The Curricula and Programs

DEGREE REQUIREMENTS

Each student is responsible for completing all requirements as prescribed by the College. With the exception of some accredited programs that require additional credits, a minimum number of 60 credits is required to complete an Associate degree (most Certificate programs require 30 credits). Degree requirements are indicated according to three categories:

• Core Requirements,
• Required Areas of Study, and
• Specialization Requirements.

In addition, to be eligible for an Associate degree, students must

▪ maintain a cumulative G.P.A. of 2.0
▪ complete two Writing Intensive courses.

Each semester a list of Writing Intensive courses is published in the Registration Guide and Schedule of Classes.

“0” level courses (RDL 01 or ENG 02, for example) taken at BCC to remove deficiencies in preparatory work do not have academic credits and do not fulfill degree requirements. Courses required or recommended as a result of placement examinations that are not part of the degree course requirements in a particular curriculum will not count toward fulfilling the requirements of the degree in that curriculum.

At the start of their final semester, students must file a Candidate for Degree form in the Registrar’s Office to be evaluated for graduation. Students will receive a notice of completion of requirements or a checklist of what remains to be fulfilled. Candidates for the degree must be approved by the faculty for presentation to the president and the Board of Trustees as worthy, meritorious and deserving.

IMPORTANT NOTICE OF POSSIBLE CHANGES

The City University of New York reserves the right, because of changing conditions, to make modifications of any nature in the academic programs and requirements of the University and its constituent colleges without notice. Tuition and fees set forth in this publication (or on this website) are similarly subject to change by the Board of Trustees of The City University of New York. The University regrets any inconvenience this may cause.

Dated: June 22, 2004
DEGREE PROGRAMS OFFERED
The first number is the HEGIS Code.
The second number is the Program Code registered by the State Education Department.

Associate in Applied Sciences Degree (A.A.S.)
Career Programs
■ Accounting (5002) (00380)
■ Automotive Technology (5306) (19075)
■ Computer Information Systems (5103) (00386)
■ Digital Arts (5012) (87112)
■ Education Associate (5503) (00156)
■ Electronic Engineering Technology (5310) (00394)
■ Energy Services and Technology (5315) (31719)
■ Environmental Technology (5499) (22238)
■ Human Services (5501) (84421)
■ Marketing Management (5004) (00381)
■ Media Technology (5008) (81071)
■ Medical Laboratory Technology (5205) (00387)
■ Medical Office Assistant (5214) (00390)
■ Nuclear Medicine Technology (5207) (81315)
■ Nursing (5208.10) (00388)
■ Office Administration and Technology (5005) (00382)
■ Ornamental Horticulture (5402) (83501)
■ Paralegal Studies (5099) (80363)
■ Pharmaceutical Manufacturing Technology (5205) (28091)
■ Radiologic Technology (5207) (91331)
■ Telecommunications Technology (5310) (21034)
■ Telecommunications Technology Verizon (5310) (20317)

Associate in Arts Degree (A.A.)
■ Criminal Justice (5505) (32357)
■ Liberal Arts and Sciences (5649) (00379)

Associate in Science Degree (A.S.)
■ Business Administration (5004) (00376)
■ Community/School Health Education (5506) (20558)
■ Computer Science (5101) (91111)
■ Dietetics and Nutrition Science (5404) (30915)
■ Engineering Science (5609) (00377)
■ Liberal Arts and Sciences—(Biology, Chemistry, Earth Systems and Environmental Science, and Physics) (5649) (00378)
■ Mathematics (5617) (19875)
■ Science for Forensics (5619) (32346)
■ Therapeutic Recreation (5599) (24873)

Certificate Programs
■ *Animal Care and Management (5403) (27001)
■ *Assistant of Children with Special Needs (5503) (27387)
■ Automotive Mechanics (5306) (79429)
■ *Bilingual Early Childhood Assistant (5503) (27385)
■ *Early Childhood Assistant (5503) (27386)
■ *Licensed Practical Nursing (5209.20) (91041)
■ Paralegal Studies (5099) (82068)

* No new students are currently being accepted into this program.
ACCOUNTING
(A.A.S. Degree)
Curriculum Coordinator: Prof. Howard A. Clampman

Accountants are indispensable in modern business organizations. Their basic responsibilities include the recording and summarizing of financial transactions. Accountants are called upon to analyze, interpret, and prepare business records. They are often asked to make recommendations for more efficient operations. Accounting graduates may enter the field in such positions as bookkeepers, cost accounting clerks, junior accountants, and tax examiners for government agencies. After further study, graduates may continue their education to acquire the baccalaureate degree and become business managers, budget directors, private accountants or controllers. With further appropriate training and experience, graduates may qualify for certification as Certified Public Accountants or as teachers of accounting and related subjects.

A Cooperative Work Experience course during their senior year allows students to gain valuable business experience in a supervised setting.

Students are advised that there is an A.S. degree offered in the same discipline.

Accounting Curriculum
60 Credits required for A.A.S. Degree

Core Requirements:
■ ENG 10 Fundamentals of Composition & Rhetoric OR
   ENG 11 Composition and Rhetoric I ......................................................... 3
■ CMS 11 Fundamentals of Interpersonal Communication .................................. 3
■ HIS 10 History of the Modern World OR
   HIS 11 Introduction to the Modern World ................................................... 3
■ MTH 12* Introduction to Mathematical Thought ............................................. 3
■ SCI* BIO 18, AST or CHM ........................................................................... 4
Total 16

Required Areas of Study:
■ ENG 12 Composition and Rhetoric II OR
   ENG 14 Written Composition and Prose Fiction OR
   ENG 15 Written Composition and Drama OR
   ENG 16 Written Composition and Poetry ....................................................... 3
■ Restricted electives** .................................................................................. 5
Total 8

Specialization:
■ ACC 11 Fundamental Accounting I ............................................................. 4
■ ACC 12 Fundamental Accounting II .......................................................... 4
■ ACC 13 Intermediate Accounting ................................................................ 4
■ ACC 15 Accounting Information Systems ............................................... 3
■ BUS 11 Business Mathematics ................................................................... 3
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<td>BUS 10</td>
<td>Introduction to Business</td>
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<tr>
<td>DAT 10</td>
<td>Computer Fundamentals &amp; Applications</td>
<td>3</td>
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<tr>
<td>DAT 36</td>
<td>Microcomputer Spreadsheet Applications OR</td>
<td>3</td>
</tr>
<tr>
<td>DAT 38</td>
<td>Microcomputer Database Applications</td>
<td>3</td>
</tr>
<tr>
<td>KEY 10</td>
<td>Keyboarding for Computers</td>
<td>1</td>
</tr>
<tr>
<td>LAW 41</td>
<td>Business Law</td>
<td>3</td>
</tr>
<tr>
<td>MKT 11</td>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>CWE 31†</td>
<td>Cooperative Work Experience</td>
<td>2</td>
</tr>
</tbody>
</table>

**Total 36**

**Note:** At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

*Students who may later transfer to a four-year college should take a lab science from among BIO 11, CHM 10 or 11, PHY 11 or AST 11 or 12, and MTH 29, 30 or 31 instead of MTH 12.  
**Select from Anthropology, Art, Communication, Economics, Geography, History, only 1 course in Health Education or 2 courses in Physical Education, Modern Languages, Music, Philosophy, Psychology, Political Science, or Sociology (no more than two courses from the same department or discipline).  
†CWE 31 is a two (2) credit course. A student should enroll in CWE one year before graduating or when starting the third semester. See the CWE advisor in Loew Hall, Career Services, during the second semester.  
Students who are employed full-time are not required to complete CWE. A waiver must be obtained from the Department Chairperson by submitting documentation of current full-time employment. After a written waiver of CWE is obtained, the student must substitute the required CWE credits with any course(s) offered by the Business and Information Systems Department. College Work-Study assignments within CUNY may not be used as substitutes for the CWE internship.

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**ANIMAL CARE AND MANAGEMENT CERTIFICATE PROGRAM**  
**Program Director:** Dr. Chris Robinson

**As of Spring 2012, no new students are currently being accepted into this program.**

The purpose of the Certificate Program in Animal Care and Management is to provide access to a career path in the veterinary care of primarily domesticated animals. To accomplish this, partnerships have been established between Bronx Community College and various veterinary clinics and animal hospitals in New York City to enable students to intern at those sites. In preparation for the internship, students in the Animal Care and Management Program will learn techniques for working in a veterinary clinic, including how to properly use and care for the instruments in a laboratory, particularly sterilization techniques, and how to analyze blood and urine samples. As a veterinary assistant, students support veterinarians in their daily tasks, including the restraining and handling of animals, feeding and exercising them, examining them for signs of illness, disease, or injury, cleaning and disinfecting cages and work areas, and sterilizing laboratory and surgical equipment.
This intensive, hands-on program provides BCC students with the technical skills and experience necessary to be competitive in obtaining veterinary assistant jobs in animal hospitals, animal control facilities, veterinary clinics, pet stores and animal rescue facilities. This curriculum also provides a foundation for those who would like to continue their education for an A.S. or B.S. as a veterinary technician or a D.V.M. as a veterinarian. The Certificate Program also fully articulates with Mercy College’s B.S. in Veterinary Technology. A copy of the articulation agreement may be found on the BCC Transfer Planning website.

Animal Care and Management Curriculum
30 Credits required for Certificate

Core Requirements:
- ENG 10 Fundamentals of Composition & Rhetoric OR
  ENG 11 Composition and Rhetoric I ................................................................. 3
- CMS 11 Fundamentals of Interpersonal Communication .................................... 3
- MTH 12 Introduction to Mathematical Thought OR
  MTH 21 Survey of Mathematics I ................................................................. 3
- PSY 11 Introduction to Psychology OR
  SOC 11 Sociology .......................................................................................... 3
- BIO 11 General Biology I ................................................................................ 4

Total 16

Required Areas of Study:
- BIO 15 Zoology .............................................................................................. 4
- DAT 33 Microcomputer Applications ................................................................ 2

Total 6

Specialization:
- BIO 47 Clinical Techniques for Medical Personnel II ...................................... 2
- ACM 90 Animal Care and Management Internship ........................................ 6

Total 8

ASSISTANT OF CHILDREN WITH SPECIAL NEEDS CERTIFICATE PROGRAM

As of Spring 2012, no new students are currently being accepted into this program.

This program prepares students to meet the requirements leading to a Child Development Associate (CDA) credential in an infant-toddler or childcare development setting. This certificate program responds to the current demand for trained practitioners at learning centers and public schools that serve children who have special needs. The population served includes children with behavior management needs, limited mobility, physical impairments, diagnosed learning disabilities, and/or children waiting for a very restrictive service. BCC students will learn the characteristics and needs of children with special needs in order to provide age-appropriate strategies in all aspects of their work with these children. Students will acquire skills in
designing and planning activities that are developmentally appropriate experiences for children with special needs. Upon successful completion of the program, students will be able to continue their studies in Bronx Community College’s Education Associate A.A.S. Degree Program, and all of the certificate course credits will be accepted for this A.A.S. degree.

Certificate for Assistant of Children with Special Needs: 30 Credits Required

Semester I

- PSY 11 Introduction to Psychology .................................................................3
- ENG 10 Fundamentals of Composition & Rhetoric OR
  ENG 11 Composition and Rhetoric I .............................................................3
- HLT 91 Critical Issues in Health .....................................................................2
- EDU 10 Child Study - Birth to Grade 6 .........................................................3
- EDU 30 Introduction to Special Needs, Schools and Society .......................3
- Free Elective .................................................................................................1
Total 15

Semester II

- CMS 11 Fundamentals of Interpersonal Communication ............................3
- PSY 41 Psychology of Infancy and Childhood .............................................3
- EDU 26 Human Relations in Urban Schools ...............................................3
- EDU 31 Introduction to Learning Disabilities and Inclusive Education .........3
- EDU 40 Field Work Seminar .......................................................................3
Total 15

AUTOMOTIVE TECHNOLOGY
(A.A.S. Degree)
Curriculum Coordinator: Clement Drummond

The Automotive Technology curriculum, the only one of its kind in the City University of New York, prepares the student for a career as an automotive technician. This curriculum develops understanding of operational principles, service sequences and diagnostic techniques for the automobile. Upon completion of this curriculum, the graduate is prepared for entry-level positions in various areas of the automotive industry dealing with development, testing, diagnosis and service of mechanical, hydraulic, electrical and thermodynamic automotive systems.

Automotive Technology graduates are employed in a variety of automotive-oriented positions including test technician, diagnostician, equipment sales and service, independent business administrator, dealership service manager, service writer, engine machinist, fuel injection, automatic transmission and engine management specialist, as well as general service technician.

Further training and education can lead to careers in technical education, engineering, insurance appraisal, and accident investigation, and other specialties.
Automotive Technology Curriculum
60 Credits required for A.A.S. Degree

Core Requirements
- ENG 10 Fundamentals of Composition & Rhetoric OR
  ENG 11 Composition and Rhetoric I .................................................. 3
- CMS 11 Fundamentals of Interpersonal Communication.......................... 3
- HIS 10 History of the Modern World OR
  HIS 11 Introduction to the Modern World .................................. 3
- MTH 13 Trigonometry & College Algebra........................................... 3
- PEA Physical Education activity course OR
  WFA 10 Workplace First Aid.............................................................. 1
- CHM 11 General College Chemistry I OR
  CHM 17 Fundamentals of General Chemistry .................................. 4
Total 17

Required Areas of Study
- ART 10 Art Survey OR
- MUS 10 Music Survey ...................................................................... 1
- PHY 21 Physics for Engineering Technology I ....................................... 4
- ELC 15 Computer Applications in Technology .................................... 2
- Humanities electives*..................................................................... 6
Total 13

Specialization Requirements
- ACS 10 Introduction to Automotive Technology .................................... 1
- ACS 11 Engine Repair ...................................................................... 4
- ACS 12 Brake Systems .................................................................... 3
- ACS 13 Engine Performance .............................................................. 3
- ACS 14 Manual Drive Train and Axles ............................................... 3
- ACS 21 Steering and Suspension Systems ......................................... 3
- ACS 22 Automatic Transmission and Transaxle .................................. 4
- ACS 23 Heating and Air-Conditioning ............................................. 3
- ACS 24 Electrical Systems ............................................................... 3
- ACS 35 Alternate Fuel Technology ................................................... 3
Total 30

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

* Select from Art, Communication, English, History, Music, Modern Languages, Social Sciences (one selection must be from English).
AUTOMOTIVE MECHANIC CERTIFICATE PROGRAM

Program Coordinator: Clement Drummond

The Automotive Mechanic program is designed to develop basic automotive skills required for entry-level in most automotive repair shops. The program integrates automotive theory with an emphasis on shop experience. Upon successful completion of this program, students receive a certificate and are encouraged to complete the requirements for the A.A.S. degree in Automotive Technology.

Automotive Mechanic Curriculum
30 Credits required for Certificate

Core Requirements
- ACS 10 Introduction to Automotive Technology ......................................................... 1
- ACS 11 Engine Repair .................................................................................................. 4
- ACS 12 Brake Systems ............................................................................................... 3
- ACS 13 Engine Performance ....................................................................................... 3
- ACS 14 Manual Drive Train and Axles ....................................................................... 3
- ACS 24 Electrical Systems ......................................................................................... 3
Total 17

Specialization Requirements
- ACS 21 Steering and Suspension ............................................................................... 3
- ACS 22 Automatic Transmission and Transaxle ......................................................... 4
- ACS 23 Heating and Air-Conditioning ......................................................................... 3
- ACS 35 Alternate Fuel Technology ........................................................................... 3
Total 13

BILINGUAL EARLY CHILDHOOD ASSISTANT CERTIFICATE PROGRAM

As of Spring 2012, no new students are currently being accepted into this program.

The Bilingual Early Childhood Assistant Certificate Program prepares students to meet the requirements leading to a Bilingual Specialization of the Child Development Associate (CDA) credential issued by the national credentialing agency (the Council for Early Childhood Professional Recognition). This certificate program responds to the current demand for trained practitioners at bilingual early childhood learning centers that is due to the increasing number of non-English speaking families using these centers. Students enrolled in this program will acquire skills in planning and designing activities that are developmentally appropriate learning experiences for young children learning a second language. Upon successful completion of the program students will be able to continue their studies in Bronx Community College’s Education Associate A.A.S. Degree Program, and all of the certificate course credits will be accepted for this A.A.S. degree.
Bilingual Early Childhood Certificate Program: 30 Credits Required

Semester I

■ PSY 11 Introduction to Psychology ................................................................. 3
■ ENG 10 Fundamentals of Composition & Rhetoric OR ENG 11 Composition and Rhetoric I ................................................................. 3
■ HLT 91 Critical Issues in Health ........................................................................ 2
■ EDU 10 Child Study–Birth to Grade 6 .............................................................. 3
■ EDU 16 Literacy in Early Childhood Education .................................................. 3
■ Free Elective ........................................................................................................ 1
Total 15

Semester II

■ CMS 11 Fundamentals of Interpersonal Communication ................................... 3
■ PSY 41 Psychology of Infancy and Childhood .................................................. 3
■ EDU 18 Literacy in a Spanish Bilingual Program .............................................. 3
■ EDU 26 Human Relations in Urban Schools .................................................... 3
■ EDU 40 Field Work Seminar ........................................................................... 3
Total 15

BIOLOGY

Program Coordinator: Dr. Charles Maliti

Students interested in a biology-related career in medicine, dentistry, veterinary medicine, or biotechnology; a career as a physician assistant; or a biology teacher, should see the Program Coordinator, Dr. Charles Maliti.

For information on the Biology option in the Liberal Arts and Sciences (A.S.) Degree, see the “Liberal Arts and Sciences” section in this catalog.

BUSINESS AND INFORMATION SYSTEMS CURRICULA

The curricula offered in Business and Information Systems include Accounting; Computer Information Systems (Computer Programming and Web Page Development Options); Marketing Management; Office Administration and Technology; and Medical Office Assistant, which lead to an Associate in Applied Science (A.A.S.) degree. Business Administration, with options in Accounting; Management; Marketing Management; and Computer Programming, leads to an Associate in Science (A.S.) degree, which prepares students for transfer to a senior college. These curricula are nationally accredited by the Accreditation Council for Business Schools and Programs (ACBSP).

The Department has articulation agreements to facilitate transfer to CUNY and SUNY senior colleges as follows:

■ Business Administration A.S. degree (Accounting Option) to John Jay’s B.S. in Economics- Forensic Financial Analysis Specialization;
(Accounting, Management, Marketing Management Options) for transfer to Lehman College’s Business Administration B.B.A. degree;
- Computer Information Systems - Web Page Development Option A.A.S. degree for transfer to
- York College’s Communication Technology B.S. degree;
- A.S. degree (Management Option) to SUNY Maritime’s B.S. in International Transportation and Trade.
Agreements are available for review via the Transfer Planning web site at [http://www.bcc.cuny.edu/TransferCounseling/](http://www.bcc.cuny.edu/TransferCounseling/).

BUSINESS ADMINISTRATION
(A.S. Degree)
Curriculum Coordinator: Dr. Rosemary Quinn

The Business Administration curriculum provides a broad academic foundation so that graduates may transfer to the third year of a senior college or pursue immediate employment. Students must select one option from among the Accounting, Computer Programming, Management, and Marketing Management options.

**Accounting Option.** This option prepares students with fundamental courses in business and accounting. The option also provides the background for transfer to a senior college and completion of the baccalaureate degree. Students who wish to pursue a career in finance should select this option. Upon completion of further appropriate education and training, and with experience, the student may qualify by state examination as a Certified Public Accountant or as a teacher.

**Computer Programming Option.** This option provides a range of computer programming courses designed to provide the necessary foundation for employment and/or transfer to a senior college.

**Management Option.** This option provides the student with skills needed to be a successful manager. Students are prepared to enter management training programs leading to middle-management positions. The option is also broad enough to allow students to pursue any business major at a senior college.

**Marketing Management Option.** This option provides basic courses for those students interested in a career in Marketing Management and for those who intend to transfer to a senior college.

NOTE: Students interested in Computer Science (A.S. Degree) in the Mathematics and Computer Science Department should see “Computer Science” in “The Curricula and Programs” section of this catalog.

