/ laboratory instruction focusing on Chrysler products at the MassBay Auto Technology Center. Students are also required to work at a Chrysler dealership as part of the cooperative education phase of their training. The MCAP program is a collaborative effort between MassBay Community College and Chrysler. The College retains academic and administrative responsibility for MCAP and is certified by the National Automotive Technicians Education Foundation Inc. (NATEF) in all eight performance areas.

Upon completion, the Associate in Science Degree in automotive technology with a concentration in Chrysler is awarded.

#### ADMISSION REQUIREMENTS

Minimum eligibility for admission to this program includes:

- MassBay placement into College Writing EN 100 or completion of Intro to Language EN 090.
- MassBay placement into Intermediate Algebra MA 098 or completion of Introductory Algebra MA 095.
- Valid driver's license (May be subject to dealership review of driving record and drug testing).

#### PROGRAM FOOTNOTES

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Oral Communication, Sign Language, Theater Arts

**Social Science Electives:** Anthropology, Geography, History, Economics, Government, Psychology, Sociology, Law and Society (LA 230)

COURSE	COURSE TITLE	CREDITS
<i>Semester 1</i>	<i>12 weeks academic study</i> <i>12 weeks cooperative education</i>	
AY 100	Fundamentals of Auto Technology	5
AY 110	Automotive Electricity	4
CT 100	Critical Thinking	3
SF 131	Oral Communication	3
AY 115	Cooperative Education I	3
MAC 101	Technical Math	3
	<b>credits:</b>	21
<i>Semester 2</i>	<i>12 weeks academic study</i>	
AY 120	Automotive Electronics	3
AY 140	Automotive Brake Systems	3
AY 170	Electronic Fuel and Engine Controls	4
CS 100	Computers and Technology	3
EN 101	Freshman English I	3
	<b>credits:</b>	16
<i>Semester 3</i>	<i>8 weeks academic study</i> <i>7 weeks cooperative education</i>	
AY 125	Cooperative Education II	3
AY 221	Heating, A/C & Climate Control Systems	3
AY 230	Engine Performance	5
PS 260	Psychology in Business and Industry	3
	Social Science Elective	3
	<b>credits:</b>	17
<i>Semester 4</i>	<i>12 weeks academic study</i> <i>12 weeks cooperative education</i>	
AY 215	Cooperative Education III	3
AY 245	Engine Diagnosis and Repair	4
AY 253	Automatic Transmissions, Manual Transmission, and Drive Systems	6
AY 270	Steering & Suspension Systems	3
EN 102	Freshman English II	3
	Humanities Elective	3
	<b>credits:</b>	22
<i>Semester 5</i>	<i>12 weeks cooperative education</i>	
AY 225	Cooperative Education IV	3
	<b>credits:</b>	3
	<b>Total Credits:</b>	<b>79</b>

# Automotive Technology

## General Motors

### Associate in Science



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

#### DIVISION OF TRANSPORTATION & ENERGY

The General Motors Automotive Service Education Program (ASEP) is designed to provide the technical competence and professional level of the incoming dealership technician. The program involves academic as well as automotive lecture/ laboratory instruction focusing on General Motors (GM) products at the MassBay Automotive Technology Center. Students are also required to work at a GM dealership as part of cooperative education phase of their training. The General Motors ASEP Program is a collaborative effort between MassBay Community College and General Motors. The College retains academic and administrative responsibility for the program and is certified by the National Automotive Technicians Education Foundation Inc. (NATEF) in all eight performance areas.

Upon completion, the associate in science degree in automotive technology with a concentration in General Motors is awarded.

#### ADMISSION REQUIREMENTS

Minimum eligibility for Admission to this program includes:

- MassBay placement into College Writing EN 100 or completion of Into to Language EN 090.
- MassBay placement into Intermediate Algebra MA 098 or completion of Introductory Algebra MA 095.
- Valid driver's license (May be subject to dealership review of driving record and drug testing).

#### PROGRAM FOOTNOTES

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Oral Communication, Sign Language, Theater Arts.

**Social Science Electives:** Anthropology, Geography, History, Economics, Government, Psychology, Sociology, Law & Society (LA 230).

COURSE	COURSE TITLE	CREDITS
<i>Semester 1</i>	<i>12 weeks academic study 12 weeks cooperative study</i>	
AS 100	Automotive Fundamentals	5
AS 106	Automotive Brakes Systems	3
CT 100	Critical Thinking	3
MAC 101	Technical Mathematics	3
SF 131	Oral Communication	3
AS 110	Cooperative Education I	3
	<b>credits:</b>	20
<i>Semester 2</i>	<i>12 weeks academic study</i>	
AS 108	Automotive Ignition & Fuel Systems	3
AS 105	Heating & Air Conditioning Theory	3
AS 102	Automotive Electrical Fundamentals	4
CS 100	Computers & Technology	3
EN 101	Freshman English I	3
	<b>credits:</b>	16
<i>Semester 3</i>	<i>8 weeks academic study 7 weeks cooperative education</i>	
AS 111	Cooperative Education II	3
AS 206	Advanced Engine Performance	5
AS 204	Automotive Suspension Systems	3
PS 260	Psychology in Business & Industry	3
	Social Science Elective	3
	<b>credits:</b>	17
<i>Semester 4</i>	<i>12 weeks academic study 12 weeks cooperative study</i>	
AS 209	Cooperative Education III	3
AS 213	Manual/Automatic Trans. & Drive Systems	6
AS 208	Advanced Automotive Electronics	3
AS 216	Automotive Engine Diagnosis & Repair	4
EN 102	Freshman English II	3
	Humanities Elective	3
	<b>credits:</b>	22
<i>Semester 5</i>	<i>12 weeks cooperative study</i>	
AS 210	Cooperative Education IV	3
	<b>Total Credits:</b>	<b>78</b>

# Automotive Technology

## Toyota/Lexus

### Associate in Science



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

#### DIVISION OF TRANSPORTATION & ENERGY

The Toyota Technical Education Network (T-TEN) program is designed to provide the technical competence and professionalism needed to become a dealership technician. The program involves academic as well as automotive lecture/ laboratory instruction focusing on state-of-the-art Toyota/ Lexus dealership as part of the implementation of the T-TEN Program is a collaborative effort of MassBay Community College and Toyota. The College has the academic and administrative responsibility for the program which is certified by the National Automotive Technicians Education Foundation (NATEF) in all eight performance areas.

Students may also earn technical course credits from the University of Toyota/Lexus College.

Upon completion, the Associate in Science Degree in Automotive Service Technology with a concentration in Toyota (T-TEN) is awarded.

#### ADMISSION REQUIREMENTS

Minimum eligibility for admission to this program includes:

- MassBay placement into College Writing EN 100 or completion of Intro to Language EN 090
- MassBay placement into Intermediate Algebra MA 098 or completion of Introductory Algebra MA 095
- Valid driver's license (May be subject to dealership review of driving record and drug testing).

#### PROGRAM FOOTNOTES

**Humanities Electives:** Art, Communications, Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Oral Communication, Sign Language, Theater Arts

**Social Science Electives:** Anthropology, Geography, History, Economics, Government, Psychology, Sociology, Law and Society (LA 230)

COURSE	COURSE TITLE	CREDIT S
<i>Semester 1</i>	<i>Fall</i>	
AT 101	Introduction to Automotive Service	4
AT 102	Automotive Electrical Fundamentals	4
AT 109	Technician Portfolio TPORT	1
CS 100	Computers and Technology	3
MAC 101	Technical Math	3
CT 100	Critical Thinking	3
	<b>credits:</b>	18
<i>Semester 2</i>	<i>Spring</i>	
AT 113	Engine Diagnosis and Repair	4
AT 114	Automotive Brake Systems	4
AT 116	Suspension, Steering, and Handling	3
EN 101	Freshman English I	3
	Humanities Elective	3
	<b>credits:</b>	17
<i>Semester 3</i>	<i>Summer</i>	
AT 120	Cooperative Education I	3
	<b>credits:</b>	3
<i>Semester 4</i>	<i>Fall</i>	
AT 213	Hybrid Vehicle General Service	1
AT 205	Automotive Transmission & Drive Systems	6
AT 207	Engine Control Systems I	5
EN 102	Freshman English II	3
	Humanities Elective	3
	<b>credits:</b>	18
<i>Semester 5</i>	<i>Spring</i>	
AT 208	Body Electrical Diagnosis	3
AT 209	Engine Control Systems II	3
AT 212	Automotive Air Conditioning & Climate Control	3
AT 220	Cooperative Education II	3
	Social Science Elective	3
	Social Science Elective	3
	<b>credits:</b>	18
	<b>Total Credits:</b>	<b>74</b>

# Automotive Technology

## Toyota/Lexus

### Certificate Program

#### DIVISION OF TRANSPORTATION & ENERGY

The Toyota Technical Education Network (T-TEN) program is designed to provide the technical competence and professionalism needed to become a dealership technician. The T-TEN program involves automotive lecture/laboratory instruction focusing on Toyota/Lexus products at the MassBay Automotive Technology Center. Students are also required to work at a Toyota/Lexus dealership as part of the cooperative education phase of their training. The T-TEN program is a collaborative effort between MassBay Community College and Toyota. The College retains the academic and administrative responsibility for the program, which is certified by the National Automotive Technicians Education Foundation (NATEF) in all eight performance areas.

Students also earn technical course credits from the University of Toyota/Lexus College.

Upon successful completion, the Certificate in Automotive Technology with a concentration in Toyota (T-TEN) is awarded.

#### ADMISSION REQUIREMENTS

- MassBay placement into College Writing EN 100 or completion of Intro to Language EN 090
- MassBay placement into Intermediate Algebra MA 098 or completion of Introductory Algebra MA 095
- Valid driver's license (May be subject to dealership review of driving record and drug testing)

#### PROGRAM FOOTNOTES

- Minimum (18) University of Toyota e-modules must be completed.
- Complete all mandatory TPORT assignments.
- Minimum of 650 hours of supervised dealer co-op education.
- Minimum of (2) ASE certifications.

For more information about the costs of this program and employment opportunities after completion, please visit our gainful employment page: <http://www.massbay.edu/gainfulemployment.aspx>


COURSE	COURSE TITLE	CREDITS
<i>Semester 1</i>	<i>Fall</i>	
AT 101	Introduction to Automotive Service	4
AT 102	Automotive Electrical Fundamentals	4
AT 109	Technician Portfolio TPORT	1
	<b>credits:</b>	9
<i>Semester 2</i>	<i>Spring</i>	
AT 113	Engine Diagnosis and Repair	4
AT 114	Automotive Brake Systems	4
AT 116	Suspension, Steering, and Handling	3
	<b>credits:</b>	11
<i>Semester 3</i>	<i>Summer</i>	
AT 120	Cooperative Education I	3
	<b>credits:</b>	3
<i>Semester 4</i>	<i>Fall</i>	
AT 213	Hybrid Vehicle General Service	1
AT 205	Automotive Transmission & Drive Systems	6
AT 207	Engine Control Systems I	5
	<b>credits:</b>	12
<i>Semester 5</i>	<i>Spring</i>	
AT 208	Body Electrical Diagnosis	3
AT 209	Engine Control Systems II	3
AT 212	Automotive Air Conditioning & Climate Controls	3
AT 220	Cooperative Education II	3
	<b>credits:</b>	12
	<b>Total Credits:</b>	<b>47</b>



# Automotive Technology

## TSEP: Undercarriage Repair

### Certificate

 MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

COURSE	COURSE TITLE	CREDITS
<b>Certificate I</b>	<b>Undercarriage Repair</b>	
AI 100*	Automotive Fundamentals	1
AI 106	Automotive Brake Systems	3
AI 204	Auto Suspension Systems	3
AI 121	Cooperative Education I	2
MAC 101*	Technical Math	3
SF 131*	Oral Communication	3
EN 100*	College Writing	4
<b>Total Credits:</b>		<b>19</b>

\*These courses only have to be taken once.

#### DIVISION OF TRANSPORTATION & ENERGY

The Technical Service Education Program is designed to provide the technical competence and professionalism needed to become a TSEP technician. The program involves academic as well as automotive lecture/laboratory instruction focusing on state-of-the art products at the MassBay Automotive Technology Center. Students are required to work at a participating repair facility as part of the cooperative education phase of their training. The College has the academic and administrative responsibility for the program.

Upon completion, the Certificate in Automotive Service Technology is awarded.

#### ADMISSION REQUIREMENTS

Minimum eligibility for admission to this program includes:

- MassBay placement into College Writing EN 100 or completion of Intro to Language EN 090
- MassBay placement into Intermediate Algebra MA 098 or completion of Introductory Algebra MA 095
- Valid driver's license (May be subject to dealership review of driving record and drug testing)

# Automotive Technology

## TSEP: Drive Systems

### Certificate



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

#### DIVISION OF TRANSPORTATION & ENERGY

The Technical Service Education Program is designed to provide the technical competence and professionalism needed to become a TSEP technician. The program involves academic as well as automotive lecture/laboratory instruction focusing on state-of-the art products at the MassBay Automotive Technology Center. Students are required to work at a participating repair facility as part of the cooperative education phase of their training. The College has the academic and administrative responsibility for the program.

Upon completion, the Certificate in Automotive Service Technology is awarded.

#### ADMISSION REQUIREMENTS

Minimum eligibility for admission to this program includes:

- MassBay placement into College Writing EN 100 or completion of Intro to Language EN 090.
- MassBay placement into Intermediate Algebra MA 098 or completion of Introductory Algebra MA 095.
- Valid driver's license (May be subject to dealership review of driving record and drug testing).

COURSE	COURSE TITLE	CREDITS
<b>Certificate II</b>	<b>Drive Systems</b>	
AI 100*	Automotive Fundamentals	1
AI 103	Automotive Engine Diagnosis and Repairs	5
AI 202	Manual Transmission & Drive Lines	3
AI 203	Automotive Transmission	3
AL 122	Cooperative Education II	2
MAC 101*	Technical Math	3
SF 131*	Oral Communication	3
EN 100*	College Writing	4
<b>Total Credits:</b>		<b>24</b>

\*These courses only have to be taken once.

# Automotive Technology

## TSEP: Electrical/ Engine Performance/ HVAC

### Certificate



MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at [www.massbay.edu/uploadedFiles/online.pdf](http://www.massbay.edu/uploadedFiles/online.pdf).

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

#### ***DIVISION OF TRANSPORTATION & ENERGY***

The Technical Service Education Program is designed to provide the technical competence and professionalism needed to become a TSEP technician. The program involves academic as well as automotive lecture/ laboratory instruction focusing on state-of-the art products at the MassBay Automotive Technology Center. Students are required to work at a participating repair facility as part of the cooperative education phase of their training. The College has the academic and administrative responsibility for the program.

Upon completion, the Certificate in Automotive Service Technology is awarded.

#### **ADMISSION REQUIREMENTS**

Minimum eligibility for admission to this program includes:

- MassBay placement into College Writing EN 100 or completion of Intro to Language EN 090.
- MassBay placement into Intermediate Algebra MA 098 or completion of Introductory Algebra MA 095.
- Valid driver's license (May be subject to dealership review of driving record and drug testing).

<b>COURSE</b>	<b>COURSE TITLE</b>	<b>CREDITS</b>
<b><i>Certificate III</i></b>	<b><i>Electrical/ Engine Performance/ HVAC</i></b>	
AI 100*	Automotive Fundamentals	1
AI 102	Automotive Electrical Fundamentals	5
AI 105	Heating and Air-Conditioning Theory	3
AI 200	Engine Performance	5
AL 123	Cooperative Education III	2
MAC 101*	Technical Math	3
SF 131*	Oral Communication	3
EN 100*	College Writing	4
	<b>Total Credits:</b>	<b>26</b>

**\*These courses only have to be taken once.**

# COURSE DESCRIPTIONS

## **ACCOUNTING (AC)**

### **AC 101      4 Credits**

#### **FINANCIAL ACCOUNTING I**

This first course in financial accounting and reporting taken by all business students assumes no prior knowledge of accounting. It introduces the FASB conceptual framework as the logic underlying accounting standards. It develops and traces the basic steps used in accounting and reporting for service-oriented entities and progresses to more complex merchandising firms with inventory valuation considerations. The course culminates in the use of simple financial statement analysis in reaching credit and investment decisions. A general ledger software package embedded in the coursework familiarizes students with the rapid electronic processing of information possible and with the basic outline of all such packages available today. Lecture: 4 hours per week.

### **AC 102      4 Credits**

#### **FINANCIAL ACCOUNTING II**

This course forms the second half of a two-course sequence in financial accounting and reporting. It concentrates on measurement and reporting of major balance sheet accounts, which include cash, receivables, investments, plant and equipment, intangibles, current liabilities, long-term debt, contributed capital, and retained earnings. The student learns preparation of the statement of cash flows using the direct method. Further financial statement analysis refocuses on the purposes behind the preparation of financial reports. Lecture: 4 hours per week.

Prerequisite: AC 101

### **AC 120      1 Credit**

#### **ACCOUNTING USING PEACHTREE**

This course assumes a prior knowledge of accounting concepts and applications on the part of the student. It builds on the existing knowledge base of the student to give them a working knowledge of Peachtree software. This course will show the student the mechanics of setting up service and merchandising businesses using this well-known commercial software. Divided into three modules, the first module demonstrates how Peachtree is used. The second and third modules show how to set up and do accounting using Peachtree for service and merchandising businesses. Prerequisites: AC101 & AC102, or instructor permission

### **AC 201      4 Credits**

#### **INTERMEDIATE ACCOUNTING I**

This intermediate level course is the first part of a two-course sequence intended for accounting majors. This course in financial accounting and reporting broadens the existing theoretical and conceptual foundation and balances it with technical procedures. Students learn to identify, measure, and communicate financial information in accordance with generally accepted accounting principles. Coverage includes the FASBs conceptual framework of accounting, a review of the accounting process, the reporting requirements for income statement and the statement of retained earnings, classification and valuation in the balance sheet, the statement of cash flows, revenue recognition and income determination, and the concepts of time value of money. Lecture: 4 hours per week. Prerequisite: AC 102

### **AC 202      4 Credits**

#### **INTERMEDIATE ACCOUNTING II**

The second course in the sequence concentrates on the recognition, valuation, and reporting of the major balance sheet accounts and the related income statement accounts at the intermediate level. Topics include cash, current receivables and liabilities, inventory valuation, investments in debt and equity securities, plant assets and intangibles, long term debt, and stockholders' equity. Lecture: 4 hours per week. Prerequisite: AC 201

**AC 206            4 Credits**  
**MANAGERIAL ACCOUNTING**

This course focuses on the system of measuring and providing operational and financial information to management of business, non-profit, and governmental organizations. Students learn how managers use this information to make decisions, plan and control operations, gauge performance for reward systems, and foster a culture necessary to achieve an organization's strategic objectives. The topics covered include cost concepts and behavior, variable and absorption costing, cost-volume-profit relationships, budgets, control and responsibility accounting, and product costing. Lecture: 4 hours per week. Prerequisite: AC 102

**AC 207            3 Credits**  
**INTRODUCTION TO TAXATION**

Based on the Model Tax Curriculum, this course introduces students to a broad range of tax concepts and types of taxpayers, particularly within a framework of financial accounting. The role of taxation in the business decision-making process is emphasized. The student is exposed to professional standards and ethics; and learns to do basic tax research and tax planning. This course gives an understanding of the interrelationship and differences between financial accounting and tax accounting. Lecture: 3 hours per week. Prerequisite: AC 102

**ANTHROPOLOGY (AN)**

**AN 203            3 Credits**  
**INTRODUCTION TO CULTURAL ANTHROPOLOGY**

This course investigates how human societies are organized and the basic concept of "culture." We develop an understanding of how anthropologists interpret social, economic, and belief systems in different societies. The course also considers how anthropologists conduct research, and what role Anthropology should play in an increasingly global society. Societies studied include those of southern Africa, the South American Amazon, and Papua New Guinea. This is a sophomore level course that requires several research papers. Lecture: 3 hours per week.

**ART (AR)**

**AR 100            3 Credits**  
**ART FUNDAMENTALS**

Art Fundamentals is a global introduction to the field of Art for non-art majors and art majors. Art Fundamentals is a course that explores through study of elements of art and the various art forms and a chronological study of art history. The course is a survey of art history from prehistoric times to the present. The course offers an introduction and evaluation of the visual artist, with emphasis on the relationship of the end product. The main purpose of this course is to gain appreciation for art. The specific topics in this course include; learning about terms and concepts common to all of the visual arts (for example, composition, space, content, color). The student will explore materials, media and presentation skills (traditional and technology media included). Students will learn to compose the vocabulary of visual elements and principals as well as construction processes and material commonly understood. Through proscribed projects students will progressively define and articulate their subjective interests, expressive ideas, and visual affinities. Students will participate in critiques. Students will purchase their own artistic materials. Students will leave the course with a portfolio of work.

**AR 101            3 Credits**  
**HISTORY AND APPRECIATION OF ART I**

A study of painting, sculpture, and architecture from the prehistoric period through the 15th-century Italian Renaissance. Includes Egyptian, Greek, Roman and Christian Art; Giotto, Donatello, Brunelleschi, Raphael, and Leonardo da Vinci. Emphasis given to understanding changes in major styles, the role of the artist, and the relationship of Fine Arts to social-cultural trends. Lecture: 3 hours per week.



**AR 102      3 Credits****HISTORY AND APPRECIATION OF ART II**

History of Western Art from the Renaissance to the present. Includes Michelangelo, van Eyck, Durer, Velazquez, Rembrandt, Goya, Picasso, and Matisse. Emphasis is given to sequential development of major styles in painting, sculpture, and architecture, the role of the individual artist, and the relationship of visual arts to social cultural trends. Lecture: 3 hours per week.

**AR 110      3 Credits****FORM STUDY**

This is an introductory composition course aimed at developing problem solving skills in the three and four-dimensional realms. The student will develop a more precise visual vocabulary. Elements and principles of design are identified and employed. Students will understand how to construct a wire sculpture, papier mâché, modeling and molding, cultural sculptures and pots, art from nature sculptures, hand wiring sculptures, assemblages, crafts, recycled sculptures and paper sculptures. Students will work with dirty, messy, sticky and unpredictable materials. Students will learn craftsmanship like production and students will brainstorm multiple sketches. A series of projects are assigned which are completed during class and outside of class. Students will purchase their own art supplies. The students will participate in class critiques. Students will visit local galleries and or museums.

**AR 121      3 Credits****DRAWING I**

This in-depth drawing studio introduces and builds upon fundamental drawing concepts that apply across disciplines. Line, value, shape, form, space, intent and other elements are included using direct observation. This comprehensive course reviews those basics of drawing using the portrait, still life, geometric shapes, landscape, interiors, and other disciplines. A series of problems designed to acquaint the students with perceptual and inventive skilled in drawing. Students will work with erasers, charcoals, pencils, pen and ink, black and white colored pencils, and conte crayons. Students will learn how to render shadows, highlights, perspective, space, depth, and gradation. Students will draw thumbnails, a midterm, a final composition and drawing ideas. Students will participate in critiques. Students will finish the course with a portfolio of drawings. Students are expected to purchase their own materials. Drawing I is a foundation course in drawing media and techniques; focusing on the study of objects and natural forms in problems of analysis and composition. This course is appropriate for experienced students and beginners. 3 Credits.

**AR 122      3 Credits****DRAWING II**

A focus on the imaginative and sensitive communication of ideas through skillful drawing. Consideration is given to expressive interpretation of the human figure, landscape, objects, and abstract concepts. Particular emphasis is placed upon drawing from the figure. An extensive project is required along with an end course portfolio. Drawing II includes discussion of drawing concepts, and related vocabulary, art criticism, and art history. Students will explore different drawing techniques and mediums. Drawing II builds on the vocabulary, skills, and concepts learned in Art Fundamentals, Drawing I, and Watercolors I. Students will purchase their own art supplies. Students will participate in weekly class critiques. Student must have the permission of the instructor and taken Art Fundamentals, Drawing I, and Watercolors I. 3 Credits.

**AR 200      3 Credits****WATERCOLORS I**

This course is an upper level art course. The course will cover the fundamental techniques of transparent watercolor media, such as wet on wet, dry brush, glazing, and knowledge of painting tools. Emphasis will be on value, light and applied color theory, vocabulary development, form, texture, space, and perspective. Students will create still life paintings, city/landscapes, and figurative painting. The student will acquire critical skills to evaluate paintings. The student will participate in weekly class critiques. Students will purchase their own art supplies. Students may be asked to exhibit their artwork on campus. Prerequisites: AR100 (Art Fundamentals), AR101 (History and Appreciation of Art I), and AR121 (Drawing I)

**AR 901      3 Credits****HIST APPRECIATION ART 1 INDEPEN STUDY**

History Appreciation of Art I - as independent study

**AUTOMOTIVE: BMW (AB)****AB 100      5 Credits****AUTOMOTIVE FUNDAMENTALS**

Examines the role and opportunities of the automotive technician in today's society. Shop environment and personal safety are explored. Principles of operation of the internal combustion engine as applied to the automotive vehicles and components of cooling and lubrication systems, and charging/starting to provide practical experience in the identification, repair, and replacement of the components of these systems. Supplies the background information needed to understand the operation of the vehicles. Schematics and shop manuals are studied. Lecture: 2 credits. Lab 3 credits. Total: 120 hours. 5 credits

**AB 102      4 Credits****AUTOMOTIVE ELECTRICAL FUNDAMENTALS**

Introduction to the fundamentals of electricity, magnetism, and basic electronics. A working knowledge of the electrical circuits which make up the automobile including the battery, starting, and charging systems. Emphasis will be placed on performing electrical tests, interpreting results, and the correct use of meters and test equipment. Lecture: 1 credit. Lab 3 credits. Total: 105 hours. 4 credits

**AB 103      5 Credits****AUTOMOTIVE ENGINE DIAGNOSTIC AND REPAIRS**

A course designed to teach the principles and procedures necessary to repair an automotive engine and to provide the practical experience in engine diagnosis, removal, disassembly, rebuilding, and dynamic check out. Prerequisites: AB100, AB102 Lecture: 2 credits. Lab 3 credits. Total: 120 hours. 5 credits

**AB 105      3 Credits****HEATING AND AIR CONDITIONING THEORY**

Designed to teach the fundamentals of the automotive heating and air conditioning systems. Special emphasis will be placed on the proper techniques for diagnosing air conditioning system problems as well as complete instruction in the recovering, recycling, evacuation and recharging equipment. Prerequisite: AB102 Lecture: 1 credit. Lab 2 credits. Total: 75 hours. 3 credits

**AB 106      3 Credits****AUTOMOTIVE BRAKE SYSTEMS**

Study of the principles, terminology, and theory of brake designs. Emphasis placed on brake inspection, parts replacement, locating and interpreting specifications, proper use of tools and machine equipment for both conventional and disc, diagnosing malfunctions. Prerequisites: AB100, AB102 Lecture: 1 credit. Lab 2 credits. Total: 75 hours. 3 credits

**AB 121      3 Credits****COOPERATIVE EDUCATION I**

This phase provides actual hands-on experience at a BMW dealership, covering one summer term. This co-op experience includes an employer's work week for twelve or more weeks in supervised on-the-job training at the dealership. 3 credits Prerequisites: AB103, AB105, AB106

**AB 200      5 Credits****ADVANCED ENGINE PERFORMANCE**

Proper procedures of tune-up and diagnosis of the automobile internal combustion engine and fuel system. Emphasis is placed on isolating malfunctions on a particular system and following the correct procedure to locate the exact problem. The student learns how to make an intelligent hypothesis according to the way in which the vehicle operates. Emphasis is placed on correct use of equipment, interpreting test results using specifications, their location and units of measure. Prerequisites: AB103, AB121 Lecture: 1 credit. Lab 3 credits. Total: 105 hours. 5 credits

**AB 201      4 Credits****ELECTRONICS FUEL AND IGNITION SYSTEMS**

A study of the principles, terminology, and theory of electronic, fuel, and emission systems. Emphasis is placed on emission systems, part replacement, diagnosing malfunctions, locating and interpreting specifications, and proper use of test equipment. Prerequisite: AB200 Lecture: 2 credits. Lab 2 credits. Total: 90 hours. 4 credits

**AB 202      4 Credits****MANUAL TRANSMISSION DRIVE SYS**

A course designed to teach the principals and operation of manual transmissions, drive axles, clutch discs, and pressure plates. The student will gain practical experience in the servicing and overhaul of manual transmissions and drive axles. Pre-requisite: AB 121

**AB 203      4 Credits****AUTO TRANSMIS/AUTOMA**

Designed to teach the student the principles and operations of automatic transmissions, transaxles, overdrive units, and electronically controlled transmissions. This course will also provide practical experience in diagnosing and overhauling automatic transmissions and transaxles. Pre-requisites: AB121

**AB 204      4 Credits****AUTOMOTIVE SUSPENSION SYSTEMS**

A study of the principles and theory of suspension designs. Emphasis placed on part inspection and replacement, measuring and adjusting alignment angles, wheel balance, diagnosing procedures, and adjustment of steering and suspension units and components, using 2 and 4 wheel alignment techniques. Prerequisites: AB200, AB205 Lecture: 2 credits. Lab 2 credits. Total: 90 hours. 4 credits

**AB 205      6 Credits****AUTOMATIC/MANUAL TRANSMISSIONS, AND DRIVE SYSTEMS**

Designed to teach the student the principles and operations of automatic transmissions, transaxles, overdrive units, and electronically controlled transmissions, as well as, the principals and operation of manual transmissions, drive axles, clutch discs, and pressure plates. This course will also provide practical experience in diagnosing and overhauling automatic and manual transmissions and transaxles. Prerequisite: AB121 Lecture: 1 credit. Lab 3 credits. Total: 105 hours. 6 credits

**AB 208      3 Credits****ADVANCED AUTOMOTIVE ELECTRONICS**

Designed to assist the student in mastering their troubleshooting skills. Covers basic principles of routine troubleshooting and diagnosis of electrical circuits, systems, and components. In addition the course covers complete usage of the Electrical Wiring Diagram and proper use of related diagnostic instruments. Prerequisites: AB102, AB200 Lecture: 1 credit. Lab 2 credits. Total: 75 hours. 3 credits

**AUTOMOTIVE: CHRYSLER (AY)****AY 100      5 Credits****FUNDAMENTALS OF AUTO TECHNOLOGY**

Introduces the student to the basic automotive competencies required to be productively employed in the first cooperative work session. The course content is designed to develop familiarity with basic service shop operations, including safety, and to develop a reasonable degree of skill in lube-oil-filter and new-car-prep assignments. Lecture: 2 credits. Lab: 3 credits. Total: 120 hours. 5 credits

**AY 110      4 Credits****AUTOMOTIVE ELECTRICITY**

Introduces the student to the fundamentals of electricity, magnetism, and basic electronics. The course is designed to develop familiarity with basic concepts and theories and to develop a working knowledge of both the circuits that control the car and the component parts necessary for its operation. Emphasis is placed on locating and interpreting specifications, electrical testing, and the use of meters and test equipment. This course will include an introduction to starting and charging systems with an introduction to automotive electronics. Lecture: 1 credit. Lab: 3 credits. Total: 105 hours. 4 credits

**AY 115      3 Credits****COOPERATIVE EDUCATION I**

This phase provides actual hands-on experience at a Chrysler dealership, reinforcing tasks learned in the previous semester. This coop experience includes twelve weeks in supervised on-the-job training. 3 credits. Prerequisites: AY100, AY110

**AY 120      3 Credits****AUTOMOTIVE ELECTRONICS**

Prepares a student to diagnose and repair malfunctions using scan tool diagnostics. The student will be introduced to the electrical and electronic circuits and components in the current line of Chrysler-produced vehicles. Emphasis is placed on the inter-relationship of electronic circuitry and the need for a systematic, programmed approach to diagnosing electrical and electronic malfunctions. Prerequisite: AY115 Lecture: 1 credit. Lab: 2 credits. Total: 75 hours. 3 credits

**AY 125      3 Credits****COOPERATIVE EDUCATION II**

This is the second co-op phase to reinforce spring semester courses. The co-op experience includes 8 weeks at a Chrysler dealership in supervised on-the-job training. Prerequisite: AY115, AY120, AY140, AY170. 3 credits

**AY 140      3 Credits****AUTOMOTIVE BRAKE SYSTEMS**

Study of the principles, terminology, and theory of brake designs. Emphasis placed on brake inspection, parts replacement, locating and interpreting specifications, proper use of tools and machine equipment for both conventional and disc, diagnosing malfunctions. Prerequisite: AY115 Lecture: 1 credit. Lab: 2 credits. Total: 75 hours. 3 credits

**AY 170      4 Credits****ELECTRONIC FUEL AND ENGINE CONTROLS**

Prepares a student to diagnose and repair malfunctions in the engine fuel and the electronic control systems. The course also covers fuel injection systems and basic emission controls. Prerequisites: AY110, AY115, AY120 Lecture: 1 credit. Lab: 3 credits. Total: 105 hours. 4 credits

**AY 215      3 Credits****COOPERATIVE EDUCATION III**

This is the third co-op phase to reinforce summer courses. The co-op experience includes 12 weeks at a Chrysler dealership in supervised on-the-job training. 3 credits Prerequisites: AY125, AY221, AY230

**AY 221      3 Credits****HEATING, A/C & CLIMATE CONTROL SYSTEMS**

This course will prepare the student to diagnose and repair malfunctions and perform maintenance tasks on the heating, air conditioning and climate control systems. Students will be made aware of the licensing requirements concerning air conditioning repair and the laws governing CFC's. Knowledge of R-134-A and R-12 systems and recovery and recycling procedures will be covered. Prerequisites: AY120, AY125 Lecture: 1 credit. Lab: 2 credits. Total: 75 hours. 3 credits