Students interested in Computer Information Systems (A.A.S. Degree) in the Business and Information Systems Department should see “Computer Information Systems” in “The Curricula and Programs” section of this catalog.
Business Administration Curriculum
60 Credits required for A.S. Degree

Core Requirements:
■ ENG 10 Fundamentals of Composition & Rhetoric OR
ENG 11 Composition and Rhetoric I .................................................. 3
■ CMS 11 Fundamentals of Interpersonal Communication ................... 3
■ HIS 10 History of the Modern World OR
HIS 11 Introduction to the Modern World ........................................ 3
■ MTH 29 Pre-Calculus Mathematics for Business Students OR
MTH 30 Pre-Calculus Mathematics OR
MTH 31 Analytic Geometry and Calculus I ........................................ 4
■ SCI AST 11 or 12, BIO 11, CHM 10, CHM 11, ENV 11, ESE 11 or PHY 11 ................................................................. 4
Total 17

Required Areas of Study:
■ ECO 11 Microeconomics OR
ECO 12 Macroeconomics ................................................................. 3
■ ENG 12 Composition and Rhetoric II OR
ENG 14 Written Composition and Prose Fiction OR
ENG 15 Written Composition and Drama OR
ENG 16 Written Composition and Poetry ......................................... 3
■ Restricted Electives* ...................................................................... 7
Total 13

Specialization:
■ ACC 11 Fundamental Accounting I ................................................. 4
■ BUS 41 Business Statistics .............................................................. 3
■ BUS 51 Business Organization & Management ................................ 3
■ CMS 12 Voice and Diction: Business & Prof. Speech ..................... 2
■ DAT 10** Computer Fundamentals and Applications OR
DAT 30*** Introduction to Computer Fundamentals and Programming ................................................................. 3
■ LAW 41 Business Law .................................................................... 3
■ Option Select one ......................................................................... 12
Total 30

Accounting Option
■ ACC 12 Fundamental Accounting II ............................................... 4
■ ACC 13 Intermediate Accounting .................................................. 4
■ ACC 15 Accounting Information Systems .................................... 3
■ KEY 10 Keyboarding for Computers ............................................. 1
Total 12

Students are advised that there is an A.A.S. degree offered in the same discipline.
Computer Programming Option
- DAT 38 Microcomputer Database Applications .......................................................... 3
- DAT 47 JAVA Programming ......................................................................................... 3
- DAT 48 Advanced JAVA Programming ....................................................................... 3
- DAT 49 UNIX Fundamentals ....................................................................................... 3

Total 12

Management Option
- BUS 52 Organizational Behavior ................................................................................ 3
- BUS 53 International Management .............................................................................. 3
- FIN 31 Principles of Finance ......................................................................................... 3
- MKT 11 Principles of Marketing .................................................................................... 3

Total 12

Students are advised that there is an A.A.S. degree offered in the same discipline.

Marketing Management Option
- MKT 11 Principles of Marketing .................................................................................. 3
- MKT 18 Consumer Behavior OR MKT 47 E-Marketing .................................................. 3
- MKT 41 Management of Retail Operations OR MKT 43 Principles of Advertising ....... 3
- MKT 48 Marketing Management .................................................................................. 3

Total 12

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

Note: Students interested in transferring to Baruch College’s Zicklin School of Business should review the Memorandum of Understanding, available on the Transfer Planning website at http://www.bcc.cuny.edu/Transfer Counseling/.


The Accounting, Management, and Marketing Management options fully articulate with Lehman College’s Business Administration B.B.A. degree.

The Management option fully articulates with SUNY Maritime’s B.S. in International Transportation and Trade, and SUNY Potsdam’s B.S. in Business Administration and Lehman College’s B.S. in Health Services Administration.

Students should refer to the agreements for recommended courses http://www.bcc.cuny.edu/Transfer Counseling/.

*Restricted Electives: Select a total of seven credits from Art (non-studio courses), Communications, Economics, Geography, History, Health, Physical Education (only one course
in Health Education or two courses in Physical Education), Modern Languages, Music (non-
studio courses), Philosophy, Psychology, Political Science or Sociology. No more than two
courses from the same department or discipline.

**DAT 10 is for students enrolled in the Accounting; Management; and Marketing Management
options.**

***DAT 30 is for students enrolled in the Computer Programming Option only.***

**CHEMISTRY**

**Department Chairperson:** Dr. Neal Phillip

The Department of Chemistry offers programs in Environmental Technology and Pharmaceutical Manufacturing Technology leading to A.A.S. degrees. See “Environmental Technology” and “Pharmaceutical Manufacturing Technology” descriptions in “The Curricula and Programs” section of this catalog.

Liberal Arts students in the A.S. degree program may select an option in Chemistry or in Earth Systems and Environmental Science. See the “Liberal Arts and Sciences” description in “The Curricula and Programs” section of this catalog.

A new A.S. program, Science for Forensics, is a joint degree program with the Forensics Science B.S. program at John Jay College of Criminal Justice. See “Science for Forensics” in “The Curricula and Programs” section of this catalog.

Students interested in a career in chemistry, biochemistry, chemical engineering, pharmacy, or any other medicine related field, should see the Department Chairperson, Dr. Neal Phillip, or any other department faculty member.

**COMMUNITY/SCHOOL HEALTH EDUCATION**

**(A.S. Degree)**

**Curriculum Coordinator:** Dr. Janet Heller

Health education is a rapidly growing field that aims to promote health and prevent diseases in individuals and communities. Community health educators work in hospitals, health centers, community agencies, schools, business settings and governmental agencies. Health educators impart information about such health issues as heart disease, diabetes, obesity, stress, reproductive health, dependencies and safety. The School Health Educator is a specialist who teaches and promotes health in any educational facility from pre-kindergarten through college. Public, private and parochial schools, as well as colleges and universities, all require trained health educators. The A.S. degree in Community/School Health Education offers a solid foundation for continuing on towards a baccalaureate degree either at The City University of New York or at other colleges and universities. Upon completion of the 60 credit A.S. degree, students may enter a bachelor’s degree program as a third year student or they may seek employment in a community health agency.
Community/School Health Education Curriculum
60 Credits required for A.S. Degree

Core Requirements
- ENG 10 Fundamentals of Composition & Rhetoric OR
- ENG 11 Composition and Rhetoric I ................................................................. 3
- CMS 11 Fundamentals of Interpersonal Communication ..................................... 3
- HIS 10 History of the Modern World OR
- HIS 11 Introduction to the Modern World ......................................................... 3
- MTH 21 Survey of Mathematics I OR
- MTH 23 Probability and Statistics OR
- MTH 26 Mathematics in the Modern World .................................................. 3
- BIO 11 General Biology I ................................................................................. 4
- PEA Physical Education .................................................................................... 1
Total 17

Required Areas of Study
- ART 11 Introduction to Art OR
- MUS 11 Introduction to Music ........................................................................ 3
- HLT 91 Critical Issues in Health ........................................................................ 2
- CHM 17 Fundamentals of General Chemistry I ................................................ 4
- PSY 11 Introduction to Psychology ................................................................... 3
- PSY 41 Psychology of Infancy and Childhood .................................................. 3
- SOC 11 Sociology ............................................................................................... 3
- CMS (Any 3 credit CMS course excluding CMS 10) ...................................... 3
- Modern Language ............................................................................................ 8
- English (any three credit English course) ......................................................... 3
Total 32

Specialization Requirements
- CPR 10 Cardiopulmonary Resuscitation OR
- WFA 10 Workplace First Aid Training .............................................................. 1
- PEA 12 Elementary Hatha Yoga OR
- PEA 82 Introduction to Tai Chi Chuan ............................................................. 1
- HLT 94 Human Nutrition ................................................................................ 3
Select 2 courses from the following:
- HLT 89 HIV / AIDS
- HLT 90 Health and Aging
- HLT 92 Drugs, Society and Human Behavior
- HLT 93 Human Sexuality
- HLT 96 Health Education for Parenting
- HLT 97 Field Work in Community Health Resources ...................................... 6
Total 11

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.
1. Students planning to transfer to Lehman College are advised to take BIO 23 and 24 instead of BIO 11 and CHM 17.
2. Select any physical education course except PEA 12 or 82.
3. The 8 credits must be in the same language. See language requirements in “The Curricula and Programs” section of this catalog.
4. Students who are not planning on transferring to a 4-year program in Community Health are encouraged to take this course.

COMPUTER INFORMATION SYSTEMS
(A.A.S. Degree)
Curriculum Coordinator: Prof. Imran Ghafoor

The field of computer information systems is rich in career opportunities with excellent starting salaries for qualified personnel. Corporations, government agencies, financial institutions, marketing and retail organizations, and small firms require the services of computer applications specialists, computer programmers, and information technology technicians. The Computer Information Systems Curriculum, based upon your interests, prepares you for various entry-level positions including junior computer programmer, computer operator, computer support specialist, application user specialist, data-entry operator, web page designer and desktop publishing specialist.

Students must select either the Computer Programming Option or the Web Page Development Option once they have earned 12 degree credits.

Graduates may transfer to related programs offered by four-year colleges.
A Cooperative Work Experience course allows students to gain valuable business experience in a supervised setting.

Students interested in the Business Administration Computer Programming Option (A.S. Degree) in the Business and Information Systems Department should see the Business Administration curriculum information in “The Curricula and Programs” section of this catalog. Students interested in Computer Science (A.S. Degree) in the Mathematics and Computer Science Department should see the Computer Science curriculum information in “The Curricula and Programs” section of this catalog.

Computer Information Systems Curriculum
60 Credits required for A.A.S. Degree

Core Requirements:
■ ENG 10 Fundamentals of Composition & Rhetoric OR
   ENG 11 Composition and Rhetoric I .................................................................3
■ CMS 11 Fundamentals of Interpersonal Communication .........................................3
■ HIS 10 History of the Modern World OR
   HIS 11 Introduction to the Modern World ..........................................................3
■ MTH 12* Introduction to Mathematical Thought .........................................................3
SCI** BIO 18 or CHM10 ................................ ................................ ................................ .......... 4
Total 16

Required Areas of Study:
- ENG 12 Composition and Rhetoric II OR
- ENG 14 Written Composition and Prose Fiction OR
- ENG 15 Written Composition and Drama OR
- ENG 16 Written Composition and Poetry ................................ ................................ ........... 3
- Restricted electives# ........................................................................................................ 5
Total 8

Specialization:
- ACC 11 Fundamental Accounting I ................................ ................................ ..................... 4
- BIS 13 Introduction to the Internet and Web Development ............................................. 3
- BUS 10 Introduction to Business ..................................................................................... 3
- BUS 11§ Business Mathematics .................................................................................... 3
- DAT 30 Introduction to Computer Fundamentals and Programming ......................... 3
- DAT 33 Microcomputer Applications ............................................................................ 2
- DAT 35 VISUAL BASIC Programming ........................................................................ 3
- KEY 10 Keyboarding for Computers ........................................................................... 1
- CWE 31† Cooperative Work Experience ....................................................................... 2
Total 24
- Options: select one after completion of 12 credits ................................ ....................... 12

Computer Programming Option
- DAT 38 Microcomputer Database Applications ............................................................ 3
- DAT 47 JAVA Programming .......................................................................................... 3
- DAT 48 Advanced JAVA Programming ......................................................................... 3
- DAT 49 UNIX Fundamentals ......................................................................................... 3
Total 12

Web Page Development Option
- BIS 12 Multimedia Theory and Applications for Business ......................................... 3
- BIS 23 Advanced Web Page Design and Development ................................................. 3
- BIS 31 E-Commerce ....................................................................................................... 3
- DAT 38 Microcomputer Database Applications ............................................................ 3
Total 12

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

* Students who intend to transfer to a four-year college should take MTH 30 or 31 instead of MTH 12. Check for required pre-requisites for these math courses.
** Students who intend to transfer to a four-year college should take a science course with a laboratory component from among AST 11 or AST 12, BIO 11, BIO 21, CHM 10, CHM 11, ENV 11, ESE 11 or PHY 11. Non-transfer students may also take a science course with a laboratory component.

# Restricted Electives: Select a total of five credits from Art (non-studio courses), Communications, Economics, Geography, History, Health, Physical Education (only one course in Health Education or two courses in Physical Education), Modern Languages, Music (non-studio courses), Philosophy, Psychology, Political Science, or Sociology. No more than two courses from the same department or discipline.

§ Students who have completed MTH 06 (or three years high school mathematics) and intend to transfer to a four-year college may take BUS 41 instead of BUS 11.

† CWE 31 is a two (2) credit course. A student should enroll in CWE one year before graduating or when starting the third semester. See the CWE advisor in Loew Hall, Career Services, during the second semester. Students who are employed full-time are not required to complete CWE. A waiver must be obtained from the Department Chairperson by submitting documentation of current full-time employment. After a written waiver of CWE is obtained, the student must substitute the required CWE credits with any course(s) offered by the Business and Information Systems Department. College Work-Study assignments within CUNY may not be used as substitutes for the CWE internship.

The Web Page Development Option fully articulates with York College’s Communication Technology B.S. degree.

COMPUTER SCIENCE
(A.S. Degree)
Curriculum Coordinator: Dr. Sharon Persinger

The Computer Science Curriculum provides an introduction to the field of computer science to ensure successful transfer to a senior college Computer Science program. Students learn to construct, verify and implement algorithms by writing and running programs in standard programming languages. The curriculum provides a broad background in science and the humanities as well as a thorough grounding in discrete and continuous mathematics. The Computer Science A.S. program articulates with the Computer Science B.S. program at Lehman College. BCC Computer Science graduates have successfully transferred to City College, Polytechnic University, Rensselaer Polytechnic University, Clarkson University, and others.

Students interested in curricula emphasizing computer applications such as the A.S. degree in Business Administration (Computer Programming Option) or the A.A.S. degree in Computer Information should consult the Business and Information Systems Department.
Computer Science Curriculum

60 Credits required for A.S. Degree

Core Requirements
- ENG 10 Fundamentals of Composition & Rhetoric OR ENG 11 Composition and Rhetoric I .........................................................3
- CMS 11 Fundamentals of Interpersonal Communication .........................................................3
- HIS 10 History of the Modern World OR HIS 11 Introduction to the Modern World .........................................................3
- MTH 31 Calculus & Analytic Geometry I ...........................................................................4
- SCI* A two-semester sequence in a Laboratory science .........................................................8

Total 21

Required Areas of Study**
- ENG 12 Composition and Rhetoric II OR ENG 14 Written Composition and Prose Fiction OR ENG 15 Written Composition and Drama OR ENG 16 Written Composition and Poetry .........................................................3
- ART 11 Introduction to Art OR MUS 11 Introduction to Music .........................................................3
- HIS or SOC SCI Select from Anthropology, Economics, Geography, History, Philosophy, Political Science, Psychology, or Sociology .........................................................3

Total 9

Specialization Requirements
- MTH 32 Calculus & Analytic Geometry II ...........................................................................5
- MTH 33 Calculus & Analytic Geometry III ...........................................................................5
- CSI 30 Discrete Mathematics I .........................................................................................3
- CSI 31 Introduction to Programming I ................................................................................3
- CSI 32 Introduction to Programming II ................................................................................3
- CSI 35 Discrete Mathematics II .........................................................................................3
- CSI 33 Data Structures OR DAT 41 Assembly Language Programming .........................................3

Total 25

Free Electives†
- To complete the 60 credit requirement ...........................................................................5

Note: Students who are required to take MTH 30, a prerequisite for MTH 31, must use elective credits.

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.
*The laboratory science sequence may be chosen from BIO 11-12, CHM 11-22, PHY 11-12 or PHY 31-32. Students should consult the college to which they intend to transfer as to choosing an appropriate sequence. Students who plan to transfer to City College should take PHY 31-32 and are encouraged to take PHY 33, MTH 34, and MTH 35.
**Students should consult the requirements of the senior college of their choice.
†Students who plan to transfer to a senior college should consult the language requirements in “The Curricula and Programs” section of this catalog.

This program articulates with Lehman College’s B.S. in Computer Science program.

CRIMINAL JUSTICE
(A.A. Degree)
Curriculum Coordinator: Dr. James Freeman
Dr. Michael Roggow, Director of the Criminal Justice Academy

This program is for students who have an interest in the field of criminal justice. It is a joint degree program with John Jay College of Criminal Justice, in which students receive an Associate in Arts degree at Bronx Community College and a Bachelor of Arts degree in Criminal Justice at John Jay College. BCC graduates of the associate program are automatically accepted into John Jay’s program provided that they meet the academic and grade requirements (2.0 or better GPA) to continue with a Bachelor of Arts degree in Criminal Justice at John Jay College. Criminal Justice is a growing field of study that provides intellectual stimulation and practical experience for students with an interest in police science, law, security management, and other fields that incorporate supporting the infrastructure of the law, as well as working with people.

Criminal Justice Curriculum
60 Credits required for A.A. Degree

Core Requirements
■ ENG 10 Fundamentals of Composition and Rhetoric OR
ENG 11 Composition and Rhetoric I ................................................................. 3
■ ENG 12 Composition and Rhetoric II ............................................................. 3
■ CMS 11 Fundamentals of Interpersonal Communication .................................. 3
■ HIS 10 History of the Modern World OR
HIS 11 Introduction to the Modern World ........................................................ 3
■ MTH 21* Survey of Mathematics I OR
MTH 23* Probability and Statistics ................................................................. 3
■ PEA** OR
CPR 10 Cardiopulmonary Resuscitation ......................................................... 1
■ SCI Choose two laboratory science courses from
Astronomy, Biology, Chemistry, Earth Science,
Environmental Science or Physics ................................................................... 8

Total 24
Required Areas of Study

■ ART 11 Introduction to Art OR
  MUS 11 Introduction to Music ................................................................. 3
■ HIS 20 American Experience ................................................................. 3
■ CMS 20 Public Speaking and Critical Listening ........................................ 3
■ ENG*** English ....................................................................................... 3
■ PSY 11 Introduction to Psychology .......................................................... 3
■ POL 11 American National Government ................................................... 3
■ SOC 11 Sociology ..................................................................................... 3
■ SOC 31 Race and Ethnic Relations OR
  SOC 37 Social Inequality .......................................................................... 3

Total 24

Specialization Requirements

■ CRJ 11 Introduction to Criminal Justice .................................................... 3
■ CRJ 21 Introduction to Criminology ............................................................ 3
■ CRJ 22 Introduction to Policing ................................................................. 3
■ LAW 65 Criminal Law and Procedures ...................................................... 3

Total 12

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

* Students are encouraged to take MTH 23.
** PEA 81 (Self Defense) or PEA 82 (Tai Chi Chuan) are recommended.
*** Excluding English 23, Technical Writing.

DIETETICS AND NUTRITION SCIENCE
(A.S. Degree)
Curriculum Coordinator: Prof. Charmaine Aleong

Dietetics and Nutrition Science specialists are employed in health and human services settings such as hospitals, nursing homes, adult care facilities, youth agencies, schools and food service establishments. Dietitians and nutritionists assist in preventing disease and treating illness by promoting healthy eating habits. Dietitians may also practice in clinical, community, management and consultant settings.

The program in Dietetics and Nutrition Science consists of four semesters of Liberal Arts and Science education and courses directly related to dietetics and nutrition.

The Dietetics and Nutrition Science Associate in Science (A.S.) degree program is a dual/joint degree program with Lehman College's B.S. degree program in Dietetics, Foods and Nutrition.

Upon successful completion of the curriculum at Bronx Community College, students will automatically be accepted into Lehman College's Dietetics, Foods and Nutrition Program. At
Lehman, students can continue in the specialization of Dietetics, Foods and Nutrition or Food Service and Nutrition. Both programs are designed to prepare students for entry-level positions as dietitians or nutritionists in health-care facilities, community agencies, food service operations and corporations. Students will also be prepared for graduate study in the American Dietetic Association (ADA), which complies with the requirement for the Didactic Programs in Dietetics (DPDs). Students who complete this program can apply for an ADA-accredited dietetic internship. Completion of the internship and option I enables the student to become eligible to take the registration examination in dietetics to become a Registered Dietitian (RD). Option II, Food Service and Nutrition, is a concentration in foods, food service and nutrition for students interested in serving the needs of the food service industry. These professionals may be involved in restaurant catering, community food service and corporate food service.

**Dietetics and Nutrition Science Curriculum**

**60 Credits Required for A.S. Degree**

**Core Requirements**

- ENG 10 Fundamentals of Composition & Rhetoric OR
- ENG 11 Composition and Rhetoric I ................................................................. 3
- CMS 11 Fundamentals of Interpersonal Communication .................................. 3
- HIS 10 History of the Modern World OR
- HIS 11 Introduction to the Modern World ...................................................... 3
- MTH 23 Probability and Statistics .................................................................... 3
- BIO 23 Human Anatomy and Physiology I ...................................................... 4
- BIO 24 Human Anatomy and Physiology II .................................................... 4

**Total 20**

**Required Areas of Study**

- ART 11 Introduction to Art OR
- MUS 11 Introduction to Music ........................................................................ 3
- CHM 17 Fundamentals of General Chemistry I .............................................. 4
- ENG 12 Composition and Rhetoric II OR
- ENG 14 Written Composition and Prose Fiction OR
- ENG 15 Written Composition and Drama OR
- ENG 16 Written Composition and Poetry ....................................................... 3
- HLT 91 Critical Issues in Health ..................................................................... 2
- Modern Language* ....................................................................................... 8
- PSY 11 Introduction to Psychology ............................................................... 3
- SOC 11 Sociology ......................................................................................... 3

**Total 26**

**Specialization Requirements**

- CPR 10 Cardiopulmonary Resuscitation OR
- WFA 10 Workplace First Aid Training ............................................................ 1
- HLT 94 Human Nutrition ............................................................................. 3
- HLT 99 Health of the Nation ....................................................................... 2
- HCM 11 The U.S. Health Care Delivery System ......................................... 3
Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

* Choose from a foreign language at the appropriate level. Both courses must be in the same language.