**AY 225      3 Credits****COOPERATIVE EDUCATION IV**

This is the final co-op experience before graduation. It provides hands on training at a Chrysler dealership that can include anything covered in the previous two years. This co-op experience includes twelve weeks in supervised on-the-job training. Prerequisites: AY215, AY245, AY253, AY270. 3 credits

**AY 230      5 Credits****ENGINE PERFORMANCE**

This course will provide the students with a basic knowledge of the components and function of automotive emission control systems. Students will engage in the removal and replacement of components as well as component failure diagnosis, use of appropriate diagnostic equipment and an introduction to IM 240 regulations. Prerequisites: AY110, AY120, AY125, AY170. Lecture: 2 credits. Lab: 3 credits. Total: 120 hours. 5 credits

**AY 245      4 Credits****ENGINE DIAGNOSIS AND REPAIR**

This course will introduce the student to the current line of Chrysler engine systems. Emphasis will be placed on component identification, construction and function. Each student will be directly involved in the tear down, inspection, measurement and re-assembly of an engine. Horsepower, torque, engine configurations and special tool use are also covered. Prerequisite: AY215 Lecture: 2 credits. Lab: 2 credits. Total: 90 hours. 4 credits

**AY 253      6 Credits****AUTOMATIC TRANSMISSIONS, MANUAL TRANSMISSION AND DRIVE SYSTEMS**

A course designed to teach the principles and operations of automatic and manual transmissions/transaxles. This course will provide practical experience in diagnosing, maintaining, and repairing automatic and manual transmissions/transaxles. Also included will be basic hydraulic principles and circuits, and electronically controlled transmissions. Lecture: 3 credits. Lab: 3 credits. Total: 135 hours. 6 credits Prerequisite: AY215

**AY 270      3 Credits****STEERING & SUSPENSION SYSTEMS**

This course will prepare the student to diagnose, repair and service the suspension and steering systems on current Chrysler products. Four wheel computerized alignment and alignment geometry will be included along with rack and pinion and re-circulating ball steering systems and a variety of chassis support systems. Prerequisite: AY215 Lecture: 1 credit. Lab: 2 credits. Total: 75 hours. 3 credits

**AUTOMOTIVE: GENERAL MOTORS (AS)****AS 100      5 Credits****AUTOMOTIVE FUNDAMENTALS**

A course to supply the background information needed to understand and perform minor services to the automobile. Topics include: auto shop equipment; wheels, hubs and tires; vehicle and part identification; battery service; ignition systems; fuel systems; and drive lines. This course also teaches shop safety, tool identification and use, basic engine design and construction, cooling systems, lubrication systems, and fundamentals of electrical systems. Lecture: 2 credits. Lab: 3 credits. Total: 120 hours. 5 credits



**AS 102      4 Credits****AUTOMOTIVE ELECTRICAL FUNDAMENTALS**

Introduction to fundamentals of electricity, magnetism, and basic electronics. A working knowledge of circuits that make up the automobile and the component parts necessary for its operation. Emphasis placed on locating and interpreting specifications, electrical tests, and correct use of meters and test equipment. Prerequisite: AS110 Lecture: 1 credit. Lab: 3 credits. Total: 105 hours. 4 credits

**AS 105      3 Credits****HEATING AND AIR-CONDITIONING THEORY**

Principles and operation of heating and air-conditioning systems and accessories to provide practical experience in testing, analyzing, installing, and repairing. Lecture: 1 credit. Lab: 2 credits. Total: 75 hours. 3 credits Prerequisite: AS110

**AS 106      3 Credits****AUTOMOTIVE BRAKE SYSTEMS**

Principles, terminology, and theory of brake designs including ABS and TCS systems. Brake inspection, parts replacement, diagnosing malfunctions, locating and interpreting specifications, proper use of tools and service equipment for both drum and disc brakes. Prerequisite: AS100 Lecture: 1 credit. Lab: 2 credits. Total: 75 hours. 3 credits

**AS 108      3 Credits****AUTOMOTIVE IGNITION AND FUEL SYSTEMS**

Prepares a student to diagnose and repair malfunctions in the engine fuel and the electronic control systems. The course also covers fuel injection systems and basic emission controls. Prerequisite: AS110 Lecture: 1 credit. Lab: 2 credits. Total: 75 hours. 3 credits

**AS 110      3 Credits****COOPERATIVE EDUCATION I**

Provides actual hands-on work experience at a General Motors dealership. Co-op experience includes an employer's work week in supervised on-the-job training at the dealership. Full-time work experience. Prerequisite: AS100, AS106. 3 credits

**AS 111      3 Credits****COOPERATIVE EDUCATION II**

Provides actual hands-on work experience at a General Motors dealership. Co-op experience includes an employer's work week in supervised on-the-job training at the dealership. Full-time work experience. Prerequisite: AS102, AS105, AS108, AS110. 3 credits

**AS 204      3 Credits****AUTOMOTIVE SUSPENSION SYSTEMS**

A study of the principles and theory of suspension designs. Emphasis is placed on part inspection and replacement, measuring and adjusting alignment angles, wheel balance, diagnosing procedures, and adjustment of steering and suspension units and components, using 2 and 4 wheel alignment techniques. Prerequisite: AS111 Lecture: 1 credit. Lab: 2 credits. Total: 75 hours. 3 credits

**AS 206      5 Credits****ADVANCED ENGINE PERFORMANCE**

This course will provide the students with a basic knowledge of the components and function of automotive emission control systems. Students will engage in the removal and replacement of components as well as component failure diagnosis, use of appropriate diagnostic equipment and an introduction to IM 240 regulations. Prerequisite: AS111 Lecture: 2 credits. Lab: 3 credits. Total: 120 hours. 5 credits

**AS 208            3 Credits****ADVANCED AUTOMOTIVE ELECTRONICS**

Designed to assist the students in mastering their troubleshooting skills. Covers basic principles of routine troubleshooting and diagnosis of electrical circuits, systems, and components. In addition the course covers complete usage of the Electrical Wiring Diagram and proper use of related diagnostic instruments. Prerequisite: AS209 Lecture: 1 credit. Lab: 2 credits. Total: 75 hours. 3 credits

**AS 209            3 Credits****COOPERATIVE EDUCATION III**

Provides actual hands-on work experience at a General Motors dealership. Co-op experience includes an employer's work week in supervised on-the-job training at the dealership. Full-time work experience. 3 credits  
Prerequisite: AS111, AS204, AS206

**AS 210            3 Credits****COOPERATIVE EDUCATION IV**

For second-year students, provides actual hands-on work experience at a General Motors dealership. Co-op experience includes an employer's work week in supervised on-the-job training at the dealership. Full-time work experience. Prerequisite: AS208, AS209, AS213, AS216. 3 credits

**AS 213            6 Credits****AUTOMATIC/MANUAL TRANSMISSIONS & DRIVE SYSTEMS**

A course designed to teach the principles and operations of automatic and manual transmissions/transaxles and ALL wheel 4-wheel drive systems. This course will provide practical experience in diagnosing, maintaining, and repairing automatic and manual transmissions/transaxles. Also included will be basic hydraulic principles and circuits, and electronically controlled transmissions. Prerequisite: AS209 Lecture: 3 credits. Lab: 3 credits. Total: 135 hours. 6 credits

**AS 216            4 Credits****AUTOMOTIVE ENGINE DIAGNOSIS AND REPAIR**

A course designed to teach the principles and procedures necessary to repair an automotive engine and to provide the practical experience in engine diagnosis, removal, disassembly, rebuilding, and dynamic check out. Prerequisite: AS209 Lecture: 2 credits. Lab: 2 credits. Total: 90 hours. 4 credits.

**AUTOMOTIVE: TOYOTA/LEXUS (AT)****AT 101            4 Credits****INTRODUCTION TO AUTOMOTIVE SERVICE**

Examines the role and opportunities of the automotive service professional in today's society. Shop environment, typical tools/equipment, and personal safety will be emphasized. Students will experience typical job-entry service skills and vehicle maintenance inspections. The necessary resources providing service information are examined. An Introduction of vehicle operation and support systems will be presented. This course provides the background information required to continue this program. Students may also earn University of Toyota / Lexus College credit. Lecture: 2 credits. Lab: 2 credits. Total: 90 hours. 4 credits

**AT 102            4 Credits****AUTOMOTIVE ELECTRICAL FUNDAMENTALS**

Introduction to the fundamentals of electricity, magnetism, and basic electronics. A working knowledge of the electrical circuits which make up the automobile including the battery, starting, and charging systems. Emphasis will be placed on performing electrical tests, interpreting results, and the correct use of meters and test equipment. Lecture: 2 credits. Lab 2 credits. Total: 90 hours. 4 credits

**AT 103      5 Credits****AUTOMOTIVE ENGINE DIAGNOSTIC AND REPAIRS**

A course designed to teach the principles and procedures necessary to repair an automotive engine and to provide the practical experience in engine diagnosis, removal, disassembly, rebuilding, and dynamic check out.

**AT 105      3 Credits****HEATING AND AIR CONDITIONING THEORY**

Designed to teach the fundamentals of the automotive heating and air conditioning systems. Special emphasis will be placed on the proper techniques for diagnosing air conditioning system problems as well complete instruction in the recovering, recycling, evacuation and recharging equipment.

**AT 106      3 Credits****AUTOMOTIVE BRAKE SYSTEMS**

Study of the principles, terminology, and theory of brake designs. Emphasis placed on brake inspection, parts replacement, locating and interpreting specifications, proper use of tools and machine equipment for both conventional and disc, diagnosing malfunctions.

**AT 109      1 Credit****TOYOTA TECHNICIAN PORTFOLIO TPORT**

To improve student success in a Cooperative education program the Toyota Portfolio requirement was developed. The portfolio guides the student through the entire Co-Op process, including finding a sponsor dealer, understanding dealer expectations, maintaining a work journal and evaluations of their work experience. It is the student responsibility to maintain the portfolio and complete the assignments on time and obtain all necessary signatures. Completion of the portfolio is mandatory to complete the T-TEN Program. Total: 15 hours. 1 credit

**AT 113      4 Credits****AUTOMOTIVE ENGINE DIAGNOSIS AND REPAIR**

A course designed to teach the principles and procedures necessary to understand the operation and repair of an automotive engine and provide a practical experience in engine diagnosis, disassembly, inspection and reassembly of a new model engine. Performing precision measurements and interpreting service specifications will be emphasized. Prerequisites: AT101, AT102 Lecture: 2 credits. Lab: 2 credits. Total: 90 hours. 4 credits

**AT 114      4 Credits****AUTOMOTIVE BRAKE SYSTEMS**

Study of the principles, terminology, and theory of brake systems designs. Emphasis placed on brake inspection, parts replacement, locating and interpreting specifications. Proper use of tools and machine equipment for both drums and disc types will be experienced. Diagnosing system malfunctions is examined and students are introduced to Anti-Lock Brake Systems, Traction Control, Electronic Brake Distribution Vehicle Stability Control and other newer technologies. Students may also earn University of Toyota/ Lexus College credit. Prerequisites: AT101, AT102. Lecture: 2 credits. Lab: 2 credits. Total: 90 hours. 4 credits

**AT 116      3 Credits****SUSPENSION, STEERING, AND HANDLING**

A study of the principles and theory of suspension designs. Emphasis placed on part inspection and replacement, measuring and adjusting alignment angles, wheel balance, diagnosing procedures, and adjustment of steering and suspension units and components, using 2 and 4 wheel alignment techniques. Prerequisites: AT101, AT102 Lecture: 1 credit. Lab: 2 credits. Total: 60 hours. 3 credits

**AT 120      3 Credits****COOPERATIVE EDUCATION I**

This is a summer semester course, which provides hands-on job entry experience at a Toyota dealership. This co-op provides a fulltime employee's work schedule for 13 weeks or more. This "real world" work experience is supervised and graded. Co-op I is a mandatory requirement to return for the 2nd year of the T-TEN program. 3 credits. Prerequisites: AT109, AT113, AT114, AT116

**AT 200      5 Credits****ADVANCED ENGINE PERFORMANCE**

Proper procedures of tune-up and diagnosis of the automobile internal combustion engine and fuel system. Emphasis is placed on isolating malfunctions on a particular system and following the correct procedure to locate the exact problem. The student learns how to make an intelligent hypothesis according to the way in which the vehicle operates. Emphasis is placed on correct use of equipment, interpreting test results using specifications, their location and units of measure.

**AT 201      4 Credits****ELECTRONICS FUEL AND IGNITION SYSTEMS**

A study of the principles, terminology, and theory of electronic, fuel, and emission systems. Emphasis is placed on emission systems, part replacement, diagnosing malfunctions, locating and interpreting specifications, and proper use of test equipment.

**AT 204      4 Credits****AUTOMOTIVE SUSPENSION SYSTEMS**

A study of the principles and theory of suspension designs. Emphasis placed on part inspection and replacement, measuring and adjusting alignment angles, wheel balance, diagnosing procedures, and adjustment of steering and suspension units and components, using 2 and 4 wheel alignment techniques.

**AT 205      6 Credits****AUTOMOTIC TRANSMISSION, AND DRIVE SYSTEMS**

This is a two-part course covering automatic, manual transmissions and vehicle driveline systems. Part 1: is a study of the construction and operation of automatic transmissions and transaxles. Emphasis will be on the diagnostic techniques of electrical, hydraulic, and mechanical systems. Part 2: covers the components and operation of manual transmission/transaxles, clutches, differentials, drive shafts, and four-wheel drive systems. The disassembly and reassembly of selected transmissions and on vehicle activities will strengthen the students understanding of proper inspections, measurements and testing procedures required to perform successful service. Prerequisite: AT120    Lecture: 3 credits. Lab: 3 credits. Total: 135 hours. 6 credits

**AT 207      5 Credits****ENGINE CONTROL SYSTEMS I**

This course is designed to increase the Technician's understanding and diagnostic skills related to engine control systems. Major areas to be covered are the identification, operation, function, and basic diagnosis of the following: Electronic Control Module (ECM): fuel injection systems: engine control system sensors and actuators: ignition systems: idle speed control systems, and EGR systems. Emphasis will be on solving drivability concerns using all available resources, i.e. manuals, DVOM, oscilloscope, diagnostic testers, and related special tools. Students may also earn University of Toyota/Lexus College credit. Prerequisites: AT102, AT120 Lecture: 2 credits. Lab: 3 credits. Total: 120 hours. 5 credits

**AT 208      3 Credits****BODY ELECTRICAL DIAGNOSIS**

Designed to assist the student in mastering their troubleshooting skills. Covers basic principles of routine troubleshooting and diagnosis of electrical circuits, systems, and components. In addition the course covers usage of the Toyota Electrical Wiring Diagrams and proper use of related diagnostic instruments. Lecture: 1 credit. Lab: 2 credits. Total: 75 hours. 3 credits Prerequisites: AT 102, AT 120, AT 205, AT 207, AT 213

**AT 209      3 Credits****ENGINE CONTROL SYSTEMS II**

Covers the use of the Toyota Techstream Tester and OBD II engine control. Schematic diagnostic approaches to Toyota engine control systems including use of on-board vehicle data will be emphasized. Students may also earn University of Toyota/Lexus College credit. Prerequisites: AT102, AT207 Lecture: 1 credit. Lab: 2 credits. Total: 75 hours. 3 credits

**AT 212      3 Credits****AUTOMOTIVE AIR CONDITIONING & CLIMATE CONTROL**

To cover basic (and advanced) concepts of mobile heating, air conditioning and climate control systems. Students will demonstrate their understanding of environmental issues prior to hands-on activities on the recovery, recycling, and evacuation and recharging of automotive refrigerants. Special emphasis will be placed on students learning the fundamentals of system operation, troubleshooting techniques and repair procedures on new model vehicles. Students may also earn University of Toyota/Lexus College credit. Prerequisites: AT102, AT208 Lecture: 1 credit. Lab: 2 credits. Total: 75 hours. 3 credits

**AT 213      1 Credit****HYBRID VEHICLE GENERAL SERVICE**

This course will introduce students to hybrid vehicle technology. Vehicle features, operating modes, and major hybrid components will be discussed. Safety issues and vehicle operation will be emphasized. Hybrid vehicle maintenance and general service procedures will be experienced. Students may also earn University of Toyota/Lexus College credit. Prerequisite: AT102, AT120. Lecture: 1 credit. Lab: 2 credits. Total: 75 hours. 3 credits

**AT 220      3 Credits****COOPERATIVE EDUCATION II**

To provide a 2nd "real world" experience at a Toyota or Lexus dealership. This full time work experience is for a minimum of 7-weeks prior to program completion. Emphasis is placed on the completion of a productivity worksheet and co-op completion surveys prior to final evaluation. This co-op is also graded and is mandatory to complete the Toyota T-TEN program. 3 credits Prerequisites: AT120, AT208, AT209, AT212

**AUTOMOTIVE: TSEP (AI)****AI 100      1 Credit****AUTOMOTIVE FUNDAMENTALS**

Examines the role and opportunities of the automotive service professional in today's society. Shop environment, typical tools/equipment, and personal safety will be emphasized. Students will experience typical job-entry service skills and vehicle maintenance inspections. The necessary resources providing service information are examined. An Introduction of vehicle operation and support systems will be presented. This course provides the background information and is a prerequisite for all of the other courses. Total: 30 hours. 1 credit

**AI 102      5 Credits****AUTOMOTIVE ELECTRICAL SYSTEMS**

Introduction to the fundamentals of electricity, magnetism, and basic electronics. A working knowledge of the electrical circuits which make up the automobile including the battery, starting, and charging systems. Emphasis will be placed on performing electrical tests, interpreting results, and the correct use of meters and test equipment. Lecture: 2 credits. Lab: 3 credits. Total: 120 hours. 5 credits

**AI 103      5 Credits****AUTOMOTIVE ENGINE DIAGNOSIS AND REPAIR**

A course designed to teach the principles and procedures necessary to understand the operation and repair of an automotive engine and provide a practical experience in the diagnosis, disassembly, inspection and reassembly of a new model engine. Performing precision measurements and interpreting service specifications will be emphasized. Lecture: 2 credits. Lab: 3 credits. Total: 120 hours. 5 credits

**AI 105      3 Credits****HEATING/AIR CONDITIONING THEORY**

To cover basic and advanced concepts of mobile heating, air conditioning and climate control systems. Students will demonstrate their understanding of environmental issues prior to hands-on activities on the recovery, recycling, and evacuation and recharging of automotive refrigerants. Special emphasis will be placed on students learning the fundamentals of system operation, troubleshooting techniques and repair procedures on new model vehicles. Lecture: 1 credit. Lab: 2 credits. Total: 75 hours. 3 credits



**AI 106            3 Credits****AUTOMOTIVE BRAKE SYSTEMS**

A study of the principles, terminology and theory of brake system designs. Emphasis placed on brake inspection, parts replacement, locating and interpreting specifications. Proper use of tools and machine equipment for both drums and disc types will be experienced. Diagnosing system malfunctions is examined and students are introduced to Anti-Lock Brake Systems, Traction Control, Electronic Brake Distribution and other newer technologies. Lecture: 1 credit. Lab: 2 credits. Total: 75 hours. 3 credits

**AI 121            2 Credits****COOPERATIVE EDUCATION I**

Provides actual hands-on work experience. Co-op experience includes an employer's work week in supervised on-the-job training at the dealership. Full-time work experience. 160 hours each. Total: 480 hours. 2 credits

**AI 122            2 Credits****COOPERATIVE EDUCATION II**

Provides actual hands-on work experience. Co-op experience includes an employer's work week in supervised on-the-job training at the dealership. Full-time work experience. 160 hours each. Total: 480 hours. 2 credits

**AI 123            2 Credits****COOPERATIVE EDUCATION III**

Provides actual hands-on work experience. Co-op experience includes an employer's work week in supervised on-the-job training at the dealership. Full-time work experience. 160 hours each. Total: 480 hours. 2 credits

**AI 200            5 Credits****ENGINE PERFORMANCE**

This course is designed to increase the Technician's understanding and diagnostic skills related to engine control systems. Major areas to be covered are the identification, operation, function, and basic diagnosis of the following: Electronic Control Module (ECM): fuel injection systems: engine control system sensors and actuators: ignition systems: idle speed control systems, and EGR systems. Emphasis will be on solving drivability concerns using all available resources, i.e. manuals, DVOM, oscilloscope, diagnostic testers, and related special tools. Lecture: 2 credits. Lab: 3 credits. Total: 120 hours. 5 credits

**AI 202            3 Credits****MANUAL TRANSMISSION & DRIVE LINES**

This course covers the components and operation of manual transmission, transaxles, clutches, differentials, drive shafts, and four-wheel drive systems. Emphasis will be on the diagnostic techniques. Lecture: 1 credit. Lab: 2 credits. Total: 75 hours. 3 credits

**AI 203            3 Credits****AUTOMATIC TRANSMISSIONS**

This course will study the construction and operation of automatic transmissions and transaxles. Emphasis will be on the diagnostic techniques of electrical, hydraulic, and mechanical systems. Lecture: 1 credit. Lab: 2 credits. Total: 75 hours. 3 credits

**AI 204            3 Credits****AUTOMOTIVE SUSPENSION SYSTEMS**

Fundamentals principles and the operation of tires and wheels, suspension components, steering gear, linkage, and power assist systems are examined. Inspection and diagnostic methods are also reviewed for each major component area. The course incorporates a thorough review of wheel alignment geometry and wheel alignment correction and provides a diagnostic method for vehicle handling concerns. Lecture: 1 credit. Lab: 2 credits. Total: 75 hours. 3 credits

**BUSINESS (BF & BU & OA)****BF 203            4 Credits****PRINCIPLES OF FINANCE**

This foundational course in finance introduces the basic knowledge, concepts, terms, and practice associated with the three major areas of finance; financial institutions, investments, and business finance. The student gets an integrated view of the interrelationships among financial markets, financial institutions, and financial management. The course provides insight into how both businesses and individuals are affected by markets and institutions, and also how markets and institutions may be used to help meet the goals of an individual or a firm.

Prerequisite: AC102

**BF 232            3 Credits****PERSONAL FINANCE**

This course provides students with basic concepts and tools individuals to use in conducting their financial affairs. Topics include budgeting, consumer protection, borrowing alternatives, automobile and housing approaches, insurance strategies, high-return savings alternatives, and income tax considerations. An opportunity cost approach used to relate specific knowledge to appropriate individual strategies. Lecture: 3 hours per week

**BU 100            3 Credits****INTRODUCTION TO BUSINESS**

Introduction to the basic business functions of Small Business Management, Marketing, Finance, and Information Management and to the forms of business ownership. Elementary study of the separate disciplines of a business and how they are interrelated with one another, for the benefit of the customer/buyer and within the context of free-market pricing principles and government regulation. Introduction to the relevance of accessing data and information, critical analysis and use for business problem solving, and the importance of communication to business practices. Course provides the basis for students' decisions to elect more advanced courses, depending upon their interests. Lecture/Group & individual out of class work.

**BU 201            3 Credits****GLOBAL BUSINESS**

This course familiarizes students with the world of international business. It introduces students to the unique problems and issues organizations encounter when they operate abroad. It focuses on such concerns as relationships with host governments, foreign country cultures and attitudes toward business, and the complexities of planning, organizing, leading, communicating, and controlling in the international marketplace. The course is very interactive and the students will have the opportunity to create an International Business Export Plan.

**BU 250            4 Credits****SERVICE INDUSTRY INTERNSHIP**

This is an independent study course students usually take during the fourth-semester of the General Business Management Program. Participants are given an opportunity to practice principles presented in the classroom through a minimum of 120 internship hours in a service business setting. Hospitality internship placements may include hotels, convention and visitors bureaus, and travel and tourism related agencies. Retail internship placements may include department stores, specialty retailing companies, supermarkets, merchandising and distribution establishments, and chambers of commerce. Internship contract, written reports, and internship seminars required.

**BU 901            3 Credits****BUSINESS INTERNSHIP - VARIOUS TOPICS**

The Internship Course provides students with the opportunity to apply their business education within a structured organizational environment and, thereby, gain valuable work experience that enhances their course work and identifies areas of business in which they might be interested in as a career. Students learn by completing experiential learning assignments and activities and working with both a Faculty Advisor and a Mentor at their Internship employment. Students will complete a minimum of 120 internship hours, document their learning objectives, participate in scheduled meetings, complete evaluations of their Internship experiences, and write and present a formal capstone Internship Report.

**OA 201      3 Credits**  
**BUSINESS COMMUNICATION**

This course is an introduction to the philosophy of business communication. It consists of practice in planning, analyzing, and writing effective business letters, memoranda, and reports, using traditional and/or automated equipment. It is designed to be of assistance to students seeking employment opportunities. Lab: 3 hours per week.

**BIOLOGY (BI)**

**BI 101      4 Credits**  
**GENERAL BIOLOGY I w/LAB**

Biological principles common to all organisms are examined. An in depth study of the cell is presented including the chemistry, structure and function of cell organelles, metabolism, photosynthesis, cell reproduction, Mendelian genetics, and patterns of inheritance, chromosomal inheritance, molecular genetics, DNA technology and protein synthesis. Lecture: 3 hours per week. Lab: 2 hours per week

**BI 102      4 Credits**  
**GENERAL BIOLOGY II w/LAB**

A study is made of the mechanisms of evolution. The origin and diversity of life is studied by examining the evolutionary development of organisms in the five kingdoms-Monera, Protista, Fungi, Plants and Animals. Animal structure and function is covered by studying the principles and evolution of each organ system and then focusing on the human. This is followed by a study of plant structure and function. The course ends with a study of the ecological interrelationships among organisms and organisms with their environment. Lecture: 3 hours per week. Lab: 2 hours per week. Prerequisite: BI 101

**BI 105      3 Credits**  
**DNA METHODS IN CRIMINOLOGY**

This course primarily examines the science and statistics behind the use of DNA databases for human identification. Topics include mammalian DNA quantification; nucleotide sequencing; polymerase chain reaction; population genetics and allelic and genotypic frequencies; and calculations of exclusion probabilities for matches at multiple loci in genetic subpopulations. Lecture: 3 hours per week. 3 credits. Prerequisites: BI 101, or equivalent, or consent of instructor; MA 105.

**BI 106      3 Credits**  
**DNA METHODS IN CRIMINOLOGY LABORATORY**

This course examines the technologies behind the use of DNA databases for human identification. Laboratory exercises include DNA qualifications; DNA electrophoresis; and nucleotide sequence analysis. Lecture + Laboratory: 6 hours per week. 3 credits

**BI 110      4 Credits**  
**PRINCIPLES OF BIOLOGY I w/LAB**

Principles of Biology is an in depth study of basic concepts of biology with emphasis on cellular processes. Topics covered include chemical make-up of the cell, structures and functions of biological macromolecules, organelle structure and function, metabolic pathways, protein synthesis, expression and regulation of genes, gene technology, and genetics. The laboratory entails molecular modeling and experiments for concepts covered in lecture. Lecture: 3 hours per week. Lab: 2 hours per week.

**BI 112      3 Credits**  
**FUNDAMENTALS OF ANATOMY AND PHYSIOLOGY II**

Biology 112 is Part II of the BI 111 - BI 112 sequence in Human Anatomy and Physiology. The course continues with the normal individual as the basis for study. Altered states of health and disease are considered. Systems covered include: senses, endocrine, cardiovascular, lymphatic, respiratory, blood, immune, digestive, urinary and reproductive. Topics also included are: nutrition & metabolism, growth and development, genetics and microbiological aspects of health and disease. Prerequisite: BI 111.

**BI 113            3 Credits****ESSENTIALS OF ANATOMY AND PHYSIOLOGY w/LAB**

Essentials of Anatomy and Physiology is an introduction to the basic anatomy and physiology of the human body. Material will be covered at the cellular, tissue, organ, and system levels. The interrelationships among the systems and their maintenance of homeostasis will be studied. The laboratory portion will reinforce lecture material through the use of anatomical models and computerized learning tools. Lecture: 2 hours per week. Lab: 2 hours per week.

**BI 115            4 Credits****ANATOMY AND PHYSIOLOGY I w/LAB**

Studies the structural and functional relationships of the human body systems, emphasizing concepts of the regulatory processes that integrate body cells, tissues, and organs. Topics include: organization of the body; cell structure and function; development of the tissues; the integumentary, skeletal, muscular, and nervous systems; and the senses. Students will perform selected laboratory exercises in correlation with the lecture material. Lecture: 3 hours per week. Lab: 2 hours per week. Prerequisite: BI 101 or BI 110

**BI 116            4 Credits****ANATOMY AND PHYSIOLOGY II w/LAB**

Studies the structural and functional relationships and homeostatic mechanisms of various human systems in their normal physiological states. Topics include the endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems. Related laboratory experiments will be performed by the students. Lecture: 3 hours per week. Lab: 2 hours per week. Prerequisite: BI 115

**BI 118            1 Credit****ELEMENTS OF MICROBIOLOGY**

A study of the basic principles of microbiology including the characteristics of the major groups of microorganisms, and their role in infectious disease. The control of microorganisms and aseptic techniques are emphasized. Lecture: 1 hour per week.

**BI 120            4 Credits****PRINCIPLES OF BIOLOGY II w/LAB**

Principles of Biology II is a continuation of Biology 110. The course will cover the evolutionary process and a survey of the evolutionary diversity of organisms with an emphasis on the human body. Study of the metabolic pathways of the various organ systems of mammals will include the homeostasis and molecular regulation of these organ systems. The laboratory will entail a detailed study of these processes. Lecture: 3 hours per week. Lab: 2 hours per week. Prerequisite: BI 110

**BI 123            4 Credits****FUNDAMENTALS OF MICROBIOLOGY w/LAB**

Fundamentals of microbiology is the study of the microorganisms, which cause human disease from both a scientific and medical perspective. Studied will be the concepts regarding a) molecular structure, physiology, metabolism, growth, and genetics of microorganisms - bacteria, viruses, protozoans, and fungi; b) mechanisms of infection, toxicity, and disease; c) the immune system; d) physical and chemical control of microorganisms; and the structure, function, and action of antimicrobial drugs and drug resistance. Lecture: 3 hours per week. Lab: 3 hours per week. Prerequisite: BI 101 or BI 110

**BI 131            3 Credits****HEALTH SCIENCE AND EMERGENCY CARE**

An introduction to the study of the human organism. Emphasis placed on the maintenance of health and the recognition of minor disorders as they pertain to children. Common emergency situations along with appropriate first aid measures will be covered. Lecture: 3 hours per week.

**BI 141            3 Credits****HUMAN REPRODUCTIVE BIOLOGY**

Study of fundamental knowledge of the anatomy and physiology of human reproduction, means of birth control, development of the fetus and basic genetics including human genetic diseases. Population, venereal disease, and the evolution of sex discussed.

**BI 170            4 Credits****PRINCIPLES OF BIOINFORMATICS I w/LAB**

This course introduces students to the field of bioinformatics. The course covers the analysis of genetic sequences, genetic information from the human genome project & other model systems. Topics covered include data mining, data analysis and computational methods of DNA/RNA and proteins. Also covered are biological and chemical databases and searching, alignment tools, computational analysis of protein structure and function, and phylogenetics. The course also covers ethical issues associated with bioinformatics research and application. Lecture 3 hours per week. Lab 3 hours per week. 4 credits. Pre-requisites: BI 110 & CH 110.

**BI 171            4 Credits****PRINCIPLES OF BIOINFORMATICS II w/LAB**

This is the follow up course for BI 170 (Principles of Bioinformatics I). The course covers genomics and proteomics. Genomics is the study of the functions and interactions of the genes in a genome, and proteomics is the study of all the proteins expressed by the genome. Students are introduced to the analysis of complex genomes, DNA sequencing, and acquisition of genetic sequences. The course also covers genome data and exploration of the organization, dynamics, and evolution of genes and genomes. The course includes topics such as microarray technology and its use in molecular profiling, cell expression, cell may and modular proteomics. Students also learn basic technologies used in protein separations as well as detection and protein characterization. Protein purification and analysis such as mass spectrometry, isoelectric point, ion exchange chromatography, gel filtration, hydrophobic interaction chromatography, electrophoresis, SDS-PAGE, and affinity chromatography are also studied. Lecture 3 hours per week. Lab 3 hours per week. 4 credits. Pre-requisites: BI 120 & BI 170.

**BI 210            4 Credits****MOLECULAR BIOLOGY w/LAB**

This course is an in depth examination of the principles that govern the structure and function of both prokaryotic and eukaryotic genes. Emphasis is placed on gene structure, function, expression, and regulation. The laboratory presents a concise presentation of the state-of-the-art methods utilized in molecular biology, as well as an overview of the far-reaching applications of recombinant DNA technology. Lecture: 3 hours per week. Lab: 3 hours per week. Prerequisites: BI 120, CH 120

**BI 220            4 Credits****IMMUNOLOGY w/LAB**

This course emphasizes the molecular and cellular interactions involved in immune responses. Topics covered include antibody structure and function; applications of monoclonal antibodies in biotechnology and medicine; gene rearrangements in B and T cells; cellular cooperation and the role of the MHC; tolerance; and immunopathology (hypersensitivity, autoimmunity, transplantation, cancer immunity and immunotherapy, AIDS). Laboratory involves antibody purification, immunoprecipitation assays, immunoblotting, and ELISAs (indirect, sandwich, and competitive). Lecture 3 hours. Lab 3 hours. Prerequisite: BI 210.



**BI 240                      4 Credits**  
**FORENSIC MICROBIOLOGY w/LAB**

This course teaches the identification and tracing of microbial pathogens used in bio-terrorism and the use of site and/or region-specific microbes as evidence to uncover circumstances of interest to the law, often related to a crime such as in the movement of bodies and the location of original crime scenes. The course covers the study of pathogenic microbes and their toxins, their spread and methods of detection, as well as legal procedures. The structure, biochemistry, physiology and classification of the microorganisms that have pathogenic significance and the immune response are emphasized. Mechanisms of infection, toxicity and disease are covered with attention to various human body systems that are targets of such pathogens. Students learn methods of handling Biological Samples in the lab, methods of identification both through molecular microbiology and traditional microbiology. Mechanisms of pathogenesis and spread of microorganism and the epidemiology of tracing the sources of such spread are covered along with structure, function, and action of antimicrobial drugs and drug resistance and other treatment techniques. Students will defend their laboratory findings in a mock trial. 4 Credits: 3 hours lecture and 3 hours Lab. Prerequisites: BI110, CH110.

**BI 270                      4 Credits**  
**DIRECTED RESEARCH/INTERNSHIP**

This course provides an opportunity for students to work on real-life problems of bioinformatics applying their technical, communication and academic skills in solving these problems. Students will apply these skills in solving issues and problems that are or could face biotechnology and pharmaceutical companies.

**BIOTECHNOLOGY (BT)**

**BT 101                      2 Credits**  
**INTRODUCTION TO BIOTECHNOLOGY AND LABORATORY ROTATION I**

In this hands-on laboratory course students are introduced to the scientific method and key biotechnology methodologies through their participation in an ongoing molecular research project(s) conducted by the Biotechnology Program called the Grand Project. The research and training emphasis will be on protein and nucleic acid analysis of cellular proteins using the electrophoresis based methodologies: Western-, Northern-, and Southern-blot hybridization analysis. Students will also be introduced to mammalian cell culture. Lab: 6 hours per week. Prerequisites/Co-requisites: CH 110, BI 110

**BT 107                      3 Credits**  
**FORENSIC ROTATION I**

In this hands-on laboratory course students learn DNA typing and allele frequency analysis through the most commonly used methodologies for human identification in criminal cases involving DNA evidence including: Co-Filer™ and Pro-Filer Plus™, Ident-Filer™ and other allelic analysis methods. Students will develop and refine their DNA analysis skills by their direct involvement in actual criminal- and/or cold-cases. Students will be graded based on their performance in mock testimony in a moot court under cross-examination by a lawyer or law student in which the student must defend his/her forensic DNA findings. Lab: 6 hours per week. Prerequisites: CH 110, BI 110, BT 101

**BT 108                      3 Credits**  
**MARINE ROTATION I**

This course familiarizes the student with the fundamentals of marine boating, in particular as it relates to field research and qualifies them for certification in most states that require boating education before operating a watercraft. Subjects include: boat handling under normal conditions, adverse conditions and emergencies; research diving, underwater transect deployment and use: types of boats and boating terminology; required and recommended boat equipment; boating regulations and navigation rules; lines and knots; charts and aids to navigation; piloting techniques; and marine radiotelephone usage. Lab: 6 hours per week. Prerequisites: CH 110, BI 110, BT 101

**BT 201      3 Credits****CELL CULTURE**

In this hands-on laboratory course students are trained to establish and maintain mammalian cell lines and perform sophisticated molecular experiments in mammalian cells systems. Proficiency in cell culture will be conferred through the student's semester-long advancement of a molecular sub-project to be assigned by the instructor. Each sub-project will converge on the ongoing Grand Project conducted by the Biotechnology Program. Through their individual research sub-projects students will learn to apply the key molecular methodologies learned in Rotation I to addressing real scientific problems through the use of cell systems. Research training emphasis will be placed on extraction, purification and analysis of cellular proteins and nucleic acids, transfection, short-term and long-term cell storage, and cell fusion. Lab: 6 hours per week. Prerequisites: CH 110, BI 110, BT 101

**BT 205      3 Credits****FORENSIC DNA SCIENCE II**

This is a highly rigorous, hands-on laboratory course in which students learn mitochondrial DNA (mtDNA) analysis of human remains and human mtDNA haplotyping. DNA sequence polymorphisms at human loci are examined using the PRC based technique, Small Tandem Repeat (STR) analysis. Emphasis will be placed on the sequencing and characterization of the hyper variable region (HVR)-1 and HVR-2 of human mtDNA for purposes of establishing identity, determining ethnic origin, and linking remains to maternal family lineages. Students will be trained by their involvement in actual criminal cold-cases, missing person cases or anthropological cases. Students will be graded based on their performance in mock testimony in a moot court under cross-examination by a lawyer or law student in which the student must defend his/her forensic DNA findings. Lab: 6 hours per week. 2 credits. Prerequisites: CH 120, BI 110, BT 107, BT 201.

**BT 206      2 Credits****MARINE ROTATION II**

This courses teaches the student basic marine navigation and emphasizes the basics of coastal and inland navigation. The course also embraces GPS as a primary navigation and research tool while covering enough of traditional techniques (such as "bearings" and "dead-reckoning") so the student will be able to find his/her way even if their GPS fails. The course includes many in-class exercises and one open-water skills exercise, developing the student's navigational proficiency through hands-on practice and learning. Lab: 6 hours per week. Prerequisites: CH 120, BI 120, BT 108

**BT 211      3 Credits****INDEPENDENT RESEARCH: PROTEIN PURIFICATION/NUCLEIC ACID ANALYSIS**

In this hands-on laboratory course students learn the isolation, purification and characterization of cellular proteins from kilogram to nano gram scales. Emphasis will be placed on training the student in protein characterization: peptide mapping, amino acid analysis, ultrafiltration, low and medium pressure and high performance liquid chromatography (HPLC), gel filtration, ion exchange, reverse phase and affinity chromatography. Lab: 6 hours per week. Prerequisites: CH 110, BI 110, BT 101

**BT 240      4 Credits****RESEARCH INTERNSHIPS**

All students are required to undertake one Research Internship. The typical internship will be ten to twelve weeks in duration. The training of students interns will be determined by the host mentor and Biotechnology Program coordinator in a written agreement. Grade will be assigned by Program faculty, based on evaluations by mentor. Students may be required to assume the total costs of internships. 4 credits

**BT 241      4 Credits****FORENSIC INTERNSHIP**

Students will apply their forensic DNA training by engaging in criminal forensic or forensic anthropological work conducted at off-site forensic or anthropology laboratories. Internships will range from 8 to 12 weeks in duration at sites such as: the Armed Forces DNA Identification Labs (AFDIL), the FBI Forensic Laboratories at Quantico (VA), Royal Barbados Police and Forensic Service, Royal Montserrat Police, Forensic DNA Service of the Czech Republic, Royal Canadian Mounted Police, Massachusetts Medical Examiner Morgue, and other police and anthropological agencies and laboratories. All internships require a signed Memorandum of Understanding between the forensic faculty and mentor of the host institution. Internship grades will be based on an evaluation of the student's performance by the host institution and assigned by the forensic faculty. 320 hours. 4 credits. Prerequisites: CH 120, BI 120, BT 107, BT 201, BT 205

**CENTRAL SERVICES & MATERIAL MANAGEMENT (MM)****MM 101      3 Credits****PRINCIPLES AND PRACTICE I**

This course introduces central service and materials management concepts. It emphasizes the basics of microbiology and asepsis principles and practice. Course content also includes human relation skills, professional development, safety and risk management, national certification regulations and recommendations. Prerequisite: BI 101, certification in Central Processing Technology.

**MM 102      6 Credits****PRINCIPLES AND PRACTICE II**

This course is a continuation of MM 101 and includes financial planning, marketing strategies, program development, and social and economic changes that affect central services and material management. Clinical instruction focuses on central services, material management and purchasing skills. Clinical rotation provides the opportunity to integrate course concepts and skills. Prerequisite: MM 101.

**MM 103      6 Credits****PRINCIPLES AND PRACTICE III**

This course applies the technological techniques and principles presented in MM 102. It focuses on operational processes and techniques, asset management, technology assessment, and technology acquisition. The course explores regulations and their impact on hospital equipment, supplies, and customer satisfaction. Prerequisite: MM 102. Co-requisite: MAC 100, EN 100, EN 100L.

**CENTRAL PROCESSING (CY)****CY 101      4 Credits****PRINCIPLES OF CENTRAL PROCESSING TECHNOLOGY**

This course prepares the central processing technologist for the international certification exam offered by the International Association of Healthcare Central Service and Material Management. The student will learn, through didactic, lab and clinical experience, sterilization, decontamination, disinfection, sterile packaging and monitoring. Medical and surgical terminology, anatomy and physiology, communication skills, and instrumentation and equipment. Emphasis is on microbiological principles and infection control and FDA, OSHA, EPA, and other regulatory agencies standards. Lecture: 4 hours per week; Clinical: 24 hours each week.

**CHEMISTRY (CH)****CH 101      4 Credits****COLLEGE CHEMISTRY I w/LAB**

Part one of a two-semester course on the facts and principles of chemistry at the introductory level, (no previous background in Chemistry is assumed). The course has a mandatory lab that complements the lecture. Basic math skills, including introductory algebra, are suggested for success in this course. Topics include lab safety; metric system and density; scientific method; classification of matter; basic atomic structure; nuclear chemistry; nomenclature; chemical equations; patterns of chemical reactions; mole concept; compound stoichiometry; acids, bases and salts; gas laws; solutions; concentration units; PH scale. Lecture: 3 hours per week. Lab: 3 hours per week.

**CH 102      4 Credits****COLLEGE CHEMISTRY II w/LAB**

Part two of a two-semester course on the facts and principles of chemistry at the introductory level. The course has a mandatory lab that complements the lecture. Basic math skills, including introductory algebra, are suggested for success in this course. Topics include reemphasis of lab safety; math skills and graph analysis; measurements; reaction stoichiometry; atomic orbital theory and electron configurations; chemical bonding; intermolecular forces; chemical kinetics; periodicity; chemical equilibrium and its application to acid-base and ionic systems; redox reactions and electrochemistry; and organic chemistry. Lecture: 3 hours per week. Lab: 3 hours per week. Prerequisite: CH 101 or the equivalent

**CH 110      4 Credits****PRINCIPLES OF CHEMISTRY I w/LAB**

Part one of a two-semester course on the facts and principles of chemistry at the general chemistry level, (some previous experience with the discipline of Chemistry is assumed). The course has a mandatory lab that complements the lecture. Math skills of at least the college competency level are required. Topics include lab safety; classification of matter; measurements; representing compounds and reactions; patterns of chemical reactions; mole concept; compound and reaction stoichiometry; thermochemistry; solutions and concentrations; theories of atomic structure through quantum theory; periodicity; Lewis, Valence and Molecular Orbital bonding theory; molecular geometry; physical chemistry of gases; kinetic molecular theory. Lecture: 3 hours per week. Lab: 3 hours per week. Co-requisite: MA 102 or higher.

**CH 120      4 Credits****PRINCIPLES OF CHEMISTRY II w/LAB**

Part two of a two-semester course on the facts and principles of chemistry at the general chemistry level. The course has a mandatory lab that complements the lecture. Topics include re-emphasis of lab safety; intermolecular forces of attraction; kinetic-molecular theory; structure and properties of solids, liquids and gases; solutions, and colloidal suspensions; colligative properties; thermodynamics; chemical kinetics; chemical equilibrium and its applications; acid-base chemistry; buffers; redox and electrochemistry; descriptive chemistry. Lecture: 3 hours per week. Lab: 3 hours per week. Prerequisites: CH 110 and MA 102 or higher

**CH 140      4 Credits****CHEMISTRY FOR ENGINEERS w/LAB**

This is a one-semester course for a foundation in chemistry for students in engineering fields. The course covers measurements and error theory; patterns of chemical reactions; mole concept, concentrations and stoichiometry; thermochemistry; theories of atomic structure; orbitals and periodicity; bonding theories; molecular geometry; and intermolecular forces of attraction. Students will learn physical chemistry of gases; kinetic molecular theory; structure and properties of solids, liquids and gases; colligative properties; thermodynamics; chemical kinetics; chemical equilibrium and its applications; acid-base chemistry; buffers; and redox and electrochemistry. Other selected topics, at the discretion of the instructor, may include molecular orbital theory, coordination chemistry, nuclear chemistry and organic compounds. Lecture: 3 hours per week. Lab: 3 hours per week.

**CH 201      4 Credits****ORGANIC CHEMISTRY I w/LAB**

Part one of a two-semester science majors level course on the facts and principles of chemistry as they apply to carbon-based compounds. The course has a mandatory lab that complements the lecture. Topics include re-emphasis of lab safety; mixture separation techniques; spectroscopy; Lewis, Valence and Molecular Orbital bonding theory; representing organic compounds; acid-base theory; relationship between structure and properties – including polarity, stability, acidity and physical properties; stereochemistry; nomenclature; patterns in the physical and chemical properties of aliphatic cyclic and acyclic alkanes, alkenes, alkynes, alkyl halides and alcohols; applying the principles of thermodynamics, kinetics and mechanism to substitution, addition, redox and elimination reactions. Lecture: 3 hours per week. Lab: 3 hours per week. Prerequisites: CH 120 or the equivalent, MA 102 or higher

**CH 202      4 Credits****ORGANIC CHEMISTRY II w/LAB**

Part two of a two-semester science majors level course on the facts and principles of chemistry as they apply to carbon-based compounds. The course has a mandatory lab that complements the lecture. Topics include re-emphasis of lab safety; synthetic techniques; spectroscopy; patterns in the nomenclature, structure, physical properties, spectra; reactivity; stability, stereochemistry and chemical reactions of conjugated systems, benzene and its derivatives, aromatic systems, ethers, carbonyls, amines, carboxylic acids, esters, amides; acid chlorides; anhydrides; nitriles, enols, steroids, lipids, carbohydrates and amino acids; applying the principles of thermodynamics, kinetics and reaction mechanisms to the substitution, addition, redox, condensation and elimination reactions of these compounds. Prerequisite: CH 201 or the equivalent, MA 102 or higher

**CH 210      4 Credits****BIOCHEMISTRY I w/LAB**

A one-semester study of the facts and principles of chemistry as they apply to biological macromolecules and biological systems, with emphasis on the structure-function correlation. This course has a mandatory lab that complements the lecture. Topics include re-emphasis of lab safety; water in biological systems; protein chemistry – including the structure, function, purification, sequencing and synthesis of peptides; carbohydrate chemistry – including thermodynamics and mechanism of glycolysis and the Krebs cycle; nucleic acids – including solid phase nucleotide synthesis; enzymes – including, mechanism, kinetics and regulation; lipids – including biological membranes and transport, fatty acid metabolism; bio signaling; oxidative phosphorylation; endocrine regulation. Lecture: 3 hours per week. Lab: 3 hours per week. Prerequisite: CH 201 or the equivalent, MA 102 or higher

**CH 211      4 Credits****ANALYTICAL CHEMISTRY w/LAB**

This course will cover the major theories of classical analytical chemistry such as equilibrium, solubility, complex formation, redox systems, acid-base and buffered systems, as well as the organic and inorganic reactions pertinent to common analytical procedures. These theories are used in various analytical methods such as titrations, precipitation, gravimetric methods, complex formation and color metric methods. The course will also examine statistical methods of evaluation and errors in chemical analysis. Chemical analysis in a modern laboratory is often conducted with instrumentation. A survey of the different types of instruments and their applications is conducted. Methods included are spectroscopic methods (UV-VIS, IR, NMR, MS, AA, etc.); chromatographic methods (GC, HPLC, etc.) and other methods (electron microscopy, particle analysis, electrophoresis, polarographic and other electrochemical methods, and radiochemical methods). These instrumental methods are studied with an emphasis on how problems are solved. Many industrial processes and environmental site monitoring devices use the same principles as the modern analytical instruments in the chemical laboratories. These field equipment and process control devices are reviewed in this course. Lecture: 3 hours per week. Lab: 3 hours per week. Prerequisite: CH 120



**CHINESE (CHI)****CHI 101      3 Credits****CHINESE I**

With over 800 million speakers, Mandarin Chinese is the most spoken language in the world and one of the six official languages of the United Nations. Learning Chinese culture and language will arm you with a global perspective, a more well rounded personality and most importantly a mind that tolerates and flourishes on differences. Designed for students who have very little or no prior knowledge of Chinese, provides a lively introduction to basic oral expression, listening comprehension, and elementary reading and writing. The audio-lingual approach, using practical vocabulary drawn from realistic situations, aims at good pronunciation and ease in response. Each lesson incorporates helpful information about daily life in China and the varied cultures within the world of Chinese speakers. Audio practice complements class work, enable students to work aloud at their own speed, reinforce their acquisition of essential structures, and acquaints them with a vast hands on resources. A beginning course of modern standard Chinese (Mandarin). Introduction to the Romanization phonetic system of Chinese (Hanyu pinyin.), essential sentences, basic vocabulary, and approximately 180 characters in traditional form. Develops the basic skills in listening, speaking, reading and writing. Lecture: 3 hours per week. 3 credits.

**COMMUNICATION (CO)****CO 100      3 Credits****INTRODUCTION TO COMMUNICATION**

An introduction to the history and principles of human communication. The course will cover the development of communication from signals, to speech, to writing, and to the mass communication technologies of print, broadcast media, and computers. Contemporary models and theories of human communication will be emphasized. Finally, the course will consider the growing field of communication as both an academic discipline and a career focus. This will enable students to make informed choices about their future study and job options. Lecture: 3 hours per week.

**CO 101      3 Credits****INTRODUCTION TO MASS MEDIA**

History of the development and utilization of mass media: newspapers, magazines, television, radio, book publishing, public relations, advertising, film, and music. Mass media as a form of human communication is explored through historical developments, definitions, and evolving technologies. Lecture: 3 hours per week.

**CO 103      3 Credits****INTERCULTURAL COMMUNICATION**

There is an irrefutable imperative for all of us to understand not only those with similar background to our own, but even more importantly, those whose cultural identity differs from our own. Conflict based on political or religious difference, the growth of international business, increased global communication, inequities of access to such communication, the abundance of written and visual communication assailing us on a daily basis, make intercultural communication a captivating and necessary field of study. This introductory course provides the theoretical and practical foundation for a degree in Communication, as well as being relevant to courses of study in other disciplines. It provides students with a strong sense of their own complex cultural identities before moving on to teach them the principles underlying the study of intercultural communication. There will be opportunities offered for practical applications of those theories in case studies, group and pair work and project work.

**CO 105      3 Credits****JOURNALISM I**

Introduction to journalism with emphasis on news and feature writing. Examines the function of the editorial department, the use of various newsgathering techniques, the role of the journalist in gathering news, and ethical concerns in journalism. Lecture: 3 hours per week. Prerequisite: EN 101

**CO 106      3 Credits****GLOBAL JOURNALISM**

A continuation of CO 105. Emphasizes the writing of feature-length articles with a special concentration on global affairs, world geography, and current events. Lecture: 3 hours per week. Prerequisite: EN 101

**CO 107      3 Credits****BROADCAST JOURNALISM**

Broadcast Journalism introduces students to the basic skills in writing and producing TV news, including beat reporting, interviewing and editing with the needs and demands of the electronic media in mind. Students work independently and collaboratively on newscasts. Students critically evaluate newscasts and are introduced to the components of producing them. They also examine ethical challenges that arise when manipulation of images and sound can distort reality and compromise journalistic integrity. Students will be expected to narrate their own scripts, handle microphones, video cameras and other equipment, and edit their segments on computer to produce professional quality reports. They may be expected to cover news stories on and off campus and go on field trips to observe professional news operations.

**CO 200      3 Credits****PRINCIPLES OF PERSUASION**

This course is designed to examine the study of persuasive communication, which evolved from the disciplines of psychology and sociology. Emphasis is placed on types of social influence and how people try to influence one another through attitudinal and behavioral techniques. Some of the topics covered include how people convince one another, persuade others to like them, or end personal relationships. The course will also investigate the tactics of resisting another's attempt to persuade, the relationship between choice and coercion, how verbal aggression facilitates or disables persuasion. Learning theory, fear appeals, propaganda, and compliance-gaining techniques are other areas critically assessed. Prerequisite: CO100 or consent of the instructor.

**CO 201      3 Credits****FUNDAMENTALS OF PUBLIC RELATIONS**

Principles and techniques of communication used by organizations and individuals. Includes television, news releases, community and customer relations, interaction between companies and employees. Lecture: 3 hours per week.

**CO 210      3 Credits****COMMUNICATION INTERNSHIP**

The aim of this course is to provide students with experience working in the field of communications. The "internal internship" will involve students as members of the MassBay student newspaper. Working as staff writers, students will be assigned a local MassBay beat to report on as well as work together as a group to decide on the direction the student newspaper will take. The "external internship" will be a more traditional internship in which students will secure internships with local businesses working in positions related to the communication process including but not limited to public relations, journalism, advertising, human resources and corporate communication. Working under the guidance of the faculty advisor and an off-campus supervisor, students will be required to spend 70-80 hours a semester and complete tasks as assigned by their supervisor. 3 credits. Prerequisite: CO105.

**COMMUNITY HEALTH (CX)****CX 101      4 Credits****INTRODUCTION TO COMMUNITY HEALTH**

Provides an historical prospective and current overview of the Community Health Field: legislature, insurance, other issues and trends, and the role of the Community Health Worker are explored through lectures, discussions, field trips, research, and journals.

**CX 104            3 Credits****PROMOTING HEALTH IN THE COMMUNITY**

This course examines illness, chronic disease, communicable disease, mental health, etc. as they relate to the community, its culture and members, from infancy through the aging process. The course is designed for community health care workers and others interested in the promotion of healthy lifestyles to reduce risk factors associated with human morbidity and mortality. Lecture: 3 hours per week. 3 credits

**CX 201            6 Credits****PRACTICUM/SEMINAR FOR COMMUNITY HEALTH MAJORS**

A professionally supervised, 150 hour field work experience in a community health setting coupled with weekly class meetings to discuss the field experience, ethical issues, and current trends in community health. Scheduled conferences are also required. Lecture: 1 hour per week, 6 credits Prerequisites: CX101, CX104, PS241, SO203.

**COMPUTER SCIENCE (CS)****CS 100            3 Credits****COMPUTERS AND TECHNOLOGY**

This course introduces students to computers and technology. Students learn the basics of microcomputer windows, operating system software and application software. Students complete hands-on computer projects to gain experience using the operating system, e-mail, the internet, word processing, electronic spreadsheets, and basic presentation graphics software. After successful completion of this course, students will be familiar with business and personal computer applications and commonly used computer terminology. The history and future development of computing and technology are reviewed, as well as a look at the future of computers along with the legal, ethical and privacy issues associated with computers.

**CS 104            3 Credits****MICROCOMPUTER APPLICATIONS/BUSINESS**

This course deals with computer/technological literacy with an emphasis on business applications using the microcomputer. It is required for Business and Computer Information Systems majors. The basics of microcomputer operations including: hardware, windows, operating system software, and application software, will be introduced. Students will complete projects in the areas of word processing, in-depth spreadsheeting, e-mail, the Internet, databasing and some presentation graphics software. A look at the future of computers, including the legal and ethical impact on society will be covered. The labs will be structured toward practical day-to-day business problems. Lecture/Lab: 3 hours per week 3 credits

**CS 105            3 Credits****MICROCOMPUTER APPLICATIONS**

A second course designed for students with experience in using microcomputer applications software in the areas of word processing, electronic spreadsheets, presentation graphics, and database management. Students complete hands-on training at the intermediate level in the types of application software listed above. In addition, material will be presented in areas of disk management, the assessment of productivity software, and utilizing the Internet including elementary Web page creation and design. Lecture/Lab: 3 hours per week. Prerequisite: CS 100 or CS 104, or permission of instructor

**CS 107            1 Credit****INTRODUCTION TO THE INTERNET**

This course presents the basics of using the Internet. It includes the history and development of the Internet. The course discusses and demonstrates various parts of the Internet, including the World Wide Web, electronic mail, telnet, and file transfer protocol. It emphasizes utilizing the available search engines effectively. The pros and cons of various search engines and indices are discussed and demonstrated, as well as the use of Boolean operators to conduct an effective search. Other topics covered include Internet etiquette, protection against computer viruses, newsgroups, uploading and downloading information, e-copyright, encryption and data security, and choosing an Internet provider. Lecture: 5 3-hour weeks. Open Lab.

**CS 108      1 Credit****WEB PAGE DEVELOPMENT I**

This course presents the basics of Web page design and development. It covers basic HTML tags. Specific areas covered include headings, rule lines, lists, applying color, creating tables, hyperlinks, backgrounds, text formatting, and importing graphics so that students can create a home page. Professional web development tools are demonstrated. Lecture: 5 3-hour weeks. Open Lab. Prerequisite: CS 107 or permission of the instructor

**CS 109      1 Credit****WEB PAGE DEVELOPMENT II**

A continuation of CS 108. Topics include creating forms as well as an introduction to Java Script. It also introduces GIF animation, AVI files, and PDF format. The course provides tips on publishing and publicizing a website. Lecture: 5 3-hour weeks. Open Lab. Pre-requisite: CS 108 or permission of the instructor

**CS 110      4 Credits****INTRODUCTION TO COMPUTER SCIENCE**

This course is a broad overview of computer science from a problem-solving perspective. Topics include: solution strategies and algorithms, the hardware basis and organization of computers, operating systems and networks including the Internet, programming language paradigms and programming fundamentals, the many applications of software to real-world problems, and the social, historical, and ethical context of computing. Students receive a hands-on introduction to basic programming concepts (objects, classes, data types and expressions, loops, conditionals, and functions/methods). Also included are case studies about information rights, privacy, security, and the ethical (mis)behavior of corporations and individuals with respect to these issues. Lecture: 3 hours per week. Laboratory: 2 hours per week.

**CS 116      3 Credits****FUNDAMENTALS OF CYBER SECURITY**

This course covers introductory concepts, terminologies, and protection methods in computer and network security field. In addition to fundamentals, overview of topics such as cryptography, security infrastructures and protocols (such as different digital identification techniques, PKI, digital certificates, IPSec, and SSL), countermeasure technologies and systems (such as intrusion detection and protection methods) are covered.

**CS 118      3 Credits****SCRIPTING**

This course introduces fundamental programming concepts. Students learn to design and implement platform-independent scripts. Students will learn scripting for system-administration, database communication, and to provide user interactivity through the use of multimedia resources. By the end of the course students will have a concrete understanding of programming in several important scripting contexts.

**CS 120      4 Credits****PROGRAMMING I**

This foundational course for computer science majors introduces the fundamental concepts of programming from an object-centric perspective using Java. Includes a brief introduction to computing (historical development, computing systems, algorithms, and the nature of programming languages) and the object-oriented paradigm for software development. Topics include: objects, classes, methods, simple data types, control structures, and the use of indexed-list data structures such as arrays or strings. Includes discussion of the ethics and responsibility of computer professionals with respect to information rights. Lecture: 3 hours per week. Lab: 2 hours per week. Prerequisites: MassBay placement into a 100-level Math (not MAC) and CS 110 Introduction to Computer Science, or instructor's permission.

**CS 126      3 Credits****DIGITAL IMAGING**

This is the foundation course for students interested in digital imaging. This course explores principles of design and composition while enhancing familiarity with image creation and manipulation software, digital image capture, and the inclusion of images in web design. It emphasizes visual communication using digital art, graphic design, and color. In addition to class work, it requires independent computer lab time. Each student presents and defends an end-of-term project. Lecture: 3 hours per week. Open Lab.

**CS 130      4 Credits****PUBLICATIONS MANAGEMENT**

Preparation and production of professional-looking publications, including manuals, newsletters, ads, and journals. Topics include selecting a desktop publishing package and using graphics and specialized equipment such as scanners and laser printers. Additionally, students will learn how to manage other professionals in the desktop publishing field, including graphic artists and printers.

**CS 140      3 Credits****INTERACTIVE MULTIMEDIA**

This course provides students with the knowledge to create interactive applications and web pages that include animation, video, and sound. It emphasizes designing and creating dynamic content using various multimedia technologies. Topics include HTML 5, vector images, animation by keyframes and by tweens, layers, masks, and streaming media. Students add interaction by integrating video technology into an overall multimedia solution, by applying Java script and social media. Students also record, edit, and synchronize audio and video for use on the World Wide Web. Lecture: 3 hours per week. Open lab.

**CS 141      3 Credits****LINUX SYSTEM MANAGEMENT**

A hands-on, system-administration course with the practical goal of enabling the student to install and run an effective and secure Linux platform for use in a business or home-office context. Core topics include: the history, philosophy, and legal status of Linux, the operating system concepts that underpin Linux, basic installation, and management of files, and processes, log files, user accounts, and printers. Other topics include: configuring the boot process, configuring a desktop environment, performance monitoring and troubleshooting, system maintenance (backups, upgrades, and deployment), and basic network connectivity. Throughout an emphasis is placed on understanding and maintaining local system security.

**CS 145      4 Credits****COMPUTER SYSTEMS CONFIGURATION**

In-depth understanding of microcomputers and small systems architecture. Topics include hardware selection, setup, maintenance, and repair. Also included are upgrading systems, installing printers, boards and other peripheral devices such as CD ROM, laser disks, and scanners. Prerequisite: CS100 or CS104 or CS110

**CS 160      4 Credits****APPLICATIONS SOFTWARE STRATEGIES**

The application software strategies course introduces students to the essential skills required in developing and maintaining a software library. Students learn the basics of selecting the appropriate software, e.g., productivity, education and reference, entertainment, business and specialized and computer(s) for a particular business application. This includes desktop publishing using graphics and specialized equipment such as scanners and laser printers. Students complete hands-on computer projects while researching other topics, such as software licensing, piracy, maintenance, and the exchanging of data between applications. Demonstrations are conducted on a student's research using a presentation graphics program. Upon completion of this course, students will be familiar with different software applications, operating systems and computers. Prerequisite: CS100 or CS104 or CS110. 4 credits



**CS 176      4 Credits****WEB DESIGN**

This course presents web design fundamentals and essential development skills to create interactive web sites. Students will learn how to organize content, incorporate graphics and multimedia, and create interactive forms that capture and validate user input. Web technologies such as XHTML, Cascading Style Sheets, XML, and JavaScript will be presented. This course will provide students with a guide to designing the presentation, navigation and organizing the content of powerful Web pages that attract users and effectively convey a message. Legal issues and web accessibility topics will be covered. Professional tools will be presented to enhance and accelerate the design and implementation of Web content. Lecture: 3 hours per week. Laboratory: 2 hours per week.

**CS 200      4 Credits****PROGRAMMING II**

The object-oriented approach to programming with Java is developed in full. Topics include: practical object design, object-oriented principles (interfaces, composition, inheritance, polymorphism, and encapsulation), and container/collection objects (including arrays) and associated algorithms. As exemplars of these topics, the basis of GUI interfaces, event-driven programming, and graphics are examined. Exceptions and file access are introduced as well. The emphasis is on developing good software craftsmanship along with an awareness of the implications for the user of software design choices. Lecture: 3 hours per week. Lab: 2 hours per week. Prerequisite: "C" or better in CS 120 Programming I.

**CS 205      4 Credits****INTRODUCTION TO COMPUTATION**

A concrete approach to the mathematics and logic needed to understand algorithmic problem solving. Introduction to the discrete math needed in computer science. Includes a proof-and-algorithm-oriented, but elementary, introduction to logic, foundational concepts (sets, relations, maps, integers, divisibility and congruence), as well as sequences, induction, recursion, counting, and discrete probability. Prerequisite: Eligible to take a 100 level math course

**CS 208      4 Credits****DATA STRUCTURES**

This programming course develops the ability to design, implement, and use Java collection classes, their underlying data structures, and the associated data manipulation strategies most effective in solving a given problem. The course includes the study of stacks, queues, lists, trees, and maps, as well as hashing, recursion, sorting and search algorithms. Prerequisite: C or better in CS 200, or permission of instructor

**CS 209      4 Credits****C PROGRAMMING**

An introduction to the C programming language using either the VAX C compiler or a microcomputer C compiler. Topics will include: types, operators and expressions, control flow, functions and programs structure, pointers and arrays, structures, and input/output.

**CS 211      4 Credits****C++ PROGRAMMING**

Object-oriented introduction to computer programming. Design, code, compile, and test programs. Use comments, meaningful identifiers, modular design, and classes to produce readable, structured code. Input/output, data types, functions, object classes, branches loops, parameters, arrays, and algorithm analysis.

**CS 212      4 Credits****SYSTEMS PROGRAMMING WITH "C"**

An introduction to operating systems and systems programming via an in-depth introduction to and examination of the Linux operating system. The C language is learned as a tool for Linux systems programming. Topics include: history of operating systems, features of Unix and Linux, C programming, shells and user-level commands, files, terminals, processes, memory management, sockets, and servers. Prerequisite: CS118 or CS120

**CS 213      4 Credits****DATABASE MANAGEMENT SYSTEMS**

The course covers characteristics of database management systems, including design and implementation techniques. Students study various database models and focus on issues related to the fundamental concepts of the relational model. Topics include data analysis, data modeling, database management systems, the normalization process, security and integrity issues; and data manipulation using the SQL query language. Pre-requisite: CS 120 Programming I or CS 118 Scripting

**CS 214      4 Credits****COMPUTER ARCHITECTURE AND ASSEMBLY LANGUAGE**

This course covers the internal organization and operation of a representative von Neumann computer including instruction types, data representation, and addressing-modes. Assembly language programming will introduce symbolic addresses, assembler directives, input/output, system calls, and a call/return mechanism. The course concludes with an introduction to the C programming language and the way in which its high-level-language constructs are represented in assembly language. Prerequisite: CS120 or CS118

**CS 225      3 Credits****SOFTWARE DESIGN**

Project approach to the software development life cycle: Small teams of students write a description of a software application to be created, develop an object design, implement this design in Java, and present the result in an open forum. Lecture topics are chosen to support this process. Lecture: 3 hours per week. 3 credits. Prerequisite: CS 200.