**DIGITAL ARTS**
(A.A.S. Degree)
Curriculum Coordinator: Prof. Lisa Amowitz

This program seeks to prepare students for the dynamic field of digital art by providing a basic career-oriented education. Through intensive training in visual foundations and state-of-the-art technology, students gain aesthetic awareness, problem-solving skills and the technical proficiencies necessary to pursue an entry-level position in the visual communication industry in positions such as graphic design, web design, computer animation, 3D graphic visualization, motion graphics design, and interactive multimedia design.

After completing the basic digital arts courses, students must choose between two options. The *Graphic Design Option* focuses on print, publication and web design. The *Web Design Option* focuses on animation, and interactive multimedia/web design, the newest and most rapidly developing sector of the graphics industry.

The Digital Arts program articulates with York College (B.S. in Communications Technology); Lehman College (B.A. Specialization in Studio Art: Computer Imaging); Mercy College (B.F.A. in Computer Arts and Design); and New York Technical College (B.Tech in Communication Design). Students are encouraged to read these articulation agreements on the Transfer Planning website: http://www.bcc.cuny.edu/TransferCounseling/.

**Digital Arts Curriculum**
60 Credits required for A.A.S. Degree
*Students should choose an option after completing 30 credits.*

**Core Requirements**
- ENG 10 Fundamentals of Composition & Rhetoric OR
  ENG 11 Composition and Rhetoric I............................................................3
- ENG Choose any English course (except ENG 23) ........................................3
- CMS 11 Fundamentals of Interpersonal Communication...................................3
- HIS 10 History of the Modern World OR
  HIS 11 Introduction to the Modern World ...........................................................3
- MTH 12* Introduction to Mathematical Thought OR
  MTH 21 Survey of Mathematics I OR

- DAT 10 Computer Fundamentals and Applications ........................................3
- PEA 51 Stress Management .............................................................................2

Total 14
MTH 23 Probability and Statistics

■ PEA Physical Education activity course OR
HLT 91 Critical Issues in Health
■ SCI** Any laboratory science

Total 20-21

Required Areas of Study
■ ART 11 Introduction to Art
■ Humanities Elective***
■ Free elective

Total 7-8

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

* MTH 21 or MTH 23 is for students intending to transfer to a senior college.
** Select from AST 11 or 12, BIO 11 or 21, CHM 10, 11 or 17, ENV 11, ESE 11 or 12, PHY 10 or 11.
*** Select from Communication, English, Geography, History, Modern Languages, Music, Philosophy, or Social Science (ANT, ECO, POL, PSY, SOC).

Specialization Requirements:
(For Both Graphic Design and Web Design Options)
■ ART 15# Design Basics
■ ART 21# Drawing
■ ART 22 Painting
■ ART 55 Modern Art
■ ART 56 Graphic & Digital Design History
■ ART 72 Digital Photography and Motion Graphics
■ ART 79 Typographic Design
■ ART 82 Illustration
■ ART 84# Digital Imaging
■ ART 86 Digital Illustration
■ ART 87 Web Design

Sub-total 24

# Should be taken in student’s first semester

Students select one of two options:

Specialization Requirements for the Graphic Design Option
ART 81 Typography and Layout
ART 89 Publication Design
ART 90 Graphic Design Project
ART 91 Design Portfolio OR
ART 32 Printmaking OR
ART 41 Ceramics OR
ART 95 Introduction to 3D Graphics and Animation .......................................................... 2
Sub-total 8
Total Specialization Requirements 32

Specialization Requirements for the Web Design Option
ART 88 Web Animation ........................................................................................................ 2
ART 93 Web Design Project ................................................................................................. 2
ART 97 Web Portfolio OR
ART 32 Printmaking OR
ART 41 Ceramics OR
ART 95 Introduction to 3D Graphics and Animation .......................................................... 2
MUS 13 Sound Design for the web ...................................................................................... 2
Sub-total 8
Total Specialization Requirements 32

EARLY CHILDHOOD ASSISTANT CERTIFICATE PROGRAM

As of Spring 2012, no new students are currently being accepted into this program.

The Early Childhood Assistant Certificate Program prepares students to meet the requirements established by the national credentialing agency, the Council for Early Childhood Professional Recognition, which leads to the Child Development Associate (CDA) credential in a center based infant/toddler setting or a family care setting. This certificate program responds to the current need for trained practitioners in infant through early childhood learning centers due to the increased demand for childcare among a growing number of families. It provides the educational foundation for a person who seeks to become a home childcare provider. Upon successful completion of the Early Childhood Care Assistant Certificate Program, students will be able to continue their studies in Bronx Community College’s Education Associate A.A.S. Degree Program, and all of the certificate course credits will be accepted for this A.A.S. degree.

Early Childhood Assistant Certificate Program: 30 Credits Required

Semester I
- PSY 11 Introduction to Psychology .................................................................................. 3
- ENG 10 Fundamentals of Composition & Rhetoric OR
  ENG 11 Composition and Rhetoric I .................................................................................. 3
- HLT 91 Critical Issues in Health ..................................................................................... 2
- EDU 10 Child Study – Birth to Grade 6 ......................................................................... 3
- EDU 24 Child Care Seminar I ......................................................................................... 3
- Free Elective .................................................................................................................. 1
Total 15
Semester II
■ CMS 11 Fundamentals of Interpersonal Communication ........................................ 3
■ PSY 41 Psychology of Infancy and Childhood ...................................................... 3
■ EDU 25 Child Care Seminar II .................................................................................. 3
■ EDU 26 Human Relations in Urban Schools .............................................................. 3
■ EDU 40 Field Work Seminar .................................................................................... 3
Total 15

EDUCATION ASSOCIATE
(A.A.S. Degree)
Curriculum Coordinator: Diane D’Alessio

The Department of Education offers two degree programs for students choosing a career in the field of education: the A.A.S. Degree and the A.A. Degree. The A.A.S. Degree is designed for students seeking employment upon the completion of the two-year degree. This program offers a wide range of education courses and internship experiences in New York City Public Schools. If the student decides to transfer to a four-year institution, additional liberal arts credits may be required. Upon employment as a paraprofessional, the New York City Board of Education will pay for six credits per semester for college courses. The A.A. Degree program is designed for students who seek automatic transfer to a senior college in CUNY, upon graduation, to pursue a baccalaureate degree and teacher certification. There is no teaching internship in this program. Students interested in preparing to be teachers should pursue the Liberal Arts and Sciences Associate in Arts (A.A.) Education Option; see the Liberal Arts and Sciences curriculum description in “The Curriculum and Programs” section of this catalog.

Education Associate Curriculum
60 Credits required for A.A.S. Degree

Core Requirements
■ ENG 10 Fundamentals of Composition & Rhetoric OR
ENG 11 Composition and Rhetoric I ................................................................................. 3
■ CMS 11 Fundamentals of Interpersonal Communication ........................................ 3
■ HIS 10 History of the Modern World OR
HIS 11 Introduction to the Modern World .................................................................. 3
■ MTH 21 Survey of Mathematics OR
MTH 23* Probability and Statistics ............................................................................. 3
■ HLT 91 Critical Issues in Health .................................................................................. 2
■ SCI AST11 OR BIO11 OR CHM11 OR ESE11 OR PHY11, OR ENV 11
(laboratory science course) ......................................................................................... 4
Total 18

Required Areas of Study
■ ART 11 Introduction to Art OR
MUS 11 Introduction to Music ....................................................................................... 3
■ HIS Any History course OR
GEO 10 Introduction to Human Geography ................................................................. 3
■ PSY 11 Introduction to Psychology ............................................................ 3
■ PSY 41 Psychology of Infancy & Childhood .................................................. 3
■ ENG Elective English 14, 15 or 16 .............................................................. 3
■ Electives
Communication Elective OR Modern Language ........................................ 3-4
Total 18-19

Specialization Requirements
■ EDU 10 Child Study -- Birth to Grade 6 ......................................................... 3
■ EDU 12 Contemporary Urban Education--Birth to Grade 6 OR
EDU 26 Human Relations in Urban Schools .............................................. 3
■ EDU 40 Field Work Seminar--Birth to Grade 6 ........................................ 3
■ Electives: Education courses (select two from below) .................................. 6
■ EDU 16 Literacy in Early Childhood Education--Birth to Grade 2 ............... 3
■ EDU 17 Literacy in Childhood Education--Grades 1-6 .................................. 3
■ EDU 18 Literacy in a Spanish Bilingual Program ........................................ 3
■ EDU 24 Child Care Seminar I ...................................................................... 3
■ EDU 25 Child Care Seminar II ..................................................................... 3
■ EDU 30 Introduction to Special Needs, Schools and Society ....................... 3
■ EDU 31 Introduction to Learning Disabilities and Inclusive Education ......... 3
■ EDU 50 Creativity and the Arts for the Early Childhood and
Childhood Years .............................................................................................. 3
Total 15

Free Electives
■ To complete 60 credit requirement .............................................................. 8-9

Note: At least two courses must be taken from a list designated as “Writing Intensive” as
published each semester in the Registration Guide and Schedule of Classes.

*Students planning on Transferring to Lehman or City are encouraged to take MTH 23.

The Department of Education and Reading at Bronx Community College offers three 30-
credit certificate programs:
1. The Early Childhood Care Assistant
2. The Bilingual Early Childhood Assistant
3. The Assistant of Children With Special Needs

Consisting of coursework, field experience, advisement, and career guidance, these certificate
programs open up employment opportunities for students interested in working with young
children. For each of these programs students must meet the admission requirements of Bronx
Community College as well as the requirements of Bronx Community College’s Department of
Education. As of Spring 2012, no new students are currently being admitted into these certificate
programs. However, new students are being admitted into the Education Associate A.A.S.
Degree Program.
ELECTRONIC ENGINEERING TECHNOLOGY
(A.A.S. Degree)
Curriculum Coordinator: Dr. Jalil Moghaddasi

Electrical and electronic technicians build, test and maintain complex electronic equipment such as computers, control systems, communication networks, power systems, and medical devices. The Electronic Engineering Technology (EET) program at Bronx Community College prepares graduates to join the workforce as technical professionals in a variety of industries and services or to transfer to a four-year baccalaureate program in engineering technology.

The technical curriculum is combined with a program of general education to assure that graduates of the EET program have the prerequisite skills in reading, writing, and communication that are necessary to function effectively in the workplace. The Electronic Engineering Technology program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology: 111 Market Place, Suite 1050, Baltimore Md. 21202-4012; Telephone: (410) 347-7700.

Electronic Engineering Technology students who plan to continue their studies may transfer directly to New York City College of Technology or other colleges offering the baccalaureate degree in Engineering Technology. Graduates’ transfer credits for technology courses taken at BCC will be evaluated by each college.

Within two or more years after graduation from Bronx Community College, students in the Electronic Technology Program are expected to be graduates of a four-year baccalaureate program in Engineering Technology or pursuing additional formal education; gainfully employed as engineering technologists; attaining increasing levels of responsibility in their chosen career; and respectful of cultural diversity and practicing the profession in an ethical manner.

Upon graduation from Bronx Community College, students in Electronic Engineering Technology will be able to join the workforce as engineering technologists; work effectively in a team environment; read and write effectively; use mathematics to solve problems in electronics; analyze and interpret technical data; read circuit schematics, select electronic components, solder and assemble circuits and printed circuit boards (PCBs); and simulate electronic circuits.

Electronic Engineering Technology Curriculum
66 Credits required for A.A.S. Degree

Core Requirements

■ ENG 10 Fundamentals of Composition & Rhetoric OR ENG 11 Composition and Rhetoric I.................................................................3
■ CMS 11 Fundamentals of Interpersonal Communication........................................3
■ HIS 10 History of the Modern World OR HIS 11 Introduction to the Modern World .........................................................3
■ MTH 13* Trigonometry & College Algebra.........................................................3
■ PEA Physical Education activity course .................................................................1
Total 13

Required Areas of Study
- ENG 23 Scientific & Technical Writing ................................................................. 3
- MTH 14* College Algebra & Introduction to Calculus .................................................. 3
- MTH 15* Calculus ........................................................................................................ 3
- PHY 21** Physics for Engineering Technology I ......................................................... 4
- PHY 22** Physics for Engineering Technology II ......................................................... 4
Total 18

Specialization Requirements
- ELC 11 DC Circuit Analysis .................................................................................... 4
- ELC 15 Computer Applications in Technology ........................................................... 2
- ELC 18 Computer Programming for Engineering Tech ............................................... 2
- ELC 21 AC Circuit Analysis ..................................................................................... 4
- ELC 25 Electronics I ................................................................................................. 4
- ELC 35 Electronics II ............................................................................................... 4
- ELC 51 Electronic Controls ..................................................................................... 3
- ELC 81 Electronic Communications ......................................................................... 4
- ELC 94 Laser & Fiber Optic Communications ........................................................... 4
- ELC 96 Digital Systems I ......................................................................................... 4
Total 35

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

*Students may choose to take MTH 30, 31, and 32 in lieu of MTH 13, 14 and 15 if they plan to continue their studies after completing the A.A.S.

**Students may choose to take PHY 31 and 32 in lieu of PHY 21 and 22 if they plan to continue their studies after completing the A.A.S.
ENERGY SERVICES AND TECHNOLOGY
(A.A.S. Degree)
Curriculum Coordinator: Dr. Luis Montenegro

The Energy Services and Technology program is a specialized building science technology program created to meet the needs of the real estate, property management, utility and energy services, construction, contracting, equipment operations and maintenance, and performance contracting industries. Technicians entering the field become members of a team working with supervision by more experienced technicians or engineering personnel. They can be found working in building management; engineering and construction companies; heating, ventilation, and air conditioning (HVAC) and utility companies; energy service companies (ESCOs); and building automation system suppliers such as Johnson Controls, Siemens, and Honeywell. They use and interpret information for building instrumentation and field assessment tools including temperature and pressure gauges, flow meters, BTU meters, electric meters and test equipment, building automation system logs, data loggers, infra-red cameras, air hoods, blower doors, tachometers, anemometers, light meters, combustion test kits and carbon monoxide monitors. They are also called upon to interpret energy bills, demand charges, and load profiles. The work environment requires technicians to be well trained in analytical and computer methods as applied to the operation of building systems and equipment, as well as to job safety, health and environment regulations.

Energy Services and Technology Curriculum
60 Credits required for A.A.S. Degree

Core Requirements
- ENG 10 Fundamentals of Composition & Rhetoric OR
  ENG 11 Composition and Rhetoric I ................................................................. 3
- CMS 11 Fundamentals of Interpersonal Communication ................................. 3
- HIS 10 History of the Modern World OR
  HIS 11 Introduction to the Modern World ........................................................ 3
- MTH 13* Trigonometry & College Algebra ....................................................... 3
- PHY 21 Physics for Engineering Technology I ................................................... 4
- ECO 11 Microeconomics OR
  ECO 12 Macroeconomics ................................................................................. 3
- OCD 01 Orientation and Career Development .................................................... 0
Total 19

Required Areas of Study
- MTH 23* Probability and Statistics .................................................................... 3
- BUS 10 Introduction to Business OR
  BUS 51 Business Organization and Management .............................................. 3
- ELC 11 DC Circuit Analysis ................................................................................ 4
- ELC 15 Computer Applications in Technology .................................................. 2
- CMS 12 Voice and Diction: Business and Professional Speech ............................ 2
- ENG 23 Scientific & Technical Writing .............................................................. 3
■ ENV 11 Introduction of Environmental Health OR
CHM 11 General College Chemistry I  ................................................................. 4
■ Restricted Elective** .......................................................................................... 1

Total 22

Specialization Requirements
■ EST 11 Introduction to Energy Technology ..................................................... 2
■ EST 15 Energy Economics.................................................................................. 3
■ EST 21 Energy Analysis of Mechanical and
   Electrical Equipment ....................................................................................... 2
■ EST 31 Building Systems I ................................................................................ 3
■ EST 32 Building Systems II ............................................................................... 3
■ EST 41 Principles of Energy Management I..................................................... 3
■ EST 42 Principles of Energy Management II.................................................. 3

Total 19

Note: At least two courses must be taken from a list designated as “Writing Intensive” as
published each semester in the Registration Guide and Schedule of Classes.

*Students planning on transferring to a four-year program may substitute MTH 30 and MTH 31
for MTH 13 and MTH 23.
**Choose from ART 10, MUS 10, any PEA one credit course, CPR 10, or WFA 10.

ENGINEERING SCIENCE
(A.S. Degree)
Curriculum Coordinator: Dr. A. Lal

The Engineering Science curriculum is designed for students with a special interest in
engineering and provides a thorough preparation in mathematics and physical science.
Graduates of this program may transfer to a senior college to continue their education in
engineering and earn a baccalaureate degree in engineering.

Engineering Science Curriculum
60 Credits required for A.S. Degree

Core Requirements
■ ENG 10 Fundamentals of Composition & Rhetoric OR
ENG 11 Composition and Rhetoric I ................................................................. 3
■ CMS 11 Fundamentals of Interpersonal Communication OR
CMS 20 Public Speaking & Critical Listening..................................................... 3
■ HIS 10 History of the Modern World OR
HIS 11 Introduction to the Modern World .......................................................... 3
■ CHM 11 General College Chemistry I ............................................................. 4

Total 13
### Required Areas of Study

- **ENG 12** Composition and Rhetoric II ................................................................. 3
- **MTH 31** Analytic Geometry & Calculus I ............................................................ 4
- Humanities elective** .............................................................................................. 3

**Total 10**

### Specialization Requirements

- **EGR 11** Introduction to Engineering Design ......................................................... 1
- **MTH 32** Analytic Geometry & Calculus II ............................................................ 5
- **MTH 33** Analytic Geometry & Calculus III ........................................................ 5
- **MTH 34** Differential Equations & Selected Topics in Advanced Calculus ............ 4
- **PHY 31** Engineering Physics I ............................................................................. 4
- **PHY 32** Engineering Physics II ............................................................................ 4
- **PHY 33** Engineering Physics III .......................................................................... 4
- **Restricted electives** .......................................................................................... 10

**Select from the following:**

- **CHM 12** General College Chemistry I ................................................................. 4
- **OR CHM 22** General Chemistry II with Qualitative Analysis ................................. 5
- **CHM 31** Organic Chemistry I ............................................................................. 5
- **EGR 21** Analysis Tools for Engineers ................................................................. 2
- **EGR 31** Circuit Analysis ..................................................................................... 3
- **ELC 96** Digital Systems I .................................................................................. 4
- **ENG 23** Scientific & Technical Writing .................................................................. 3

**Total 37**

**Note:** At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

* MTH 30 or equivalent is a corequisite for EGR 11 and the restricted elective ELC 96 and a prerequisite for MTH 31

**ENG 23** is not to be taken to fulfill this requirement. Students who are considering transferring to the Grove School of Engineering at CCNY must select from the following list of courses: ART 11, ECO 11, ECO 12, FRN 11, FRN 12, MUS 11/12, POL 11, POL 51, PSY 11, PSY 22, PSY 31, SOC 11, SOC 33, SOC 34, SOC 37, and HIS 13.
ENVIRONMENTAL TECHNOLOGY
(A.A.S. Degree)
Curriculum Coordinator: Dr. Neal Phillip

This competency-based curriculum provides state-of-the-art training for careers in environmental technology. Environmental Technology utilizes the principles of science, engineering, communications and economics to protect and enhance safety, health and natural resources.

All credits from this program may be transferred to York College and Medgar Evers College for a bachelor’s degree in Environmental Health. Students interested in transferring to the Environmental Engineering program at The City College should see Dr. Neal Phillip.

Environmental Technology Curriculum
60 Credits required for A.A.S. Degree

<table>
<thead>
<tr>
<th>Core Requirements</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Restricted Elective*</td>
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<tr>
<td>CHM 17 Fundamentals of General Chemistry</td>
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<tr>
<td>CMS 11 Fundamentals of Interpersonal Communication</td>
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<tr>
<td>ENG 10 Fundamentals of Composition &amp; Rhetoric OR</td>
<td></td>
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<tr>
<td>ENG 11 Composition and Rhetoric I</td>
<td>3</td>
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<tr>
<td>ENG 23 Scientific and Technical Writing***</td>
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<tr>
<td>HIS 10 History of the Modern World OR</td>
<td></td>
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<td>HIS 11 Introduction to the Modern World</td>
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<td>OCD 01 Orientation and Career Development</td>
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<table>
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<th>Required Areas of Study</th>
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<tbody>
<tr>
<td>BIO 11 General Biology I</td>
<td>4</td>
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<tr>
<td>BIO 12 General Biology II</td>
<td>4</td>
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<tr>
<td>CHM 18 Fundamentals of General Chemistry II (organic)**</td>
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<tr>
<td>DAT 33 Microcomputer Applications+</td>
<td>2</td>
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<tr>
<td>MTH 13 Trigonometry &amp; College Algebra**</td>
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<tr>
<td>MTH 23 Probability &amp; Statistics*</td>
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<tr>
<td>PHY 11 College Physics I</td>
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<td><strong>Total</strong></td>
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<table>
<thead>
<tr>
<th>Specialization Requirements</th>
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<tr>
<td>ENV 11 Introduction to Environmental Health</td>
<td>4</td>
</tr>
<tr>
<td>ENV 12 Environmental &amp; Occupational Regulations</td>
<td>4</td>
</tr>
<tr>
<td>ENV 23 Environmental Toxicology</td>
<td>3</td>
</tr>
<tr>
<td>ENV 31 Water Chemistry and Pollution</td>
<td>4</td>
</tr>
<tr>
<td>ENV 32 Atmospheric Chemistry and Pollution</td>
<td>4</td>
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<td><strong>Total</strong></td>
<td>19</td>
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</tbody>
</table>
Note: Students must achieve a grade point average of 2.5 or better in the first four courses before they are considered for admission to the program. Students intending to transfer to a four-year program in environmental science must maintain a minimum index of 2.0; take CHM 11 and CHM 22 in lieu of CHM 17 and CHM 18; and MTH 30 and MTH 31 in lieu of MTH 13 and MTH 23.