**CS 230      4 Credits****INFORMATION SYSTEMS ADMINISTRATION AND MANAGEMENT**

This course deals with the management and maintenance of computer based information systems (CBIS). Students examine the differences between various types of information systems and develop proficiency solving IS problems using productivity software, the Internet and Case-Study analysis. Topics include purchasing supplies, working with vendors, contracting outside computer services, assessing user needs, and management of computer personnel. Lecture: 3 hours per week. Laboratory: 2 hours per week. Prerequisite: CS100 or CS104 or CS110 or Instructor's permission

**CS 235      4 Credits****INFORMATION SYSTEMS ANALYSIS AND DESIGN**

This course deals with the methods (both theory and practice) used by systems analysts in planning and operating a computer system. Students examine the role of the analyst in the investigation, analysis, design, development, implementation and evaluation of computer systems and procedures. Techniques used for evaluating computer needs, project planning, information policies and practices, and upgrading systems will be covered. Lecture: 3 hours per week. Laboratory: 2 hours per week. 4 credits Prerequisite: CS100 or CS104 or CS110

**CS 241      4 Credits****WEB SITE DEVELOPMENT**

This course introduces the fundamentals of web programming. Students will build database driven Web sites that retrieve, integrate and present database content. Students will use professional tools used to enhance and accelerate the development of web sites. Client-side and server-side scripting will be presented using current web technologies. Pre-requisite: CS 120 Programming I or CS 118 Scripting.

**CS 242      4 Credits****COMPUTER NETWORKS**

How computer networks and the Internet work. This course presents a description of the various levels of networking, from the lowest levels of data transmission and wiring to the highest levels of application software. Topics covered include data transmission, how the hardware works; packet switching, network topologies and wiring schemes; internetworking, internet architecture, TCP/IP; and various network applications. Lecture: 3 hours per week. Lab: 2 hours per week. 4 credits. Prerequisites: CS 120 Programming I or CS 118 Scripting.

**CS 243      4 Credits****COMPUTER NETWORKS II**

Building upon the knowledge gained from the first computer networks course, this course provides students with more in-depth knowledge and hands-on experiences on important networking topics, such as firewalls, IPSec, VPN, ACLs, Wireless APs, Routers and router configuration.. Students completing this course will be prepared to take industry standard networking and/or routing certificate examinations. Prerequisite: Grade of C or better in CS242.

**CS 246      3 Credits****WEB SERVER ADMINISTRATION**

This course teaches students how to set up and manage a Web server using Linux/Apache and Microsoft Windows 2000/IIS. Students gain real-world experience with these platforms by configuring, maintaining, and troubleshooting Internet services. The administrator's role supporting Web developers is introduced through hands-on exercises with application servers (PHP and Microsoft ASP) and the MySQL relational database. The course also covers important server technologies besides HTTP (Web protocol), including FTP (file transfer) and SMTP/POP3 (e-mail). Lecture/Lab: 3 hours combined. 3 credits. Prerequisites: CS 110 or CS 176.

**CS 270      3 Credits****PRACTICAL PYTHON PROGRAMMING**

This course offers extensive survey of the computer science techniques useful and effective for algorithmic problem solving in any field. It is organized around a series of practical projects which give the student the opportunity to apply these techniques by creating short Python scripts. While no prior programming is assumed, a willingness to learn Python and engage in hands-on problem solving is. Hybrid course with 1 hr of in-class meeting time. Prerequisite: MA 98 Intermediate Algebra or higher.

**CS 280      1 Credit****COMPUTER SCIENCE INTERNSHIP**

This course provides actual hands-on work experience. Co-Op experience of at least 80 hours within a supervised setting is required. Grading is pass/fail. 1 credit

**CRIMINAL JUSTICE (CJ)****CJ 101      3 Credits****INTRODUCTION TO CRIMINAL JUSTICE**

An introduction to the history, development, and philosophy of criminal justice. Topics covered include constitutional limitations, agencies of criminal justice, and the process of criminal justice. Lecture: 3 hours per week.

**CJ 131      3 Credits****INTRODUCTION TO SECURITY SCIENCE**

A discussion of the historical, theoretical, and legal basis of security, including the purpose of security in modern society, standards and goals for the security industry, and an investigation of the social sources and consequences of the private provision of policing.

**CJ 141      3 Credits****INTRODUCTION TO CORRECTIONS**

An overview and critical analysis of contemporary correctional theory and practice. Controversial issues in contemporary corrections, including prisoner rights, victimization, the death penalty, and unionization are addressed. Lecture: 3 hours per week.

**CJ 151      3 Credits****INTRODUCTION TO LAW ENFORCEMENT**

Line activities of law enforcement agencies with emphasis on the patrol function and prevention of crime. Topics covered include specialized operational units, such as, investigative, juvenile, and vice, and other specialized operational units. Lecture: 3 hours per week.

**CJ 209            3 Credits****ORGANIZATION AND MANAGEMENT OF POLICE**

Topics covered include personnel management, records and reports, public relations, budgets, administrative procedures employed by police departments, and a general review of the police department's relationship to other municipal agencies. Lecture: 3 hours per week.

**CJ 215            3 Credits****CRIMINAL INVESTIGATION**

Topics covered include the elements of crime with emphasis on police duties, identification of persons and property, interviewing and interrogating, as well as case management and presentation.

**CJ 217            3 Credits****CRIMINAL EVIDENCE**

An introduction to the Federal and Massachusetts rules of evidence. Topics covered include hearsay rules and its exceptions, (corpus delicti), real evidence, circumstantial evidence, and privilege. Lecture: 3 hours per week.

**CJ 221            3 Credits****INTRODUCTION TO CRIMINOLOGY**

Topics covered include criminal and delinquent behavior in the United States, including the variations, ramifications, and measures of prevention; control, and treatment. Crime and delinquency as social problems and study of methods that bring about more expedient amelioration and control are explored. Lecture: 3 hours per week.

**CJ 241            3 Credits****JUVENILE OFFENDERS**

An introduction to the causes of delinquency with concern for delinquency control, detention, and legal confinement. The Federal and Massachusetts juvenile court systems as well as the protective services of metropolitan Boston are discussed. Lecture: 3 hours per week.

**CRITICAL THINKING (CT)****CT 100            3 Credits****CRITICAL THINKING**

Introduction to critical thinking in college. Designed to provide students with practice in interpreting, analyzing, synthesizing, and assessing new information and its relationship to previous knowledge. Students will evaluate classic and contemporary arguments and learn how to construct sound arguments. Small group participation is an integral part of this course. This course is required for completion of an A.S. or A.A. degree program.

**ECONOMICS (EC)****EC 104            3 Credits****CONTEMPORARY ECONOMIC ISSUES**

Economic issues are analyzed and discussed including current major issues and problems of the economy. Primary analytical tools include: demand and supply theory, elementary Keynesian economics, and basic monetary policy. Topics covered include: government price fixing, pollution, the role of government, inflation, unemployment, the national debt and international trade. Emphasis will be given to current economic events in the news. Students who plan to, or have taken, EC 201 or EC 202 should not take this course for credit.

**EC 201            3 Credits****PRINCIPLES OF MACROECONOMICS**

This course will address two major questions: (1) what are the causes of recessions, unemployment and inflation; and (2) what can governments do to combat business cycles and reduce unemployment? Topics covered include: fiscal policy, federal debt, monetary policy, and the Federal Reserve System. We will also look at the impact of international trade and the balance of payments. It is recommended that the student take this before EC 202. Lecture: 3 hours per week.

**EC 202            3 Credits****PRINCIPLES OF MICROECONOMICS**

This course will analyze the four basic market structures or perfect competition, monopoly, monopolistic competition, and oligopoly. We will see how each industry's structure impacts decisions on pricing and production. Topics covered include: business costs, price elasticity, anti-trust laws, privatization, labor law, income distribution and poverty. It is recommended that the student take EC 201 before this course. Lecture: 3 hours per week.

**EC 205            3 Credits****MONEY AND BANKING**

This course is a general survey of money and banking, covering the nature and functions of money, monetary standards, structure and functions of the Federal Reserve System, monetary and fiscal policy, recent monetary problems and international financial issues. Prerequisite: EC201

**EDUCATION (ED)****ED 108            3 Credits****ART AND MUSIC FOR YOUNG CHILDREN**

This course presents techniques for stimulating creative experiences for young children in art, music and movement. Direct participation with varied media is included to demonstrate appropriate programming for young children. Lecture: 3 hours per week.

**ED 112            3 Credits****INTRODUCTION TO EARLY CHILDHOOD EDUCATION**

This course presents the purposes of early childhood education, major theories, and models of significant early childhood programs and current issues affecting the field. Students explore developmentally appropriate practices for early childhood education programs and participate in 12 hours of field study. Lecture: 3 hours per week.

**ED 115            4 Credits****EDUCATION IN AMERICAN SOCIETY**

An examination of the historical, cultural, and philosophical foundations of education in the United States from the 1700's to the present. The purposes and organization of the delivery of schooling will be discussed and contemporary topics in education explored, including the roles of the American school in a democratic, multicultural society. The course is designed to help students decide whether the teaching profession is suited to their individual interests and abilities. A three-hour field study in schools is required each week in addition to lecture hours. Lecture: 3 hours per week.

**ED 170            3 Credits****THE INCLUSIVE EARLY CHILDHOOD CLASSROOM: STRATEGIES FOR EFFECTIVE TEACHING**

This course provides an overview of instructional and curricular strategies for supporting students with disabilities in inclusive school settings. A review of relevant legislation and state services will be addressed. The use of screening and assessment tools and the role of Individualized Education Plans and Family Service Plans in program planning will be explored. There will be a focus on classroom strategies for early childhood educators who will serve young children with varied developmental challenges in regular school programs. An understanding of the needs of families and strategies for collaboration with them will be included. Lecture: 3 hours per week.

**ED 203            3 Credits****EARLY CHILDHOOD CURRICULUM**

This course develops skills for creating appropriate learning environments for young children. Students plan and prepare activities in specialized curriculum areas including science, social studies, math, health and nutrition, and language arts for individual children and groups. Additional curriculum planning topics include identifying and planning for individual needs and interests, assessment, providing for a range of abilities, incorporating multicultural and nonsexist elements, incorporating play in learning, and the role of family communication. Lecture: 3 hours per week. Prerequisite or co-requisite: PS 222



**ED 211      1 Credit****YOUNG CHILDREN AND TECHNOLOGY**

A course to provide knowledge and understanding of the role of computer technology in the early childhood classroom. Hands on exploration of current children's software will offer skills in designing a developmentally appropriate technological environment for young children. Assistance will be given to identifying appropriate resources for the early childhood teacher.

**ED 212      3 Credits****GATEWAY TO CULTURAL COMPETENCE**

The course will introduce the concept of cultural (or cross-cultural) competence and its impact on the provision of educational services to children. The development of culturally responsive dispositions and skills will be encouraged through pre-practicum field experiences and exploration of their cultural context, including the effects of customs, history and languages. Students will gain insight into the formative effects of culture on teaching and learning and engage in service learning in preschool and kindergarten classrooms. Note: This course is designed for Education majors. It is recommended that students complete at least one other Education course in addition to the prerequisite. Prerequisite: PS 222.

**ED 221      3 Credits****ADMINISTRATION OF EARLY CHILDHOOD PROGRAMS**

This course acquaints participants with critical elements in establishing and operating a childcare center. It will explore state regulations, staff relationships, business practices, parent contacts, and community relationships. This course meets the requirements of the Department of Early Childhood Education and Care for the Director I Certificate. Lecture: 3 hours per week.

**ED 223      3 Credits****INFANTS AND TODDLERS**

Examination of the specialized needs of infants and toddlers with regard to intelligence, language development, nutrition, motor and social abilities, and parent-child relations. Types of programs serving infants, toddlers and their families, focusing on the design of optimum environments and curricula, will be studied. Lecture: 3 hours per week.

**ED 227      3 Credits****SUPERVISION IN EARLY CHILDHOOD PROGRAMS**

This course will provide an overview of strategies for effective staff supervision in early childhood settings. A theoretical framework will be presented focusing on the role and responsibilities of supervisors and mentors. Students will reflect on their personal experiences with supervision and develop coaching and mentoring skills through practice both in-class and onsite. EEC Lead Teacher certification is suggested. Course will count towards EEC Director II. Prerequisite: ED221 Administration of Early Childhood Programs.

**ED 228      3 Credits****BEHAVIOR MANAGEMENT**

To assist the Early Childhood educator to understand the behavior of young children and to develop a plan to optimize classroom communication and discipline. Emphasizes methods and strategies that improve classroom communication and discipline while also building the child's self-image. Lecture: 3 hours per week.

**ED 230          6 Credits****PRACTICUM AND SEMINAR IN EARLY CHILDHOOD**

This practicum is a supervised field work experience in an early childhood education setting, such as a child care center, nursery school, kindergarten class, early elementary classroom, infant/toddler program or program for children with special needs. Students will gain competencies working with young children 12 hours per week, 150 hours per semester. The course includes a two-hour seminar each week, weekly conferences with the cooperating teachers and regularly scheduled conferences with the College supervisor. Waiver of ED 240 is granted if the student worked as a teacher in a childcare center for at least two years and has demonstrated appropriate competencies working with young children, and has received a grade of B or above in the first semester of student teaching. The student may substitute two Early Childhood electives for ED 240 in the second semester of the fieldwork course. The seminar is available in classroom or online format. Students should contact instructor regarding the ED 240 waiver. Field Experience: 12 hours per week. Seminar: 2 hours per week. Prerequisite or co-requisite: ED 203

**ED 240          6 Credits****PRACTICUM/SEMINAR EARLY CHILDHOOD ED**

This practicum is a supervised field work experience in an early childhood education setting, such as a child care center, nursery school, kindergarten class, early elementary classroom, infant/toddler program or program for children with special needs. Students will gain competencies working with young children 12 hours per week, 150 hours per semester. The course includes a two-hour seminar each week, weekly conferences with the cooperating teachers and regularly scheduled conferences with the College supervisor. Waiver of ED 240 is granted if the student worked as a teacher in a childcare center for at least two years and has demonstrated appropriate competencies working with young children, and has received a grade of B or above in the first semester of student teaching. The student may substitute two Early Childhood electives for ED 240 in the second semester of the fieldwork course. The seminar is available in classroom or online format. Students should contact instructor regarding the ED 240 waiver. Field Experience: 12 hours per week. Seminar: 2 hours per week. Prerequisite or co-requisite: ED 203

**ELECTRICAL ENGINEERING (EE)****EE 110          4 Credits****CIRCUIT ANALYSIS I**

This is the first half of a calculus-based circuit theory sequence. The combination of theory and lab experiments will meet the needs of students planning to transfer to four-year programs. Topics to be covered: basic circuit analysis, network theorems (superposition, Thevenin/Norton, etc.), active (transistor and OpAmp) circuits, mesh/node analysis, waveforms (sinusoid, step, exponential, etc.), capacitance and inductance, and response of first- and second-order circuits. Extensive lab work along with various circuit simulations S/W (PSPICE, B2SPICE). Lecture: 3 hours per week. Lab: 2 hours per week. Co-requisite: MA 201

**EE 115          4 Credits****CIRCUIT ANALYSIS II**

This is the second half of a calculus-based circuit theory sequence. The combination of theory and lab experiments will meet the needs of students planning to transfer to four-year programs. Topics to be covered: Laplace Transforms and s-domain circuit analysis, network functions, sinusoidal steady-state response, filter design, and Fourier Transforms. Extensive lab work along with various circuit simulations S/W (PSPICE, B2SPICE). Prerequisite: EE110

**EE 120          4 Credits****DIGITAL ELECTRONICS**

This is the first half of a digital systems sequence. The combination of theory and lab experiments will meet the needs of students planning to transfer to four-year programs. Topics to be covered: Number systems, Boolean Algebra and basic logic functions, combinational logic minimization (including K-Map and Quinne-McCluskey), flip-flops, and digital arithmetic. Extensive lab work along with circuit simulation S/W (B2LOGIC). Lecture: 3 hours per week. Lab: 2 hours per week.

**EE 125      4 Credits****DIGITAL COMPUTER SYSTEMS**

This is the second half of a digital systems sequence. The combination of theory and lab experiments will meet the needs of students planning to transfer to four-year programs. Topics to be covered: counters and registers, sequential circuit design, basic logic families (TTL, CMOS, DTL, RTL, IIL), decoding/encoding, MUX/DEMUX, ADC/DAC, memory (RAM/ROM), PLDs (PROM, PLA, PAL), memory systems, and an introduction to the microprocessor. Extensive lab work along with digital simulation S/W (B2LOGIC, CUPL). Lecture: 3 hours per week. Laboratory: 2 hours per week. Prerequisite EE 120

**EE 150      4 Credits****MICROPROCESSORS**

This is the first half of a microprocessors sequence. The combination of theory and lab experiments will meet the needs of students planning to transfer to four-year programs. Emphasis starts with a generic microprocessor and then considers the Motorola 6800. Topics to be covered: programming techniques, transfer-of-control instructions, loops and subroutines, data I/O techniques, interrupts, PIA, serial communication and the ACIA, interfacing the 6800, and an introduction to the MC6840 programmable timer module. Extensive lab work. Lecture: 3 hours per week. Lab: 2 hours per week. Prerequisite: EE 125

**EE 231      4 Credits****HARDWARE ORGANIZATION AND DESIGN**

This is the second half of a microprocessors sequence. The combination of theory and lab experiments will meet the needs of students planning to transfer to four-year programs. Emphasis is on the Intel family of microprocessors, particularly the 8086/8088. Topics to be covered: S/W architecture of the 8086/8088, machine language and assembly language coding, review of programming techniques, memory interfacing, I/O interfacing, interrupt interfacing, and an introduction to the IBM PC microcomputer. Extensive lab work. Prerequisite: EE150

**ELECTRONICS (EL)****EL 101      4 Credits****FUNDAMENTALS OF ELECTRONICS**

This course is designed to consider electronic devices and their applications in electrical, electronic, and electro-mechanical systems. This course includes the study of voltage, resistance, current, and power as it applies to DC circuits. In addition, electrical circuits are analyzed by Thevenin's and Norton's theorems and superposition. Laboratory problems are designed to emphasize classroom instruction and provide students with experience using meters, signal generators, oscilloscopes, and bread boarding techniques. Lecture: 3 hours per week. Lab: 2 hours per week. Prerequisite: MA103 or equivalent

**EL 102      4 Credits****FUNDAMENTALS OF ELECTRONICS II**

This is the second half of an algebra based circuit theory and analysis sequence. The combination of theory and laboratory experiments emphasizing AC analysis, phaser, resonance, linearity and power in AC circuits, RL, RC and RLC circuits, step response of inductors and capacitors, tuned amplifiers and oscillators. Lecture: 3 hours per week. Laboratory: 2 hours per week. Prerequisite: EL101

**EL 125      4 Credits****INTERNSHIP**

A six to ten week internship will be required for all Electronic Technology students. The internship may be done at Digital, EMC, or at any other high tech companies.

**EL 151      4 Credits****ELECTRONICS I**

Semiconductor theory; junction, tunnel and zener diodes; bipolar, FET and MOSFET transistors; biasing and stability of devices, small-signal and large-signal behavior are studied together with frequency response. Lecture: 3 hours per week. Lab: 2 hours per week.

**EL 152          4 Credits****ELECTRONICS II**

Continuation of EL 151. Operational and differential amplifiers, the analysis of the behavior of multistage amplifiers, power amplifiers, integrated circuit timers, comparators, signal generators, oscillators, tuned circuit amplifiers, modulators, and thyristor control circuits. Lecture: 3 hours per week. Lab: 2 hours per week.

Prerequisite: EL151

**EL 220          4 Credits****SEMICONDUCTOR DEVICES**

This laboratory research-based course is designed to familiarize the students with the techniques employed in the process of manufacturing semiconductors or integrated circuits (commonly called ICs or chips). Topics covered in this class include wafer production and fabrication, thermal oxidation, masking, doping, dielectric deposition, and metallization, electric test, and assembly. Design for basic IC components such as transistors, resistors, and capacitors are covered. Field trips to IC manufacturing facilities and guest lectures by IC layout designers are part of this course. Lecture: 3 hours lecture. Laboratory: 2 hours lab. Prerequisite: EL 215

**EMERGENCY MEDICAL TECHNICIAN (EM)****EM 101          6 Credits****EMERGENCY MEDICAL TECHNICIAN**

This course provides the student with theory, demonstration, and laboratory experience in the following areas of the National Standard Training Curriculum for the EMT-B: anatomy and physiology of body systems, patient assessment, CPR (mandatory), oxygen therapy, ventilation, control of bleeding, management of shock, care of wounds and fractures, medical emergencies, pediatrics, geriatrics, childbirth, environmental emergencies, communications, psychological emergencies, triage, stabilization and transportation. Persons who successfully complete all course requirements are eligible to take the state certification examination for the Emergency Medical Technician. Students must be at least 18 years of age to take the certification exam. Lecture: 4 hours per week. Lab: 4 hours per week. Prerequisite: High School Diploma

**EM 105          2 Credits****EMT FIELD INTERNSHIP**

The EMT Field Internship affords the student the opportunity to develop the role of the professional EMT under the direction of an authorized EMT, Paramedic or RN preceptor. The student will apply the skills and knowledge he she has learned in EM 101 theory, demonstration, and experiential laboratory. The student will be involved in all aspects of an ambulance call, checking of the ambulance at the start of a shift, to providing patient care, and turning over the patient to the Emergency Department (ED) staff, as well as continuing care in the ED or other units. In accordance with the 2009 National EMS Education Standards, a minimum of 10 patient assessments must be completed in the ED or other approved unit. Successful completion will be assessed through preceptor evaluations, written documentation, and a final reflective assignment. Internship: 60 hours, approximately 8 hours per week for 8 weeks. 2 credit hours. Prerequisites: C+ (77%) or higher in EM 101, completion of all health and CORI/SORI clearances.

**ENGLISH (EN)****EN 90          6 Credits****INTRODUCTION TO LANGUAGE\***

Combines instruction in all stages of the writing process with lab-based reading practice. Required of some students based on College placement tests. Does not replace any degree requirement or elective. Outcomes: fluency, focus, familiarity with standards for college-level reading and writing, analysis of personal strategies for most effective writing process. Lecture and Lab: 6 hours per week.

**EN 100      4 Credits****COLLEGE WRITING w/LAB\***

Introduction to the process of writing in an academic setting, including practice in critical reading and research, invention strategies, focus, development, audience awareness, and editing. Activities include lecture, small group discussions, instruction in word processing and online research, collaborative peer review, and self-assessment. Students produce a minimum of four essays utilizing multiple sources. Essays are analyzed in draft stages, leading to a portfolio that demonstrates college-level ability in reading and writing. Student performance in class work and exit portfolio determines placement into EN 101 or EN 102. Prerequisite: Students must be placed into EN100 through the College's placement process or the Department of English's end of semester portfolio assessment.

**EN 101      3 Credits****FRESHMAN ENGLISH I**

The first of a two-semester course to improve writing. Students write a minimum of four essays in multiple drafts with emphasis on critical thinking, reading, focus, organization, clarity, and grammatical correctness. Students become familiar with the process of composing academic writing: producing rough draft material, revising, and editing. Readings across the curriculum provide material for discussion and analysis of ideas. By the end of this course, students should be prepared for the longer essays and research papers that EN 102 requires. A writing sample is expected of all students at the beginning and the end of the course to assess student-writing competency and determine progress in writing course sequence. Prerequisite: Students must be placed in to EN101 through the College's placement process or the Department of English's end of semester portfolio assessment.

**EN 101L      3 Credits****ACCELERATED ENGLISH LAB\***

This course is designed for students who place into EN100 and who opt to take EN101; Freshman English-I and the corresponding Accelerated English Lab. Activities may include writing workshops, individual conferencing, the development of an electronic portfolio, journal writing, group presentations, as well as small group and whole class reading and research assignments. Grading for the lab is Satisfactory/Unsatisfactory. (Please note that eligible students must co-enroll in the Accelerated English Lab and the corresponding section of Freshman English-I). Co-requisite: Students are required to take EN101L Lab and the corresponding section of EN101: Freshman English-I. Prerequisite: Students must be placed into EN100 through the College's placement test or the Department of English's end of semester portfolio assessment.

**EN 102      3 Credits****FRESHMAN ENGLISH II**

Further development of writing skills, with additional exposure to library research. Students produce a minimum of four longer papers, with emphasis on critical thinking, academic research, audience awareness, critical reading, unity, coherence and style. Papers give practice in making reference to readings from a variety of academic disciplines, including literature. Students will demonstrate the ability to read with increased understanding and insight. Prerequisite: EN 101

**EN 202      3 Credits****ADVANCED WRITING**

Assists the student in completing in-depth writing projects including research papers and longer essays. Emphasis on argumentation, critical reading/writing, and editing skills. Writing topics and projects may be chosen from across the disciplines and may be tailored to students' academic majors. May fulfill one of the following: a humanities elective, a free elective, or, (with permission of the instructor) the EN 102 requirement.



**ENGLISH AS A SECOND LANGUAGE (ES)****ES 86                  6 Credits****COLLEGE ESL I\***

Designed for students who have limited experience with English. Introductory course focuses on basic understanding of English through integrated reading, writing, and speaking/listening activities. Students develop fluency in English through personal narrative and information sharing assignments. Required for some students based on College placement tests. A limited course load is recommended for students enrolled. Lecture: 6 hours per week.

**ES 87                  6 Credits****COLLEGE ESL II\***

Designed for intermediate level students. Focuses on the development of abilities in reading, writing, speaking, and listening through an integrated approach. Classroom discussion of readings are used to develop students' confidence in their understanding and expression of English. Students develop college composition skills, focusing primarily on personal narrative and opinion pieces. Required for some students based on College placement tests. Lecture: 6 hours per week.

**ES 88                  3 Credits****LISTENING AND SPEAKING I\***

Designed for beginner and intermediate-level English language learners. Focuses on speaking, pronunciation, and listening skills for conversational and academic English. Students build vocabulary and develop fluency by discussing various topics of interest. Activities may include listening to podcasts and videos, participating in discussions and role-plays, and giving presentations. Does not replace any degree requirement or elective. Lecture: 3 hours per week. 3 credits.

**ES 89                  3 Credits****GRAMMAR AND EDITING I\***

Intended for students who place into ES 086 and ES 087. Focuses on understanding and using fundamental English grammar in context. Students learn to identify errors in their own writing and edit for correctness. Areas to be covered include basic verb tenses and sentence formation. Lecture: 3 hours per week.

**ES 91                  3 Credits****LISTENING AND SPEAKING II\***

Designed for high-intermediate and advanced English language learners. Focuses on improving speaking, pronunciation, and listening skills for college study. Students develop fluency and accuracy by discussing various academic topics of interest. Activities may include listening to authentic materials such as podcasts and videos, participating in discussions and debates, and giving presentations. Does not replace any degree requirement or elective. Lecture: 3 hours per week. 3 credits.

**ES 93                  3 Credits****GRAMMAR AND EDITING II\***

Intended for students in ES 100 or higher, including students in upper level writing courses who wish to improve their English grammar. Focuses on understanding and using advanced grammatical structures in context. Students develop an understanding of their own grammatical problems and how to edit their own writing for correctness. Areas to be covered include verb forms, complex sentences and parallel structure. Lecture: 3 hours per week.

**ES 98                  3 Credits****ESL SUMMER WRITING SEMINAR\***

This course is designed for high-intermediate and advanced English language learners who want to improve their academic English skills. Students will read about a theme in literature, culture, or society and produce different types of academic writing, including one longer essay. Upon completion of the course, students may submit a writing portfolio to be considered for accelerated writing course placement. Does not replace any degree requirement or elective. Prerequisite: Placement into ES100 or higher.

**ES 100          6 Credits****COLLEGE ESL III\***

Designed for high-intermediate level students. Focuses on the development of abilities in academic reading, writing, speaking, and listening through an integrated approach. Readings and classroom discussion are used to prepare students for reading/writing tasks they will encounter in academic assignments. Students produce a portfolio including three essays and a reading journal. Required for some students based on College placement tests. Lecture: 6 hours per week.

**ES 150          6 Credits****COLLEGE ESL IV\***

Designed for advanced level students. Focuses on the development of abilities in academic reading, writing, speaking and listening needed for college level courses. Students evaluate and analyze course readings and learn to incorporate readings as sources in their academic writing. Students produce a portfolio including three essays and a reading journal. Required for some students based on College placement tests. Lecture: 6 hours per week.

**ENVIRONMENTAL SCIENCES & SAFETY (EV)****EV 103          4 Credits****ENVIRONMENTAL STUDIES I**

An introduction to the science of ecology. Topics include: classes of living organisms and their sources of energy, food chains, elements essential for plant and animal nutrition, mutation and evolution, chemicals that cause genetic or somatic injury, cancer, the atmosphere, and the human population. Lecture: 3 hours per week. Lab: 2 hours per week.

**EV 104          4 Credits****ENVIRONMENTAL STUDIES II**

A continuation of the study of ecology. Topics include: the atmosphere, the hydrosphere, the geosphere, pollution and pollution control, waste treatment and disposal, pests and pesticides, food additives, radioactivity, nuclear power and other forms of energy, and the human population. Lecture: 3 hours per week. Lab: 2 hours per week.

**EV 105          2 Credits****INTRODUCTION TO ECOLOGY I**

This course presents the fundamental concepts in ecology and environmental science and develops critical thinking skills. These skills include interpretation analyzing, synthesizing and assessing new information. Topics presented in the course include a descriptive review of various ecosystems (such as the atmosphere, the hydrosphere, the geosphere); a basic discussion of energy and food, the concepts of competition, predation, adaptation and extinction thinking.

**EV 106          2 Credits****INTRODUCTION TO ECOLOGY II**

This course covers various environmentally significant issues. Including air and water quality; land/marine ecology; hazardous wastes and recycling. The public perception of environmental policies and issues, and the current status of environmental research are introduced. Prerequisite: EV 105

**EV 110          4 Credits****PRINCIPLES OF ENVIRONMENT SCIENCE & SAFETY**

This course is designed to provide the tools and foundations necessary to understand the physical, chemical & biological properties of environmental contaminants and their effects on the living population and ecosystems. The course is designed to teach an understanding of the basic principles of water, air and soil pollutants. Topics examined include sources of contaminants, their fate, transport in multiple environmental media and treatment of such factors. Environmental health factors associated with the problems stemming from contamination of air, water, and food. Lectures and labs will cover these properties of specific contaminants in the environment, their monitoring techniques, and their interactive effects with water, air and soil. International/global issues related to the environment will also be examined. This course provides a qualitative and quantitative approach based on the integration of technology, mathematics, physical, chemical and biological sciences. Lecture: 3 hours. Lab: 2 hours.

**EV 120      3 Credits****ASTRONOMY**

This course is a descriptive introduction to the science of astronomy. The goal is to acquaint the beginning student with the sky and where we are in the observable universe. Topics will include understanding the night sky, motions of the moon and sun, the structure of solar system and galaxy, and the origin of the universe. Other topics will include seasons, history of astronomy, life and death of stars, astronomical instruments, and the search for new planets. Lecture: 3 hours per week. 3 credits.

**EV 130      3 Credits****METEOROLOGY**

An introduction to the science of atmospheric behavior. Topics include the structure of the atmosphere, climate, fundamentals of the weather, cloud formation, atmospheric motions, air masses, pollution, and use of meteorological instruments.

**EV 201      4 Credits****ENVIRONMENTAL HEALTH & SAFETY**

This course provides a comprehensive examination of environmental health issues through the scientific understanding of causes and possible future approaches to control major environmental health problems. This would include pollution problems and topics in environmental pollutants; environmental contamination with physical, chemical, and biological agents, vectors, dissemination (air, water, soil); solid and hazardous waste; biomarkers and risk analysis. The course will cover environment-to-human interactions and their impact. Environmental carcinogenesis, cell injury, food- and water-borne disease and risk analysis. Lab methods will include forensic toxicology, analysis of toxic drinking water contaminants, food microbiology, and bacterial toxins. Prerequisites: BI 110 or EV 110 or CH 110 Lecture: 3 hours per week. Lab: 3 hours per week 4 credits

**EV 210      4 Credits****ENVIRONMENTAL MICROBIOLOGY**

This course covers the structure, biochemistry, physiology and classification of the microorganisms that have ecological and industrial significance. It also includes the basic sampling, analysis and testing technologies in air, water, and soil. Site-remedial techniques including bio-remedial technique will also be reviewed. The course will consider the role of microorganisms in the environment and investigate the use of microbes in various industrial applications. The classifications of microbial toxins, enzymes, and other hazardous products of microbial toxicology and management procedures will be covered. Lecture: 3 hours per week. Lab: 3 hours per week. Prerequisites: EV 110, BI 120, CH 120

**EV 215      4 Credits****LAB ANIMAL SCIENCE & CARE I w/LAB**

This course is designed to introduce students to lab animal science and care. The course covers animal classification, anatomy & physiology differences, reproductive physiology, genetics, nutrition and care. Upon completion of this course students should be able to identify different species of animals and identify the external and internal anatomy of selected animals. Students will be able to determine necessary nutrient requirements for lab animals and identify signs that determine the level of health for an animal. Lecture 3 hours per week. Lab 3 hours per week. 4 credits. Pre-requisites: BI 120 & CH 120.

**EV 216      4 Credits****LAB ANIMAL SCIENCE & CARE II w/LAB**

This course is a follow-up course for EV 215 designed to build on the information students obtained in EV 215. This course covers animal management and care for lab animals that includes appropriate facilities as related to particular species of lab animals or livestock. The course also covers preventative health requirements and characteristics of a healthy and unhealthy animal. Students determine environmental concerns and discuss care procedures for lab animals. Other topics that are covered include sanitation, disease prevention, clinical health, research procedures, animal research, data collection, analysis and interpretation. The course also includes animal welfare and ethics in lab animal care and research. Lecture 3 hours per week. Lab 3 hours per week. 4 credits. Pre-requisites: EV 215 & EV 210.

**EV 220      3 Credits****ENVIRONMENTAL ORGANIZATION ISSUES & ANALYSIS**

In this subject, environmental management is examined from different perspectives including the socioeconomic and community aspects. Global issues as well as American environmental issues are considered. Integrated environmental management is offered as a means of limiting effects of problems. This is considered in the light of environmental ethics and legislation. Other aspects covered include risk environmental impact assessment and consequences including the evaluation process. Tools used for capacity building are developed and, several major case studies are explored. Issues and sustainable use of environmental resources are also emphasized. The Safety analysis will study the implementation and identification of major categories for both safety and environmental hazards prevention techniques through the development of programs appropriate for dealing with them. This course will also study the development of procedures in occupational safety models of accidents as well as techniques of investigation, emergency hazards, and risk assessment.

**EV 235      3 Credits****ANIMAL NUTRITION**

Prerequisites: CH 110 & BI 120. This course deals with the biochemical categories of nutrients such as carbohydrates, proteins, lipids, vitamins, minerals and water. Students would develop an understanding of the importance of these nutrients and the effect of their deficiencies has on the animal's health. This course would cover diseases and conditions caused by such deficiencies. This course would also cover the nutritional needs of various types of animals such as swine, beef cattle, poultry, horses, primates, mice and others. Students would develop an understanding of the principles of nutrition and their application to diet formulation and feeding practices for livestock and other animal species. The course would also cover the digestive process and pathways for nutrients and the enzymes systems involved in that. Lecture 3 hours per week. 3 credits.

**EV 240      4 Credits****ENVIRONMENTAL TOXICOLOGY**

The course discusses critical issues associated with toxins in the environment through the examination of physiological, epidemiological, and biochemical effects and the mechanisms of action of such toxins on the human body. The course will cover the sources, definitions and classifications of toxins their effects on the human body and the environment. The relationship between toxins, the rate of mutation & cancers will be covered. Effects of exposure to substances such as asbestos, lead, organic solvents, radiation and germs as well as prevention and control will be discussed. The role of the immune system and the role of immuno-toxicology in defending the body will be covered. Applying these fields to understand how substances in the environment directly affect human health will be addressed. The environmental regulations, risk assessment, and the role of science, society and government in protecting human and environment health will be reviewed. Prerequisites: EV110 and EV210  
Lecture: 3 hours per week. Laboratory: 3 hours per week.

**EV 242      4 Credits****ENVIRONMENTAL SCIENCES DIRECTED RESEARCH STUDY**

This is a hands-on practical course to train students in a specific area of environmental sciences. The course will be supervised by a faculty member who will define the area of study with each student in association with mentors from the various fields. Examples of these fields are: Air and Water Quality, Water Microbiology, Hazardous Waste Handling, Food Hygiene and Safety, Marine Microbiology, Environmental Preservation, Drinking Water and Sewer Treatment. The instruction will be conducted both on campus and at selected field sites. Predetermined outcomes and assessment procedures must be identified prior to the training. Techniques such as protein toxin isolation, DNA extraction and sequencing, microbial identification, Gas Chromatography and other chromatography methods plus colorimeter & spectrophotometric methods would be used. Students may present their finding in national scientific conferences in the form of oral and/or written reports. Prerequisite: EV 210

**EV 270      4 Credits****INTERNSHIP FOR ENVIRONMENTAL PROGRAM**

Internship in this program places students at a work place in New England for an environmentally related work experience. This course is different from EV 240 in that the content of the student's work is totally related to the function and business of the commercial, academic or government institution where the internship is conducted. Each student enters the internship with an individualized plan, approved by the program coordinator. Specific benchmarks and outcomes must be identified. Eligibility for internship is determined by successful completion of all course requirements or with approval of the program coordinator and division chairperson. Successful completion of the internship is necessary to fulfill the requirements of the associate in science degree in Environmental Science and Technology.

**FRENCH (FR)****FR 101      3 Credits****BEGINNING FRENCH I**

Develops basic skills in speaking, understanding, reading, and writing. Gradual growth in oral expression with intensive vocabulary and idiom building in meaningful contexts. Lecture: 3 hours per week.

**FR 102      3 Credits****BEGINNING FRENCH II**

Focuses on the acquisition and development of reading, writing, comprehending, and speaking skills with emphasis on the aural and oral. Oral drills, audio-visual material, directed conversation, and dialogues will be utilized. Prerequisite: FR101

**GEOGRAPHY (GG)****GG 101      3 Credits****GEOGRAPHY OF THE AMERICAS**

Systematic study and comparative analysis of populations, natural resources and potentialities for development of the United States, Latin America, and Canada. Lecture: 3 hours per week.

**GG 103      3 Credits****INTRODUCTION TO GEOGRAPHY**

An introduction to the three organizing geographical traditions: earth science, culture and environment, locational and area analysis. Special attention is given to the interrelationships between humankind and the environment, and the dynamic nature of the geography of world locations. Lecture: 3 hours per week.

**GG 105      3 Credits****WORLD REGIONAL GEOGRAPHY**

A geographic analysis of selected world regions considering both physical and human elements. Regions are studied in terms of their land-forms, oceanographic, and atmospheric influences. Regions are also investigated in terms of population distribution and economic, political, social, and cultural forms.

**GOVERNMENT (GV)****GV 102      3 Credits****CONTEMPORARY POLITICAL THEORY**

An analysis of modern political thought. Emphasis on socialism, communism, and fascism as well as the liberal, democratic tradition and Leftist traditions.

**GV 201      3 Credits****AMERICAN GOVERNMENT**

Study of the Constitutions of the United States and of Massachusetts. Examines the American Congress and Presidency, the process of governance, civil rights, and civil liberties. Lecture: 3 hours per week.



**GV 202 3 Credits****COMPARATIVE EUROPEAN GOVERNMENTS**

Studies the governmental institutions and philosophies of the United Kingdom, France, Germany, and the Soviet Union. Analysis of the historical evolution of these systems of government and the ideologies that formed and supported them. Evaluation of the relative merits of each system in solving the unique governmental problems, which they have confronted.

**GV 203 3 Credits****UNITED STATES CONSTITUTIONAL HISTORY**

This course will examine the origins of the "living constitution." Specific areas of inquiry include: the relationship of commercial growth to legal change; Federal v. State conflicts; the different schools of constitutional interpretation.

**GV 210 3 Credits****CONTEMPORARY GLOBAL ISSUES**

Explores such topics as the nation-state, power vs. morality in foreign policy-making, the East vs. West, and current problems.

**GV 230 3 Credits****CIVIL RIGHTS AND CIVIL LIBERTIES**

This course analyzes the politics of civil rights and civil liberties in the U.S.. How have the president, Congress, state governments and courts responded to political pressures and social controversy over the right to dissent, freedom of speech and press, privacy, and civil rights. What are the political and social consequences of these governmental decisions and actions?

**HEALTH SCIENCES (HL)****HL 103 3 Credits****MEDICAL TERMINOLOGY**

This course presents construction of medial terms through common word roots, prefixes, and suffixes. Students will learn to master medical vocabulary through classroom instruction. Lecture: 3 hours per week.

**HL 110 1 Credit****HEALTH ASSESSMENT AND SKILLS**

This course introduces students to the basic professional, psychomotor and cognitive attitudes and skills required to complete a systematic assessment and provide basic nursing care. Links to core concepts and competencies are reinforced through laboratory exercises and basic simulations. Achievement of competency and safety will be tested (pass/fail) in order to ensure readiness for clinical experience. Total laboratory course credit 1, equivalent of 3 laboratory hours a week for a 15 week semester, total course contact hours 45 hours.

**HL 111 3 Credits****ESSENTIALS OF NUTRITION**

This course focuses on one of the basic human needs, that of nutrition. The first portion of the course stresses the nutritional needs of well individuals across the life span. A working knowledge of nutrients and their food sources is provided, as well as some basic menu planning. An overview of psychological, economic, cultural and religious factors that affect nutrition is included. Basic principles of food preparation and safety are discussed, along with an introduction to the agencies and laws concerned with nutrition. The second portion of the course deals with dietary modifications utilized in dealing with common health problems. Total course credits 3 lecture hours per week for a total class hours of 45 hours.

**HL 125      4 Credits****PHARMACOLOGY FOR NURSES: A PATHOPHYSIOLOGY APPROACH**

This course provides an essential foundation for the nursing care of patients receiving pharmacologic agents for the prevention and/or management of alterations in biophysical and psychosocial function. Content emphasizes the core competencies of this program and their relationship to basic principles of pathophysiology, pharmacology, diagnostics and the nursing management of patients receiving commonly prescribed therapies. Total course credits 4, theory 4 hours a week, total contact hours 60. Prerequisites: BI 115, BI 116, BI 123 EN 101, HL111, PS 101. Corequisites: HL 110, NU 130, NU 135, NU 136, PS 118

**HINDI (HI)****HI 101      4 Credits****ELEMENTARY HINDI I**

This first course as part of a sequence of two courses, offers an in-depth introduction to modern Hindi, including the Devanagari script. Through a combination of graded texts, written assignments, audio/visual material, and computer-based exercises, this course provides cultural insight and increases proficiency in understanding, speaking, reading, and writing Hindi. Emphasis is placed on spontaneous self-expression in the language.

**HI 102      4 Credits****ELEMENTARY HINDI II**

This course offers an in-depth introduction to modern Hindi, including the Devanagari script. Through a combination of graded texts, written assignments, audio/visual material, and computer-based exercises, this course provides cultural insight and increases proficiency in understanding, speaking, reading, and writing Hindi. Emphasis is placed on spontaneous self-expression in the language.

**HISTORY (HS)****HS 101      3 Credits****WESTERN CIVILIZATION I**

This course explores the history of human civilization, including the development of society, politics, and culture in Europe until the 17th century. Topics covered may include the ancient world, the medieval period, and the Renaissance and Reformation

**HS 102      3 Credits****WESTERN CIVILIZATION II**

This course continues the Western Civilization survey sequence from the 16th century to the present. Topics may include the Scientific Revolution, the American and French revolutions, and World Wars I and II, the Cold War, and globalization.

**HS 103      3 Credits****WORLD CIVILIZATION I**

This introductory survey course examines the origins and development of major world civilizations until 1500, focusing on the social, political, economic, religious, and cultural aspects of Middle Eastern, European, Asian, African, and Mesoamerican civilizations.

**HS 104      3 Credits****WORLD CIVILIZATION II**

This introductory survey course examines the continued growth and development of major world civilizations from 1500 to the present, focusing on society, politics, economic relationships, religion, and culture, including increased interaction between these societies and globalization in the modern era.

**HS 105      3 Credits****UNITED STATES HISTORY TO 1877**

The first half of the US History survey sequence focuses on American history until 1877. Topics include the history of the colonial era; the American Revolution and Early Republic; the Civil War and Reconstruction.

**HS 106      3 Credits****UNITED STATES HISTORY SINCE 1877**

The second half of the US History survey sequence continues with emphases on industrialization, urbanization and immigration; expansion of the role of government through the New Deal, Great Society and Cold War; movements for civil rights; contemporary history.

**HS 115      3 Credits****AMERICA THROUGH THE MEDIA**

Explores social-cultural values of the United States from the 1920's to the present through the printed media, films, radio, T.V. and music. The Depression, World War II, the post-war world of affluence and anxiety are emphasized.

**HS 201      3 Credits****MODERN LATIN AMERICAN HISTORY**

This course will explore the history of Latin America from 1800 to the present, including Latin American independence movements; the rise of caudillismos; the impact of American imperialism in Latin America; the Mexican Revolution; the Cold War's impact on the region; current challenges including immigration and the rise of Central American gangs. While discussing those issues, this class will pay special attention to analyzing Latin American attempts to build stable societies and why those attempts failed.

**HS 210      3 Credits****MODERN AFRO-AMERICAN THOUGHT**

This interdisciplinary course is meant to familiarize students with the social, political, cultural and literary thoughts, writings, and principal personalities of African America since 1895. In this context, there will be an analysis of the Civil Rights transformation of African Americans and its impact upon modern life and culture. Major emphasis will be placed upon continuities and adaptations of the "New Negro" concept. Emphasis will vary from semester to semester.

**HS 220      3 Credits****NAZI GERMANY AND THE HOLOCAUST**

This course explores primary and secondary sources to determine the emergence of Nazism and the causes of the Holocaust; explore the methodology and implementation of the Nazi genocide of the Jews and other European groups; place the Holocaust in the context of World War II and its aftermath. In addition, students will examine the historiography of the Holocaust by comparing different historical explanations and schools of historical analysis to determine how they have influenced our understanding of this event. Prerequisites: Completion of one History survey course and an Honors-level GPA of 3.200 or higher.

**HOSPITALITY MANAGEMENT (HM)****HM 101      3 Credits****INTRODUCTION OF HOSPITALITY**

Considers the components, development and scope of the lodging/food service (hospitality) industry; reviews industry organizational structures; and identifies industry trends and career options. Field trips and guest speakers as appropriate. Lecture: 3 hours per week.

**HM 102      3 Credits****FRONT OFFICE MANAGEMENT**

Introduces all aspects of front office procedures in lodging. Stresses the importance of operations that are guest-focused and built upon inter-departmental communication. Automated guest registration systems are studied extensively. Role-play strategies are incorporated throughout.

**HM 122 3 Credits****HOSPITALITY LAW**

This course provides students, practicing professionals and managers in hospitality, travel, culinary arts, and casino industries with the knowledge to address legal issues confronting them in their specific field. By reading the textbook and participating in the course learning activities and assignments, students and practitioners alike can appreciate and identify what actions and precautions are necessary to avoid, or at least minimize the number of lawsuits. The course uses the case method and actual legal briefs to learn the discipline of law related to the hospitality industries. Students will study decisions from actual cases in which hospitality establishments were sued, as well as what legal precedents were cited.

**HM 201 3 Credits****FOOD AND BEVERAGE MANAGEMENT**

An in-depth study of the practices and principles used in food and beverage operations. Students will examine issues related to inventory management, cost of food/beverage sales, purchasing, legal and ethical issues as well as management and marketing issues. All students enrolled in this course will be required to complete a CARE (Controlling Alcohol Risk Effectively) program. Lecture: 3 hours per week.

**HUMANITIES (HU)****HU 103 3 Credits****HUMAN VALUES, PERSONAL FREEDOM, AND THE ARTS**

An exploration of topics and issues from the Ancient Greeks, Romans, and Middle Ages that have a major influence on people in the twentieth century. Major ideas examined include: wisdom, love, duty, courage, justice, freedom, the relationship of people to each other, their country, and their religion. Lecture: 3 hours per week.

**HU 104 3 Credits****ART IN MODERN SOCIETY**

Examines the movements, ideas, and innovations in modern painting, sculpture, and architecture. Focus on post-World War II expressionism, abstractionism, and surrealist art. Lecture: 3 hours per week.

**HU 105 3 Credits****EXPLORING WORLD RELIGIONS**

This course compares what world religions believe about God, atheism, grace, karma, incarnation, reincarnation, heaven and hell, and what these beliefs contribute to our understanding of contemporary issues, including ecology, artistic expression, and global awareness. Lecture: 3 hours per week.

**HU 106 3 Credits****INTRODUCTION TO VEDIC THOUGHT**

This course provides an overview of Vedic Studies with its unique philosophy of the ultimate goal of human birth. It includes an outline of: the ancient extant texts, the origin and development of Hindu society with its unique way of life, the caste system, the four stages of life, the four aims of life, the role of food, God in Its infinite forms, the Law of Karma, the theory of Predestination, the theory of reincarnation, Hindu ethics, guru and disciple relationship, the two ways of living (activistic or renunciant), the four major yogas, the sacred mantras and symbols, importance of temples, the concept of the three gunas, cyclic dissolution of the world, liberation from the cycles of rebirths, and individual growth in harmony with the universe. Lecture: 3 hours per week.

**HU 107 3 Credits****KARMA YOGA: SCIENCE OF ACTION**

In the Hindu tradition, Karma Yoga is a simple scientific technique used to perform everyday actions skillfully with a serene and focused mind. The student will understand the theory and practice of Karma Yoga as enunciated by Sri Krishna in the Bhagavad Gita. Among the expected benefits experienced with the practice of this discipline include improved physical and mental health, balanced individual growth, harmony in social interactions, fearlessness, superior work performance, increased self-awareness, and a sense of individual calmness fostering global peace. Lecture: 3 hours. 3 credits.

**HU 110      3 Credits****MYTH, MAGIC, AND MYSTERY**

This course investigates how diverse cultures have explained life's mysteries in order to understand common human problems, values, and achievements. Students read the myths, legends, folk tales and holy books of diverse ethnic and cultural groups. Goals for the course include: learning about the traditional values and wisdom of others in the human continuum, and achieving a better understanding of our place within that continuum. Students work in teams and choose stories and cultures to research. They observe from cross-cultural and interdisciplinary perspectives, and produce written and audiovisual presentations of their findings. Lecture: 3 hours per week.

**HU 120      3 Credits****WORLD TRADITIONS**

Comparative analysis of global cultural practices and assessment of their impact within a multicultural environment. Examines the origins and sustenance of ritual practices within postmodern society.

**HU 203      3 Credits****STUDIES IN MODERNITY**

An interdisciplinary humanities course that explores the condition of modernity and related themes in Western thought from the mid-19th century. We will draw from the fields of philosophy, literature, literary theory, social thought, and intellectual history. Topics will include understanding the concept of modernity, the significance of modernism in literature and the arts, and new concerns with subjectivity and truth. Lecture: 3 hours per week. 3 Credits

**HUMAN SERVICES (SW)****SW 101      4 Credits****INTRODUCTION TO SOCIAL WELFARE**

This course provides an historical perspective and orientation to the variety of fields within human services. Discussions of basic principles and concepts, the role of the professional, legislation, current issues and trends are covered. Journal writing and field trips to selected agencies are integral elements of this course. Lecture: 4 hours per week.

**SW 201      6 Credits****PRACTICUM/SEMINAR**

This is a professionally supervised, 150 hour field work experience in a human service setting. A weekly seminar and scheduled conferences are also required. Prerequisite: SW 101 and Instructor permission. Lecture & field experience: 6 credits.

**INTERIOR DESIGN (IN)****IN 101      3 Credits****INTRODUCTION TO INTERIOR DESIGN**

This course is designed to provide a comprehensive study of the methods used by the interior designer to create the harmonious integration of interiors and materials in both residential and commercial settings. The professional interior designer is trained to "provide the total creative solution for an interior" as contrasted with a decorator who "furnishes an already planned interior." Topics will include materials for interiors, furniture styles and accessories, lighting, window treatments, and the development of a final residential or commercial project. Architectural drawing techniques and equipment will be used throughout the course. In addition to the cost for tuition and fees, all students are required to purchase an architectural drawing kit. Lecture: 3 hours per week.

**IN 102      3 Credits****ARCHITECTURAL DRAWING FOR INTERIOR DESIGN**

This course will provide an in-depth study of the interior designer's drawing techniques. The skilled use of drafting tools and materials will enable the student to express his or her ideas visually. The course will focus on floor plans, elevation, space planning, and three-dimensional representational drawings. In addition to textbooks, all students must purchase or have access to a complete architectural drawing kit.



**IN 103            3 Credits****HISTORY OF HOME FURNISHINGS**

This course outlines the evolution of period furniture, architecture, interiors, and materials from the Gothic to the present. A detailed analysis of furniture styles and construction will be presented in an historical context. In order for the student to develop an appreciation for furnishings and decoration, trips to museums, furniture showrooms, and historic homes will be planned. Lecture: 3 hours per week.

**IN 104            3 Credits****INTERIOR DESIGN WITH CAD/AUTOCAD**

Introduces students to the AutoCAD software as a tool to present and document designs. Emphasis is placed on editing drawings, layering, templates, dimensioning, text and printing. In addition, strong emphasis is placed on drafted quality and printed readability of all documents. Students will translate floor plans, elevations and sections from a previously hand drafted project in AutoCAD to produce a set of working drawings for their portfolio.

Prerequisite: IN 102.

**IN 201            3 Credits****COLOR THEORY AND TECHNIQUES**

Introduces students to the major concepts of Color Theory in Interior Design including the principles of: color systems, natural lighting and color, psychological impact of color, color schemes, special color effects, practical approaches and working method of color theory.

**IN 202            3 Credits****MATERIALS IN DESIGN**

Material selection is a very important aspect of an interior designer's project planning. The successful conversion of ideas to practical applications will be enhanced by the proper selection of materials. Wall coverings, fabric texture, plastics and chrome become essential ingredients in the combining of space and form within the designer's planned environment. Samples of a variety of designer materials will be studied and evaluated.

**IN 205            3 Credits****COMMERCIAL AND RESIDENTIAL PRESENTATION TECHNIQUES**

This course is designed to teach students all the practical skills they will need to make a complete presentation. Floor plans, elevations and other drafting techniques will be explored as well as the execution of color renderings and material boards. The use of both residential and commercial projects throughout the course will provide the backdrop for student presentations that will include visual, verbal and financial presentations. Time will be spent learning how to price a project, ranging from the selling of your design work to the actual cost and selling of the physical project. Topics are presented by the instructor, assigned Design projects are then completed by students both in class and outside of class. Design projects will be given on a weekly basis, with a final project due at the end of the semester, that incorporates drawings, verbal skills and a summary of building costs.

**ITALIAN (IT)****IT 101            3 Credits****BEGINNING ITALIAN**

Instruction on the basic skills of understanding, speaking, reading, and writing Italian. Basic pronunciation skills, limited but practical vocabulary, common idiomatic expressions, and sufficient knowledge of sentence structure and grammatical principles to understand materials written in Italian. Emphasis on practical uses of the language rather than theory. In addition to grammar, four graded Italian readers are used in this course.

**IT 102            3 Credits****ITALIAN II**

Italian II is a continuation of Italian I. Italian II reinforces the listening, speaking, reading, and writing skills learned in Italian I so that students can communicate more effectively and accurately in Italian as it is spoken and written today. There will also be dialogs, readings, and culture to give students an appreciation of contemporary Italian life and culture.

**LAW (LA)****LA 221            3 Credits****PRINCIPLES OF BUSINESS LAW**

The course covers important substantive areas of law with emphasis on commercial aspects. Topics include: sources of law, legal reasoning, civil procedure, torts, criminal law, real property, contracts and an introduction to the Uniform Commercial Code. Lecture, activities, and simulations. Lecture: 3 hours per week.

**LA 222            3 Credits****PRINCIPLES OF BUSINESS LAW II**

A continuation of LA 221. Agency, sales and warranties, commercial paper, real and personal property, business organizations, and debtor-creditor relations.

**LA 227            3 Credits****LEGAL ENVIRONMENT OF BUSINESS**

This course explores special topics in contemporary law such as agency, finance law, commercial paper, labor law, computer law, entertainment law, environmental law, consumer protection, securities regulation, and governmental regulation of business. Lecture: 3 hours per week.

**LA 228            3 Credits****CRIMINAL LAW AND PROCEDURES**

An introduction to the concepts of criminal liability, substantive criminal law, and the basic elements of various crimes. Topics covered include pretrial, and trial procedures, criminal defenses, jurisdiction of courts. Lecture: 3 hours per week.

**LA 230            3 Credits****LAW AND SOCIETY**

This course introduces students to the institutions and participants of the American legal system. Topics covered include court procedures, civil and criminal law, constitutional law, and public policy. Students also read and analyze case law and statutes, and participate in class activities. Lecture: 3 hours per week.

**LA 241            3 Credits****DNA LAW**

This course examines the Fourth Amendment concepts of unreasonable search and seizure and the exclusionary rule, and the Fifth Amendment protections, as well as the concept of privacy in the U.S. Constitution, all as applicable to the FBI CODIS database and DNA as evidence. Technical challenges to DNA evidence, based on scientific errors and misapplication of analysis of allelic frequencies in populations, are discussed. Lecture: 3 hours per week. 3 credits. Prerequisites: LA 228, or equivalent, or consent of instructor; BI 110 (preferred) or BI 101, or equivalent, or consent of instructor.

**LA 242            3 Credits****DNA LAW TRIAL PRACTICES**

Pretrial practices, such as discovery and motions in limine as specific for DNA evidence, and rules of evidence are discussed. Students will participate in mock trial exercises, specifically focused on presenting, and challenging, sophisticated DNA analysis to lay juries. Lecture: 3 hours per week. 3 credits Prerequisites: CJ 217, or equivalent, or consent of instructor; LA 241 or consent of Instructor.

**LA 250            3 Credits****HOSPITALITY LAW**

The course addresses the legal aspects of hospitality management using the case method and legal briefs. The legal implications of civil law, tort and contracts will be discussed, along with the law and legal relationships that exist in the hospitality business context and environment. Further, this course prepares students and professionals in the hospitality industry to negotiate the industry's complex network of legal requirements and manage their operations in a way to minimize legal risk. 3 credits. Prerequisites: Satisfactory basic English and Math skills and HM 101 Introduction to Hospitality.

**LEARNING COMMUNITY - CRIMINAL JUSTICE (LCC)****LCC 100      7 Credits****LEARNING COMMUNITY: CRIMINAL JUSTICE-FREEDOM & FEAR: ISSUES IN CONTEMPORARY CRIMINAL JUSTICE**

In this learning community, students learn about the history, development and philosophy of the criminal justice system using class discussion, case study analyses, and extensive reading and writing activities in both CJ101 and WR100. Through content based in the criminal justice field, students strengthen their critical reading skills and practice process-based writing. Designed for criminal justice majors, the learning community also integrates off-campus trips to local correctional facilities, panel discussions with local experts in the field, student-led seminars, and dedicated program advising.

**LITERATURE (LI)****LI 104      3 Credits****CHILDREN'S LITERATURE**

Through exposure to a wide range of children's books, authors and illustrators, students will develop an understanding of the importance of children's literature in the early childhood education classroom. Students will gain abilities in evaluating the quality of children's books and making appropriate selections for young children, acquire a repertoire of effective techniques for using children's literature effectively in the classroom and learn ways that children's literature can develop literacy. Lecture: 3 hours per week.

**LI 201      3 Credits****WORLD LITERATURE I**

This course introduces students to selected works of literature from Africa, the Americas, Asia, and Europe from ancient times through the eighteenth century. Readings may be drawn from a range of literary genres. Through literary analysis the course will consider how literature both impacts and reflects the historical time period and culture that generates it. The course will explore ways in which writers from around the world illuminate the human experience. Lecture: 3 hours per week. Prerequisites: EN 101 (Completion of EN 102 also recommended).

**LI 202      3 Credits****WORLD LITERATURE II**

This course introduces students to selected works of literature from Africa, the Americas, Asia, and Europe from the eighteenth century to the present day. Readings may be drawn from a range of literary genres. Through literary analysis the course will consider how literature both impacts and reflects the historical time period and culture that generates it. The course will explore ways in which writers from around the world illuminate the human condition. Lecture: 3 hours per week. 3 credits. Prerequisite: EN 101 (Completion of EN 102 is also recommended)

**LI 203      3 Credits****AMERICAN LITERATURE I**

Major American writers from colonial times to the Civil War. Exploration of significant ideas, literary form, and cultural patterns. Includes readings from the works of Franklin, Hawthorne, Melville, Emerson, Thoreau, and others. Prerequisites: EN 101 (Completion of EN 102 also recommended)

**LI 204      3 Credits****AMERICAN LITERATURE II**

A continuation of LI 203, considering authors from the Civil War to the present. Lecture: 3 hours per week. Prerequisites: EN 101 (Completion of EN 102 also recommended).

**LI 205      3 Credits****BRITISH LITERATURE I**

Myths, legends, themes, language and representative figures of the English literary tradition from its origins to 1798, including Beowulf, Arthur, Chaucer, Hamlet, and Milton. Prerequisites: EN 101 (Completion of EN 102 also recommended)

**LI 206            3 Credits****BRITISH LITERATURE II**

A continuation of LI 205 considering authors from the Romantic, Victorian, and Modern periods of British Literature.

**LI 207            3 Credits****WOMEN IN LITERATURE**

Beginning with creation myths and folk tales where female figures predominate, the course proceeds to literary works written by women. Each work will be considered in the cultural context in which it was created. The writer's life and the social history surrounding the work will be discussed. Students are expected to write essay exams and a research project for submission and/or presentation.

**LI 208            3 Credits****LIFE WRITING: READING AND WRITING AUTOBIOGRAPHY**

The course will examine the art of "composing a life" as practiced by memoirists, diarists, and autobiographers including Welty, Douglass, Nabokov, and Nin. The critical perspective gained through this study will be applied to the students' own writing on autobiographical themes; through these written assignments, students will explore the value of writing in making sense of one's own experience. Lecture: 3 hours per week.

**LI 209            3 Credits****FILM AND LITERATURE**

By examining works of literature that have been made into movies, this course will look at how medium affects message. Students will view films and read the books from which they have been adapted in order to consider how translation from print to cinema affects such dimensions as narrative, character, reader/viewer experience, and authorial intention. Lecture: 3 hours per week.

**LI 230            3 Credits****LATIN AMERICAN LITERATURE AND CULTURE**

The course begins with manifestations of pre-Hispanic literacy, and arrives at Modernism, a paramount movement in Latin American literature that questioned conventional notions about literary discourse. Designed as a survey, this course will provide background knowledge necessary for understanding the study of Latin American literature, as well as provide a deeper appreciation for Latin American culture. In this course special attention will be given to readings that describe the development of cultural and aesthetic movements in the social-historical contexts of Latin America. Political and cultural issues, therefore, will be of primary interest and would focus on analysis and class discussion. Prerequisite: EN101; (Completion of EN102 is also recommended)

**LI 231            3 Credits****CARIBBEAN LITERATURE AND CULTURE**

This course is a survey of Caribbean literature and literary criticism across geographic and linguistic divides, examining the most important texts, from the foundational tradition in the 16th century and the origins of Modernity in the West Indies to the narratives and discursive practices that inform the present day Caribbean world and its Diaspora. Prerequisites: EN101; EN102 Recommended

**LIBERAL STUDIES (LS)****LS 175            3 Credits****SPECIAL TOPICS IN LIBERAL STUDIES**

In-depth study of specialized topics in the humanities and social sciences. Topics change from semester to semester according to need and interest. May be taken for one, two, or three credits. Three modules offered; each five weeks in length. Past modules have included literary visions of America as seen in the writings of Illa Cather, Walt Whitman, William Faulkner, and studies in Latin American Literature. Lecture: 3 hours per week for 5 weeks.

**MANAGEMENT (MG)****MG 101      3 Credits****PRINCIPLES OF MANAGEMENT**

Integrates traditional and behavioral approaches to management. Managerial functions of planning, organizing, staffing, leading, and controlling. Apply decision-making, leadership, communication, coordination, delegation, and authority-responsibility relationships. Appreciation of the technical and conceptual, aspects of organizational thinking. Selected case studies and contemporary examples used to illustrate the application of management principles. Lecture: 3 hours per week.

**MG 102      3 Credits****SMALL BUSINESS MANAGEMENT**

Overview of small business and its environment, including suggested approaches and techniques for effective decision making and for the solution of small business management problems. Opportunities for obtaining sources of information on the starting and management of specific types of businesses based on individual student interest and selection. Lecture: 3 hours per week.

**MG 104      3 Credits****SUPERVISORY MANAGEMENT**

Studies the practical applications of sound management techniques and strategies used by first-line supervisors. Covers the important information a supervisor needs to know about handling people and managing their jobs. Examines the human, technical, and personal problems that supervisors face daily. Class lectures and discussions will be supported by case problems and role-playing. Can be used to substitute for MG 101 in the General Business Administration core.

**MG 204      3 Credits****HUMAN RESOURCE MANAGEMENT**

Personnel processes involved in manpower planning, personnel recruitment, employee selection, orientation, and placement for application form, types of testing devices, employee training and development, and performance appraisal. Equal Employment Opportunity and Affirmative Action. Basic understanding of wage and salary administration, benefits, and union/management relations. Lecture: 3 hours per week. Prerequisite: MG 101 or equivalent

**MG 210      3 Credits****ENTREPRENEURSHIP**

The Entrepreneurship course prepares students who have sound business ideas and/or well developed business plans to start, develop, finance, market, manage and launch a new business. This course gives students the skills and knowledge they need to master the requirements of all the stages of launching a new business and the opportunity to build and implement a new business. The course has a classroom component in which students conduct their academic studies and an experiential component that allows students to develop and implement their business strategies. (This will include selecting the ownership method, securing financing, developing marketing techniques, preparing financial statements and budgets, etc.) A mentoring feature is included that guides students through the entire entrepreneurial process. The outcome of this course is to launch of a new business.

**MG 219      3 Credits****CURRENT MANAGEMENT AND MARKETING ISSUES**

Provides a balanced coverage and discussion of contemporary major management and marketing topics. Readings and cases will provide students the opportunity to develop analytical skills. Guest lecturers from industry and business, films, and research are used to supplement and support classroom discussions.



**MARKETING (MK)****MK 103      3 Credits****PRINCIPLES OF MARKETING**

Examines contemporary marketing principles, concepts, and managerial practices. Studies the marketing environment, consumer behavior, marketing, research, and information systems. Analyzes the marketing mix in terms of product planning and development, distribution management, pricing strategies, and promotional practices. Focuses attention on the social and legal responsibilities of marketing and consumerism. Examines the nature and importance of international and global marketing. Case problems and current issues are discussed and analyzed. Lecture: 3 hours per week.

**MK 104      3 Credits****SERVICE INDUSTRY MARKETING**

A study of the unique characteristics of service marketing and sales and the application of TQM principles to this sector. Consideration of the nature of the service product, the issue of inventory vs. capacity, the distribution channel implications of customer involvement in service production, etc. Special attention will be given to the role of team building and the team process in the development of quality in service settings.

**MK 213      3 Credits****PRINCIPLES OF SALES**

Students preparing for business in developing the ability to sell goods and services. The course includes selling as a career, stresses the importance of personal preparation for effective selling through the salesperson's understanding of self, product, and customer, discusses application of the behavioral sciences to selling situations, instruction in how to use selling techniques, including securing and opening the sales interview, holding interest, securing conviction, handling objections, ending with closing the sale. Problems drawn from actual sales transactions. Lecture: 3 hours per week. Prerequisite: MK 103 or equivalent.