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

* Students can take ART 10 or MUS 10, or WFA 10 or any PEA one credit course. Students who intend to transfer should choose ART 10, or MUS 10, or any PEA one credit course.
** Students intending to transfer to four-year programs in Environmental Science or Environmental Engineering should take CHM 11 and CHM 22 in lieu of CHM 17 and CHM 18; and take MTH 30 and MTH 31 in lieu of MTH 13 and MTH 23.
*** Students can substitute ENG 12 for ENG 23.
+ Students can substitute CHM 38 for DAT 33.

HUMAN SERVICES
(A.A.S. Degree)
Curriculum Coordinator: Prof. Donna Mangiante

The Human Services curriculum, accredited by the Council for Standards in Human Service Education, prepares students for entry-level career positions in a variety of human services occupations. Students interested in transferring to a four-year college to major in Social Work after completing their studies at BCC should see the program description for the Human Services Option of the Liberal Arts and Sciences Associate in Arts (A.A.); see the Liberal Arts and Sciences curriculum description in “The Curricula and Programs” section of this catalog.

The A.A.S. curriculum prepares students for employment as mental health aides, group residence workers, neighborhood outreach workers, social case work assistants, geriatric counselors, assistant probation officers, and other similar positions. Employment opportunities exist in such areas as day care, mental health, social services, aging, rehabilitation of the disabled, group and community work at the public and private level.

Graduates are prepared to pursue further education at senior colleges leading to a baccalaureate degree in several professional areas including social work, gerontology, juvenile justice, psychology, sociology, education and counseling.

Human Services students are required to participate in two Human Services field work internships which provide supervised learning experiences in work situations. Students learn to apply theoretical material from the classroom and test career choices in the real world.
Human Services Curriculum
60 Credits required for A.A.S. Degree

Core Requirements
■ ENG 10 Fundamentals of Composition & Rhetoric OR
ENG 11 Composition and Rhetoric I .......................................................... 3
■ CMS 11 Fundamentals of Interpersonal Communication .......................... 3
■ HIS 10 History of the Modern World OR
HIS 11 Introduction to the Modern World .................................................. 3
■ MTH 12* Introduction to Mathematical Thought or
MTH 21 Survey of Mathematics I OR
MTH 23 Probability and Statistics .............................................................. 3
■ BIO 21 The Human Body ........................................................................ 4
Total 16

Required Areas of Study
■ ART 11 Introduction to Art OR
MUS 11 Introduction to Music ................................................................. 3
■ ENG 12 Composition and Rhetoric II OR
ENG 14 Written Composition and Prose Fiction OR
ENG 15 Written Composition and Drama OR
ENG 16 Written Composition and Poetry .................................................. 3
■ SOC 11 Introduction to Sociology ........................................................... 3
■ PSY 11 Introduction to Psychology ......................................................... 3
■ POL 11 American National Government ............................................... 3
■ HLT 91 Critical Issues of Health ............................................................. 2
Total 17

Specialization Requirements
■ HSC 10 Human Services and Social Welfare Institutions ...................... 3
■ HSC 11 Case Management ................................................................... 3
■ HSC 12 Human Services Skills and Methods ......................................... 3
■ HSC 91 Fieldwork & Seminar in Human Services I ............................... 3
■ HSC 92 Fieldwork & Seminar in Human Services II .............................. 3
■ SOC 35 Introduction to Social Work ....................................................... 3
■ SOC 37 Social Inequality ........................................................................ 3
■ PSY 31 Abnormal Psychology ............................................................... 3
■ PSY 40 Life Span Development ............................................................. 3
Total 27

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.
*Students planning on transferring to a four-year college are advised to take MTH 21 or MTH 23.
LIBERAL ARTS AND SCIENCES
(A.A. Degree)

The Liberal Arts and Sciences curriculum prepares a student to be an accomplished and productive human being. A liberal arts degree opens doors to the professions and to rewarding and responsible careers. Future physicians, teachers, scientists, lawyers, and businessmen, for example, develop themselves as well-rounded, individuals, in addition to completing their pre-professional work. The academic experiences in liberal arts and sciences provide the foundation for later specialization, graduate study, and professional school. There are several paths offered with the Liberal Arts and Sciences curriculum. The general A.A. degree program provides a well-rounded background and the opportunity to explore a variety of subject areas, so that graduates may transfer to the third year of a senior college. Those who wish to pursue a program that allows a greater degree of specialization in the first two years of college may select one of the following options:

Options
Africana, Latino and Native American Studies
Education
History
Human Services
International Studies
Media Studies
Performing Arts
Political Science
Psychology
Sociology
Spanish
Speech Pathology
In order to graduate, a student must satisfy all the requirements of the Associate in Arts curriculum, which may include one of the options.

Liberal Arts and Sciences Curriculum

60 Credits required for A.A. Degree
Curriculum Coordinator: Dr. James Freeman

Core Requirements
■ ENG 10 Fundamentals of Composition & Rhetoric OR
ENG 11 Composition and Rhetoric I ................................................................. 3
■ ENG 12 Composition and Rhetoric II ........................................................... 3
■ CMS 11 Fundamentals of Interpersonal Communication ............................. 3
■ HIS 10 History of the Modern World OR
HIS 11 Introduction to the Modern World .................................................... 3
■ MTH 21* Survey of Mathematics I OR
MTH 22* Survey of Mathematics II OR
MTH 23* Probability and Statistics OR
MTH 26* Mathematics in the Modern World ................................................................. 3
■ PEA or Physical Education or
HLT 91 Critical Issues in Health .................................................................................. 1-2
■ SCI Choose two laboratory science courses from
Astronomy, Biology, Chemistry, Earth Science,
Environmental Science or Physics .................................................................................. 8
Total 24-25

Required Areas of Study
■ ART 11 Introduction to Art .......................................................................................... 3
■ MUS 11 Introduction to Music ....................................................................................... 3
■ HIS 20 American Nation: Political and
Social Development of a People ..................................................................................... 3
■ Modern Language** ..................................................................................................... 8
■ ENG*** English ............................................................................................................ 3
■ CMS 20 Public Speaking and Critical Listening ......................................................... 3
■ SOC SCI Choose from Anthropology, Economics,
Geography, Philosophy, Political Sciences,
Psychology, and Sociology
(select from different disciplines) .................................................................................. 6
■ Restricted elective—Select from English, History or
Social Science ................................................................................................................. 3
Total 32

Free Electives
■ To complete the 60 credit requirement ......................................................................... 3-4

Note: At least two courses must be taken from a list designated as “Writing Intensive” as
published each semester in the Registration Guide and Schedule of Classes.

*Students may substitute MTH 30 or 31 if they reduce elective credits.
**Choose from a foreign language at the appropriate level. Both courses must be in the same
language.
***Excluding English 23, Technical Writing.

Liberal Arts and Sciences Curriculum
Africana, Latino & Native American Studies Option

60 Credits required for A.A. Degree
Coordinator: Dr. Jacqueline Gutwirth

Core Requirements
■ ENG 10 Fundamentals of Composition & Rhetoric OR
ENG 11 Composition and Rhetoric I ................................................................................. 3
■ ENG 12 Composition and Rhetoric II ............................................................................. 3
■ CMS 11 Fundamentals of Interpersonal Communication ............................................. 3
HIS 10 History of the Modern World OR
HIS 11 Introduction to the Modern World .......................................................... 3
MTH 21* Survey of Mathematics I OR
MTH 22* Survey of Mathematics II OR
MTH 23* Probability and Statistics OR
MTH 26* Mathematics in the Modern World ..................................................... 3
PEA Physical Education OR
HLT 91 Critical Issues in Health ........................................................................ 1-2
SCI Choose two laboratory science courses from Astronomy, Biology, Chemistry, Earth Science, Environmental Science or Physics .................................................. 8
Total 24-25

Required Areas of Study
ART 12 Introduction to Western & Non-Western Cultures ..................................... 3
MUS 12 Introduction to Music: A Multi-Cultural Survey ....................................... 3
HIS 20 American Nation: Political and Social Development of a People ............. 3
Modern Language** ................................................................................................. 8
ENG*** English ....................................................................................................... 3
CMS 20 Public Speaking and Critical Listening .................................................... 3
Total 23

Specialization Requirements
Select two from the following courses (5 - 7 credits)
HIS 35 History of Africa .......................................................................................... 3
HIS 37 African-American History .......................................................................... 3
HIS 39 History of the Caribbean ........................................................................... 3
SPN 30 Literature & Culture of Puerto Rico ............................................................ 4
SPN 31 Literature & Culture of the Spanish Caribbean ........................................ 4
PEA 46 African, Caribbean & Black Dance Forms ............................................... 2
ENG 53 The Black Writer in American Literature ............................................... 3
ENG 54 Black Poetry ................................................................................................. 3
GEO 10 Introduction to Human Geography ......................................................... 3
SOC SCI Choose from Anthropology, Economics, Geography, Philosophy, Political Science, Psychology and Sociology (select from two different disciplines) .............................................................................. 6
Total 11-13

Free Electives
To complete the 60 credit requirement .................................................................. 0-2

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.
*Students may substitute MTH 30 or 31 if they reduce elective credits.
**Choose from a foreign language at the appropriate level. Both courses must be in the same language.
***Excluding English 23, Technical Writing.

Liberal Arts and Sciences Curriculum
Education Option

60 Credits required for A.A. Degree
Coordinator: Professor Diane D’Alessio

Core Requirements
■ ENG 10 Fundamentals of Composition & Rhetoric OR
ENG 11 Composition and Rhetoric I ..........................................................3
■ ENG 12 Composition and Rhetoric II .........................................................3
■ CMS 11 Fundamentals of Interpersonal Communication ..........................3
■ HIS 10 History of the Modern World OR
HIS 11 Introduction to the Modern World ..................................................3
■ MTH 21 or Survey of Mathematics I OR
MTH 23 Probability and Statistics ............................................................3
■ PEA or Physical Education OR
HLT 91 Critical Issues in Health .................................................................1-2
■ SCI* Choose two different laboratory science courses from Astronomy, Biology, Chemistry, Earth Science, Environmental Science or Physics ..................................................8
Total 24-25

Required Areas of Study
■ ART 11 Introduction to Art ..................................................................3
■ MUS 11 Introduction to Music .................................................................3
■ HIS 20 American Nation: Political and Social Development of a People ..................................................3
■ Modern Language (Both courses must be in the same language) ..........8
■ ENG 14, 15, or 16 .................................................................................3
■ CMS 20 Public Speaking and Critical Listening OR
EDU 26** Human Relations in Urban Schools .........................................3
Total 23

Specialization Requirements
■ PSY 11 Introduction to Psychology .........................................................3
■ EDU 10 Child Study--Birth to Grade 6 ....................................................3
■ EDU 12 Contemporary Urban Education-Birth to Grade 6 .....................3
■ SOC SCI*** Choose from Anthropology, Economics, Geography, Political Science, Psychology, and Sociology
OR
EDU 40*** Field Work Seminar-Birth to Grade 6 ....................................3
Total 12
Free Electives
■ To complete the 60 credit requirement.................................................................0-1

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

Bronx Community College and Lehman College have established an articulation agreement for those students entering Lehman College’s early childhood/childhood education program.

Note: Students planning to transfer to Lehman College must achieve a 3.0 index in their Education coursework at BCC, a grade point average of 2.75 or better for admission into Lehman College’s early childhood/childhood teacher preparation program and earn a C or better in math, natural science, English, and foreign language.

* Students planning to transfer to Lehman College’s early childhood/childhood education program are required to take two laboratory sciences from different disciplines.
** Students planning to transfer to Lehman College’s early childhood/childhood education program substitute EDU 26 for CMS 20. Otherwise, students take CMS 20.
*** Students planning to transfer to Lehman College’s early childhood/childhood education program substitute EDU 40 for SOC SCI.

Prior Learning Assessment
Prior Learning Assessment (PLA) offers students the opportunity to earn college credit for knowledge and skills that have been acquired outside the traditional classroom learning environment.

The Department of Education and Reading offers students who have earned an average of B or higher in EDU 10 Child Study, EDU 12 Contemporary Urban Education and/or EDU 26 Human Relations, and have work experience in an educational setting, the opportunity to apply for PLA credit in the following courses: EDU 16 Literacy in Early Childhood Education, EDU 18 Literacy in a Spanish Bilingual Program, EDU 30 Introduction to Special Needs, Schools and Society, EDU 31 Introduction to Learning Disabilities, EDU 40 Fieldwork Experience and EDU 50 Creativity and the Arts for the Early Childhood and Childhood Years. A maximum number of six exemption credits can be awarded to an Education major.

For further information, please contact the Department of Education and Reading at (718) 289-5679 or Professor Diane D’Alessio, PLA Coordinator at (718) 289-5687.
Liberal Arts and Sciences Curriculum
History Option

60 Credits required for A.A. Degree
Coordinator: Dr. Jacqueline Gutwirth

Core Requirements
■ ENG 10 Fundamentals of Composition & Rhetoric OR
ENG 11 Composition and Rhetoric I ................................................................. 3
■ ENG 12 Composition and Rhetoric II ............................................................ 3
■ CMS 11 Fundamentals of Interpersonal Communication ................................ 3
■ HIS 10 History of the Modern World OR
HIS 11 Introduction to the Modern World ..................................................... 3
■ MTH 21* Survey of Mathematics I OR
MTH 22* Survey of Mathematics II OR
MTH 23* Probability and Statistics OR
MTH 26* Mathematics in the Modern World .................................................. 3
■ PEA or Physical Education or
HLT 91 Critical Issues in Health .................................................................... 1-2
■ SCI Choose two laboratory science courses from
Astronomy, Biology, Chemistry, Earth Science, Environmental Science or Physics................................................................. 8
Total 24-25

Required Areas of Study
■ ART 11 Introduction to Art ............................................................................. 3
■ MUS 11 Introduction to Music ........................................................................ 3
■ HIS 20 American Nation: Political and Social Development of a People ............. 3
■ Modern Language** ....................................................................................... 8
■ ENG*** English ............................................................................................. 3
■ CMS 20 Public Speaking and Critical Listening ................................................. 3
Total 23

Specialization Requirements
■ HIS History ........................................................................................................ 6
■ SOC SCI Choose from Anthropology, Economics, Geography, Philosophy, Political Sciences, Psychology, and Sociology (select from two different disciplines) ................................................................. 6
Total 12

Free Electives
■ To complete the 60 credit requirement ......................................................... 0-1

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.
*Students may substitute MTH 30 or 31 if they reduce elective credits.
**Choose from a foreign language at the appropriate level. Both courses must be in the same language.
***Excluding English 23, Technical Writing.

Liberal Arts Human Services Option*

60 Credits required for A.A. Degree
Coordinator: Prof. Donna Mangiante

Core Requirements
■ ENG 10 Fundamentals of Composition & Rhetoric OR
ENG 11 Composition and Rhetoric I ......................................................... 3
■ ENG 12 Composition and Rhetoric II ......................................................... 3
■ CMS 11 Fundamentals of Interpersonal Communication ................................. 3
■ HIS 10 History of the Modern World OR
HIS 11 Introduction to the Modern World .................................................. 3
■ MTH 21** Survey of Mathematics I OR
MTH 22** Survey of Mathematics II OR
MTH 23** Probability and Statistics OR
MTH 26** Mathematics in the Modern World .............................................. 3
■ PEA Physical Education or
HLT 91 Critical Issues in Health .............................................................. 1-2
■ BIO 21 The Human Body (lab science) ......................................................... 4
■ SCI One lab science chosen from Astronomy,
Biology, Chemistry, Earth Science, Environmental Science or Physics ................. 4
Total 24-25

Required Areas of Study
■ ART 11 Introduction to Art ............................................................................. 3
■ MUS 11 Introduction to Music ...................................................................... 3
■ HIS 20 American Nation: Political and
Social Development of a People ..................................................................... 3
■ Modern Language*** .................................................................................. 8
■ ENG**** English ......................................................................................... 3
■ CMS 20 Public Speaking and Critical Listening ............................................. 3
Total 23

Specialization Requirements
■ PSY 11 Introduction to Psychology ............................................................... 3
■ SOC 11 Introduction to Sociology ................................................................. 3
■ SOC 35 Introduction to Social Work .............................................................. 3
■ HSC 10 Social Welfare Institutions ............................................................... 3
Total 12
Free Electives
■ To complete the 60 credit requirement.................................................................0-1
Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

*The Liberal Arts A.A. Human Services Option is fully articulated with Lehman College’s B.A. Program in Social Work.
**Students may substitute MTH 30 or 31 if they reduce elective credits.
***Choose from a foreign language at the appropriate level. Both courses must be in the same language.
****Excluding English 23, Technical Writing.

Liberal Arts International Studies Option

60 Credits required for A.A. Degree
Coordinator: Dr. James Freeman

Core Requirements
■ ENG 10 Fundamentals of Composition & Rhetoric OR
ENG 11 Composition and Rhetoric I.................................................................3
■ ENG 12 Composition and Rhetoric II.............................................................3
■ CMS 11 Fundamentals of Interpersonal Communication............................3
■ HIS 10 History of the Modern World OR
HIS 11 Introduction to the Modern World ......................................................3
■ MTH 21* Survey of Mathematics I OR
MTH 22* Survey of Mathematics II OR
MTH 23* Probability and Statistics OR
MTH 26* Mathematics in the Modern World................................................3
■ PEA Physical Education OR
HLT 91 Critical Issues in Health ......................................................................1-2
■ SCI Choose two laboratory science courses from
Astronomy, Biology, Chemistry, Earth Science,
Environmental Science or Physics.................................................................8
Total 24-25

Required Areas of Study
■ ART 11 Introduction to Art............................................................................3
■ MUS 11 Introduction to Music.......................................................................3
■ HIS 20 American Nation: Political and Social Development of a People.................................3
■ Modern Language**......................................................................................8
■ ENG*** English..............................................................................................3
■ CMS 20 Public Speaking and Critical Listening..............................................3
Total 23
Specialization Requirements
■ Select four from the following:
One course in Language of designated area ................................................................. 3
One course in Politics of designated area ........................................................................ 3
One course in History of designated area ........................................................................ 3
One course in Economics of designated area .................................................................... 3
One course in Literature of designated area ...................................................................... 3
Total 12

Free Electives
■ To complete the 60 credit requirement.............................................................................. 0-1

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.
*Students may substitute MTH 30 or 31 if they reduce elective credits.
**Choose from a foreign language at the appropriate level. Both courses must be in the same language.
***Excluding English 23, Technical Writing.

Liberal Arts and Sciences Curriculum
Media Studies Option

60 Credits required for A.A. Degree
Coordinator: Dr. Debra A. Gonsher

Core Requirements
■ ENG 10 Fundamentals of Composition and Rhetoric OR
ENG 11 Composition and Rhetoric I ................................................................................... 3
■ ENG 12 Composition and Rhetoric II .............................................................................. 3
■ CMS 11 Fundamentals of Interpersonal Communication .................................................. 3
■ HIS 10 History of the Modern World OR
HIS 11 Introduction to the Modern World ........................................................................ 3
■ MTH 21* Survey of Mathematics I OR
MTH 22* Survey of Mathematics II OR
MTH 23* Probability and Statistics OR
MTH 26* Mathematics in the Modern World .................................................................... 3
■ PEA or Physical Education OR
HLT 91 Critical Issues in Health ......................................................................................... 1-2
■ SCI Choose two laboratory science courses from
Astronomy, Biology, Chemistry, Earth Science,
Environmental Science or Physics .................................................................................. 8
Total 24-25

Required Areas of Study
■ ART 11 Introduction to Art .............................................................................................. 3
MUS 11 Introduction to Music .......................................................... 3
HIS 20 American Nation: Political and Social Development of a People .................................................. 3
Modern Language** ................................................................. 8
SOC SCI Choose from Anthropology, Economics, Geography, Philosophy, Political Science, Psychology and Sociology (select from two different disciplines) ........................................... 6
Total 23

Specialization Requirements
ENG 15 Written Composition & Drama .................................................. 3
CMS 20 Public Speaking and Critical Listening ........................................ 3
CMS 60 Introduction to Mass Communication ........................................ 3
CMS 61*** History and Theory of Film ................................................. 3
Total 12

Free Electives
To complete the 60 credit requirement .................................................. 0-1

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

The Media Studies option is fully articulated with Lehman’s B.A. in Mass Communication. The articulation agreement is available for viewing on the Transfer Planning web site at: http://www.bcc.cuny.edu/TransferCounseling/
* Students may substitute MTH 30 or 31 if they reduce elective credits.
** Choose from a foreign language at the appropriate level. Both courses must be in the same language.
*** CMT 51 or CMT 53 may be substituted for CMS 61 depending on the requirements of the receiving four-year college.