**MK 214      3 Credits****E-COMMERCE**

The course introduces students to the concept of electronic commerce (called E-Commerce or E-Business). It describes the manner in which transactions take place over the Internet and the World Wide Web. It explores the process of electronic buying and selling of goods, services and information and discusses electronic communicating, collaborating and discovering information. The approach is primarily managerial, describing the opportunities, limitations, issues, security and risks of e-commerce. However, it also includes technical considerations. The e-commerce technical issues include creating the web infrastructure; exploring web-based site development tools; exploring global e-commerce considerations and strategies; performing web site requirements analysis, planning, development and implementation. Finally, the course integrates marketing concepts and applications, financial analysis (ROI), business planning, customer service applications, and information technology. Lecture: 3 hours per week.

**MK 215      3 Credits****PRINCIPLES OF ADVERTISING**

Introduces the student to advertising as a component of the marketing promotional mix, target market's needs, goals and perceptions, different media forms such as print, broadcast, and direct mailing. The student will develop an advertising plan that focuses on product analysis and which is integrated with marketing objectives and strategies. Lecture: 3 hours per week. Prerequisite: MK 103

**MK 220      3 Credits****GLOBAL MARKETING MANAGEMENT**

This course examines the marketing activities required to select, gain entry and compete in the global economy. Also examined in this course is the influence of culture, environment, government regulations, political differences, economic systems and modified American marketing concepts and methods can have on the marketing mix decisions related to global markets. Finally, this course will enable students to understand how to develop, manage, implement and lead global marketing export plans and operations. 3 credits. Prerequisites: Principles of Marketing (MK 103) and Global Business (BU 201).

**MATHEMATICS (MA/MAC)****MA 1                      3 Credits****PREPARATION FOR COLLEGE MATH\***

This course is a modularized approach to the traditional developmental math sequence. It is comprised of 15 modules that students can advance through at their own pace. All students placing into the developmental sequence will be required to start in module 1.

The first five modules correspond to ma 90: Basic Math Studies: Basic Math Studies is the first of three classes in the developmental mathematics sequence. It provides for a preparation for Introductory Algebra and a solid mathematical background for subsequent classes in the sequence. The focus of the class is on reinforcement of the student's arithmetic background and its application to common mathematical tasks to include percentage, order of operation, fractions, decimals, average, geometric quantities, and graphical representations of numbers. The emphasis of the three semester sequence is fortification of mental calculation power with minimum reliance on digital calculation.

The second Five modules correspond to ma 95: Introductory Algebra: Introductory Algebra is the second of three classes in the developmental mathematics sequence. It provides a development of concepts of variables, expressions, and equations using symbolic algebra to represent primarily linear relationships both graphically and analytically. The concept of function will be developed for the application of linear equations and concepts of dependent and independent variable. Students will also learn to solve simultaneous linear equations as well as how to construct linear equations from slope and point information. Application problems will include geometric figure quantities, ratio and proportion, direct and indirect variation, and conversion of units. Finding the greatest common factor of a polynomial will also be included. The emphasis of the three-semester sequence is fortification of mental calculation power with minimum reliance on digital calculation.

The last five modules correspond to ma 98: Intermediate Algebra: Intermediate Algebra is the last of three classes in the developmental mathematics sequence. It provides a development of primarily nonlinear function, specifically quadratic, radical, and rational. Students will learn to apply concepts of combining like terms, using the distributive property, and factoring quadratic expressions. Students will also learn to understand and apply algebraic methods to solve literal equations, applications of Pythagorean Theorem, and geometric problems of perimeter, area, and volume. The emphasis of the three semester sequence is fortification of mental calculation power with minimum reliance on digital calculation.

A minimum of five modules will be required per semester to earn a passing grade in this course. Prerequisite: Placement through placement testing, or completion of MA085.

**MA 2                      3 Credits****PREPARATION FOR COLLEGE MATH\***

This course is a modularized approach to the traditional developmental math sequence. It is comprised of 15 modules that students can advance through at their own pace. All students placing into the developmental sequence will be required to start in module 1.

The first five modules correspond to ma 90: Basic Math Studies: Basic Math Studies is the first of three classes in the developmental mathematics sequence. It provides for a preparation for Introductory Algebra and a solid mathematical background for subsequent classes in the sequence. The focus of the class is on reinforcement of the student's arithmetic background and its application to common mathematical tasks to include percentage, order of operation, fractions, decimals, average, geometric quantities, and graphical representations of numbers. The emphasis of the three semester sequence is fortification of mental calculation power with minimum reliance on digital calculation.

The second Five modules correspond to ma 95: Introductory Algebra: Introductory Algebra is the second of three classes in the developmental mathematics sequence. It provides a development of concepts of variables, expressions, and equations using symbolic algebra to represent primarily linear relationships both graphically and analytically. The concept of function will be developed for the application of linear equations and concepts of dependent and independent variable. Students will also learn to solve simultaneous linear equations as well as how to construct linear equations from slope and point information. Application problems will include geometric

figure quantities, ratio and proportion, direct and indirect variation, and conversion of units. Finding the greatest common factor of a polynomial will also be included. The emphasis of the three-semester sequence is fortification of mental calculation power with minimum reliance on digital calculation.

The last five modules correspond to ma 98: Intermediate Algebra: Intermediate Algebra is the last of three classes in the developmental mathematics sequence. It provides a development of primarily nonlinear function, specifically quadratic, radical, and rational. Students will learn to apply concepts of combining like terms, using the distributive property, and factoring quadratic expressions. Students will also learn to understand and apply algebraic methods to solve literal equations, applications of Pythagorean Theorem, and geometric problems of perimeter, area, and volume. The emphasis of the three semester sequence is fortification of mental calculation power with minimum reliance on digital calculation.

A minimum of five modules will be required per semester to earn a passing grade in this course. Prerequisite: Completion of MA001.

### **MA 3                    3 Credits** **PREPARATION FOR COLLEGE MATH\***

This course is a modularized approach to the traditional developmental math sequence. It is comprised of 15 modules that students can advance through at their own pace. All students placing into the developmental sequence will be required to start in module 1.

The first five modules correspond to ma 90: Basic Math Studies: Basic Math Studies is the first of three classes in the developmental mathematics sequence. It provides for a preparation for Introductory Algebra and a solid mathematical background for subsequent classes in the sequence. The focus of the class is on reinforcement of the student's arithmetic background and its application to common mathematical tasks to include percentage, order of operation, fractions, decimals, average, geometric quantities, and graphical representations of numbers. The emphasis of the three semester sequence is fortification of mental calculation power with minimum reliance on digital calculation.

The second Five modules correspond to ma 95: Introductory Algebra: Introductory Algebra is the second of three classes in the developmental mathematics sequence. It provides a development of concepts of variables, expressions, and equations using symbolic algebra to represent primarily linear relationships both graphically and analytically. The concept of function will be developed for the application of linear equations and concepts of dependent and independent variable. Students will also learn to solve simultaneous linear equations as well as how to construct linear equations from slope and point information. Application problems will include geometric figure quantities, ratio and proportion, direct and indirect variation, and conversion of units. Finding the greatest common factor of a polynomial will also be included. The emphasis of the three-semester sequence is fortification of mental calculation power with minimum reliance on digital calculation.

The last five modules correspond to ma 98: Intermediate Algebra: Intermediate Algebra is the last of three classes in the developmental mathematics sequence. It provides a development of primarily nonlinear function, specifically quadratic, radical, and rational. Students will learn to apply concepts of combining like terms, using the distributive property, and factoring quadratic expressions. Students will also learn to understand and apply algebraic methods to solve literal equations, applications of Pythagorean Theorem, and geometric problems of perimeter, area, and volume. The emphasis of the three semester sequence is fortification of mental calculation power with minimum reliance on digital calculation.

A minimum of five modules will be required per semester to earn a passing grade in this course. Prerequisite: Completion of MA002.

### **MA 85                    1 Credit** **ARITHMETIC AND STUDY SKILLS\***

This course is designed to bolster students' understanding of basic arithmetic, number sense and mathematical study skills to better prepare them for their future math courses. Topics covered will include but not be limited to: problem solving, basic mathematical literacy, place value, names for numbers, operations on whole numbers, rounding and estimating and order of operations. Study skills covered will include: time management, organizational skills, study strategies, test taking skills and managing math anxiety.

**MA 90            3 Credits****BASIC MATH STUDIES\***

Basic Math Studies is the first of three classes in the developmental mathematics sequence. It provides for a preparation for Introductory Algebra and a solid mathematical background for subsequent classes in the sequence. The focus of the class is on the student's arithmetic background and its application to common mathematical tasks to include percentage, order of operation, fractions, decimals, average, geometric quantities, and graphical representations of numbers. The emphasis of the three semester sequence is fortification of mental calculation power with minimum reliance on digital calculation. Prerequisite: Placement through placement testing, or completion of MA085.

**MA 95            3 Credits****INTRODUCTORY ALGEBRA\***

Introductory algebra is the second of three classes in the developmental mathematics sequence. It provides a development of concepts of variables, expressions, and equations using symbolic algebra to represent primarily linear relationships both graphically and analytically. The concept of function will be developed for the application of linear equations and concepts of dependent and independent variable. Students will also learn to solve simultaneous linear equations as well as how to construct linear equations from slope and point information. Application problems will include geometric figure quantities, ratio and proportion, direct and indirect variation, and conversion of units. Finding the greatest common factor of a polynomial will also be included. The emphasis of the three semester sequence is fortification of mental calculation power with minimum reliance on digital calculation. Prerequisite: MA 090 or placement through placement testing.

**MA 98            3 Credits****INTERMEDIATE ALGEBRA\***

Intermediate Algebra is the last of three classes in the developmental mathematics sequence. It provides a development of primarily non-linear function, specifically quadratic, radical, and rational. Students will learn to apply concepts of like terms, using the distributive property, and factoring quadratic expressions. Students will also learn to understand and apply algebraic methods to solve literal equations, applications of Pythagorean Theorem, and geometric problems of perimeter, area, and volume. The emphasis of the three semester sequence is fortification of mental calculation power with minimum reliance on digital calculation. Prerequisite: MA 095 or placement through placement testing.

**MA 102          3 Credits****COLLEGE ALGEBRA**

This course consists of basic and advanced algebra concepts. Students will learn to analyze functions through algebraic evaluation, graphing, transformations, and solving both equations and inequalities. The definition of function will be emphasized. Functions studied include linear, quadratic, rational, radical, logarithmic, exponential, inverse, and absolute value. Students will also study the complex number system, operations and compositions of functions, systems of equations and elementary matrices. Prerequisite: MA 098 or higher

**MA 103T        1 Credit****TRIGONOMETRY**

This is a preparation course for Calculus that involves a study of trigonometric functions. The study will include asymptotes, range, domain and solution of problems with arbitrary as well as right triangles. Emphasis will be placed on analyzing the properties of trigonometry, including trigonometric identities, laws and formulas. Basic concepts of limits will be included. Prerequisite/Co-requisite: MA102 College Algebra be taken previously or concurrently.

**MA 104      4 Credits****PRE-CALCULUS MATHEMATICS**

This course is a preparation for Calculus. Students will learn to analyze functions through algebraic evaluation, graphing, transformations, and solving both equations and inequalities. The definition of function will be emphasized. Functions studied will include linear, quadratic, rational, radical, logarithmic, exponential, inverse, circular, absolute value, and trigonometric. Emphasis will be placed on analyzing the properties of trigonometry, including trigonometric identities, laws and formulas. Students will also study the complex number system, operations and compositions of functions, systems of linear equations and basic concepts of limits. Lecture: 4 hours per week. Prerequisite: MA 098 or higher

**MA 105      3 Credits****INTRODUCTION TO STATISTICS**

Fundamental concepts of inferential and descriptive statistics with emphasis on interpretation of statistical arguments. An introduction to data analysis including graph analysis, measures of central tendency, correlation, regression, concepts of probability theory, sampling errors, confidence intervals in normal distribution, hypothesis testing, and analysis of variance. Prerequisite: MA 098 or higher.

**MA 106      3 Credits****QUANTITATIVE REASONING**

This course is designed to engage students in solving and analyzing real world problems that are quantitative in nature. Students will develop the ability to use concepts and processes from arithmetic, algebra, geometry, logic, probability and statistics to become better informed citizens, sound financial planners, productive workers, and life-long learners. Technology is used to explore mathematical models of real-world phenomena. Lecture: 3 hours per week. Prerequisite: MA 098 or higher

**MA 109      3 Credits****ELEMENTS OF MATHEMATICS I**

This course provides a comprehensive, conceptually based study of the mathematics of the natural, whole number, integer, and rational number systems. Topics studied include quantitative reasoning, estimation and computation, number theory, sets, whole number, integer, and rational number operations, and proportional reasoning. Active learning and problem-solving strategies are emphasized. This course is required for Liberal Arts: Early Childhood Education program and Liberal Arts: Elementary Education program. Prerequisite: MA 098 or appropriate score on the placement test.

**MA 111      3 Credits****BUSINESS MATHEMATICS**

Concepts and practices of financial mathematics, elementary probability, and descriptive statistics are covered in this course. Simple and compound interest, present and future value, and annuities are covered. Measures of central tendency and dispersion including normal distribution and standard deviation are studied. Combinations, permutations, randomness and principles of counting including set notation are considered. Emphasis is on the use of mathematics, not theoretical derivation. Designed for students in career programs.

**MA 119      3 Credits****ELEMENTS OF MATH II**

This course provides a comprehensive, conceptually based study of the real number system. Topics studied include statistics, probability, geometry, measurement, algebra, and coordinate geometry. Inquiry based instruction, problem-solving strategies, problem solving skills, and the appropriate use of technology including calculators and computers are emphasized. This course is required and designed for Liberal Arts: Elementary Education program. Prerequisite: MA 109.



**MA 131      3 Credits****TECHNICAL MATHEMATICS**

Algebra with technical applications. Rational numbers, exponents, scientific notation, percent, ratio and proportion, linear equations, elementary plane geometry, solving systems of linear equations by graphing and algebraic methods, solving literal equations, introduction to right angle trigonometry. Intended for students enrolled in a technology program.

**MA 142      3 Credits****SP TPCS MATH - ELEMENTS OF MATH I**

This course provides a comprehensive, conceptually based study of the mathematics of the natural and whole number systems. Topics studied include patterns and problems solving, decimal and non-decimal numeric systems, algorithms for arithmetic operations, geometric shapes and their properties, systems of measurement and introductory statistics and probability. Inquiry-based instruction, problem solving strategies and project work are emphasized. This course is required for Early Childhood Education and Elementary Education majors

**MA 143      3 Credits****SP TPCS MATH - ELEMENTS OF MATH II**

This course provides a comprehensive, conceptually based study of the rational and real number system, fundamental concepts of number theory and plane and solid geometry and measurement. Topics include problems of ratios, percentages and proportions, concepts of divisibility and mathematical proof. Inquiry-based instruction, problem solving skills, project work and the appropriate use of technology including calculators and computers are emphasized. This course is required for Early Childhood Education and Elementary Education majors.

**MA 200      4 Credits****CALCULUS I**

Designed to parallel first-semester calculus courses at four-year institutions of learning and to prepare the student for further work in calculus. Topics include a review of functions and their graphs, properties of limits, continuity, derivatives of algebraic and transcendental functions, differentials, Max-Min applications, related rates, the Fundamental Theorem of Calculus, the anti-derivative, and the definite and indefinite integrals. For students in mathematics, engineering, sciences and liberal arts. Lecture: 4 hours per week. Prerequisite: MA 102 & MA 103T, or MA 104 or permission of instructor.

**MA 201      4 Credits****CALCULUS II**

Differentiation and integration of the inverse functions, applications of integration, special integration techniques (substitution, parts, partial fractions, and trigonometric substitution), improper integrals, infinite series, and an introduction to differential equations. Designed for students in mathematics, engineering, sciences and liberal arts. The course is made to parallel the second-semester calculus course at four-year colleges, and to provide a continuation of the calculus sequence. Prerequisite: MA 200

**MA 202      4 Credits****CALCULUS III**

To introduce the elements of the calculus (differentiation and integration) of functions of several variables, vectors and vector fields, optimization, and line and flux integrals. Designed to parallel a Calculus III course at four-year institutions of learning. Designed for students in mathematics, engineering, sciences and liberal arts. Prerequisite: MA 201

**MA 210      4 Credits****INTRODUCTION TO LINEAR ALGEBRA**

An introduction to matrix theory and linear algebra. Vector spaces, linear transformation, matrices, determinants, systems of linear equations, and applications. Prerequisite: MA201 or equivalent; or permission of instructor.

**MA 211      4 Credits****DIFFERENTIAL EQUATIONS**

An introduction to the theory and applications of elementary differential equations and boundary value problems. Intended for engineering and the physical sciences. Designed to parallel a course in Differential Equations at a four-year college or university. Lecture: 4 hours per week. Prerequisite: MA202 or equivalent.

**MAC 100      3 Credits****BUSINESS MATH**

Concepts and practices of financial mathematics, elementary probability, and descriptive statistics are covered in this course. Simple and compound interest, present and future value, and annuities are covered. Measures of central tendency and dispersion including normal distribution and standard deviation are studied. Combinations, permutations, randomness and principles of counting including set notation are considered. Emphasis is on the use of mathematics, not theoretical derivation. Designed for students in career programs. Not an equivalent course for 100 level MA courses. Lecture: 3 hours per week. Prerequisite: MA 095 or higher

**MAC 101      3 Credits****TECHNICAL MATH**

Algebra with technical applications. Rational numbers, exponents, scientific notation, percent, ratio and proportion, linear equations, elementary plane geometry, solving systems of linear equations, elementary plane geometry, solving systems of linear equations by graphing and algebraic methods, solving literal equations, introduction to right angle trigonometry. Intended for students enrolled by career technology programs. Not an equivalent course for 100 level MA courses. Prerequisite: MA 095 or higher.

**MAXILLOFACIAL (MX)****MX 101      6 Credits****PRINCIPLES & PRACTICE OF MAXILLOFACIAL I w/LAB**

This course consists of lecture presentations that will provide an introduction to the field of Otorhinolaryngologic Surgery. Emphasis is on microbiology and principles of asepsis, decontamination, disinfection and sterilization, patient preparation and vital signs monitoring, anatomy and physiology relative to maxillofacial and oral surgeries, medical and surgical terminology, instrumentation, dental surgical equipment, and surgical site preparation. Emphasis also includes the psychosocial needs of the patients, legal, moral and ethical behavior. Total credits 6.

**MX 102      3 Credits****PRINCIPLES & PRACTICE OF MAXILLOFACIAL II**

This course will continue to present the fundamental principles in the specialized area of Otorhinolaryngologic Surgery. Emphasis will be: anesthesia and anesthetic agents, auto transfusion blood products, and replacement, safe transfer and positioning of patients, specialized instrumentation and power equipment; and medical-dental coding and clinical. Total credits 3.

**MX 103      4 Credits****CLINICAL PRACTICUM FOR MAXILLOFACIAL SURGERY**

Students will be placed in the clinical environment of the dental office and operating room surgical practice. Clinical experience will total 120 hours; 60 hours of dental office practice and 60 hours of operating room practice. Clinical education integrates theory and laboratory skills in a setting where maxillofacial surgery is performed. Students are expected to perform with increased autonomy when assisting with maxillofacial surgery. While in assigned clinical environments of the dental office and operating room surgical practice, students will have their supervised clinical experience. Emphasis in clinical is on integrating theory and laboratory skills to demonstrate proficiency and safety in their surgical care of the patients. Students are expected to perform with increased autonomy when assisting with maxillofacial surgery. Total credits 4.

**MECHANICAL ENGINEERING (MN)****MN 101      4 Credits****INTRODUCTION TO COMPUTER AIDED DESIGN AND DRAFTING**

Students will be introduced to Computer Aided Design and Drafting applications and industry standard software. Concentrate on the basic drafting rules and skills as they apply to engineering drawings. Communicate with traditional free hand sketching and AutoCad software to create diagrams and circuitry drawings. Students will be introduced to the common practices, terminology and symbols relating to electrical and electronic design. Students will create and edit drawings using various 2D geometry and symbol libraries. Lecture: 3 hours per week. Lab: 2 hours per week.

**MN 115      3 Credits****BLUEPRINT READING AND ESTIMATING**

Examines the process of developing and interpreting blueprints. Introduces cost analysis and provides students with a working knowledge of material expenses. Lecture: 3 hours per week. 3 credits.

**MN 118      3 Credits****ETHICS FOR ENGINEERS AND TECHNOLOGISTS**

The design, manufacture or delivery of professional services requires careful consideration of the ethical dimensions of the issues and responsibilities of individuals and corporations. This course will cover ethical issues in product development and professional services based on traditional and contemporary ethical theories. Instruction will be provided through specific case studies or scenario development. Students will research and analyze the situations presented to them and will present the result of their analysis through term papers and presentations. Lecture: 3 hours per week

**MN 121      4 Credits****MECHANICAL DETAILING**

Mechanical Details develops detailed engineering part and assembly drawings using SolidWorks 3D parametric-based Computer Aided Design (CAD) software. Create and modify drawing templates, sheet formats, drawing views and detailed drawings. Produce annotated drawings with dimensions, notes, geometric tolerances, and tables, using ANSI and ISO industry standards. In an industry-simulated atmosphere, work with welding symbols, Geometric Tolerance notation, reports and BOM to produce multi-sheet working drawings and Engineering Change Orders/Notices (ECO/ECN). Manipulate Design Tables to create multiple configurations. Import data from Autocad, IGES, and other graphic formats. Lecture: 3 hours per week. Lab: 2 hours per week. Co-requisite: MN130 or permission of instructor

**MN 125      4 Credits****ENGINEERING COMPUTATION WITH APPLICATION SOFTWARE**

Prepares students for use of application software to solve a variety of engineering problems. Introduces students to engineering analysis using spreadsheets and Math application software such as MatLab. Students will design algorithms using a high-level programming language to solve technical problems. Recommended completion of MA 104 or higher Math course. Lecture: 3 hours per week. Lab: 2 hours per week

**MN 130      4 Credits****ENGINEERING DESIGN WITH CAD I**

Presents engineering design case studies for a variety of engineering disciplines and introduces design topics including problem formulation, creativity, specifications, evaluation tools, ergonomics, manufacturing and ethics. Provides a solid foundation for developing accurate 3D CAD models and 2D representations of parts and assemblies using SolidWorks, a 3D Parametric Computer Aided Design (CAD) software. CAD topics will include hands-on creation and modification of parts, and assemblies in regard to design intent and complete with features, dimensions, relationships and views, and developing 2D representation of 3D parts. Students develop an original design to solve a technical problem and a 3D visualization of the solution using SolidWorks as a term project. Recommended: Working Knowledge of Microsoft Word, Excel, and the WWW. Lecture: 3 hours per week; Lab: 2 hours per week.

**MN 135      4 Credits****ENGINEERING DESIGN WITH CAD II**

Project-oriented approach to the design and development of parts, assemblies and drawings utilizing ProIE/ Wildfire/Creo 3D parametric CAD software. Skill sets include feature creation and modification of parts, assemblies and drawings in this hands-on class. The new ProIE/ Wildfire/ interface and multiple options of features are explored through a series of exercises. Students must be familiar with SolidWorks or other 3D modeler and the World Wide Web (WWW). Lecture: 3 hours per week. Lab: 2 hours per week. 4 credits. Prerequisite: MN 130 or permission of instructor

**MN 140      4 Credits****PROJECT MANAGEMENT**

This course provides an introduction to project management theory and the use of MS Project software. It focuses on coordinating tasks, assigning resources, and tracking cost to develop a project schedule. Students learn project management skills while working on actual projects. MS Project and various CAD, CS and MS Office applications are used to complete hands-on course work. Lecture: 3 hours per week. Lab: 2 hours per week.

**MN 141      4 Credits****ARCHITECTURE & CIVIL CAD APPLICATIONS**

Architecture and Civil CAD applications is a hands-on approach to understand and develop the basic drawings required for residential construction including 2D plot plan, floor plan, electrical plan and kitchen plan. Understand basic Plot plans, contour maps and wetland boundaries. Read and understand architectural and civil drawings. Explore manual sketching techniques to construct rough concept plans and models. Architectural scale and Engineering scale required. Utilizes AutoCAD. Lecture: 3 hours per week. Lab: 2 hours per week. Prerequisites: MN 101 or permission of instructor

**MN 150      4 Credits****PRINTED CIRCUIT DESIGN I**

Presents the concepts of layout and tape-up of printed circuit boards and drafting documentation needed to fabricate and assemble printed circuit boards. Lecture: 3 hours per week. Laboratory: 2 hours per week.

**MN 155      4 Credits****PRINTED CIRCUIT DESIGN II**

Continuation of MN 150 with emphasis on projects. Prerequisites: MN130, MN150 Lecture: 3 hours per week. Laboratory: 2 hours per week.

**MN 201      1 Credit****COOPERATIVE EDUCATION**

This course provides actual hands-on work experience at local Design Companies. Co-Op experience of at least 80 hours within a supervised setting is required. Grading is pass/fail. 1 credit

**MN 203      3 Credits****ENGINEERING MECHANICS: STATICS**

Study of forces that produce equilibrium among material bodies. Resolution and addition of forces, vectors, translational and rotational equilibrium, torque, structural analysis, internal forces, centroid and center of gravity, moment of inertia and radius of gyration. Lecture: 3 hours per week. Prerequisites: MA 200, PY 103

**MN 204      3 Credits****ENGINEERING MECHANICS: DYNAMICS**

Study of both the motion of an object and the forces that bring about the motion of that object. Vector development of kinematics of a particle with respect to fixed and moving coordinate systems. Dynamics of a particle and systems of a particle and rigid bodies. Work, energy, impulse, and linear and angular momentum. Lecture: 3 hours per week. 3 credits. Prerequisites: MA 201, PY 103

**MN 210      4 Credits****STRENGTH OF MATERIALS I**

Study of internal forces produced by externally applied load, stress, strains, shear forces and bending moment diagrams, mechanical properties of materials, torsion, bending, combined loadings, plane stresses and plane strain, principal stresses, maximum shear stress, and Mohr's circle. Lecture: 3 hours per week. Lab: 2 hours per week. 4 credits Prerequisite: MN 203 or by instructor's permission.

**MN 220      4 Credits****THERMODYNAMICS I**

Study of systems in which mass and energy flow across the systems' boundaries. Properties of pure substance, phases and phase change, equation of state, work, heat, internal energy and thermodynamic processes. Control volume analysis of mass and energy and the second law of thermodynamics. Availability and irreversibility, analysis of both open and closed systems, and introduction to gas and vapor cycles. Lecture: 3 hours per week. Laboratory: 2 hours per week.

**MN 222      3 Credits****STRENGTH MATERIALS II**

Study of stress concentration and theory of elastic failure, stresses produced by fluctuating loads, deflections of beams and shafts, statically indeterminate beams, moment-area and super position methods, buckling of columns, elastic strain energy, impact loading, principle of virtual work, and Castigliano's Theorem. Lecture: 3 hours per week. Lab: 2 hours per week.

**MN 230      2 Credits****MECHANICAL ENGINEERING LABORATORY**

Experimental study of topics related to fluid mechanics and strength of materials. Velocity profile, flow measurement, pressure energy losses in pipes and fittings, drag force, deflections, and stress analysis. Laboratory: 2 hours per week.

**MN 241      4 Credits****ARCHITECTURAL DESIGN**

Sketching and CAD techniques for residential and commercial detailing and design. Survey details, landscaping, floor layout, 3D house construction, plan, elevation, foundation, truss structure, kitchen and bathroom design. Commercial team-based projects designed by students. Introduced to advanced visualization techniques. Lecture: 3 hours per week. Lab: 2 hours per week 4 credits. Prerequisite: MN 141 or permission of instructor.

**MN 250      4 Credits****MECHANICAL COMPONENTS**

Drawing of complex mechanisms and components such as gears, fasteners, springs, and other parts. Concentration on 3D modeling techniques with plastic and metal components. Lecture: 3 hours per week. Laboratory: 2 hours per week. Prerequisite: MN121 or MN135

**MN 251      4 Credits****ELECTRO-MECHANICAL DESIGN**

Design of complex assemblies using 3D modeling software, Pro/ENGINEER wildfire(r)/Creo and SolidWorks(r), sheet metal drawings, design of electrical-mechanical components and large assemblies. Creating projects from concept to final design will be emphasized. Lecture: 3 hours per week. Laboratory: 2 hours per week. Prerequisite: MN121 or MN135



**MN 261      4 Credits****ANIMATION, MATERIALS AND 3D MODELING**

Animation, Materials and 3D Modeling is an introduction to 3D Modeling and animation techniques. In the design world, professionals relay complex ideas through computer animation. Computer animation requires creativity, computer knowledge and careful planning. Students learn to apply software tools to create 3D models, apply mapped materials for photo-realistic images, and develop timed animations in the industry standard formats such as .avi, .jpg and .tiff. Students apply animation to illustrate a variety of applications such as assembly instructions for consumer products and scientific illustrations. Models are incorporated into written procedures and oral graphic presentations. Lecture: 3 hours per week. Lab: 2 hours per week. 4 credits. Prerequisite: MN 130 or permission of instructor.

**MN 271      4 Credits****PROJECT DESIGN**

Capstone design project focusing on a combination of project management skills and CAD skills. Students will work in teams and focus on real world design issue in their area of focus: architecture, mechanical design or multimedia design. Lecture: 3 hours per week. Lab: 2 hours per week. Prerequisite: MN135 or MN 241

**MN 272      4 Credits****DESIGNING PLASTIC PARTS**

Designing Plastic Parts incorporates industry CAD applications from the development of the 3D model to a standard mold base. Students work with customer requirements and utilize advanced modeling techniques such as sweeps, lofts, ribs and draft to create molded plastic parts. From the plastic designed part, the core and cavity mold bases are developed. Students also explore complex parting lines and multiply cavity molds. Prerequisite: MN 130 or permission of instructor. Lecture: 3 hours per week. Lab: 2 hours per week.

**MEDICAL CODING (MR)****MR 120      3 Credits****PATHOPHYSIOLOGY FOR MEDICAL CODING**

This course surveys the major systems of the human body. Conventional diagnostic procedures and treatment options are identified. Students will learn the relationship of pharmacology to the health care process. Topics such as disease prevention and transmission, coronary care, oncology, immunizations, organ transplantation and replacement, genetic illness, and AIDS are discussed. Total Course Credits 3; Lecture: 3 hours per week. Pre-Requisite: BI 113 Essentials of Anatomy and Physiology; HL 103 Medical Terminology. Co Requisite: EN 101 Freshman English I

**MR 203      4 Credits****CODING: INTERNATIONAL CLASSIFICATION OF DISEASES (ICD-CM)**

This course introduces ICD coding systems. It provides extensive coding practice in principal and secondary diagnoses and procedures and correct sequencing. Conditions and diseases in each of the body systems, neoplasms, congenital anomalies, ill-defined conditions and E- and V- codes will be coded using the ICD system. The history and significance of ICD coding in third party reimbursement is given. The course presents information on opportunities for employment and coding specialist certification. Total Course Credits 4; Lecture (3 credits) 3 hours per week. Lab:(1 credit) 2 hours per week. Total course hours 60. Prerequisite: MR 120 Pathophysiology for Medical Coding

**MR 206      4 Credits****CODING: CURRENT PROCEDURAL TERMINOLOGY (CPT)**

This course provides instruction in the classification and coding of ambulatory care encounters using Physicians Common Procedural Terminology (CPT-4) and HCPCS Level II (National) codes. Using workbook exercises and medical reports, students learn to accurately assign CPT codes for all occasions of service and encounters in a physician practice or outpatient care setting. Lecture hours 4 per week.

**MR 207      3 Credits****HIPAA STANDARDS AND ETHICS FOR MEDICAL CODERS**

Medical Coders are required to maintain ethical and legal standards within their professional practice. This course will balance coverage of both the legal and ethical issues with an emphasis on HIPAA standards. The course will provide a foundation for handling common ethical and legal challenges in everyday practice. As the student progress through the course such topics as professional accountability, informed consent, documentation, administrative and medical liability and litigation as well as work situations that could escalate into conflict or dispute will be presented. Prerequisite: MR 206 Coding: Current Procedural Terminology (CPT)

**MR 211      3 Credits****DIRECTED PRACTICE IN CODING**

Supervised field work in affiliated hospitals and health care facilities provide actual clinical experience. Prepares student for performance of coding duties through practical experience. Field Experience: 4 days a week for 4 weeks. Prerequisite: MR 201.

**MEDICAL OFFICE ADMINISTRATIVE ASSISTANT (MO)****MO 101      5 Credits****MEDICAL OFFICE PROCEDURES I**

This course introduces a variety of documents and reports commonly seen in the medical office. It includes an introduction to medical office computer applications and functions in a typical medical environment pertinent to medical transcription, patient scheduling, medico legal documentation, patient information databases, and computerized billing. Lecture: 5 hours per week.

**MO 110      5 Credits****MEDICAL OFFICE PROCEDURES II**

This course focuses on medical law and ethics, fundamentals of current medical practice, interrelationships of health professions team, medical office management, medical records management, therapeutic communication, and the legal and ethical role of the medical office administrative assistant. Course content may include increasingly advanced medical documentation, such as SOAP notes or other formats, pathology and operating room reports, consultation reports, patient referral documentation and professional correspondence. Lecture: 5 hours per week. Prerequisite: MO 101

**MO 120      4 Credits****MEDICAL OFFICE INSURANCE AND BILLING**

This course covers the practice and skills needed for medical insurance claims processing. It includes billing procedures, claims review and problem solving, and introductory standardized diagnostics and procedural coding. The course also provides an in-depth exposure to medical office management, financial practices, and scheduling procedures. Lecture: 4 hours per week.

**MUSIC (MU)****MU 102      3 Credits****INTRODUCTION TO MUSIC THEORY**

Study of the basic principles of music theory and development of fundamental skills of music reading. Students are introduced to the keyboard and learn beginning techniques of piano playing. Prior instrumental study or experience not required. For beginners only. Lecture: 3 hours per week.

**NURSING (NU)****NU 125      4 Credits****INTRODUCTION TO BIOPHYSICAL CONCEPTS AND PHARMACOLOGY IN NURSING**

This course introduces students to biophysical concepts in nursing care across the lifespan. Key concepts are reinforced through an understanding of select exemplars and a focus on essential aspects of health wellness continuum across the lifespan. Competency in the application of the nursing process to address physiological needs in a variety of settings is stressed. Course content also emphasizes interrelated professional concepts related to pharmacology and medication administration. By the end of this course students should have a basic understanding of common classifications/prototypes of agents used in the management of patients with actual or potential health problems and the implications for nursing care. 4 credits. Prerequisites: BI 115, BI 116, BI 123, EN 101. Co-requisites: NU 130, HL 110, EN 102, PS 101.

**NU 130      2 Credits****INTRODUCTION TO PROFESSIONAL/HUMANISTIC NURSING CONCEPTS**

This course introduces professional and humanistic concepts applied in the context of nursing practice. Key concepts are studied in order to provide the foundational knowledge necessary to socialize to professional nursing role and provide patient centered care. The understanding and application of integrated reasoning, critical thinking and clinical decision making in healthcare is stressed. Select exemplars are used to support an understanding of the concepts under study. 2 credits. Prerequisites: BI 115, BI 116, BI 123, EN 101, Co-requisites: NU 125, HL 110, EN 102, PS 101.

**NU 135      4 Credits****INTRODUCTION TO PSYCHOSOCIAL CONCEPTS AND PHARMACOLOGY IN NURSING**

This course introduces psychosocial concepts in nursing care across the lifespan. Key concepts are reinforced through an understanding of select exemplars and a focus on essential aspects of health wellness continuum in mental health across the lifespan. Competency in addressing psychosocial needs in a variety of settings through the application of the nursing process is stressed. Course content also emphasizes principles of pharmacology and nursing care related to common classifications/prototypes of agents used in the management of patients with actual or potential mental health problems and the implications for nursing care. 4 credits, Prerequisites: NU 125, HL 110, EN 102, PS 101. Co-requisites: NU 160, NU 161, CS 100.

**NU 136      1 Credit****PSYCHOSOCIAL NURSING AND CARE OF THE OLDER ADULT I PRACTICUM**

This clinical practicum is the companion to Psychosocial Nursing and Care of the Adult I. It is intended to be an introductory experience that provides patient contact and exposure to the healthcare settings serving older adults. Emphasis is on beginning professional skills, communication and caring. With guidance, students will have the opportunity to apply select basic nursing skills including assessment of older adults with chronic health problems. Note: In order to progress to the next nursing course in the curriculum sequence both the theory and practicum must be passing. Failure in one course will require repetition of both the theory and clinical if the student is eligible for readmission to the nursing program. Total course credits 1, clinical equivalent of 3 hours per week for a 15 week period, total 45 course hours. Prerequisites: BI 115, BI 116, EN 101, BI 123, HL 111, PS 101. Co-requisites: NU 130, NU 125, NU 135, PS 118.

**NU 160      4 Credits****CONCEPTS IN NURSING CARE ACROSS THE LIFESPAN I**

This course focuses on an integrated understanding of nursing concepts across the lifespan. Professional concepts focus on evidence-based practice and quality and safety in long-term care and rehabilitation settings. An understanding of biophysical concepts is expanded through the analysis of exemplars relating to common health problems seen across the lifespan and in a variety of healthcare settings. Interrelated psychosocial concepts are addressed. Nursing interventions that emphasize health promotion, intervention and restoration of optimal functional capacity are explored. This course is linked to the NU 161 practicum course. Failure in either NU 160 or NU 161 will require repetition of both courses. 4 credits. Prerequisites: NU 130, NU 125, HL 110, EN 102, PS 101. Co-requisites: NU 135, NU 161, CS 100.

**NU 161      4 Credits****CONCEPTS IN NURSING CARE ACROSS THE LIFESPAN I PRACTICUM**

This course provides students with an introductory clinical experience in the long-term/rehabilitation setting. When possible, select activities in community settings with an emphasis on health promotion may be incorporated. One to one patient care assignments provide an opportunity to explore common, predictable health problems or exemplars and support an understanding of concepts introduced in the program to this point. Both individual patient-care assignments and cognitive clinical activities are used to support achievement of course outcomes. This course is linked to the NU 160 theory course. Failure in either NU 160 or NU 161 will require a repetition of both courses. 4 credits. Prerequisites: NU 130, NU 125, HL 110, EN 102, PS 101. Co-requisites: NU 135, NU 160, CS 100.

**NU 225      3 Credits****CONCEPTS IN NURSING CARE ACROSS THE LIFESPAN II**

This course expands on an understanding of nursing concepts across the lifespan. Professional concepts focus an understanding of evidence-based practice and quality and safety in acute care settings. Analysis of new Biophysical concepts and exemplars support the application of problem solving to nursing and health care needs across the lifespan and in a variety of healthcare settings. Interrelated psychosocial and humanistic concepts continue to be addressed. An exploration of caring interventions and more complex variables supporting them is undertaken. This course is linked to the NU 226 practicum course. Failure in either NU 225 or NU 226 will require a repetition of both courses. 3 credits. Prerequisites: NU 135, NU 160, NU 161, CS 100. Co-requisites: NU 226, NU 235, NU 236, any Humanities Elective

**NU 226      2 Credits****CONCEPTS IN NURSING CARE ACROSS THE LIFESPAN II PRACTICUM**

This clinical practicum is the companion to NU 225, Concepts in Nursing Care Across the Lifespan II. Students will have the opportunity to apply both previously acquired and current course content/nursing knowledge to the care of the adult in the acute care setting. When possible clinical assignments will reinforce both concepts and professional behaviors presented in the classroom. In order to progress to the next nursing course in the curriculum sequence both the theory and practicum must be passing. Failure in one course will require repetition of both the theory and clinical if the student is eligible for readmission to the nursing program. 2 credits. Prerequisites: NU 135, NU 160, NU 161, CS 100. Co-requisites: NU 225, NU 235, NU 236, any Humanities Elective.

**NU 235      3 Credits****CONCEPTS IN FAMILY NURSING**

This course expands on an understanding of nursing concepts across the lifespan, with an emphasis on the concept of family and the variables that impact the provision of nursing care. Professional concepts focus on evidence-based practice in the various settings and systems serving the healthcare needs of families. Biophysical concepts relating to reproduction are introduced. Expansion of previously introduced biophysical concepts emphasizes the interrelationship of psychosocial and humanistic aspects of care and the impact on family function. An exploration of caring interventions aimed at improving outcomes for individuals and families is undertaken. This course is linked to NU 236 practicum course. Failure in either NU 235 or NU 236 will require a repetition of both courses. 3 credits. Prerequisites: NU 135, NU 160, NU 161, CS 100. Co-requisites: NU 225, NU 226, NU 236, any Humanities Elective.

**NU 236      2 Credits****CONCEPTS IN FAMILY NURSING PRACTICUM**

This course provides students with a clinical experience in the maternal child and family settings. Supplemental activities in other healthcare settings may be incorporated. One to one patient-care assignments provide an opportunity to explore health problems or exemplars that support critical thinking with respect to integrated family concepts introduced in the program to this point. Individual patient-care and family assignments and cognitive clinical activities are used to support achievement of course outcomes. In order to progress to the next nursing course in the curriculum sequence both the theory and practicum must be passing. Failure in one course will require repetition of both the theory and clinical if the student is eligible for readmission to the nursing program. 2 credits. Prerequisites: NU 135, NU 160, NU 161, CS 100. Co-requisites: NU 225, NU 226, NU 235, any Humanities Elective.

**NU 260      4 Credits****CONCEPTS IN NURSING CARE ACROSS THE LIFESPAN III**

This course focuses on pre-graduate analysis and synthesis of complex aspects of interrelated nursing concepts across the lifespan. Professional concepts focus on application of evidence-based practice and quality and safety in acute/care and critical care settings. Biophysical concepts focus on health problems or exemplars that are less predictable. A focus on advanced principles of care management and professionalism, critical thinking, and clinical judgment with respect to the complex needs of individuals requiring nursing care in a variety of healthcare settings is included. This course is linked to the NU 261 practicum course. Failure in either NU 260 or Nu 261 will require a repetition of both courses. 4 credits. Prerequisites: NU 225, NU 226, NU 235, NU 236, any Humanities Elective. Co-requisites: NU 261, NU275.

**NU 261      4 Credits****CONCEPTS IN NURSING CARE ACROSS THE LIFESPAN III PRACTICUM**

This course provides students with a second clinical experience in the acute care setting. Supplemental leadership activities in other healthcare settings may be incorporated. One to one patient-care assignments provide an opportunity to explore more complex, less predictable health problems/exemplars. Advanced cognitive clinical assignments and Capstone projects support an understanding of integrated concepts introduced in the program and are intended to prepare students to transition to practice. This course is linked to the NU 260 theory course. Failure in either NU 260 or NU 261 will require a repetition of both courses. 4 credits. Prerequisites: NU 225, NU 226, NU 235, NU 236, any Humanities Elective. Co-requisites: NU 260, NU 275.

**NU 270      2 Credits****PSYCHOSOCIAL NURSING AND CARE OF THE OLDER ADULTS II**

This course builds on previously acquired knowledge and skills through focus on the specialized needs of psychiatric and geriatric adult patients in medical surgical settings. Course content emphasizes complex, acute pathophysiology and co-morbid psychiatric issues that present special challenges for nursing and healthcare and teams. Biological, environmental and psychological factors contributing to mental illness and serious functional decline are explored. The trajectory of mental illness over the lifespan is examined. Evidence-based nursing and collaborative interventions that retain the dignity and safety of patients and families are identified. Didactic content reinforces independent learning and accountability for the incorporation of the core competencies identified and reinforced throughout this program. Total course credits 2, theory 2 hours per week in a 15 week semester, total contact hours 30.

**NU 275      4 Credits****NURSING CAPSTONE**

This final course is intended to ensure achievement of end of program activities through a variety of independent and collaborative learning activities. Students will engage in a process of evaluation comprised of written assignments, self-assessment tools and end of program standardized testing to determine areas of strength and those requiring improvement in order to achieve end of program outcomes. Students will meet individually with course faculty to outline a plan for meeting end of program outcomes. Achievements related to each end of program outcomes will be used to develop an e-potfolio showcasing their strengths and providing evidence to support their transition to practice or into a baccalaureate program. 4 credits. Prerequisites: NU 225, NU 226, NU 235, NU 236, any Humanities Elective. Co-requisites: NU 260, NU 261.

**NUTRITION (NS)****NS 101      3 Credits****CONTEMPORARY NUTRITION**

Contemporary Nutrition examines nutritional principles. A study of the main nutrients, proteins, carbohydrates, lipids, vitamins and minerals is made. Dietary recommendations for optimal health for different age groups are covered and used to design diet plans. Modern society's afflictions due to nutritional excesses or deficiencies are covered, such as obesity, diabetes, heart disease, cancer, anorexia nervosa, and bulimia. Emphasis is given to the use of sound dietary practices as the means for preventing disease. Lecture: 3 hours per week.



**PARALEGAL (PA)****PA 100      3 Credits****INTRODUCTION TO PARALEGAL STUDIES**

This course examines the various careers available to today's paralegal with an emphasis applicable ethical considerations and provides an introduction to substantive areas of law. Lecture: 3 hours per week.

**PA 104      3 Credits****LITIGATION FOR PARALEGALS**

Examination of the legal institution of civil litigation; including its method, purpose, ethics, and expectations. As a guide, litigation in the personal injury and tort areas are emphasized, supplemented by procedures applicable to commercial transactions, administrative agencies, and contracts. The course will test analytical capability and provide practical training in litigation support, drafting pleadings and motions, case organization, investigation and discovery techniques, and persuasive argument.

**PA 201      3 Credits****LEGAL RESEARCH AND WRITING I**

A practical approach to developing and improving basic legal research skills and legal writing ability. Assignments will require students to use a variety of primary and secondary sources found on-line and in a law libraries. As their research skills develop, students will become involved in drafting legal documents with an emphasis on proper legal style and clear, accurate, and precise presentations. Lecture: 3 hours per week.

**PA 202      3 Credits****LEGAL RESEARCH & WRITING II**

An extension of the skills acquired in Legal Research and Writing I, this course emphasizes legal writing through the practical study of correct usage, legal terminology, and specific forms such as the case brief, client letters, and legal memorandum. Lecture: 3 hours per week. Prerequisite: PA201

**PA 203      3 Credits****REAL ESTATE FOR PARALEGAL**

Summary of substantive law related to real estate property, with an emphasis on real estate transactions, purchases and sales documentation, title examination, and contract preparation. Lecture: 3 hours per week.

**PA 205      3 Credits****FAMILY LAW FOR PARALEGAL**

An overview of family law with particular emphasis on the procedural aspects of the marriage contract, property rights of the parties, adoption, protection from abuse, estate planning, alimony, child support, and termination of marriage. Lecture: 3 hours per week.

**PA 251      3 Credits****PARALEGAL INTERNSHIP**

This internship is designed to provide students who qualify with the opportunity for a direct "hands-on" fieldwork experience in a legal setting during their last semester of study. Pre-requisites: PA100 and a grade of at least "B" in PA104 and PA201.

**PARAMEDICINE (PM)****PM 101      4 Credits****FOUNDATIONS OF PARAMEDICINE**

This course provides the student with theory, demonstration and experiential laboratory in foundational skills for the Paramedic as described in the EMS Scope of Practice Model. The following topics will be covered: EMS systems, communications and scene management; airway and ventilatory management, pathophysiology of shock, management of burns, and techniques for vascular access. Co-requisites: PM 102, PM 103. Prerequisite or Co-requisite: BI 113. Note: A combination of BI 115 and BI 116 may be taken in place of BI 113. Lecture: 2 hours per week. Lab: 4 hours per week.

**PM 102      2 Credits****PREHOSPITAL PHARMACOLOGY**

This course covers all aspects of pharmacology relating to safe and appropriate prehospital pharmaceutical interventions. Students will learn the principals of pharmacology, the FDA approval process, medication administration techniques, and drug dosage calculations. Students will be expected to use problem solving skills in case based practical applications. Prerequisite or Co-requisite: PM 101, 103 and BI 113. note: A combination of BI 115 and BI 116 may be taken in place of BI 113. Prerequisite: Placement into MA 095 or higher.

**PM 103      1 Credit****TRENDS FOR THE PARAMEDIC**

This course provides the student with instruction in the following areas contained in the National Standard Training Curriculum for the Paramedic, roles and responsibilities, PM systems, medical legal considerations and medical terminology. Lecture: 1 hour per week.

**PM 104      5 Credits****CARDIOLOGY**

This course provides students with theory, demonstration and experiential laboratory in the areas of anatomy, physiology and electrophysiology of the cardiovascular system. Students will explore pathophysiology of patients with AMI, angina, central and peripheral vascular disorders, dysrhythmia and 12 lead electrocardiogram interpretation. This course includes AHA Advanced Cardiac Life Support (ACLS) provider certification. Prerequisite or Co-requisite: PM 101, 102, 103 and BI 113. Note: A combination of BI 115 and BI 116 may be taken in place of BI 113. Lecture: 3 hours per week. Lab: 4 hours per week.

**PM 105      3 Credits****MEDICAL EMERGENCIES**

This course provides the student with instruction in the following areas contained in the National Standard Training Curriculum for the Paramedic: pathophysiology and management of respiratory, endocrine and nervous systems, toxicology, alcoholism, the acute abdomen, infectious diseases and environmental emergencies. Lecture: 3 hours per week.

**PM 110      4 Credits****SPECIAL CARE ASPECTS PARAMEDIC**

This course provides the student with theory, demonstration and experiential laboratory in the following areas contained in the National Standard Training Curriculum for the Paramedic: trauma, pediatrics, neonatology, obstetrics, gynecology, gerontology and psychology. Lecture: 3 hours per week. Lab: 2 hours per week. Prerequisite: All first semester paramedic courses and BI 113

**PM 111      1 Credit****ADVANCED MEDICAL LIFE SUPPORT**

This course provides students with interactive lectures, teaching, experiential laboratory and evaluation stations in the areas of patient assessment, airway management, assessment of the shock patient, dyspnea/respiratory failure, chest pain, altered mental status, and abdominal pain. The course emphasizes using scene size-up, history and physical examination to systematically rule-out or rule-in possibilities and probabilities of the patient's medical problem. The course offers the opportunity to begin in an assessment-based approach and progress to a diagnostic-based approach to develop a specific treatment plan for a specific medical condition, resulting in a differential diagnosis. Upon successful completion of the course, the student will be certified as an Advanced Medical Life Support (AMLS) Provider by the National Association of Emergency Medical Technicians (NAEMT). Prerequisites: PM 101, 102, 103, 104, 105, BI 113. Co-requisites: PM 110, 112, 113. Note: A combination of BI 115 and BI 116 may be taken in place of BI 113. Lecture/Lab: 6 hours per week for 3 weeks.

**PM 112 1 Credit****PEDIATRIC ADVANCED LIFE SUPPORT PROVIDER**

This course provides the student with theory, demonstration and experiential laboratory in pediatric advanced life support. It is taught in accordance with the standards set by the American Heart Association. Upon successful completion of the course, the student will be certified as a Pediatric Advanced Life Support Provider through the American Heart Association. Lecture/Lab: 6 hours per week for 2 weeks. Prerequisite: PM 101, PM 102, PM 104 & PM 105.

**PM 113 1 Credit****NEONATAL ADVANCED LIFE SUPPORT PROVIDER**

This accelerated course provides the student with theory, demonstration and experiential laboratory in the following areas of neonatal life support; physiology of a newborn; causes of arrest in the newborn; steps to resuscitate neonates, including end tracheal intubations and resuscitation medications. Lecture/Lab: 6 hours per week for 2 weeks. Prerequisites: PM 101, PM 102, PM 104 & PM 105

**PM 210 3 Credits****CLINICAL I**

This course provides clinical practice in the Emergency Department under the direction of a preceptor or instructor. Several on campus clinical days will be required. Prerequisites: PM 101, 102, 103, 104, 105, 110, 111, 112, 113, BI 113 Note: A combination of BI 115 and BI 116 may be taken in place of BI 113. Clinical: 140 hours, approximately 18 hrs/week for 8 weeks.

**PM 211 4 Credits****CLINICAL II**

This course provides clinical practice in the following hospital units under the direction of a clinical preceptor: Intensive Care, Anesthesia, Pediatrics, Labor and Delivery, and Behavioral Medicine. Several On campus clinical days will be required. Prerequisites: PM 101, 102, 103, 104, 105, 110, 111, 112, 113, BI 113. Prerequisite or Co-requisite: PM 210. Note: A combination of BI 115 and BI 116 may be taken in place of BI 113. Clinical: 180 hours, approximately 24 hrs/week for 8 weeks.

**PM 212 5 Credits****FIELD INTERNSHIP**

The field internship is a capstone course providing an opportunity for the student to work under the supervision of a Paramedic in Advance Life Support (ALS) ambulances for at least 250 hours. The student will participate in the comprehensive emergency medical care for at least 50 patient encounters at the ALS level. For at least half of the encounters, the student will act as team leader to provide them practical experience in managing ALS patients from scene size-up through transition of patient care. The student will complete written documentation and reflective assignments throughout the internship. Prerequisites: PM 101, 102, 103, 104, 105, 110, 111, 112, 113, BI 113 Prerequisite or Co-requisite: PM 210. Note: A combination of BI 115 and BI 116 may be taken in place of BI 113. Internship: 250 hours, 32 hours per week for 8 weeks.

**PHILOSOPHY (PH)****PH 101 3 Credits****PHILOSOPHY: PROBLEMS IN PHILOSOPHY**

Introductory study of the nature and development of philosophy. Traditional and contemporary philosophical problems are addressed, and investigation into the lives and lifetimes of philosophers is included. Subjects include: concepts of reality, the limitations of human knowledge, the existence of God, ethical behavior, and social justice. Lecture: 3 hours per week.

**PH 102 3 Credits****PHILOSOPHY: ETHICS**

A philosophical study of representative ethical systems as an approach to moral issues. Problems include: how do we determine good and bad, right and wrong, freedom and responsibility; how do we select the values that guide us to happiness and the “good life”? Discussion-oriented, focusing on the application of ethical solutions to moral dilemmas. Lecture: 3 hours per week.

**PH 103 3 Credits****CONTEMPORARY MORAL PROBLEMS**

This course will focus on issues that arise in contemporary public debate concerning matters of applied ethics and social justice. Topics will likely include: euthanasia, gay marriage, immigration, racism and racial profiling, gender politics, free speech, hunger and global inequality. Student will be exposed to multiple points of view on the topics and will analyze the moral frameworks informing opposing positions. The goal will be to provide the basis for respectful and informed discussion of matters of common moral concern. The format and topics of the courses will vary relative to existing ethical concerns. One section may focus extensively on issues on medical ethics, another on the morality of war, and another on an entirely different contemporary philosophical issue.

**PH 106 3 Credits****PHILOSOPHY AND FILM**

Film and stories engage, challenge, and extend our imagination and help us to grapple with significant philosophical questions. It provides important cultural frames for understanding who we are and what we are doing and common ground with which to identify and discuss philosophical issues. In this course, students will locate philosophical themes in film and literature and enter into dialogue with them. By identifying philosophical issues as a part of everyday life, students will become more observant and reflective individuals. This course provides students with an integrated introduction to philosophy and some basic logic and critical thinking materials. Students will critically examine philosophical arguments to think critically about the conduct of life, the justification of beliefs, and the nature of the world.

**PH 110 3 Credits****PHILOSOPHY OF RAJA YOGA**

Yoga philosophy, one of the six major systems of Hindu Philosophy (darshanas), is the science of meditation. This royal accelerated path to inner discovery has been explained in the Upanisads by ancient sages (rishis) prior to 1,500 BCE and later compiled by Maharishi Patanjali in the famous Yogasutras. The student is introduced to eight steps of Raja Yoga consisting of yama, niyama, asana, pranayama, pratyahara, dharana, dhyana, and Samadhi. With this knowledge, innate desires, emotions, and thoughts may be controlled to experience benefits that include improved physical and mental health, balanced individual growth, harmony in social interactions, fearlessness, increased self-awareness, and a sense of individual calmness that fosters global peace. This is a philosophy course and requires no exercise or practice on the part of the student. 3 credits.

**PHLEBOTOMY (PB)****PB 100 3 Credits****PRINCIPLES & METHODS OF PHLEBOTOMY**

This course is designed to explore the history of phlebotomy and the development of current practice. Course materials include an introduction to the clinical laboratory and associated topics necessary for the phlebotomist to work in a clinical laboratory. Students will be introduced a variety of health care settings. Students will explore anatomy and physiology of the vascular system, venous and capillary specimen procurement, pediatric and geriatric blood drawing, blood donor collection, electrocardiograph (EKG) procedures, microbiological specimen collection, and glucose testing. Lecture: 3 hours per week. Lab: 3 hours per week.

**PB 105      4 Credits****CLINICAL PRACTICUM PHLEBOTOMY**

This course will follow the Principles and Methods of Phlebotomy course. The student will be placed in an ambulatory private lab or hospital facility. Each performance objective will consist of the specific tasks of phlebotomy and blood collection procedures, standard of clinical performance, and evaluation of competency expected of an entry-level phlebotomist. The practicum will be a minimum of 180 contact hours. Clinical: 180 hours. Prerequisite: PB100

**PHOTOGRAPHY (PO)****PO 115      3 Credits****PHOTOGRAPHY I**

Lecture/darkroom course designed as an introduction to black & white still photography. Emphasis on basic skills and darkroom techniques. Darkroom and shooting assignments outside of class are required. Access to a manual 35mm or larger format camera is required. Lecture: 3 hours per week.

**PO 120      3 Credits****PHOTOGRAPHY II**

Explores issues of imaging through a study of composition, light, digital filters and exploration of the image space. Integrates traditional and digital modes of imaging expression. Some darkroom time, traditional and electronic, outside of class is required. Lecture: 3 hours per week. Prerequisite: PO 115 or permission of instructor

**PO 125      3 Credits****COLOR PHOTOGRAPHY**

An introductory course providing the opportunity for students to learn fundamental color photography skills and techniques and operation of their cameras. Issues of light, filters, exposure, the nature of color, and theories of composition will be explored. Introduces color photography through the medium of the digital camera which will be required after the second class. Cameras with aperture and shutter speed adjustments are preferable but not absolutely necessary. Camera phones are not acceptable. Lecture: 3 hours per week. 3 credits.

**PO 126      3 Credits****DIGITAL IMAGING**

Foundation course for students interested in digital imaging. This course aims to explore principles of design and composition while enhancing familiarity with image creation and manipulation software, digital image capture, and the inclusion of images in web design. Emphasis is on visual communication using digital art, graphic design, and color. In addition to class work, independent computer lab time is required. Each student will present and defend an end of term project.

**PHYSICS (PY)****PY 101      4 Credits****COLLEGE PHYSICS I w/LAB**

The algebra-based course covers kinematics, dynamics, energy, wave motion, fluids, heat and temperature, and kinetic theory of gases and sound. Lecture: 3 hours per week. Lab: 3 hours per week.

**PY 102      4 Credits****COLLEGE PHYSICS II w/LAB**

A continuation of PY 101. Electric charge, fields, energy and circuits, magnets electromagnetic waves, geometric and wave optics, relativity, and atomic and nuclear physics. Lecture: 3 hours per week. Lab: 3 hours per week. Prerequisite: PY 101



**PY 103            4 Credits****ENGINEERING PHYSICS I w/LAB**

First semester of a two-semester calculus-based sequence designed specifically for Engineering majors. Covered are vectors, statics, linear and planar kinematics and dynamics, the conservation principles, the mechanics of fluids, heat, and thermodynamics wave and oscillatory motion. Lecture: 3 hours per week. Lab: 3 hours per week.

Prerequisite: MA 104. Co-requisite: MA 200

**PY 104            4 Credits****ENGINEERING PHYSICS II w/LAB**

Second half of a calculus-based sequence designed specifically for Engineering majors. Included are electrostatic and magnetic fields, Gauss' Law, potential, DC and AC circuits, magnetic induction, waves and wave resonance, and sound and electromagnetic waves. Lecture: 3 hours per week. Lab: 3 hours per week. Prerequisites: MA 200, PY 103. Co-requisite: MA 201.

**PRACTICAL NURSING (PN)****PN 102            10 Credits****FOUNDATIONS OF PRACTICAL NURSING**

This course focuses on the common core of nursing knowledge and skills necessary to provide nursing care in simple situations across the life span. Using the framework of basic human needs, content is based on safety/sensory, nutrition/hydration, elimination, oxygenation, mobility, comfort/rest, and self-concept/self-esteem needs. These concepts assist the student in recognizing characteristics of individual patients whose ability to meet his/her own basic needs have been compromised. Nursing process is introduced as the method utilized to meet basic human needs. Nursing skills are presented in classroom, laboratory, and clinical areas. Clinical experiences begin in long-term care facilities and progress to rehabilitation/sub acute facilities. Lecture: 96 hours per semester. Clinical: 180 hours. Lab: 45 hours Pre/Co-requisites: BI 113, BI 118, HL 111, PN 105, PN 107

**PN 105            1 Credit****ISSUES & TRENDS IN PRACTICAL NURSING**

This course focuses on the history of practical nursing in relation to health care workers and the current health care delivery system. The role of the student, graduate, and licensed practical nurse is emphasized. Legal and ethical obligations of the professional are introduced. Content is organized under these basic human needs: safety/sensory, communication/interaction, and self-concept/esteem. Lecture: 1 hour per week.

**PN 106            1 Credit****ISSUES AND TRENDS IN PRACTICAL NURSING II**

This course expands upon the content, legal, and ethical considerations discussed in Issues & Trends I. Students will be prepared to assume the role of the Practical Nurse. The course will differentiate the functions of the Licensed Practical Nurse and the Registered Nurse and identify the role of the Licensed Practical Nurse in assisting the Registered Nurse to care for the patient with complex needs. This course covers the definition of licensure, application procedures for obtaining a license, continuing education requirements, and professional responsibility to maintain currency in practice. The functions of nursing organizations and other health and welfare organizations are presented. In addition, students will explore their feelings toward issues that occur in clinical practice. Students will also examine career opportunities, resume writing, the interview process, and issues involved in continuing education endeavors. Lecture: 1 hour per week. Prerequisite: PN 105

**PN 107      3 Credits****PRINCIPLES OF PHARMACOLOGY I**

One of the major practical nursing responsibilities in-patient care is the safe administration of medications. This course provides the beginning knowledge base of general pharmacology principles and information, drug characteristics, legal information, age-related and developmental considerations, and math for pharmacology calculations, including dosage calculation HESI testing. The course explores instruction for correct calculation of divided doses, solid and liquid medications and intravenous fluids and medications. Students will learn how to classify medications, examples of various medications, actions, uses, side effects, patient teaching, and nursing implications. Prerequisite: Acceptance to the Practical Nursing Program (or with permission of the faculty member). Total course credits 3; Lecture: 3 hours per week.

**PN 108      2 Credits****NURSING PROCESS INTERSESSION**

This course focuses on application of the nursing process. Using the framework of basic human needs, students learn to apply the nursing process to selected patients. Application of scientific principles in the provision of patient care is accomplished in the clinical setting and seminar discussions. Individual progress in the development of the practical nurse role is achieved through writing and sharing written exemplars. Seminar: 6 hours. Clinical: 60 hours. Prerequisite: PN 102

**PN 109      2 Credits****INTRODUCTION TO MEDICAL/SURGICAL NURSING**

This course is an introduction to Medical/Surgical Nursing and focuses in basic care of the adult, including health assessments, wound care, patient treatments and care planning. Using the framework of basic human needs the student is provided the opportunity to collect data and apply the nursing process to selected patients. Application of scientific principles in the provision of patient care is accomplished in the clinical setting as well as during the seminar discussions. Individual progress in the development of the practical nurse role is achieved through completion of patient assessments, care plan formulation and implementation, a written narrative and a HESI examination. Nursing information and skills are presented in lab and clinical area. Seminar is presented in clinical conference settings. Prerequisites: PN102, PN105, PN107, HL111, BI113, and BI118. Lab: 38 hours. Seminar: 8 hours. Clinical: 32 hours.

**PN 110      3 Credits****PRINCIPLES OF PHARMACOLOGY II**

This course focuses on commonly prescribed drugs used to treat common disorders covered in the practical nursing courses. Students will learn about major factors that provide for the basic human need of safety. In addition to medications and their classification, actions, uses, side effects, and nursing considerations, students will continue to master pharmacology calculations. This course builds on PN 107. It is designed to be taught concurrently with Med/Surg courses. Total course credits 3; Lecture: 3 hours per week. Pre-requisite: PN107. Co-requisite: PN121 and PN122.

**PN 120      14 Credits****NURSING CARE OF THE ADULT AND AGED**

This course examines the skills necessary to provide practical nursing care to patients across the life span that have common health problems. Basic human needs are the framework for the course content. Nursing information and skills are presented in classroom, laboratory, clinical area, and clinical conference settings. Students utilize critical thinking and the nursing process as the basis for delivery of safe practical nursing care. Students care for patients with common health problems in acute care clinical settings. Lecture: 105 hours per semester. Clinical: 210 hours. Prerequisite: PN 108. Pre/Co-requisites: PN 106, PN 110, PS 118

**PN 121 7 Credits****MEDICAL SURGICAL NURSING I**

This course examines the skills necessary to provide practical nursing care to patients across the life span that have common health problems. Basic human needs are the framework for the course content. Nursing information and skills are presented in classroom, laboratory, clinical area, and clinical conference settings. Students utilize critical thinking and the nursing process as the basis for delivery of safe practical nursing care. Students care for patients with common health problems in acute care clinical settings. Lecture: 52.5 hours per 8 wk session (Days) or 12 wk (eves). Clinical: 105 hours. Prerequisite: PN 109. Pre/Co-requisites: PN 105, PN 110, PS 118

**PN 122 7 Credits****MEDICAL SURGICAL NURSING II**

This course examines the skills necessary to provide practical nursing care to patients across the life span that have common health problems. Basic human needs are the framework for the course content. Nursing information and skills are presented in classroom, laboratory, clinical area, and clinical conference settings. Students utilize critical thinking and the nursing process as the basis for delivery of safe practical nursing care. Students care for patients with common health problems in acute care clinical settings. Lecture: 52.5 hours per 8 wk session (Days) or 12 wk (eves). Clinical: 105 hours. Prerequisite: PN 109. Pre/Co-requisites: PN 105, PN 110, PS 118, and PN121

**PN 130 7 Credits****CARE OF THE FAMILY**

This course discusses nursing care of the family unit. The course content builds on knowledge learned in Life Span Psychology to provide an overview of the expected changes and basic human needs of the family unit. Students will explore patient conditions seen because of changes in society. Clinical conferences in this portion will explore various options common in today's PN practice, i.e., the PN in extended care facilities as primary nurse, charge nurse, medication nurse, and team leader. There is discussion of the evolving role of the PN in home care. The clinical component will provide selected experience in long-term care settings. Lecture: 45.5 hours per semester. Clinical: 126 hours. Prerequisites: PN 120, PS 118.

**PSYCHOLOGY (PS)****PS 101 3 Credits****INTRODUCTION TO PSYCHOLOGY**

This course is designed to provide a basic understanding of human behavior. General topics will include the history of psychology, research, human growth and development, biological processes of behavior, sensation and perception, consciousness, learning, memory, motivation, intelligence, and personality development. In addition, the course explores a brief introduction to abnormal behavior and current therapies will be included.