Liberal Arts and Sciences Curriculum
Performing Arts Option

60 Credits required for A.A. Degree
Coordinator: Dr. Debra A. Gonsher

Core Requirements
ENG 10 Fundamentals of Composition and Rhetoric OR
ENG 11 Composition and Rhetoric I .................................................. 3
ENG 12 Composition and Rhetoric II .................................................. 3
CMS 11 Fundamentals of Interpersonal Communication ...................... 3
HIS 10 History of the Modern World OR
HIS 11 Intro to the Modern World .................................................. 3
MTH 21* Survey of Mathematics I OR
MTH 22* Survey of Mathematics II OR
MTH 23* Probability and Statistics OR
MTH 26* Mathematics in the Modern World ................................................................. 3
■ PEA Physical Education OR
HLT 91 Critical Issues in Health ...................................................................................... 1-2
■ SCI Choose two laboratory science courses from:
Astronomy, Biology, Chemistry, Earth Science, Environmental Science or Physics ..................... 8
**Total 24-25**

Required Areas of Study
■ ART 11 Introduction to Art .......................................................................................... 3
■ MUS 11 Introduction to Music ...................................................................................... 3
■ HIS 20 American Nation: Political and Social Development of a People .......................................................... 3
■ Modern Language** ....................................................................................................... 8
■ SOC SCI*** Choose from Anthropology, Economics, Geography, Philosophy, Political Science, Psychology and Sociology (select from two different disciplines) ............................................. 6
**Total 23**

Specialization Requirements
■ ENG 15 Written Composition & Drama .......................................................................... 3
■ CMS 20 Public Speaking and Critical Listening ............................................................... 3
■ PERFORMING ARTS**** Choose from selected CMS, MUS and PEA courses with Departmental Advisement ......................................................................................................................... 6
**Total 12**

Free Electives
■ To complete the 60 credit requirement ........................................................................... 0-1

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

* Students may substitute MTH 30 or 31 if they reduce elective credits.
** Choose two courses in the same foreign language at the appropriate level.
*** The two required courses in the Social Sciences must be taken from different disciplines.
**** Performing Arts courses: Three credits must be taken in each of two different disciplines.
Select from CMS 75, PEA 41, PEA 46, PEA 47, MUS 21, MUS 22, MUS 23, MUS 24.
Liberal Arts and Sciences Curriculum
Political Science Option

60 Credits required for A.A. Degree
Coordinator: Dr. Peter Kolozi

Core Requirements
- ENG 10 Fundamentals of Composition and Rhetoric OR
  ENG 11 Composition and Rhetoric I ................................................................. 3
- ENG 12 Composition and Rhetoric II ............................................................... 3
- CMS 11 Fundamentals of Interpersonal Communication .................................... 3
- HIS 10 History of the Modern World OR
  HIS 11 Introduction to the Modern World ........................................................................... 3
- MTH 21* Survey of Mathematics I OR
  MTH 22* Survey of Mathematics II OR
  MTH 23* Probability and Statistics OR
  MTH 26* Mathematics in the Modern World .......................................................... 3
- PEA Physical Education or
  HLT 91 Critical Issues in Health ................................................................................. 1-2
- SCI Choose two laboratory science courses from
  Astronomy, Biology, Chemistry, Earth Science, Environmental Science or Physics ................................................................. 8
Total 24-25

Required Areas of Study
- ART 11 Introduction to Art OR
  MUS 11 Introduction to Music ................................................................................... 3
- HIS 20 American Nation: Political and Social Development of a People ...................... 3
- Modern Language** .................................................................................................... 8
- SOC SCI Choose from Anthropology, Economics, Geography, Political Sciences, Psychology, and Sociology (select from two different disciplines) ................................................................. 6
- Restricted elective—CMS or ENG*** ........................................................................ 3
Total 23

Specialization Requirements
- POL 11 American National Government .................................................................... 3
- Three other courses from the following: (POL 31 Comparative Politics, POL 41 Civil Rights in America since 1954, POL 51 Urban Politics, POL 81, Independent Study and Internships in Government) ................................................................................................. 9
Total 12

Free Electives
- To complete the 60 credit requirement ........................................................................ 0-1
Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

Note: Students planning on transferring to Lehman College should take Economics 11 or 12 and select one additional Social Science course.
The Political Science option is fully articulated with Lehman’s B.A. in Political Science.
Students should review the articulation agreement available on the BCC website at http://www.bcc.cuny.edu/transfercounseling/.
*Students may substitute MTH 30 or 31 if they reduce elective credits.
**Choose from a foreign language at the appropriate level. Both courses must be in the same language.
***Excluding English 23, Technical Writing.

Liberal Arts and Sciences Curriculum
Psychology Option

60 Credits required for A.A. Degree
Coordinator: Dr. Rafael Mendez

Core Requirements
- ENG 10 Fundamentals of Composition and Rhetoric OR
- ENG 11 Composition and Rhetoric I ................................................................. 3
- ENG 12 Composition and Rhetoric II ............................................................... 3
- CMS 11 Fundamentals of Interpersonal Communication ................................. 3
- HIS 10 History of the Modern World OR
- HIS 11 Introduction to the Modern World ........................................................ 3
- MTH 21* Survey of Mathematics I OR
- MTH 22* Survey of Mathematics II OR
- MTH 23* Probability and Statistics OR
- MTH 26* Mathematics in the Modern World ................................................. 3
- PEA Physical Education OR
- HLT 91 Critical Issues in Health .................................................................. 1-2
- SCI Choose two laboratory science courses from
  Astronomy, Biology, Chemistry, Earth Science,
  Environmental Science or Physics .................................................................... 8

Total 24-25

Required Areas of Study
- ART 11 or Introduction to Art OR
- MUS 11 Introduction to Music ....................................................................... 3
- Modern Language** ...................................................................................... 8
- HIS*** and SOC SCI Choose from Anthropology, Economics, Geography
  History, Philosophy, Political Science, Psychology and Sociology (no more than one course in any discipline) ................................................................. 9
Restricted Elective
■ CMS 20, 22, 26, 41, 60, 61, OR
ENG 14, 15, 16, 23, 53, 54, 56, 61, 65, 72 ..............................................................3
Total 23

Specialization Requirements
■ PSY 11 Introduction to Psychology .................................................................3
■ PSY Select three other courses ...............................................................9
Total 12

Free Electives
■ To complete the 60 credit requirement ........................................................0-1

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

*Students may substitute MTH 30 or 31 if they reduce elective credits.
**Choose from a foreign language at the appropriate level. Both courses must be in the same language.
***Although HIS 20 is not required, it is recommended as one course of the three.

Liberal Arts and Sciences Curriculum
Sociology Option

60 Credits required for A.A. Degree
Coordinator: Dr. Vaso Thomas

Core Requirements
■ ENG 10 Fundamentals of Composition and Rhetoric OR
ENG 11 Composition and Rhetoric I ...............................................................3
■ ENG 12 Composition and Rhetoric II ..........................................................3
■ CMS 11 Fundamentals of Interpersonal Communication ................................3
■ HIS 10 History of the Modern World OR
HIS 11 Introduction to the Modern World ..................................................3
■ MTH 21* Survey of Mathematics I OR
MTH 22* Survey of Mathematics II OR
MTH 23* Probability and Statistics OR
MTH 26* Mathematics in the Modern World ............................................3
■ PEA Physical Education OR
HLT 91 Current Issues in Health .................................................................1 – 2
■ SCI Choose two (2) Laboratory Science Courses from Astronomy,
  Biology, Chemistry, Earth Science, Environmental Science or Physics ...........8
Total 24 - 25
Required Areas of Study

- ART 11 Introduction to Art.................................................................3
- MUS 11 Introduction to Music.............................................................3
- HIS 20 American Nation: Political and Social Development of a People........3
- Modern Language **........................................................................8
- ENG*** ..............................................................................................3
- CMS 20 Public Speaking and Critical Listening.........................................3

Total 23

Specialization Requirements

- SOC 11 Introduction to Sociology..........................................................3
- Choose two (2) from:
  SOC 31 Race and Ethnic Relations
  SOC 33 Marriage and Family
  SOC 34 Social Deviance
  SOC 35 Introduction to Social Work ****
  SOC 37 Social Inequality.......................................................................6

- Social Science – Choose one from Anthropology, Criminal Justice, Economics, Geography, Philosophy, Political Science, Psychology, or Sociology..........................3

Total 12

Free Elective

To complete the 60 credit requirement......................................................0-1

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

*Students may substitute MTH 30 or 31 if they reduce elective credits.
** Choose from a foreign language at the appropriate level. Both courses must be in the same language.
***Excluding English 23, Technical Writing.
**** Students planning to transfer to Lehman College should not take SOC 35 if they wish to major in Sociology.

Liberal Arts and Sciences Curriculum
Spanish Option
Coordinator: Professor Diana Flores

60 Credits required for A.A. Degree

Core Requirements

- ENG 10 Fundamentals of Composition & Rhetoric OR
  ENG 11 Composition and Rhetoric I.........................................................3
- ENG 12 Composition and Rhetoric II.......................................................3
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CMS 11</td>
<td>Fundamentals of Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>HIS 10</td>
<td>History of the Modern World OR</td>
<td>3</td>
</tr>
<tr>
<td>HIS 11</td>
<td>Introduction to the Modern World</td>
<td>3</td>
</tr>
<tr>
<td>MTH 21*</td>
<td>Survey of Mathematics I OR</td>
<td>3</td>
</tr>
<tr>
<td>MTH 22*</td>
<td>Survey of Mathematics II OR</td>
<td>3</td>
</tr>
<tr>
<td>MTH 23*</td>
<td>Probability and Statistics OR</td>
<td>3</td>
</tr>
<tr>
<td>MTH 26*</td>
<td>Mathematics in the Modern World</td>
<td>3</td>
</tr>
<tr>
<td>PEA</td>
<td>Physical Education OR</td>
<td>1-2</td>
</tr>
<tr>
<td>HLT 91</td>
<td>Critical Issues in Health</td>
<td>1-2</td>
</tr>
<tr>
<td>SCI</td>
<td>Choose two laboratory science courses from</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Astronomy, Biology, Chemistry, Earth Science</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Environmental Science or Physics</td>
<td></td>
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**Required Areas of Study**

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<tr>
<td>ART 11</td>
<td>Introduction to Art</td>
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<tr>
<td>MUS 11</td>
<td>Introduction to Music</td>
<td>3</td>
</tr>
<tr>
<td>HIS 20</td>
<td>American Nation: Political and Social Development of a People</td>
<td>3</td>
</tr>
<tr>
<td>ENG**</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>CMS 20</td>
<td>Public Speaking and Critical Listening</td>
<td>3</td>
</tr>
<tr>
<td>SOC SCI</td>
<td>Choose from Anthropology, Economics, Geography, Philosophy, Political Sciences, Psychology, and Sociology (select from different disciplines)</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
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</table>

**Specialization Requirements**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>SPN 20</td>
<td>Advanced Spanish Composition and Creative Writing</td>
<td>3</td>
</tr>
<tr>
<td>SPN 21</td>
<td>Spanish Language and Culture</td>
<td>4</td>
</tr>
<tr>
<td>SPN 22</td>
<td>Latin-American Language and Culture</td>
<td>4</td>
</tr>
<tr>
<td>SPN 30</td>
<td>Literature and Culture of Puerto Rico or</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Literature and Culture of the Spanish Caribbean</td>
<td></td>
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<tr>
<td>Total</td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

**Note:** At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

* Students may substitute MTH 30 or 31 if they reduce elective credits.
** Excluding ENG 23, Technical Writing.

An articulation agreement with Lehman College allows BCC graduates to earn a B.A. in Spanish. A copy of this agreement is available on line at http://www.bcc.cuny.edu/transfercounseling/.
Liberal Arts and Sciences Curriculum
Speech Pathology Option*

60 Credits required for A.A. Degree
Coordinator: Dr. Joel Magloire

Core Requirements
- ENG 10 Fundamentals of Composition and Rhetoric OR
  ENG 11 Composition and Rhetoric I .................................................... 3
- ENG 12 Fundamentals of Written Composition II .................................... 3
- CMS 11 Fundamentals of Interpersonal Communication .......................... 3
- HIS 10 History of the Modern World OR
  HIS 11 Introduction to the Modern World ............................................. 3
- MTH 21** Survey of Mathematics I OR
  MTH 22** Survey of Mathematics II OR
  MTH 23** Probability and Statistics OR
  MTH 26** Mathematics in the Modern World ........................................ 3
- PEA Physical Education or
  HLT 91 Critical Issues in Health ....................................................... 1-2
- LAB SCI Biology 21 and one additional LAB SCI .................................. 8
Total 24-25

Required Areas of Study
- ART 11 Introduction to Art ..................................................................... 3
- MUS 11 Introduction to Music ............................................................... 3
- HIS 20 American Nation: Political and Social Development of a People ................................................................. 3
- Modern Language*** ............................................................................. 8
- ENG**** English .................................................................................... 3
- CMS 20 Public Speaking and Critical Listening ...................................... 3
Total 23

Specialization Requirements
- CMS 41 Theory of Language Development ............................................. 3
- CMS 42 Anatomy and Physiology of the Speech Mechanism .................. 3
- SOC SCI Choose from Anthropology, Economics, Geography, Political Sciences, Psychology, and Sociology (select from two different disciplines) ......................................................... 6
Total 12

Free Electives
- To complete the 60 credit requirement .................................................. 0-1

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.
*The Liberal Arts and Sciences A.A. Speech Pathology Option articulates with the B.A. Speech Pathology and Audiology Program at Lehman College. Students are encouraged to read a copy at the Transfer Planning website at http://www.bcc.cuny.edu/TransferCounseling/.

**Students may substitute MTH 30 or 31 if they reduce elective credits.

***Choose from a foreign language at the appropriate level. Both courses must be in the same language.

****Excluding English 23, Technical Writing.

LIBERAL ARTS AND SCIENCES
(A.S. Degree)
A student interested in the Associate in Science (A.S.) degree in Liberal Arts and Sciences has to choose one of four options: Biology, Chemistry, Earth Systems and Environmental Science, or Physics. Each option prepares students for transfer to a complementary four-year degree program. Students in the Biology, Chemistry, or Earth Systems and Environmental Science options transfer to four-year science programs (biochemistry, biology, chemistry, earth and environmental science, etc.), teacher education programs, pharmacy schools, engineering programs (biomedical, chemical, environmental), or physician assistant or physical therapy programs. Students in the Physics option usually transfer to colleges offering bachelor's degrees in engineering (civil, electrical, mechanical, etc.) or in the physical sciences. Enrichment programs are offered to encourage students to continue their education beyond the bachelor degree by attending graduate or other professional schools.

Liberal Arts and Sciences Curriculum
60 Credits required for A.S. Degree

Core Requirements
- ENG 10 Fundamentals of Composition and Rhetoric OR
  ENG 11 Composition and Rhetoric I .................................................................3
- ENG 12* Composition and Rhetoric II ..............................................................3
- CMS 11 Fundamentals of Interpersonal Communication ....................................3
- HIS 10 History of the Modern World OR
  HIS 11 Introduction to the Modern World ..........................................................3
- PEA Physical Education OR
  HLT 91 Critical Issues in Health ........................................................................1-2
Total 13-14

Required Areas of Study
- CHM 11 General Chemistry I .............................................................................4
- CHM 22 General Chemistry II with Qualitative Analysis ...................................5
- MTH 31 Analytic Geometry & Calculus I ............................................................4
- MTH 32 Analytic Geometry & Calculus II .........................................................5
- ART 11 Introduction to Art OR
- MUS 11 Introduction to Music OR
- Humanities OR Social Sciences**.....................................................................3
Modern Language† ........................................................................................................................................................................ 0-8
Total 21-29

Specialization Requirements # .................................................................................................................................................. 17-18

Free Electives
■ To complete the 60 credit requirement .................................................................................................................................. 0-9

Curriculum Coordinator: Dr. Charles Maliti

Specialization Requirements for Biology Option
■ BIO 11 General Biology I .................................................................................................................................................. 4
■ BIO 12 General Biology II ..................................................................................................................................................... 4
■ CHM 31 Organic Chemistry I ............................................................................................................................................... 5
■ CHM 32 Organic Chemistry II ............................................................................................................................................... 5
Total 18

Curriculum Coordinator: Dr. Nicolas Anuku

Specialization Requirements for Chemistry Option
■ CHM 31 Organic Chemistry I ............................................................................................................................................... 5
■ CHM 32 Organic Chemistry II ............................................................................................................................................... 5
■ CHM 33 Quantitative Analysis ................................................................................................................................................ 4
■ BIO 11 General Biology I OR
PHY 11 Physics I ........................................................................................................................................................................ 4
Total 18

Coordinator: Dr. Farnosh Saeedi

Specialization Requirements for Earth Systems and Environmental Science Option
■ CHM 27 Principles of Laboratory Safety ................................................................................................................................. 2
■ CHM 33‡ Quantitative Analysis ................................................................................................................................................ 4
■ ESE 11 Earth Systems Science: The Earth OR
ESE 12 Earth Systems Science: The Atmosphere OR
ESE 13 Earth Systems Science: The Ocean OR
(Choose two of the above three courses) ..................................................................................................................................... 8
■ ESE 21 Earth Systems Science: The Environment .................................................................................................................... 4
Total 18

Curriculum Coordinator: Dr. Luis Montenegro

Specialization Requirements for Physics Option
■ PHY 31 General Physics I ....................................................................................................................................................... 4
■ PHY 32 General Physics II ...................................................................................................................................................... 4
■ PHY 33 General Physics III .................................................................................................................................................... 4
■ MTH 33 Analytic Geometry & Calculus III ............................................................................................................................... 5
Total 17

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.
*Students in the Earth Systems and Environmental Science Option may also select from ENG 14, ENG 15, OR ENG 16.

**See your advisor to determine the appropriate course from an approved list of Humanities or Social Science courses.

†Modern Language is a requirement for students planning to transfer to a CUNY four-year college and major in biology, chemistry, earth science or physics. Students planning to transfer should see the language requirements for the four-year degree program at the senior college.

# See your department advisor for the appropriate sequence of specialization courses. Students transferring to a college of pharmacy should complete BIO 11 and 12.

‡Students may also select BIO 11 or PHY 11.

The Biology Option fully articulates with Lehman’s B.S. in Physical Anthropology and B.A. in Biology. The Biology Option also articulates with SUNY Empire State College. Copies of these agreements may be found on the BCC Transfer Planning website.

LICENSED PRACTICAL NURSING CERTIFICATE PROGRAM

Director: Prof. Ellen Hoist, M.S., R.N.

As of Spring 2012, no new students are currently being accepted into this program.

The Licensed Practical Nursing Program (LPNP), a program within the Department of Nursing and Allied Health Sciences, is an evening and weekend 56-credit certificate program with 22 transferable Nursing credits to the RN program at BCC. Upon successful completion of the required coursework, students are eligible to sit for the New York State National Council Licensure Examination for Practical Nurses (NCLEXPN).

Note: The College has been certified by the New York State Education Department to offer instruction (included within the LPN curriculum) leading to New York State Nurse Aide Certification. Students are eligible to take the Nurse Aide Competency Examination after completion of the first semester courses of the LPN curriculum upon request.

To be eligible for admission into practical nursing course work (PNR designated courses), students must:

- Have achieved a passing score on both the CUNY/ACT Reading and Writing Skills Assessment Tests.
- Score a 35/40 on M1 and M2 of the Math COMPASS.
- Have a cumulative GPA of 2.5, with a minimum grade of C or better in the pre-clinical sequence (CMS 11, ENG 10 or 11, PSY 11). If a student has earned a passing grade of C-, D+, D, D-, or a failing grade of F or WU in CMS 11, ENG 10 or 11 or PSY 11, the student will not be eligible for admission into the Licensed Practical Nursing Program (LPNP) even if she/he retakes the course. A C+ or better is required in BIO 23. BIO 23 may be repeated once to achieve a grade of C+ or better. This policy also applies to students who transfer into BCC’s LPN program from other institutions.
- Complete all remediation courses per CUNY policy.
Further requirements include a total composite score within the 35th - 40th percentiles, and a score within the 35th - 40th percentile on science, math and verbal ability components on the National League for Nurses (NLN) Pre-entrance Exam for PN Programs. Admission to the Licensed Practical Nursing Program is very competitive and priority is given to students with the highest GPA.

While in the program, students must maintain a grade of “C” in all supporting course work (BIO 24, BIO 28, NTR 11, PHM 11). Students may repeat each supporting course with a grade of “C-” or less once in order to achieve a “C” grade.

Biology courses older than 7 years must be repeated.

Note: All PNR courses required for graduation must be taken within 3 years from the date of admission to the program. Practical Nursing (PN) students may not repeat any first semester PNR course (PNR 11, PNR 12, PNR 13) in which they earned less than a grade of “C.” A PN student with a grade of C- or less may repeat two different PNR courses and then must obtain a minimum grade of C+ or better on the second attempt of the repeated course to remain in the program. Upon satisfactory completion of the PNR course sequence and all supporting course work, a PN student is certified as eligible to apply for graduation after obtaining a score of 85% or higher on the comprehensive medication dosage calculation examination given at the conclusion of PNR 41. Candidates are given two attempts to meet this exit requirement. Failure to obtain a score of 85% after two attempts will result in the failure of PNR 41.

Students must provide documentation for one of the following categories:
2. Permanent Residency.
3. International Student with F1 Status.

In addition to College tuition costs the student is required to:
1. Be medically cleared through the College's Health Services Office.
2. Have completed Basic Cardiac Life Support (BCLS).
3. Purchase malpractice insurance through the College.
4. Be prepared to pay the cost for taking competency exams at the end of each clinical semester and the cost of the New York State Board NCLEX-PN Examination at the completion of the program.

Some courses are offered online, as distance learning courses. Computer access is available for student use on campus.

Clinical Note: As a policy of the clinical facility, nursing students may be subject to substance abuse screening and criminal background checks in order to practice in certain clinical agencies.
Licensed Practical Nursing  
Certificate Program: 56 Credits Required

Pre-Clinical Sequence
- ENG 10 Fundamentals of Composition and Rhetoric OR  
  ENG 11 Composition and Rhetoric I.................................................................3  
- CMS 11 Fundamentals of Interpersonal Communication.................................3  
- PSY 11 Introduction to Psychology.....................................................................3  
- BIO 23 Human Anatomy & Physiology .........................................................4

**Total 13**

First Semester
- PNR 11 Nursing Skills I.......................................................................................2  
- PNR 12 Mental Health Concepts.........................................................................2  
- PNR 13 Practical Nursing Arts.............................................................................4  
- BIO 24 Human Anatomy & Physiology II...........................................................4  
- NTR 11 Nutrition in Physical and Emotional Disorders........................................3

**Total 15**

Second Semester
- PNR 21 Nursing Skills II....................................................................................1  
- PNR 22 Medical Surgical Nursing I.................................................................4  
- PHM 11 Pharmacology as Applies to Health Sciences.........................................3  
- BIO 28 Microbiology and Infection Control.........................................................4

**Total 12**

Summer Session
- PNR 31 Medical Surgical Nursing II ....................................................................4

**Total 4**

Third Semester
- PNR 41 Nursing Skills III ...................................................................................1  
- PNR 42 Psychiatric Nursing...............................................................................2  
- PNR 43 Pediatric Nursing ...................................................................................4  
- PNR 44 Maternal Child Nursing.........................................................................4  
- PNR 45 Vocational Adjustment & Leadership....................................................1

**Total 12**
MARKETING MANAGEMENT  
(A.A.S. Degree)  
Curriculum Coordinator: Prof. Howard A. Clampman

Marketing facilitates the flow of goods and services from producers to consumers. In today’s marketing driven society, organizations need college graduates with knowledge of marketing functions, including advertising, personal selling, wholesaling, retailing, and marketing research. A Cooperative Work Experience course allows students to gain valuable experience in a supervised setting. Graduates are equipped to assume entry-level positions and to pursue self-employment opportunities.

Students are advised that there is an A.S. degree offered in the same discipline.

**Marketing Management Curriculum**  
**60 Credits required for A.A.S. Degree**

**Core Requirements:**
- ENG 10 Fundamentals of Composition & Rhetoric OR ENG 11 Composition and Rhetoric I ................................................................. 3
- CMS 11 Fundamentals of Interpersonal Communication .............................................................. 3
- HIS 10 History of the Modern World OR HIS 11 Introduction to the Modern World ................................. 3
- MTH 12* Introduction to Mathematical Thought ........................................................................ 3
- SCI** BIO 18, or CHM ........................................................................................................ 4
Total 16

**Required Areas of Study:**
- ENG 12 Composition and Rhetoric II OR ENG 14 Written Composition and Prose Fiction OR ENG 15 Written Composition and Drama OR ENG 16 Written Composition and Poetry .......................................................... 3
- Restricted electives# ........................................................................................................ 5
Total 8

**Specialization:**
- ACC 11 Fundamental Accounting I ......................................................................................... 4
- BUS 10 Introduction to Business ......................................................................................... 3
- BUS 11§ Business Mathematics ............................................................................................ 3
- CMS 12 Voice & Diction: Business & Prof. Speech .................................................................. 2
- DAT 10 Computer Fundamentals & Applications ..................................................................... 3
- KEY 10 Keyboarding for Computers ................................................................................... 1
- LAW 41 Business Law ........................................................................................................ 3
- MKT 11 Principles of Marketing ............................................................................................. 3
- MKT 18 Consumer Behavior OR MKT 47 E-Marketing ....................................................... 3
- MKT 48 Marketing Management .......................................................................................... 3
■ MKT 41 Management of Retail Operations OR
FIN 31 Principles of Finance .......................................................... 3
■ MKT 43 Principles of Advertising ................................................... 3
■ CWE 31† Cooperative Work Experience ........................................... 2
Total 36

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

*Students who intend to transfer to a four-year college should take MTH 29, 30 or 31 instead of MTH 12. Check for required pre-requisites for these math courses.

** Students who intend to transfer to a four-year college should take a science course with a laboratory component from among AST 11 or AST 12, BIO 11, BIO 21, CHM 10, CHM 11, ENV 11, ESE 11, PHY 11. Non-transfer students may also take a science course with a laboratory component.

# Restricted Electives: Select a total of five credits from Art (non-studio courses), Communications, Economics, Geography, History, Health, Physical Education (only one course in Health Education or two courses in Physical Education), Modern Languages, Music (non-studio courses), Philosophy, Psychology, Political Science, or Sociology. No more than two courses from the same department or discipline.

§ Students who have completed MTH 06 (or three years high school mathematics) and intend to transfer to a four-year college, may take BUS 41 instead of BUS 11.

†CWE 31 is a two (2) credit course. A student should enroll in CWE one year before graduating or when starting the third semester. See the CWE advisor in Loew Hall, Career Services, during the second semester.

Students who are employed full-time are not required to complete CWE. A waiver must be obtained from the Department Chairperson by submitting documentation of current full-time employment. After a written waiver of CWE is obtained, the student must substitute the required CWE credits with any course(s) offered by the Business and Information Systems Department. College Work-Study assignments within CUNY may not be used as substitutes for the CWE internship.

MATHEMATICS
(A.S. Degree)
Curriculum Coordinator: Dr. Cormac O’Sullivan

The Mathematics curriculum provides a broad background in science and the humanities as well as a thorough grounding in higher mathematics, particularly calculus and its applications. In addition to computational techniques, students learn the rudiments of rigorous mathematical argument and proof. Problem-solving and reasoning skills learned in the course of studying mathematics not only provide a solid base for transfer to a senior college, but also assist in a wide variety of career options and disciplines such as physical and biological sciences, computer science, education, economics, business, finance, health, human services, and social science.
Mathematics Curriculum

60 Credits required for A.S. Degree

Core Requirements
- ENG 10 Fundamentals of Composition and Rhetoric OR ENG 11 Composition and Rhetoric I ......................................................... 3
- CMS 11 Fundamentals of Interpersonal Communication ......................................................... 3
- HIS 10 History of the Modern World OR HIS 11 Introduction to the Modern World .......... 3
- MTH 31 Calculus & Analytic Geometry I .......................................................... 4
- SCI* A two-semester sequence in a laboratory science ..................................................... 8
Total 21

Required Areas of Study**
- ART 11 Introduction to Art OR MUS 11 Introduction to Music ................................................. 3
- ENG Select one course from ENG 12, 14, 15, OR 16 ........................................................... 3
- Modern Language*** ................................................................................................. 0-8
- HIS or SOC SCI Select from Anthropology, Economics, Geography, History, Philosophy, Political Science, Psychology, OR Sociology ........................................ 3
Total 9-17

Specialization Requirements
- MTH 32 Analytic Geometry & Calculus II ............................................................................ 5
- MTH 33 Analytic Geometry & Calculus III .......................................................................... 5
- MTH 42 Linear Algebra ................................................................................................. 4
- Restricted electives† ........................................................................................................ 7-8
Total 21-22

Free Electives
- To complete the required 60 credits, students may take up to 9 credits in any department or discipline ......................................................... 0-9

Note: Students who are required to take MTH 30, a prerequisite for MTH 31, must use elective credits.

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

Note: The Mathematics Degree program articulates with the B.A. in Actuarial Science at Baruch College and with the B.S. in Applied Mathematics at New York City College of Technology.

*The laboratory science sequence may be chosen from BIO 11-12, CHM 11-22, PHY 11-12 or PHY 31-32. Students should consult the college to which they intend to transfer as to choosing
an appropriate sequence. Students who intend to transfer to City College in Computer Science or Engineering should take PHY 31-32.

** Students should consult the requirements of the senior college of their choice.

***Students who plan to transfer to a senior college should consult the language requirements in “The Curricula and Programs” section of this catalog.

† Choose from MTH 34, MTH 35, MTH 44, MTH 46, MTH 48, or CSI 35. Students who plan to transfer to City College and Hunter College should choose CSI 35 or MTH 34.

MEDIA TECHNOLOGY
(A.A.S. Degree)
Curriculum Coordinator: Prof. Jeffrey Wisotsky

One of the fastest growing fields today is Media Technology (MT). The entertainment field—broadcasting, television and films—is only a small part of the possibilities for trained media specialists. Major corporations, government agencies, businesses, hospitals and educational institutions use media to train, educate and communicate information. Students learn the skills needed to be a media operations technician in studio video production, field production, camera operation, lighting, editing, audio recording, digital graphics, photography, and the operation and maintenance of video and other basic media equipment. Bronx Community College has excellent media facilities including a multi-million-dollar state-of-the-art television studio. Cable TV programs are broadcast regularly from the College’s studio using MT students as part of the crew. In the last semester of study, students have the opportunity to do further work in the industry through a supervised internship program. The Media Technology A.A.S. Program articulates with the B.A. Television and Radio Program at Brooklyn College.

Media Technology Curriculum
60 Credits required for A.A.S. Degree

Core Requirements
■ ENG 10 Fundamentals of Composition and Rhetoric OR
ENG 11 Composition and Rhetoric I ..............................................................3
■ ENG 12 Composition and Rhetoric II ........................................................3
■ CMS 11 Fundamentals of Interpersonal Communication .........................3
■ HIS 10 History of the Modern World OR
HIS 11 Introduction to the Modern World .................................................3
■ MTH 12* Introduction to Mathematical Thought ..................................3
■ PEA or Physical Education activity course OR
HLT 91 Critical Issues in Health .................................................................1-2
Total 16-17

Required Areas of Study
■ ART 10 Art Survey ..................................................................................1
■ MUS 10 Music Survey ..........................................................................1
■ ENG 15 Written Composition & Drama ..............................................3
■ CMS 12 Voice and Diction: Business & Prof. Speech .........................2
■ CMS 60 Introduction to Mass Communication ................................................................. 3
■ PHY 40 Physics of Sound & Light .................................................................................. 3
Total 13

Specialization Requirements
■ ART 71 Photography ........................................................................................................ 2
■ CMT 10 Introduction to Television Technology .............................................................. 3
■ CMT 12 Small Studio Color Television ........................................................................... 3
■ CMT 14 Digital Video Effects and Presentational Graphics ............................................ 3
■ CMT 23 Field Television Production ............................................................................... 3
■ CMT 31 Sound Recording and Editing ............................................................................ 3
■ CMT 33 Video Editing I .................................................................................................... 3
■ CMT 35 Video Editing II .................................................................................................. 3
■ CMT 51 Media Internship OR
CMT 53 Media Projects Laboratory ................................................................................. 3
Total 26

Free Electives
■ To complete the required 60 credit requirement ............................................................. 4-5

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

*MTH 21, Survey of Mathematics I, or MTH 23, Probability and Statistics, are recommended for students transferring to a four-year college. These courses require completion of MTH 05 or equivalent. Also see the Media Studies Option under Liberal Arts and Sciences in “The Curricula and Programs” section of this catalog.

MEDICAL LABORATORY TECHNOLOGY
(A.A.S. Degree)
Curriculum Coordinator: Betsey Hallihan, Ph.D. M.S. MT(ASCP)

Medical Laboratory Technology is the study and practice of clinical laboratory tests used in the diagnosis, treatment and follow-up of disease. The various disciplines include clinical chemistry, hematology, immunology and microbiology. Opportunities for service and employment as laboratory technicians exist in hospitals, clinics, medical research institutions, pharmaceutical and chemical companies, and in educational institutions.

The Medical Laboratory Technology curriculum is a career program in which the student earns the A.A.S. degree. In addition to taking general core courses, certain liberal arts and science requirements, and specialized courses in medical laboratory technology, the student has an opportunity to train in state-of-the-art laboratories. Upon completion, students will qualify to sit for the NYS MLT license exam.
After completing the program, some students seek employment upon graduation, while others transfer to a four-year college to pursue a baccalaureate degree in biology, chemistry or medical technology (MT). Graduates who transfer and successfully complete 90 credits will be eligible for MT certification by New York State. An articulation agreement allows students to continue their studies at York College and earn a B.S. in Medical Technology. A copy of this agreement is available on the Transfer Planning website at http://www.bcc.cuny.edu/TransferCounseling/. Graduates who transfer and successfully complete the baccalaureate program will be eligible for MT licensure by New York State.

All students wishing to enter the Medical Laboratory Technology curriculum must complete the following pre-MLT sequence with a minimum index of 2.0: BIO 11, ENG 10/11, CHM 17, MTH 13.

To be retained in the program, students must earn a minimum grade of "C" (73-76.9) and an overall GPA of 2.3 (on a 4.0 scale) in each Medical Technology course (BIO 81, BIO 87, BIO 82, BIO 83, BIO 85, BIO 86, BIO 28, BIO 44). Any grade below a “C” (C minus, D plus, D, D minus or F) requires that the student repeat the course. No Medical Technology course may be taken more than twice.

Students must maintain an overall GPA of 2.0 (on a 4.0 scale) and a GPA of 2.3 in MLT courses (listed above) to enroll in BIO 90 (Clinical Internship) and to graduate from BCC.

The MLT courses are integrated and sequenced in a specific manner to enable students to attain program competencies. All required courses must be passed each semester in order to advance to the following semester.

Any two failures (grade below a “C”) in any of the required MLT courses will result in dismissal from the Medical Laboratory Technology program. Because of the critical nature of the profession, deviations from professional conduct may adversely affect the patient’s well-being. Therefore, the MLT Program Director, BCC faculty and Clinical Coordinators reserve the right to immediately remove the student from didactic, laboratory and clinical course work and/or dismiss that student from the program if it is determined that the student has acted in an unprofessional manner or if the student is unable to provide safe laboratory practices.

The minimum acceptable grade in the MLT courses (BIO 28, BIO 44, BIO 81, BIO 82, BIO 83, BIO 85, BIO 86 & BIO 87) each semester shall be the grade of C (73-76.9). Grades of C- or lower must be repeated if the student wishes to receive a degree in MLT. Grades of C- or lower may be repeated subject to the following conditions:

• Students may attempt a given MLT course only twice. An attempt is defined as having been registered in the course and received any grade, academic or administrative.
• The course must be completed with a C or higher grade before the next higher level course may be taken.
• Permission to repeat is subject to the availability of space and at the review of program faculty according to the guidelines indicated below.
• Both grades received in the same course will be used to calculate the student's cumulative Grade Point Average (GPA).
• The credit for a repeated course may be applied only once toward graduation.
• Any two failures (grade below a C) in any of the required MLT courses will result in dismissal from the MLT program.
• Students must maintain an overall GPA of 2.0 and a GPA of 2.3 in MLT courses to enroll in BIO 90 (Clinical Internship) and to graduate from BCC

Note that repetition of courses passed may negatively impact on financial aid eligibility

Subject to space availability, the guidelines for reinstatement into the MLT program or repeating a given MLT course are:

• Students with a W in an MLT course during the previous semester that were doing well in the MLT program but withdrew because of illness or personal reasons.
• Students returning after an absence of one or more semesters from the MLT program, who were doing well in the program prior to their absence.
• Students who did not achieve at least a C in their first attempt in any one MLT course will be placed on a waiting list. Students will be able to re-register according to the following priorities:

Medical Laboratory Technology Curriculum
66 Credits required for A.A.S. Degree

Core Requirements:
■ ENG 10 Fundamentals of Composition and Rhetoric OR
ENG 11 Composition and Rhetoric I .................................................................3
■ CMS 11 Fundamentals of Interpersonal Communication ..................................3
■ HIS 10 History of the Modern World OR
HIS 11 Intro to the Modern World ..................................................................3
■ MTH 13 Trigonometry & College Algebra.......................................................3
■ BIO 11 General Biology I .............................................................................4
Total 16

Required Areas of Study:
■ ART 10 Art Survey OR
MUS 10 Music Survey .....................................................................................1
■ BIO 12 General Biology II ............................................................................4
■ BIO 22 Medical Terminology .......................................................................2
■ CHM 17 and 18 Fundamentals of General Chemistry I and II ......................8
■ MTH 23 Probability and Statistics ..................................................................3
■ PSY 11 Introduction to Psychology OR
SOC 11 Sociology ..........................................................................................3
Total 21
Specialization Requirements

- BIO 28 Microbiology and Infection Control ................................................................. 4
- BIO 44 Diagnostic Microbiology ...................................................................................... 4
- BIO 81 Introduction to Medical Laboratory Technology .................................................. 2
- BIO 82 Clinical Hematology and Coagulation ................................................................. 4
- BIO 83 Clinical Chemistry .............................................................................................. 4
- BIO 85 Immunology / Serology ....................................................................................... 2
- BIO 86 Immunohematology ............................................................................................ 3
- BIO 87 Urinalysis and Body Fluids .................................................................................. 2

- BIO 90 Clinical Internship ............................................................................................... 4

Total 29

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

MEDICAL OFFICE ASSISTANT
(A.A.S. Degree)
Curriculum Coordinator: Dr. Rosemary Quinn

This curriculum is designed for students who would like to become Medical Office Assistants. They may work in physicians’ offices, hospitals, laboratories, and other health-related facilities. Students in the program are trained to transcribe recorded dictation of medical correspondence and case histories; complete computerized medical forms; maintain physicians’ financial, medical, and office records; prepare patients for medical examinations; perform basic clinical laboratory tests; and manage a medical office.

Medical Office Assistant Curriculum
60 Credits required for A.A.S. Degree

Core Requirements:

- ENG 10 Fundamentals of Composition & Rhetoric OR
  ENG 11 Composition and Rhetoric I .................................................................................. 3
- CMS 11 Fundamentals of Interpersonal Communication .................................................. 3
- HIS 10 History of the Modern World OR
  HIS 11 Introduction to the Modern World ......................................................................... 3
- BIO 21 The Human Body ............................................................................................... 4
- MTH 12 Introduction to Mathematical Thought ............................................................... 3

Total 16

Required Areas of Study:

- BUS 11 Business Mathematics ....................................................................................... 3
- DAT 36 Microcomputer Spreadsheet Applications .......................................................... 3
- HLT 91 Critical Issues in Health ....................................................................................... 2
- LAW 45 Medical Law ...................................................................................................... 3
■ Restricted Electives* ........................................................................................................................................ 7

Total 18

Specialization:
■ KEY 10 Keyboarding for Computers ................................................................. 1
■ KEY 11 Document Formatting and Speed Development ........................................ 2
■ KEY 12 Advanced Document Production ........................................................... 2
■ WPR 11 Transcription for Business ........................................................................ 3
■ WPR 21 Word Processing Applications ................................................................. 3
■ COM 31 Business Communications .................................................................... 3
■ SEC 35 Medical Office Procedures and Management ........................................... 2
■ BIO 22 Medical Terminology .............................................................................. 2
■ BIO 46 Clinical Techniques I .................................................................................. 2
■ BIO 47 Clinical Techniques II ............................................................................... 2
■ NMT 78** EKG – Interpretation and Techniques ..................................................... 2
■ NMT 79** Phlebotomy ............................................................................................ 2

Total 26

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

@ Students who intend to transfer to a four-year college should take MTH 29, 30, or 31. Check for required prerequisites for these math courses.

* Restricted Electives: Select a total of seven credits from Art (non-studio courses), Communications, Economics, English, Geography, History, Health Education, Physical Education (only one course in Health Education or two courses in Physical Education), Modern Languages, Music (non-studio courses), Philosophy, Psychology, Political Science or Sociology (no more than two courses from the same department or discipline).
** Completion of BIO 21 and BIO 22 is required prior to registering for these courses as well as permission of the Medical Office Assistant Program Curriculum Coordinator.