**PS 113 3 Credits****PSYCHOLOGY OF ADJUSTMENT**

A study of the range of normal responses to life's choices and stresses. Emphasis on psychosocial models and mental health. Examines psychoanalytical, behavioral and humanist-existential concepts. Lecture: 3 hours per week.

**PS 118 3 Credits****LIFE SPAN PSYCHOLOGY**

Examines regularly predicted physical, psychological, and emotional changes from conception through aging. Theories and concepts of the psychology of the life span are integrated.

**PS 150 3 Credits****CAREER/LIFE PLANNING**

Theories of Cooley, Freud, Maslow, Mead and left/right brain functions will be presented in relation to career choice. Students will assess how their attitudes, values, skills, thinking, personality styles will affect career/life choices. Lecture: 3 hours per week.

**PS 222      3 Credits****CHILD DEVELOPMENT**

This course studies child development from birth to pubescence with a focus on infancy through 6 years of age. Problems of discipline, sibling rivalry, development of responsibility, and social adjustment are covered. Practical applications of developmental theories are discussed, along with an observational component.

**PS 223      3 Credits****PSYCHOLOGY OF CRIMINAL BEHAVIOR**

This course will examine crime, the criminal justice system (both juvenile and adult) and the psychological roots of criminal behavior. It also focuses on how criminal behavior can be attributed to biology, the psychology/temperament of the person, the society in which the person resides, as well as environmental issues such as over crowding, pollution, and noise. The course will also take a developmental look at crime starting from childhood into adulthood. It will also discuss different types of crime and how these relate to the offenders and the course will end with a discussion about punishment and imprisonment. Lecture: 3 hours per week. Prerequisites: PS101, PS240 or permission of the instructor

**PS 231      3 Credits****ADOLESCENT PSYCHOLOGY**

Examines biological, psychological, and social development of the individual during the adolescent period. Problems of sexual maturity, independence, identity, and interpersonal relationships will be emphasized. Lecture: 3 hours per week.

**PS 240      3 Credits****ABNORMAL PSYCHOLOGY**

Analyzes a spectrum of psychopathology, ranging from schizophrenia to depression. Applies a number of theoretical models to the understanding of etiology, behavioral manifestations, and treatment modalities. Lecture: 3 hours per week.

**PS 241      3 Credits****GROUP PROCESS**

Students learn the techniques and skills, decision-making, communication, leadership styles, left/right brain functions needed to work in and with groups. Journal writing and experiential learning from small group participation are integral elements of this course. Lecture: 3 hours per week.

**PS 250      3 Credits****RESEARCH METHODS**

The course will cover an overview of scientific research methods steps and process. General topics will include analysis of qualitative and quantitative research designs, sampling strategies, and statistical techniques. Lecture: 3 hours per week.

**PS 260      3 Credits****PSYCHOLOGY IN BUSINESS AND INDUSTRY**

This course will focus on human relation problems in business and industry. It will also examine personnel issues, consumer psychology, conflict supervision, communication, motivation, and cooperation in the workplace. Case studies will be employed. Lecture: 3 hours per week.

**RADIOLOGIC TECHNOLOGY (RT)****RT 101            3 Credits****RADIOGRAPHIC POSITIONING AND LAB I**

This course presents the fundamental theory, principles and practices underlying the art and science of radiographic positioning. The learning activities focus on having the student develop competency in cognitive, psychomotor, and affective domain skills requisite in radiographic positioning. The course will include commonly performed radiographic exams of the chest, abdomen, and upper and lower extremity. Laboratory exercises and practical examination sessions reinforce the theoretical principles covered in lecture. Lecture: 2 hours per week. Lab: 2 hours per week. Co-requisites: RT 111, BI 115

**RT 102            3 Credits****RADIOGRAPHIC POSITIONING AND LAB II**

This course is a continuation of RT 101. The skill clusters relating to radiographic positioning of commonly performed exams of the cervical, thoracic, lumbar, and sacral spine are studied, as well as more involved procedures used to develop image portions of the upper and lower extremity, thoracic cage and pelvic girdle. Lecture material on studies involving the gastrointestinal, urinary, and hepatobiliary systems will be presented. Laboratory exercises and practical competency assessments to reinforce theoretical principles covered in lecture. Lecture: 2 hours per week. Lab: 2 hours per week. Prerequisite: "C" or better in RT 101, RT 111, BI 115. Co-requisites: RT 112.

**RT 111            3 Credits****RADIOGRAPHIC TECHNIQUE AND LAB I**

This course provides an overview of the principles and a process related to radiographic image formation/production and analyzes factors effecting the production and appearance of radiographic density. Learning activities assist student development of skills in manipulating various independent and combinations of factors to produce a quality image. Both analog (film screen) and digital imaging technology will be presented in this course. Laboratory exercises and practical sessions reinforce theoretical principles covered in lecture. Lecture: 2 hours per week. Lab: 2 hours per week. Co-requisites: RT 101

**RT 112            3 Credits****RADIOGRAPHIC TECHNIQUE AND LAB II**

This course is a continuation of RT 111. Factors closely related to the production of radiographic contrast and detail resolution will be studied. Effective utilization of imaging accessories and the principles and practices related to the development of an assessment of radiographic quality are included. Laboratory exercises and practical competency assessments reinforce the theoretical principles learned in lecture. Advanced principles and practices related to digital imaging will be considered. Lecture: 2 hours per week. Lab: 2 hours per week. Prerequisite: "C" or better in RT 111, RT 101. Co-requisites: RT 102

**RT 121            3 Credits****CLINICAL EDUCATION I**

Prior to assignment to a clinical site, students are required to successfully complete an orientation program. It includes an overview of all program requirements and the HHSE Student handbook and Policy Manual with Radiologic Technology Program Addendum. The orientation includes medical ethics, basic patient care practices and procedures, medical terminology and radiation safety principles and practices related to the cognitive, affective and psychomotor skills for safe participation in the hospital. Students will begin clinical activities that focus on development of basic clinical competency in the manipulation of radiographic equipment and accessories and the performance of x-ray examinations presented in RT 101. Clinical education activities involve two 8-hour days per week. Co-requisites: RT 101, RT 111



**RT 122      3 Credits****CLINICAL EDUCATION II**

The student will develop and demonstrate basic competency in the performance of examinations covered in RT 102 including those related to the lower extremities, spinal column, shoulder girdle, and pelvic girdle. In addition, students demonstrate continued competence in the performance of exam categories included in RT 121 and will be expected to be active participants in the performance of tasks and skills associated with routine operations of radiographic/ fluoroscopic suites. Clinical education activities involve two 8-hour days per week. Clinical: 16 hours per week. Prerequisites: RT 101, RT 111 & RT 121. Co-requisites: RT 102, RT112

**RT 123      6 Credits****CLINICAL EDUCATION III**

During this full-time four day per week clinical experience, students will continue to develop and demonstrate an increasing degree of competence in the performance and skills related to independent decisionmaking, efficiency and speed of performance and problemsolving ability required for the area/procedure/ exam categories. Students are required to demonstrate basic competence in the performance of exams of the skull and exams performed at the patient bedside. Clinical: 32 hours per week for Summer Session. Prerequisites: RT 102, RT 112, & RT 122

**RT 131      4 Credits****RADIATION PHYSICS**

This course presents an overview of the basic laws, theories and principles including basic atomic structure, electrostatics, electrodynamics, and electromagnetism, radioactivity and the electromagnetic spectrum. Classroom lectures, discussions, and assignments assist students in relating facts, theories, and laws to operating principles associated with the components of x-ray generating equipment, nature of the x-ray beam produced and the types of interactions of x-radiation with matter that are associated with medical imaging applications. Lecture: 4 hours per week. Prerequisites: MA 098

**RT 203      3 Credits****RADIOGRAPHIC POSITIONING AND LAB III**

This course presents the skill clusters of less commonly performed exams of skeletal anatomy, more involved procedures used to image the facial bones, the mammary glands, the salivary gland, trauma, and pediatric radiography and other minor special procedures. Male and female reproductive systems will be studied. Laboratory exercises and practical competency assessments reinforce theoretical principles presented in lecture. Lecture: 2 hours per week. Lab: 2 hours per week. Prerequisite: "C" or better in RT 102, BI 116, RT 112. Co-requisites: RT 214

**RT 213      2 Credits****RADIOBIOLOGY AND RADIATION PROTECTION**

This course presents biological effects (at the atomic, molecular, cellular, tissue, organ, and organism level) of exposure to ionizing radiation. The relative risks-vs-benefits associated with medical radiation exposure theories, principles underlying radiation safety/protection practices/ procedures and accessory usage will be studied. Lecture: 2 hours per week. Prerequisites: RT 131, BI 116

**RT 214      2 Credits****RADIOGRAPHIC TECHNIQUE AND LAB III**

This course presents the factors related to the development of technical factor protocol systems. The equipment, principles, and practices associated with radiographic quality control will also be studied. Both analog (film screen) and digital imaging technology will be presented in this course. Laboratory exercises and practical sessions reinforce the theoretical principles presented in lecture. Lecture: 2 hours per week. Lab: 2 hours per week. Prerequisite RT 102, RT 112 . Co-requisites: RT 203

**RT 216      3 Credits****MEDICAL AND SURGICAL DISEASES**

This course presents basic pathologic diseases, radiographic exam indicators and common radiologic findings in routine and specialized modalities. In addition, pharmacology of contrast agents and drugs commonly used in radiology are presented. Lecture: 3 hours per week. Prerequisites: RT 203, RT 214. Co-requisites: RT 217

**RT 217      3 Credits****ADVANCED RADIOLOGIC TECHNOLOGY**

This course provides a comprehensive Registry Review covering all topics within the Radiologic Technology Program's curriculum, a review of the allied imaging modalities of CT, MRI, ultrasound, cardiovascular, and nuclear medicine including relevant sectional image appearances and anatomy, job searching strategies, and test taking strategies. A review will be conducted of radiographic image production, radiologic equipment operation and maintenance, radiation protection, radiographic procedure performance and related anatomy; and patient care delivery. The last section of the course will focus on developing strategies for success in taking the ARRT exam using simulation examination. Lecture: 3 hours per week. Prerequisites: RT 203, RT 214. Co-requisites: RT 216

**RT 221      4 Credits****CLINICAL EDUCATION IV**

Students demonstrate competency in advanced skills related to independent decision-making, efficiency and speed of performance, and problem solving associated with the area/ procedure/exam categories contained in all previous clinical courses. In addition, students will develop and demonstrate basic competence in the performance of exams presented in RT 203 including minor special procedures, trauma radiography and pediatric radiography. Clinical education activities involve three 8-hour days per week for two weeks during college intersession. Clinical: 24 hours per week. Prerequisites: RT 102, RT 112, BI 116. Co-requisites: RT 214, RT 203

**RT 222      4 Credits****CLINICAL EDUCATION V**

Students will demonstrate competency in advanced skills related to independent decision-making, efficiency and speed of performance and degree of problem solving associated with the area/procedure/ exam categories contained in all previous courses. In addition, students will develop and demonstrate basic competency in procedures for exams presented in RT 203 and as a participant in advanced imaging procedures. Clinical: 24 hours per week. Prerequisites: RT 203, RT 214, RT 221

**RECREATION (RL)****RL 124      1 Credit****ARTS & CRAFTS**

Introduces arts and crafts activities appropriate for all age levels for use in camps, playgrounds, hospitals, community, and agency settings.

**RL 138      1 Credit****RACQUETBALL**

This Course provides the student the opportunity to analyze, develop, and lead basic skills in racquetball.

**SCIENCE (SC)****SC 102      4 Credits****INTEGRATED SCIENCE I**

This course is a study of the basic concepts of chemistry, physics, geology, metrology, astronomy and environmental sciences. Topics covered include energy, heat and the laws of thermodynamics, properties and states of matter, motion, electricity and magnetism, the stars, cosmology, the Earth and other planets, the climate and weather, and the environment. The laboratory entails experiments covered in lecture. Lecture: 3 hours per week. Lab: 2 hours per week.

**SC 103      4 Credits****INTEGRATED SCIENCE II**

This course is a study of the concepts governing living organisms. Topics covered include the cell, cell membranes, biochemical pathways, cell division, Mendelian and molecular genetics, human organ systems, evolution, and interaction of organisms between themselves and their environments. The laboratory entails experiments covered in lecture. Lecture: 3 hours per week. Lab: 2 hours per week.

**SC 170      1 Credit****SP TOPICS IN SCIENCE SEMINAR I - WEAPON MASS DESTRUCTION**

An Honors-Level seminar course that examines specialized topics in science. This module examines the scientific foundations of biological, chemical and nuclear weapons, their implications, protection, detection and the fundamental responses.

**SC 171      1 Credit****SP TOPICS SCIENCE SEMINAR II - SCIENCE OF ILLUSION**

An Honors-Level seminar course that examines specialized topics in science. This module examines how the principles of mathematics and science are used to create some of the greatest illusions in magic.

**SC 172      1 Credit****SP TOPICS SCIENCE SEMINAR III - A HEALTHY HEART**

An Honors-Level seminar course that examines specialized topics in science. . This module examines how genetics, diet, obesity, diabetes, lack of exercise and smoking can lead to atherosclerosis and coronary heart disease.

**SIGN LANGUAGE (SL)****SL 101      3 Credits****INTRODUCTION TO AMERICAN SIGN LANGUAGE I**

Introduces students to American Sign Language (ASL) through unit lessons, interactive practice, videotapes, and storytelling. Students learn approximately 600 functional words, basic grammar and syntax, and finger-spelling. Readings and class interactions reflect on current issues of Deaf culture and encourage a variety of communication strategies. Lecture: 3 hours per week.

**SL 102      3 Credits****AMERICAN SIGN LANGUAGE**

A continuation of SL 101. Students increase their vocabulary and learn proper use of ASL grammar and syntax. Special attention is paid to expressive and receptive skills. Learning is fostered through dialogues, directed practice, videotapes, and readings. Lecture: 3 hours per week. Prerequisite: SL 101

**SOCIOLOGY (SO)****SO 101      3 Credits****INTRODUCTION TO SOCIOLOGY**

Introduces students to the major concepts and theoretical approaches of the field. Emphasis on social structure, social interaction, stratification, community, power, and social change. Lecture: 3 hours per week.

**SO 113      3 Credits****MARRIAGE AND THE FAMILY**

Examines marriage and family as social institutions; Focus on the roles of men and women and their interpersonal relationships during dating, engagement, marriage, parenthood, and later years. Emergent and alternative family structures are considered. Lecture: 3 hours per week.

**SO 115      3 Credits****SOCIAL PROBLEMS**

Examines selected problems affecting life in contemporary society. Topics may include aging, crime and delinquency, drugs, race/ethnicity, and minority issues. Develops awareness and understanding of why and how problems arise, and the means for dealing with them. Lecture: 3 hours per week.

**SO 120      3 Credits****DISABILITIES: DIAGNOSIS AND INTERVENTIONS**

Examines the etiology and symptomology of disabilities, including physical and mental health, modality deficits, and language-based learning disabilities. Students become familiar with legislation, social policies, diagnosis and treatment, as well as appropriate intervention strategies. This course is required of all Early Childhood Education and Human Services majors. Lecture: 3 hours per week.

**SO 203      3 Credits****ETHNIC STUDIES**

Examines racial and ethnic groups in America through a comparison of values, beliefs, historical experiences, and present life-styles. Issues of prejudice, discrimination, subordination, and domination will be explored through theoretical orientations and social science constructs. Lecture: 3 hours per week.

**SO 204      3 Credits****URBAN SOCIOLOGY**

Examines the social institutions, problems, value conflicts, and social changes associated with urban communities and metro areas. Both theoretical and practical issues are discussed.

**SO 220      3 Credits****MEDICAL SOCIOLOGY**

Historical and contemporary study of health, illness, health care systems, and delivery of health services. Comparative analysis of socio-political factors affecting health care, along with a discussion of health care reform strategies. 3 credits

**SO 221      3 Credits****DRUGS, PEOPLE, AND PROBLEMS**

Examines the history of drugs in American culture. Topics may include the social, economic, legal, medical, and issues concerning drug use and abuse; The causes of drug use and abuse; the impact of drugs on the individual and society; views of youth, medical, and legal experts. Lecture: 3 hours per week.

**SO 222      3 Credits****AGING AND SOCIETY**

An introduction to the study of late life, which promotes awareness of the theoretical, biological, cultural, and historical variables of aging. Topics include: biological, psychological, and cultural factors in the aging process, work vs. retirement, and public policy as it relates to the senior population. Lecture: 3 hours per week.

**SO 223      3 Credits****DYSFUNCTIONAL FAMILIES**

This course investigates dysfunctional family relationships, which unfortunately is a part of our society. Topics such as substance abuse, as it relates to family violence, incest, child abuse, elder abuse, and ritualistic behavior will be covered. Going beyond the immediate family, topics such as stalking and sexual abuse in vulnerable populations such as the elderly and the disabled will also be explored. Current theories as to why these behaviors exist will be covered as it relates to the topic. The course will look at the physiological, genetic, social and cultural aspects of each behavior. Lecture: 3 hours per week. Prerequisites: SO 113 or permission of the Instructor

**SO 224      3 Credits****SOCIOLOGY OF DEVELOPMENTAL DISABILITIES**

Introduction to the theories, definitions and descriptions of developmental disabilities. The biological, psychological, and historical factors, which promote awareness in understanding are covered, as well as successful strategies for dealing with family and public attitudes and public policy issues.

**SPANISH (SP)****SP 101      3 Credits****BEGINNING SPANISH I**

Designed to develop basic oral and written skills. Graded readings required. Lecture: 3 hours per week.

**SP 102      3 Credits****BEGINNING SPANISH II**

A continuation of SP 101. Emphasis on oral, aural, and writing skills. Graded readings. Lecture: 3 hours per week.  
Prerequisite: SP 101

**SP 111      3 Credits****BEGINNING CONVERSATIONAL SPANISH**

This introductory course focuses on speaking and listening. Students will study vocabulary and grammar in context through reading stories in Spanish. 3 credits

**SP 115      3 Credits****SPANISH FOR HEALTH PURPOSES I**

This course will introduce students to essential medical vocabulary. Students, whether professionals already working in the field or career/goal students in an occupational training program, will be able to comprehend basic conversations in the target language. Focus will be given to the understanding of familiar vocabulary, grammar structures, and simply unfamiliar passages with cognates as well as knowledge of the customs, lifestyles and environments of the Spanish-speaking world. Students will practice communicative survival using key vocabulary essential to enable them to utilize their Spanish in the real world at work. Lecture: 3 hours per week. 3 credits

**SP 200      3 Credits****SPANISH IN THE COMMUNITY: SERVICE LEARNING AND STUDY ABROAD**

Students will engage in service learning projects while using the Spanish to communicate. This course is intended for those who already have some skills in Spanish, whether they are heritage, native, or second-language learners. Additionally students will look at different theoretical perspectives on the topic of service-learning as a pedagogical process, and as a method to create or enhance community-building. Prerequisite: Students must have a minimum GPA of 2.500 and SP 101 (Completion of SP 102 also recommended) or instructor permission.

**SP 201      3 Credits****INTERMEDIATE SPANISH I**

Mastery of basic skills with stress on understanding and speaking Spanish. Continued development of syntax, idioms, and passive and active vocabularies in meaningful contexts. Lecture: 3 hours per week.

**SP 202      3 Credits****INTERMEDIATE SPANISH II**

Continued emphasis on mastery of basic speaking skills, vocabulary development, idiomatic usage. Selected readings.



**SPEECH/THEATER/FILM (SF)****SF 131            3 Credits****ORAL COMMUNICATION**

Training and practice in principles and techniques of modern oral communication. Methods of organization and delivery and consideration of improvement of the voice, diction, and articulation. Lecture: 3 hours per week.

**SF 145            3 Credits****ACTING I**

Introduction to the work of the actor. Laboratory exercise in the actor's use of the body in movement and attitude and of the imagination, observation, concentration, and emotional sense memory. Includes opportunities for public performances. Lecture: 3 hours per week plus additional rehearsal time.

**SF 146            3 Credits****ACTING II**

Students continue development of their craft, preparing scenes from various genres of drama and film. Students perform scenes before other members of the class and the public. Lecture: 3 hours per week.

**SF 221            3 Credits****INTRODUCTION TO FILM**

Issues related to the phenomenon of American cinema are introduced. The cultural history of film is explored through genres, topics, performances and various periods and techniques of film development. American cinema is analyzed to reveal cultural conditions that stimulate film productions and attract audiences. Students concentrate on becoming more active and critical viewers. Lecture: 3 hours per week.

**STUDY ABROAD (SA)****SA 211            3 Credits****TAIWAN: LANGUAGE AND SOCIETY**

Offered by MassBay Community College in collaboration with Aletheia University, Taipei, Taiwan.

This course has two components. One component is study of Mandarin Chinese for students with little or no prior knowledge of Chinese language. Mandarin Chinese is the national standard language of the Republic of China (Taiwan) and the People's Republic of China. The course contains basic pronunciation and grammar rules, intonations, basic communication skills, and basic Chinese characters. They will also learn to construct correct sentences and convey them orally. This course will also provide an introduction to contemporary Taiwanese culture and society by means of a descriptive survey of chosen topics, including historic events, traditions, ancient philosophies, schools, economic development and social norms. Taught from a comparative perspective, the student will gain an understanding of the origin and evolution of the Taiwanese society with its unique characteristics.

**STUDY SKILLS (SK)****SK 96            3 Credits****LEARNING STRATEGIES \***

Aimed at improving students' abilities to develop and use appropriate study strategies in order to become more effective in the college classroom. Included are strategies for note-taking, reading, analyzing assignments, test-taking, and use of the library. Should be taken in conjunction with a content academic course. Lecture: 3 hours per week.

**SK 100      2 Credits****SUCCESSFUL STUDENT SEMINAR \***

Lab-based course providing support for students enrolled in Student Success Programs. The overall goal is to help students to understand and meet the expectations of academic life. Seminar format includes workshops by various MassBay support personnel; students will be expected to assess their learning strengths and weaknesses and develop effective plans and goals for success within the Student Success Program. Lab: 2 hours per week.

**SURGICAL TECHNOLOGY (SX)****SX 110      8 Credits****PRINCIPLES OF SURGICAL TECHNOLOGY I**

This course introduces the field of Surgical Technology. Emphasis is on aseptic technique, decontamination, sterilization and basic case preparation. Topics presented include pathophysiology, anesthesia and pharmacology transport and positioning, history of surgical technology, microbiology and wound healing, legal, ethical and moral principles, operating room hazards, and handling of specimens and patient property. OR records and required counts are presented along with hospital and operating room organizational structures and professional roles. Medical Terminology is presented as a self-instructional module. Lecture: 4 hours per week. Lab: 8 hours per week. Co-requisite: BI 101, BI 113

**SX 120      8 Credits****PRINCIPLES OF SURGICAL TECHNOLOGY II**

This course is a continuation of SX 110. It covers electricity and physics, robotics, laser, computer application, major general surgery, genitourinary, peripheral vascular surgery, orthopedics, endoscopic procedures. Preoperative and postoperative routine, central processing practice and hands-on experience. Clinical education integrates the lecture content with skills in the operating room setting, endoscopic unit, labor and delivery, and central processing department. In the OR setting students are expected to function with increasing autonomy in various procedures. Lecture: 4 hours per week. Clinical: 24 hours per week. Prerequisites: SX 110, SX 110L, BI 101, BI 113. Pre or Co-requisite: BI 123

**SX 130      7 Credits****PRINCIPLES OF SURGICAL TECHNOLOGY III**

This course is a continuation of SX 120. It emphasizes specialty procedures, e.g. cardiothoracic, neuro surgery, oral and maxillofacial, ophthalmic procedures, otorhinolaryngologic surgery, and transplants. Students will now move through all specialties. Students will sit for the NBSTA Certification exam. Lecture: 3 hours per week. Clinical: 24 hours per week. Prerequisite: SX 120

**WRITING (WR)****WR 102L      2 Credits****PORTFOLIO DEVELOPMENT LAB**

Designed to provide feedback and support for students with complete portfolios that came within two points of passing the exit assessment conducted by the Department of English. Students work with one another and with a reading/writing specialist in small groups on reading, revision, and development of the papers they created for their original portfolio. At the end of the course, students may submit their revised portfolios for assessment. Lab: 2 hours per week.

# COLLEGE REGULATIONS & POLICIES

## Facility Use Policy

Massachusetts Bay Community College (MassBay) is a public institution of higher education funded in major part by legislative appropriations and student tuition and fees. Over the years considerable money and other resources have been spent to build, improve, and equip MassBay facilities for students and staff alike, and to provide essential community services. As a steward of the public trust, MassBay facilities are operated at all times in a safe, healthy and secure manner for all appropriate, approved users of the College's physical assets. Therefore, MassBay physical facilities of any kind or nature are for the sole use of current students and staff, approved community users, or other groups or individuals who have, upon appropriate application to the College, been approved by the President or his/her designee to use a specific physical asset of MassBay. Below are specific policies for internal and external facility use. Failure to comply with the facility use policy by internal individuals and/or groups shall result in discipline, up to and including termination. Failure to comply with the facility use policy by external individuals and/or groups shall result in immediate contract cancellation. All groups, internal and external, by scheduling an event, meeting or gathering agree to adhere to these policies. All groups, internal and external, by scheduling an event, meeting or gathering, agree to follow the published emergency procedures in the event of an emergency.

## Academic Affairs

Use of laboratories is limited to College course related instruction, research or projects, unless authorized by the President or his/her designee. Upon request, individuals using College facilities will be required to provide proof of registration.

## Events

The President of MassBay or his/her designee is authorized to approve or arrange for scheduling the use of facilities by members of the MassBay community for academic and non-academic uses in concert with and/or in support of the mission statement of MassBay. The right is reserved to revoke any such permit, without liability, should such action be deemed necessary or desirable. All non-academic use of MassBay facilities must be coordinated through the Manager of Special Events. The following types of activities are specifically prohibited:

- Promoting any theory or doctrine in conflict with the laws of the United States or any political subdivision thereof.
- Advocating governmental change by violence.
- Activities that may be injurious to individuals, the buildings, grounds or equipment.

## Classroom Use

Use of MassBay classrooms are restricted to authorized use only by MassBay faculty and staff; registered MassBay students; and others designated by an appropriate and authorized College official. Classrooms may be reserved and scheduled by the Registrar or the Manager of Special Events only. Classrooms will be locked when not scheduled for use. Students may not be provided with keys to any College facility, including classrooms, unless authorized by the President or his/her designee. Use of classrooms is limited to College course related instruction, research or projects, unless authorized by the President or his/her designee.

## Lab Use

Use of MassBay laboratories are restricted to authorized use only by MassBay faculty and staff; registered MassBay students; and others designated by an appropriate and authorized College official. Laboratories may be reserved and scheduled by the Registrar or the Manager of Special Events only. Laboratories will be locked when not scheduled for use. At all times, students in a lab (clinical or research) must be accompanied by a faculty member or authorized College personnel.

**Library Use**

The library is a member of The Minuteman Library Network and as such is open to all holding a Minuteman Library Network Card. Users who are not registered MassBay students or MassBay faculty/staff must check in with the librarian upon arrival. Otherwise the library is restricted to authorized use only by MassBay faculty and staff; registered MassBay students; or others designated by an appropriate and authorized College official. The library will be locked when not scheduled for use.

**Automotive Technology Facilities**

Automotive technology facilities are restricted to authorized use only by MassBay faculty and staff; registered MassBay students; or others designated by an appropriate and authorized College official. Automotive technology facilities may be reserved and scheduled by the Division Dean or by the Manager of Special Events only. Automotive technology facilities will be locked when not scheduled for use.

**Wellness & Recreation Center & Athletics Fields**

MassBay's Wellness & Recreation Centers and athletic fields are restricted to authorized use only by MassBay faculty and staff; registered MassBay students; and others designated by an appropriate and authorized College official. The Wellness & Recreation Centers and athletic fields may be reserved and scheduled by the Manager of Special Events and the Athletic Director only. Additional policies may be implemented at the discretion of the President. Usage policies for new and/or expanded facilities will be adopted and implemented as necessary.



*Wellness & Recreation Center on the Wellesley Hills Campus.*

**External Group Policies**

Facilities at MassBay are primarily for purposes of College instruction, College programs, student life and public service. Facilities may be used by the community, but are not available for unrestricted use by non-College affiliated groups. The President of MassBay or his/her designee is authorized to approve or arrange for scheduling the use of facilities by applicants who may be community members and stakeholders in the mission of MassBay, but in any event are not in direct conflict with the mission statement of MassBay. The right is reserved to revoke any such permit, without liability, should such action be deemed necessary or desirable. All external use of MassBay facilities must be coordinated through the Office of Special Events. The following types of activities are specifically prohibited:

- Promoting any theory or doctrine in conflict with the laws of the United States or any political subdivision thereof.
- Advocating governmental change by violence.
- Activities that may be injurious to individuals, the buildings, grounds or equipment.

All rules, regulations, ordinances and statutes applicable to MassBay apply also to any individual or organization using College facilities. Catering services are available through an outside vendor upon request. Separate charges apply and payment is to be made directly to the vendor. Necessary permits and insurance must be obtained and proof thereof provided for events at which alcoholic beverages are to be served. Fees for facility use, equipment use, maintenance, security, etc. will be established according to MassBay policy for the facility being used, type of activity, numbers in attendance and/or at the discretion of the President or his/her designee. Notification of event cancellation must occur five (5) days prior to the event or fees will be forfeited.



## Family Educational Rights and Privacy Act (FERPA) of 1974

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 (or guardians) 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." Parents (or guardians) or eligible 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. Parents (or guardians) or eligible 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 parent (or guardian) or eligible student then has the right to a formal hearing. After the hearing, if the school still decides not to amend the record, the parent (or guardian) or eligible 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 parent (or guardian) or eligible 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.
  - State and local authorities within a juvenile justice system, pursuant to specific State law.
- Schools may disclose, without consent, any "directory" information such as a student's name, address, telephone number, date and place of birth, honors and awards, and dates of attendance. However, schools must tell parents [or guardians] and eligible students about directory information and allow parents [or guardians] and eligible students a reasonable amount of time to request that the school not disclose directory information about them. Schools must notify parents and eligible students annually of their rights under FERPA. The actual means of notification (special letter, inclusion in a PTA bulletin, 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 the following address:

Family Policy Compliance Office  
U.S. Department of Education  
400 Maryland Avenue, SW  
Washington, D.C. 20202-4605

## Notice of Non-Discrimination

MassBay does not discriminate on the basis of sex, creed, color, race, sexual orientation, age, national origin, disability or veteran or marital status in all of its educational programs, activities or employment policies, as required by Title IX of the 1972 Education Amendments and other federal and state anti-discrimination laws. MassBay makes a serious effort to represent a diverse group of students, faculty and staff, and to promote a climate of acceptance for minority groups. If you have any questions about compliance with Title IX, please contact the Affirmative Action Officer at MassBay.

## **Crime Awareness & Campus Security Act**

MassBay complies with the Crime Awareness and Campus Security Act of 1990, Section 485 (f) (1) (F) of 20 U.S.C. 1092 (a) (1) (Public Law 101-542). The College also complies with the Higher Education Amendments of 1992 (Public Law 102-325) by developing, including and distributing, as part of the College's annual security report, a statement of policy regarding the College's annual security report, a statement of policy regarding the College's sexual assault programs, and the procedures to be followed once a sex offense has occurred. On November 8, 1990, the U.S. Congress enacted the Crime Awareness and Campus Security Act of 1990 under Public Law 101-542, Title II. This Act requires that institutions of higher education receiving federal funding collect information with respect to crime statistics and campus security policies and, as of September 1992, prepare, publish and distribute an annual security report. MassBay, in accordance with legal mandates and its philosophy of establishing and maintaining an environment of learning and a supportive climate in which to conduct the business and mission of the College, provides this information to the College community through the Office of Public Safety.

## **Policy Concerning Sexual Assault**

Community colleges are committed to providing an atmosphere for learning that is free of any conduct that could be considered harassing, abusive or disorderly. Sexual assault is a criminal offense. Sexual assault in any form, including acquaintance rape, will not be tolerated. Sexual assault, as defined in the Federal Bureau of Investigation Uniform Crime Reporting System, includes forcible and non-forcible offenses. When an allegation of sexual assault is made, MassBay will encourage the alleged victim to pursue criminal prosecution under the Massachusetts criminal statutes. In addition, appropriate campus disciplinary action may be pursued. Sanctions for sexual assault violations may include, in addition to criminal charges, suspension, dismissal or expulsion from the College. All allegations of sexual assault will be handled confidentially to the extent possible and will be investigated. Both the accuser and

the accused will have equal opportunity for hearing. Copies of this policy are available in the Office of Student Development, Human Resources, Corporate & Continuing Education, Evening & Weekend Programming, Public Safety, Division Offices, and the Library.

## **Policy on Sexual Harassment**

Sexual harassment is a form of sex discrimination and is unlawful, unacceptable, impermissible, and intolerable. For general purposes, sexual harassment may be described as unwelcome advances, requests for sexual favors, and other physical conduct and/or expressive behavior of a sexual nature when:

1. Submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment or education;
2. Submission to or rejection of such conduct by an individual is used as the basis for academic or employment decisions affecting that individual; or
3. Such conduct has the purpose or effect of substantially interfering with an individual's academic or professional performance and creating an intimidating, hostile, or demeaning employment or educational environment. In addition to sexual harassment being unlawful, it is also unlawful to retaliate against a student, employee, or any other person in the College for filing a complaint of sexual harassment or for cooperating in an investigation of sexual harassment.

A student, employee, or any other person in the College who is found to have engaged in sexual harassment is subject to discipline up to and including termination of employment or expulsion. A full copy of Massachusetts Bay Community College's Policy Concerning Sexual Harassment is available from the Human Resources/Affirmative Action Office.



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