MODERN LANGUAGE REQUIREMENTS
Basic language sequences are:

FRN or ITL or SPN 11, 12, 13: Four skills approach—speaking, understanding, reading, writing.
18, 19: Nurses, medical personnel (SPN 18 for non-Spanish speaking students only).

In all cases where two or more semesters are required, they must be in the same language. Other languages may be taken for elective credit.

Students who enter with successful completion of two years of a foreign language in high school have fulfilled their college language requirement.

Students who plan to transfer to a four-year college should determine the language requirements for their four-year degree.
NUCLEAR MEDICINE TECHNOLOGY
(A.A.S. Degree)
Offered in collaboration with The Albert Einstein College of Medicine of Yeshiva
University | Program Director: Prof. Alfred Romito

This rewarding technology field involves collaboration and interactions with highly specialized people, the operation of sophisticated instruments, and excellent salaries. Nuclear Medicine is a relatively new branch of medicine that uses isotopes for the diagnosis and treatment of certain diseases.

The Nuclear Medicine Technologist assists the physician in the operation of the gamma camera, the positioning of patients under the gamma camera, and in the calculation of the isotope doses to the patients.

In recent years, improved diagnoses of many important diseases have been achieved by methods used in Nuclear Medicine. These include diseases involving the liver, gastrointestinal tract, and spleen; disorders of the bone vertebral column, and the heart and cardiovascular system; and localization of tumors using the new and exciting field of Position Emission Tomography. The number of nuclear medicine procedures in hospitals has been increasing over the past few years.

The Nuclear Medicine Technology program is accredited by the Joint Review Committee on Education in Nuclear Medicine Technology, recognized by the U.S. Department of Education as an independent accrediting agency.

The minimum acceptable cumulative G.P.A. for entering specialization requirement courses of the Nuclear Medicine Technology Program is 2.7 (B-). For students transferring from another college, grades received from transferred courses will be used in the calculation of their effective index. Transferred courses may not include NMT designated courses.

Upon the completion of the program at Bronx Community College, students are required to pass one of two national registry examinations to become identified as a Registered Nuclear Medicine Technologist and to practice as a Nuclear Medicine Technologist. Further study in this field is possible in institutions offering a baccalaureate degree in Nuclear Medicine Technology.

Nuclear Medicine Technology Curriculum
63 Credits required for A.A.S. Degree

Core Requirements
■ ENG 10 Fundamentals of Composition and Rhetoric OR
ENG 11 Composition and Rhetoric I ................................................................. 3
■ OCD 01 Orientation and Career Development ........................................... 0
■ MTH 30 Pre-Calculus Mathematics .............................................................. 4
■ BIO 23 Human Anatomy & Physiology I .................................................... 4
■ CMS 11 Fundamentals of Interpersonal Communication .......................... 3
■ HIS 10 History of the Modern World OR
HIS 11 Introduction to the Modern World .................................................. 3
Total 17
Required Areas of Study
■ ART 10 Art Survey OR
MUS 10 Music Survey .......................................................... 1
■ BIO 24 Human Anatomy & Physiology II ......................... 4
■ CHM 17 Fundamentals of General Chemistry I ...................... 4
■ BIO 22 Medical Terminology ........................................... 2
■ LAW 45 Medical Law ......................................................... 3
■ PHY 24 Principles of General Physics .................................. 4
Total 18

Specialization Requirements
■ NMT 78 EKG - Interpretation & Techniques ........................................ 2
■ NMT 79 Phlebotomy ................................................................. 2
■ NMT 71* Nuclear Physics Laboratory ........................................ 1
■ NMT 81* Orientation to Nuclear Medicine .................................. 3
■ NMT 82* Radio-Pharmaceutical Chemistry .................................. 3
■ NMT 83* Radiation Physics & Dosimetry ..................................... 3
■ NMT 84* Radiation Biology ..................................................... 2
■ NMT 85* Nuclear Medicine Procedures .................................... 2
■ NMT 86* Didactic Nuclear Medicine .......................................... 1
■ NMT 87* Clinical Nuclear Medicine I ........................................ 3
■ NMT 88* Senior NMT Seminar ................................................ 3
■ NMT 90* Clinical Nuclear Medicine II ....................................... 3
Total 28

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

* Parts or all of these courses are taught at Montefiore Medical Center including NMT 78, 79. NMT 71 and 81-88 are taught sequentially, although listed concurrently. These instructional hours for NMT 81-84 generally extend from January through May, just prior to the start of clinical training. Students may not register for any NMT course without permission of the Program Director.
NURSING
(A.A.S Degree)
Curriculum Coordinator: Prof. Deborah C. Morris

The A.A.S. nursing degree program is registered by the New York State Department of Education and accredited by the National League for Nursing Accrediting Commission.

Academic requirements for all students who want to apply for entry into the Registered Nursing (RN) Program include having achieved:
- A passing score on both the CUNY/ACT Reading and Writing Skills Assessment Tests,
- A score of 35/40 on M1 and M2 of the Math COMPASS [this score is required for admission into PHM 10],
- A cumulative G.P.A. of 2.5 in the preclinical sequence [BIO 23, CMS 11, ENG 10/11, PHM 10, PSY 11],
- A grade of C+ or better in PHM 10 & BIO 23. These courses may be repeated once to achieve a “C+” or better,
- A grade of “C” or better in BIO 24 and BIO 28 when taken as of the Fall 2009 semester and thereafter. BIO 24 and BIO 28 may be repeated once to achieve the “C” grade or better,
- A grade of “C” or better in CMS 11, ENG 10/11 and PSY 11 when taken as of the Fall 2009 semester and thereafter. If a student earns a passing grade that is lower than the required “C”, and repeats the course, the repeat grade will not be counted for admission into the Nursing Program.

The National League for Nursing Pre-Admission Examination-RN Test* (PAX-RN), taken at BCC, is required as an advisory tool for admission. This test may be taken up to two times. The results of the test may be used to advise students into additional course work.

* PAX-RN: Information concerning registration for the PAX-RN may be obtained in the Department of Nursing Office (Carl Polowczyk Hall, Room 413).

Admission into the RN Program’s nursing (NUR) courses is based on the approved priority list posted in the Nursing Department. Admissions are competitive and meeting the above requirement is not a guarantee of placement. Requirements for admission must be met by mid-November for admission into the following spring semester and mid-May for admission into the following fall semester. Candidates for admission must contact the Admissions Coordinator for the RN Program in the Nursing Department and declare intent to be admitted.

- PHM 10, BIO 23, BIO 24, and BIO 28 must be taken within seven (7) years of the clinical sequence.
- A nursing student must achieve a grade of “C” or better in all NUR courses.
- A nursing student may only repeat (**attempt) two (2) different NUR courses excluding NUR 41 and NUR 42, neither of which can be repeated.
- Nursing students who are unsuccessful in three (3) different nursing (NUR) courses, may not continue in the program.
■ A grade of “C+” or better must be achieved in a repeated nursing course in order to remain in the program.
■ All NUR courses must be completed within five years of entry into the clinical sequence of the RN program.

**NOTE:** An attempt is defined as having registered in the course for at least 3 weeks, appeared on the roster and received any grade (academic or administrative).

Effective in the Fall 2009 semester, in order to advance into nursing clinicals, students must provide documentation for one of the following categories:
2. Permanent Residency.
3. International Student with F1 Status.

The Department of Nursing offers instruction in clinical experience in a variety of hospitals, healthcare facilities and community agencies in the Bronx and easily accessible areas. Nursing students are expected to pick up their assignment the day before the scheduled clinical begins. This may involve coming to the college campus.

Graduates of the Nursing program are eligible to take the R.N. Licensure Examination (NCLEX-RN) given by the State of New York.

The Nursing A.A.S. degree program articulates with the Lehman College, The College of Staten Island and Mercy College. Eligible graduates may also transfer 60 credits to other senior colleges in The City University of New York or enroll in other colleges to continue study for baccalaureate and higher degrees.

**Notice to Students on Criminal Background Checks**
Current laws generally permit a state licensing board or agency to deny a license to practice nursing if the applicant has been convicted of a felony or other specified crime. Like many state licensing boards, the Office of the Professions of the New York State Education Department requires that a criminal background check be conducted prior to granting a license to practice nursing.

The Department of Nursing at Bronx Community College does not require a criminal background check for admittance, but the Department’s educational requirements include placement at one or more hospitals or other off-campus clinical training sites, and these sites frequently require a student to undergo a criminal background check before the student can be placed for clinical training. If, based upon the results of a criminal background check, the site determines that a student’s participation in its clinical training program would not be in the best interest of the site, the site may deny that student admission to the training program. Even if the student has already begun the placement when the results are received, the site may elect to dismiss the student, regardless of the student’s performance while in the training program.
Each clinical training site that requires a criminal background check sets its own standards and procedures, and you may be asked by the site to pay the cost of the background check. You may also have to complete more than one criminal background check during the course of the Nursing program at Bronx Community College, depending on the number of sites where you are placed and the requirements of each site.

Please note that if a clinical training site determines that you may not take part in its training program based on the results of a criminal background check, you may be unable to complete your course requirements and to continue in the Nursing program. It is important for you to consider this before you enroll in the Nursing program. Bronx Community College has no obligation to refund your tuition or fees or to otherwise accommodate you in the event you are ineligible to complete your course requirements based on the results of a criminal background check, or if you are denied a license to practice nursing.

**Legal Limitations for State Licensure** — A student who has charges pending or has ever been convicted of a felony or misdemeanor and/or has been found guilty of professional misconduct, unprofessional conduct or negligence may enter the nursing program. The student may sit for the professional licensing examination after completing the program. However, the student may or may not be rendered a permit to practice and/or receive the registered professional nurse license following review of the student’s Application for License and First Registration by the Regents of the University of the State of New York.

**Malpractice Insurance** — Associate Degree Nursing students are required to carry $1-3 million malpractice insurance purchased through Bronx Community College.

**NCLEX-RN Examination** — Nursing students are required to pay for the NCLEX-RN Examination. The cost is approximately $335.

**Basic Cardiac Life Support (BCLS)** — Certification by the American Heart Association is required of all nursing students and must remain current. Health Clearance for Nursing must be completed each semester.

**Nursing Curriculum**

67 Credits required for A.A.S. Degree

**Core Requirements**

- ENG 10 Fundamentals of Composition and Rhetoric OR
  Engineering Fundamentals of Composition and Rhetoric .......................................................... 3
- CMS 11 Fundamentals of Interpersonal Communication ............................................................ 3
- PSY 11 Introduction to Psychology ............................................................................................ 3
- PHM 10 Pharmacology Computations ....................................................................................... 2
- BIO 23 Human Anatomy & Physiology I .................................................................................. 4

**Total 15**

**Required Areas of Study**

- ART 10 Art Survey OR
  Music Survey ............................................................................................................................. 1
■ CHM 17 Fundamentals of General Chemistry I.................................................4
■ SOC 11 Sociology ..................................................................................................3
■ PEA Physical Education (one activity course) ......................................................1
Total 9

Specialization Requirements
■ BIO 24 Human Anatomy & Physiology II ..........................................................4
■ BIO 28 Microbiology & Infection Control ............................................................4
■ NUR 41 Nursing Process and Therapeutic Communication ............................4
■ NUR 42 Fundamental Skills in Nursing .............................................................2
■ NUR 43 Mental Health Nursing ........................................................................4
■ NUR 44 Nursing of the Adult I ..........................................................................4
■ NUR 45 Maternal, Newborn and Women’s Health ...........................................4
■ NUR 46 Nursing of the Adult II .........................................................................4
■ NUR 47 Pediatric Nursing ................................................................................4
■ NUR 48 Nursing of the Adult III ........................................................................4
Total 38

Students who withdraw from NUR 41 must withdraw from NUR 42 at the same time. Students receiving less than a grade of “C” in NUR 41/42 may not remain in the Program.

Electives
To complete the required 67 credits...........................................................................5
Choose from Art, Astronomy, Biology, Chemistry (CHM 18), Communication, Computer Literacy I (CPL 11), English, Health and Physical Education, History (HIS 10 or HIS 11), Mathematics, Microcomputer Applications (DAT 33), Modern Language, Music, Nutrition (NTR 11), Pharmacology (PHM 11), Physical Assessment of the Adult (PAS 11), Physics, Reading in the Sciences & Technologies (RDL 21) or Social Sciences.

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

Health Requirements – All nursing students must meet special health requirements to practice in clinical agencies.
Additional Requirements: Substance abuse screening and a criminal background check may be required of students by certain clinical agencies. Positive findings will result in dismissal of the student from that agency.
Articulation agreements allow BCC graduates to continue their studies and earn a B.S. in Nursing at Lehman College or the College of Staten Island.

Nursing Fast Track
Qualified Licensed Practical Nurses (LPN) who apply to the A.A.S. program in Nursing must meet the following requirements:
1. Possess a current New York State LPN license in good standing.
2. Meet all requirements for admission to the clinical phase of the program, including a grade of “C+” in PHM 10.
3. Obtain admission to Bronx Community College via the College Office of Admissions. Application for the Fast Track Program must be filed in the Department of Nursing and Allied Health Sciences within the first semester of attending BCC.
4. Pass the National League for Nursing (NLN) Profile examinations.
5. Submit proof of one year’s work in an acute care medical/surgical environment within three years prior to filing the application. Students admitted to the RN Fast Track may receive course credit, based on examinations, for:

- NUR 41 Nursing Process and Therapeutic Communication ................................................. 2
- NUR 42 Fundamental Skills in Nursing .................................................................................. 4
- NUR 44 Nursing of the Adult I ............................................................................................... 4
- NUR 45 Maternal, Newborn and Women’s Health ................................................................ 4
Total 14

*Any student transferring in credits from another accredited college cannot receive a combined total of more than 30 credits of advanced standing and/or examination.*

**RN Pathway Option for BCC LPN Graduates Only**
Graduates who meet all other requirements for entry into the clinical phase of the RN program and who have achieved a 2.7 GPA or better in the BCC LPN Program; passed the NCLEX-PN Exam with License granted; completed a satisfactory interview; and received recommendation of LPN faculty shall be admitted to the RN Pathway and receive 22 credits.

With the above exceptions, core requirements, required areas of study and specialization requirements are as stated in the description of the Nursing Curriculum for A.A.S. degree. All N.Y. State LPN’s (Licensed Practical Nurses) entering the RN Fast Track and the RN Pathway are required to take NUR 10, which is part of the pre-clinical course sequence.

- NUR 10 Transition in Nursing ................................................................................................. 1

**Note:** All Nursing (NUR) courses required for graduation must be successfully completed within a five-year time span. The minimum acceptable grade in Nursing (NUR) courses is “C.” Grades of C-, D+, D, D-, F, W, WU, and WN must be repeated within the guidelines of the department, if the student wishes to receive a degree in Nursing.

**OFFICE ADMINISTRATION AND TECHNOLOGY**
(A.A.S. Degree)

**Curriculum Coordinator:** Dr. Rosemary Quinn

Numerous employment opportunities for college trained administrative assistants with office information systems skills exist in a wide variety of offices—business, professional and governmental organizations. The Department is equipped with the latest technology, and computer facilities are available for students to enhance their skills. Students learn machine transcription, office procedures, computer systems and applications including a variety of software programs, Internet, e-mail, multimedia, web page development, and composition of business correspondence.
Office Administration and Technology
60 Credits required for A.A.S. Degree

Core Requirements:
- ENG 10 Fundamentals of Composition & Rhetoric OR ENG 11 Composition and Rhetoric I .......................................................... 3
- CMS 11 Fundamentals of Interpersonal Communication ......................... 3
- HIS 10 History of the Modern World OR HIS 11 Introduction to the Modern World ......................................................... 3
- SCI* Science Course ........................................................................ 4
- MTH 12@ Introduction to Mathematical Thought .................................... 3
- CMS 12 Voice and Diction: Business and Professional Speech ................ 2
Total 18

Required Areas of Study:
- BUS 10 Introduction to Business .......................................................... 3
- BIS 13 Introduction to the Internet and Web Development ..................... 3
- WPR 23 Office Administration and Supervision ...................................... 2
- DAT 10 Computer Fundamentals & Applications .................................... 3
- Restricted Electives** ........................................................................ 4
Total 15

Specialization:
- KEY 10 Keyboarding for Computers .................................................. 1
- KEY 11 Document Formatting and Speed Development ......................... 2
- KEY 12 Advanced Document Production ............................................. 2
- WPR 11 Transcription for Business ..................................................... 3
- WPR 21 Word Processing Applications ................................................. 3
- WPR 24 Presentations for Business ..................................................... 3
- COM 31 Business Communications .................................................... 3
- DAT 36 Microcomputer Spreadsheet Applications .................................... 3
- DAT 38 Microcomputer Database Applications ...................................... 3
- SEC 41 Office Procedures .................................................................. 2
- CWE 31 Cooperative Work Experience*** ........................................... 2
Total 27

* Students who intend to transfer to a four-year college should take a science course with a laboratory component such as: BIO 11, BIO 21, CHM 10, CHM 11, CHM 17, ENV 11, PHY 11, AST 11 or 12; ESE 11 or ESE 12. Non-transfer students may also take a science course with a laboratory component.
@ Students who intend to transfer to a four-year college should take MTH 30 or 31. Check for required prerequisites for these math courses.
** Restricted Electives: Select a total of four credits from Art (non-studio courses), Communications, Economics, English, Geography, History, Health Education, Physical Education (only one course in Health Education or two courses in Physical Education), Modern
Languages, Music (non-studio courses), Philosophy, Psychology, Political Science or Sociology (no more than two courses from the same department or discipline).

*** Students who are employed full-time are not required to complete CWE. A waiver must be obtained from the Department Chairperson by submitting documentation of current full-time employment. After a written waiver of CWE is obtained, the student must substitute the required CWE credits with any course(s) offered by the Business and Information Systems Department. College Work-Study assignments within CUNY may not be used as substitutes for the CWE internship.

ORNAMENTAL HORTICULTURE
(A.A.S. Degree)
Program Director: Ms. Rebecca Araya

Horticulturists are skilled in the cultivation of plants and the care of gardens. They may work in public parks and gardens; they may design, install and maintain the interior landscapes in public buildings and corporate headquarters; or they may work as florists, arranging plants and flowers for special occasions.

Recognizing the need for trained horticulturists, Bronx Community College and The New York Botanical Garden (NYBG) have established a joint program in Ornamental Horticulture. Students study liberal arts and sciences at the BCC campus for the first year. They spend the second year at the NYBG for both academic courses and field experience in aspects of ornamental horticulture.

The program offers three areas of specialization: general horticulture, commercial floristry, or landscaping. Graduates earn an A.A.S. degree in Ornamental Horticulture from BCC.

NYBG courses are open only to Ornamental Horticulture (A.A.S.) students and must be approved by both the Program Director at BCC and the Director of Education at NYBG. Additionally, substitution of Ornamental Horticulture courses must have the written approval of the BCC Program Director.

The Ornamental Horticulture program fully articulates with SUNY Empire State College. A copy of the articulation agreement is available on line at the BCC Transfer Planning website.

Ornamental Horticulture
60 Credits required for A.A.S. Degree

Core Requirements
- ENG 10 Fundamentals of Composition and Rhetoric OR
  ENG 11 Composition and Rhetoric I ................................................................. 3
- CMS 11 Fundamentals of Interpersonal Communication ...................................... 3
- HIS 10 History of the Modern World OR
  HIS 11 Introduction to the Modern World .................................................... 3
- PEA Physical Education (one activity course) ................................................. 1
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<thead>
<tr>
<th>Course Code</th>
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<tr>
<td>BIO 11</td>
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<td>BIO 12</td>
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<td>PSY 11</td>
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<td>SOC 11</td>
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<td>BOT 11</td>
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<td>BOT 12</td>
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<td>BOT 13</td>
<td>Plant Physiology</td>
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<td>BOT 41</td>
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<td>GAR 11</td>
<td>Horticultural Techniques I</td>
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<td>GAR 12</td>
<td>Horticultural Techniques II</td>
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<td>GAR 21</td>
<td>Soil Science I</td>
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<td>GAR 24</td>
<td>Soil Science II</td>
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<td>GAR 31</td>
<td>Preparation for Pesticide Applicator Certification</td>
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<td>GAR 32</td>
<td>Diseases of Ornamental Plants</td>
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<td>FLO 11</td>
<td>Basic Centerpieces</td>
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<td>FLO 12</td>
<td>Holiday Arrangements</td>
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<td>FLO 23</td>
<td>House Plants and Their Care</td>
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<td>FLO 24</td>
<td>Essential Floral Techniques and Arrangements</td>
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<td>FLO 25</td>
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<td>FLO 26</td>
<td>Intermediate Floral Arrangements</td>
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<td>FLO 62</td>
<td>Commercial Floristry Field Exp. II</td>
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<td>FLO 63</td>
<td>Commercial Floristry Field Exp. III</td>
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<td>GAR 44</td>
<td>Commercial Greenhouse Management</td>
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Total 14

Required Areas of Study
- ART 10 Art Survey OR MUS 10 Music Survey

Total 18

NYBG Core Requirements*
- BOT 11 Basic Botany
- BOT 12 Plant Form and Function
- BOT 13 Plant Physiology
- BOT 41 Entomology
- GAR 11 Horticultural Techniques I
- GAR 12 Horticultural Techniques II
- GAR 13 Pruning
- GAR 21 Soil Science I
- GAR 24 Soil Science II
- GAR 31 Preparation for Pesticide Applicator Certification
- GAR 32 Diseases of Ornamental Plants

Total 12

Specialization
(Select One)

Commercial Floristry Specialization
- FLO 11 Basic Centerpieces
- FLO 12 Holiday Arrangements
- FLO 13 Funeral Arrangements
- FLO 15 Wedding Flowers
- FLO 23 House Plants and Their Care
- FLO 24 Essential Floral Techniques and Arrangements
- FLO 25 Basic Floral Business Techniques
- FLO 26 Intermediate Floral Arrangements
- FLO 61 Commercial Floristry Field Exp. I
- FLO 62 Commercial Floristry Field Exp. II
- FLO 63 Commercial Floristry Field Exp. III
- GAR 44 Commercial Greenhouse Management

Total 16
General Horticulture Specialization

- BOT 61 Woody Plant Identification: Fall Trees & Shrubs .................................................. 1
- BOT 64 Woody Plant Identification: Spring Trees & Shrubs ............................................ 1
- GAR 41 Plant Propagation I .................................................................................................. 1
- GAR 51 Turf & Grounds Maintenance .................................................................................. 1
- GAR 81 Plants for Landscaping ............................................................................................. 1
- HRT 13* Turf & Grounds Management I ............................................................................. 2
- HRT 14* Arboriculture I ........................................................................................................ 2
- HRT 15* Perennials & Flower Borders I ............................................................................... 2
- HRT 16* Greenhouse Operations I ........................................................................................ 2
- HRT 17** Horticulture Field Exp. Electives ......................................................................... 1
- LND 11 Landscape Design Theory ...................................................................................... 1
- LND 12 Graphics .................................................................................................................. 1

Total 16

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.
* These core and specialization requirements are given at the New York Botanical Garden.
** To be chosen from Horticulture with approval of department.

Note: Course numbers are different in the BCC catalog and the NYBG Catalog.
The 9 credits of Field Experience I-III in the Commercial Floristry specialization represent 540 hours of practical field work.

PARALEGAL STUDIES
(A.A.S. Degree)
Approved by the American Bar Association
Program Director: Prof. Raymond Canals

The Paralegal Studies Curriculum was developed according to guidelines provided by the American Bar Association’s Standing Committee on Paralegals. It offers students a background in the legal fundamentals, appropriate skills and practical experience necessary for professional employment. The paralegal can perform tasks delegated by a lawyer as long as the lawyer is responsible to the client and assumes full professional responsibility for the work. A paralegal cannot give legal advice, appear in court (except as permitted by law) or set fees.

There is an increasingly wide range of paralegal job opportunities in both the private and public sectors. Law firms, banks, accounting firms, insurance companies, brokerage houses, the court system, schools, hospitals, welfare centers, public program law offices, neighborhood legal centers, legal aid offices, and national, state and city government agencies all employ paralegals. Federal, New York State, and New York City civil service systems have paralegal job classifications. The paralegal program gives the student a broad range of employment opportunities.
A paralegal education can prove to be a good background for an executive career in professions other than law and for the law profession itself. One can apply earned credits towards a law-related bachelor's degree. The program has a large liberal arts component, which enables students to continue their education after completion of the A.A.S. Paralegal Degree.

The Paralegal Studies curriculum emphasizes business and law courses that prepare students for employment that includes research, writing, and other tasks commonly assigned by law firms to paralegals. The curriculum features a 210-hour internship (LAW 98) component in which students work in a legal setting. This exposes students to the legal profession and makes them further aware of their ethical and professional responsibilities.

The Lay Advocate Option prepares students for service to people and institutions that are concerned with the criminal system, family law, the poor, the mentally and physically handicapped and the elderly. The Paralegal Certificate is designed for advanced students who already have a minimum of 60 college credits or a two-year degree. A credit or noncredit internship is optional.

Paralegal Studies Curriculum
60 Credits required for A.A.S. Degree

Core Requirements
■ ENG 10 Fundamentals of Composition and Rhetoric OR
ENG 11 Composition and Rhetoric I........................................................................................................................................3
■ ENG 12 Composition and Rhetoric II OR
ENG 14 Written Composition and Prose Fiction OR
ENG 15 Written Composition and Drama OR
ENG 16 Written Composition and Poetry ..................................................................................................................................3
■ CMS 11 Fundamentals of Interpersonal Communication..........................................................3
■ HIS 10 History of the Modern World OR
HIS 11 Introduction to the Modern World ..................................................................................3
■ SCI* Choose from AST 11, AST 12, BIO 11, BIO 50, CHM 10, CHM 11,
CHM 13, ESE 11, ESE 12, OR PHY 11.........................................................................................4
■ MTH 12* Introduction to Mathematical Thought........................................................................3
Total 18 - 19

Required Areas of Study
■ POL 11 American National Government OR
SOC 35 Introduction to Social Work.................................................................................................3
■ SOC 11 Sociology.........................................................................................................................3
Total 6

Specialization Requirements
■ DAT 10 Computer Fundamentals & Applications........................................................................3
■ LAW 17 Introduction to Paralegal Studies ..................................................................................3
■ LAW 19 Introduction to Law Office Management
& Computers..........................................................................................................................3
- LAW 41 Business Law................................................................. 3
- LAW 47 Civil Procedure............................................................. 3
- LAW 95 Legal Research & Writing............................................... 3
- LAW 96 Advanced Legal Research & Writing.............................. 3
- LAW 98 Paralegal Seminar & Internship ..................................... 2

Total 23

Restricted Electives
- ACC 11** Fundamental Accounting II OR
- BUS 11** Business Mathematics OR
- TAX 11** Introduction to Taxation............................................... 3-4
- LAW 52*** Business Organizations ........................................... 3
- LAW 62*** Family Law............................................................... 3
- LAW 64 *** Constitutional Law .................................................. 3
- LAW 65*** Criminal Law and Procedures .................................... 3
- LAW 72*** Real Property.......................................................... 3
- LAW 77*** Immigration Law....................................................... 3
- LAW 82*** Insurance and Torts.................................................. 3
- LAW 92*** Estates, Trusts & Wills .............................................. 3
- LAW 91***† Landlord Tenant Advocacy ....................................... 3

Total 12-13

Free Electives
- To complete the 60 credit requirement........................................ 0-1

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

*Students who may later transfer to a four-year college should take a lab science from among BIO 11, CHM 10 or 11, PHY 11, AST 11 or 12, ENV 11, ESE 11 or 12 and MTH 29, 30 or 31 instead of MTH 12.
** Choose one out of three courses.
*** Choose three out of nine courses.
****† Departmental permission.

Students selecting the Lay Advocate Option should replace the Paralegal Studies curriculum restricted electives with the following:

Lay Advocate Option
- HLT 97# Field Work in Community Health Resources.................. 3
- LAW 62 Family Law................................................................. 3
- LAW 65 Criminal Law and Procedures ....................................... 3
- LAW 89 Legal Advocacy.......................................................... 3

Total 12

#HLT 97 is in lieu of LAW 98.
PARALEGAL CERTIFICATE PROGRAM
Program Director: Prof. Raymond Canals

The certificate course of study is designed for advanced students who do not wish to enroll in the Paralegal A.A.S. Degree program. Minimum entrance requirements are 60 college credits or a two-year degree. Students entering with 60 credits should have completed courses in the following areas: English, Communication, Social Science, History, Music or Art, Science and Mathematics.

Paralegal Certificate Program Curriculum
30-31 Credits required for Certification

- DAT 10 Computer Fundamentals and Applications .............................................3
- LAW 17 Introduction to Paralegal Studies ...............................................................3
- LAW 19 Introduction to Law Office Management
  & Computers.........................................................................................................3
- LAW 41 Business Law............................................................................................3
- LAW 47 Civil Procedure........................................................................................3
- LAW 95 Legal Research & Writing.........................................................................3
- LAW 96 Advanced Legal Research & Writing .......................................................3
- LAW 52* Business Organizations .........................................................................3
- LAW 62* Family Law ............................................................................................3
- LAW 65* Criminal Law and Procedures ................................................................3
- LAW 72* Real Property .........................................................................................3
- LAW 77* Immigration Law ....................................................................................3
- LAW 82* Insurance and Torts ..............................................................................3
- LAW 91* Landlord/Tenant Advocacy ....................................................................3
- LAW 92* Estates, Trusts & Wills ..........................................................................3
- ACC 11** Fundamental Accounting I ..................................................................4
- BUS 11** Business Mathematics ..........................................................................3
- TAX 11** Introduction to Taxation .........................................................................3

Total 30-31

*Choose 2 of these 8 law courses.
**Choose 1 of these 3 law courses.
Note: Students who may later transfer to a four-year college should consult an advisor for possible replacement courses.

PHARMACEUTICAL MANUFACTURING TECHNOLOGY
(A.A.S. Degree)
Curriculum Coordinator: Dr. Thomas Brennan

The Pharmaceutical Manufacturing Technology (PMT) program is a specialized chemical technology program designed to meet the needs of the pharmaceutical and related industries (cosmetics, food, plastics, custom chemicals, research centers, pilot plants etc.). The PMT
curriculum prepares students to work in manufacturing, research and development, and quality control and quality assurance departments of pharmaceutical, cosmetics, and related chemical industries. Today’s industrial environment requires technicians well trained in state-of-the-art instruments, computer methods, safety protocols and federal and state government regulations.

The PMT program provides a solid foundation in liberal arts and sciences combined with specialized training in the field. Students also have the option of transferring to science and engineering bachelor’s programs or to pharmacy schools to continue their education.

**Pharmaceutical Manufacturing Technology Curriculum**

**60 Credits required for A.A.S. Degree**

**Core Requirements**

- ART 10* Art Survey .................................................................1
- BIO 11* General Biology I .....................................................4
- CHM 11 General Chemistry I ....................................................4
- CMS 11 Fundamentals of Interpersonal Communication ........3
- ENG 10 Fundamentals of Composition and Rhetoric OR
  ENG 11 Composition and Rhetoric I .........................................3
- HIS 10 History of the Modern World OR
  HIS 11 Introduction to the Modern World ................................3
- MTH 13** Trigonometry and College Algebra .........................3
- OCD 10 Orientation and Career Development ............................0

**Total 21**

**Required Areas of Study**

- BIO 12* General Biology II ....................................................4
- CHM 22 General Chemistry II with Qualitative Analysis ..........5
- CHM 31 Organic Chemistry I ...................................................5
- CHM 32 Organic Chemistry II ..................................................5
- ENG 23 Scientific and Technical Writing ................................3
- MTH 14** Algebra and Introduction to Calculus ....................3

**Total 25**

**Specialization Requirements**

- CHM 27 Principles of Laboratory Safety ................................2
- CHM 37 Quantitative Instrumental Analysis .............................4
- CHM 38 Computer Applications in Chemistry .........................2
- Restricted Electives # .............................................................5-6
- CHM 39 Foundations of Pharmaceutical Process Technology ....3
- CHM 40 Pharmaceutical and Chemical Technology .................3
- PMT 41 Pharmaceutical Chemistry .........................................3
- PMT 42 Pharmaceutical Product Preparations ..........................3
- PMT 43 Pharmaceutical Laws and Regulations ........................2
- Free Elective*** (to complete 60 credit requirement) ..............0-1

**Total 14**
Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

*Students can substitute MUS 10, or any PEA one-credit course, or CPR 10, or WFA 10 for ART 10.

#Students can substitute PHY 11 for BIO 12. Students who wish to substitute both PHY 11 and PHY 12 for BIO 11 and BIO 12 need department approval.

**Students intending to transfer to four-year programs should substitute MTH 30 and MTH 31 and 32 for MTH 13 and MTH 14.

##Students may choose any combination of the restricted electives CHM 39, CHM 40, PMT 41, PMT 42 and PMT 43 to meet the program credits requirement.

***Students may take a one credit free elective course to fulfill the program credit requirement.

RADIOLOGIC TECHNOLOGY
(A.A.S Degree)
Director: Prof. Virginia Mishkin, M.S., R.T. (R) (M) (QM)

A radiologic technologist is a skilled professional who provides a specialized health care service. This rewarding profession involves the operation of sophisticated equipment in a rapidly expanding field. The Radiologic Technology Program in the Department of Nursing and Allied Health Sciences at Bronx Community College prepares students as entry-level qualified licensed and registered radiographers.

The term “diagnostic radiography” is used to describe a variety of radiographic or x-ray examinations. Most people are familiar with chest x-rays and also x-rays to diagnose broken bones. The radiographer performs these procedures as well as those which require the use of contrast agents that make it possible to study organs that otherwise cannot be seen.

Admission requirements for Radiologic Technology curriculum include:

- Complete all required remediation and successfully pass all CUNY Skills Assessment Tests.
- Achieve a minimum grade of C+ in BIO 23 and MTH 13 by the conclusion of spring semester prior to entry. The Radiologic Technology Program only admits students in the fall.
- Possess a preclinical course sequence average of 2.77 or higher in ENG 10/11, HIS 10/11, CMS 11, PSY 11 and PEA. Students who have completed these courses at another college will have to submit their transcripts. It is recommended that ENG 10/11, HIS 10/11, CMS 11, PSY 11, BIO 24, and PEA be completed prior to entry to the Radiologic Technology course work (RAD and CLE designated courses).
- Pre-radiologic technology students are allowed two attempts to achieve a C+ in BIO 23 (Human Anatomy and Physiology I) and MTH 13 (Trigonometry and College Algebra). A grade of W (official withdrawal) will not count as an attempt in these two courses. A minimum grade of C+ in these courses is a requirement for admission into the Radiologic Technology Program. The Radiologic Technology Program’s Committee on Admissions and Waivers has the right to allow the student an additional attempt when there is evidence of extenuating circumstances. Extenuating circumstances need to have legal and/or official documentation and must be presented to the Committee on Admissions and Waivers before a waiver will be granted.
Radiologic Technology (RAD, CLE) courses are open only to Radiologic Technology majors.

The Radiologic Technology Program is accredited by the Joint Review Committee on Education in Radiologic Technology and the New York State Department of Health.

Students receive their clinical education at Montefiore Medical Center, Jacobi Medical Center, New York Presbyterian Hospital, or Montefiore Medical Center North Division. All facilities are accessible by public transportation.

Upon successful completion of the program, students are eligible for the national and state certifying examinations. Graduates may go on to earn a higher degree in radiological health sciences.

Graduates have a wide selection of clinical settings to choose from, including hospitals and medical centers, out-patient imaging facilities, public health institutions, and government and private research institutes that require radiographers.

Mission Statement
The mission of the Bronx Community College Radiologic Technology program is to graduate competent radiographers who are eligible for taking the examination of the American Registry of Radiologic Technologists.

Program Goals
The mission of the program is measured by the standards to which the program meets the following goals:
- Students will be clinically competent radiographers who demonstrate sound reasoning and competent care.
- Students will demonstrate growth in ethical behavior in accordance with professional standards over the course of the program of study.
- Students will demonstrate a progression of technical skills accompanied by critical thinking, communication, and problem solving skills in the practice of diagnostic radiography.
- The program will support and maintain its commitment to the health care community with competent entry-level radiographers who possess a broad range of general education proficiencies.

Radiologic Technology Curriculum
65 Credits required for A.A.S. Degree

Core Requirements
- ENG 10 Fundamentals of Composition and Rhetoric I OR ENG 11 Composition and Rhetoric I ................................................................. 3
- CMS 11 Fundamentals of Interpersonal Communication .................................................. 3
- HIS 10 History of the Modern World OR HIS 11 Introduction to the Modern World ................................................................. 3
- PEA Physical Education activity course ...................................................................... 1
- BIO 23 Human Anatomy & Physiology I ..................................................................... 4
- **BIO 24 Human Anatomy & Physiology II** .................................................. 4
- **MTH 13* Trigonometry & College Algebra** ............................................ 3

**Total 21**

**Required Areas of Study**
- **PSY 11 Introduction to Psychology** ......................................................... 3

**Specialization Requirements †**
- **RAD 11 Fundamentals of Radiologic Sciences and Health Care** .............. 3.5
- **RAD 12 Radiographic Exposure I** ............................................................. 2.5
- **RAD 13 Radiographic Procedures I** ......................................................... 3
- **RAD 14 Recording Media and Processing** ................................................ 1
- **RAD 15 Radiographic Anatomy I** ............................................................. 2
- **RAD 16 Patient Care and Pharmacology in Radiologic Sciences** .............. 2.5
- **CLE 11 Clinical Radiography Fundamentals** ........................................... 1
- **CLE 15 Clinical Radiography I** ................................................................. 0.5
- **RAD 22 Radiographic Exposure II** ........................................................... 2.5
- **RAD 23 Radiographic Procedures II** ......................................................... 3
- **RAD 24 Radiation Protection** ................................................................ 2
- **RAD 25 Radiographic Anatomy II** ........................................................... 1
- **CLE 21 Clinical Radiography II** ............................................................... 0.5
- **CLE 31 Clinical Radiography III** ............................................................... 1.5
- **RAD 32 Imaging Modalities** ................................................................... 2
- **RAD 33 Radiographic Procedures III and Cross Sectional Anatomy** ....... 2
- **RAD 34 Radiographic Pathology** .............................................................. 2
- **CLE 41 Clinical Radiography IV** ............................................................... 1
- **CLE 45 Clinical Radiography V** ............................................................... 0.5
- **RAD 42 Radiation Biology** ...................................................................... 2
- **RAD 43 Quality Assessment/Management** .............................................. 1
- **RAD 71 Radiation Physics** ....................................................................... 2
- **CLE 51 Clinical Radiography VI** .............................................................. 0.5
- **CLE 61 Clinical Radiography VII / Senior Seminar** ................................. 1.5

**Total 41**

**Note:** At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

* *MTH 30 should be considered for transfer to a senior college.*
† *Note that the sequence of the academic and clinical curriculum of the program is scheduled Monday-Thursday between 9 a.m. and 4 p.m (the exception is CLE 11, 9 a.m. to 3 p.m. on Friday).*

**Basic Life Support and Basic First Aid** — All radiologic technology students are required to be certified in cardiopulmonary resuscitation and basic first aid by December 15 of their first clinical year.
Health Requirements — All radiologic technology students must meet special health requirements to practice in clinical agencies.

Malpractice Insurance — Radiologic technology students are required to carry $1-3 million malpractice insurance purchased through Bronx Community College. This must be purchased before September 15 of the first semester of each year. Students will be accepted and assigned to clinical experiences and otherwise treated without regard to sex, sexual orientation, race, creed, color, national origin, age, marital or veteran status in accordance with the laws of the city, state and nation.

SCIENCE FOR FORENSICS
(A.S. Degree)
Curriculum Coordinator: Dr. John Molina

The Science for Forensics (SFF) Associate in Science (A.S.) degree program is part of a joint program between Bronx Community College and John Jay College of Criminal Justice for students with a strong interest in science, law, and public service. BCC graduates of the Science for Forensics A.S. program will continue their studies at John Jay College where they will earn a Bachelor of Science in Forensic Science. To enter the Forensic Science program at John Jay, BCC graduates must have a 2.5 or better GPA in foundation coursework. Creation of this 2 + 2 partnership in forensic science will open up a new opportunity for New York City area students to receive an excellent education leading to exciting career paths. The SFF program will provide future forensic scientists with the necessary scientific foundation and technical training in general chemistry, organic chemistry, physics, biology, mathematics, data collection and analysis, oral and written communication skills, teamwork, and hands-on experience for successful, productive and rewarding careers in local, regional and national forensic science and chemistry based laboratories, major research centers, university facilities, government testing labs, and public utilities.

Science for Forensics Curriculum
60 Credits required for A.S. Degree

Core Requirements
■ BIO 11 General Biology I ..........................................................4
■ BIO 12 General Biology II ......................................................4
■ CMS 11 Fundamentals of Interpersonal Communication .............3
■ ENG 10 Fundamentals of Composition & Rhetoric OR
ENG 11 Composition and Rhetoric I .......................................3
■ ENG 12 Composition and Rhetoric II .....................................3
■ HIS 10 History of the Modern World
OR HIS 11 Introduction to the Modern World ..........................3
■ MTH 31 Analytic Geometry and Calculus I ............................4
■ OCD 01 Orientation and Career Development ........................0
Total 24
Required Areas of Study

■ MTH 32 Analytic Geometry and Calculus II .......................................................... 5
■ PHY 31 Physics I ........................................................................................................ 4
■ PHY 32 Physics II ....................................................................................................... 4
Restricted Elective 1 ..................................................................................................... 0-1
Total 13-14

Specialization Requirements

■ CHM 11 General College Chemistry I .................................................................... 4
■ CHM 12 General Chemistry II
OR CHM 22 2 General Chemistry II with Qualitative Analysis .................................. 4 or 5
■ CHM 31 Organic Chemistry I .................................................................................. 5
■ CHM 32 Organic Chemistry II .................................................................................. 5
■ CHM 33 Quantitative Analysis .................................................................................. 4
Total 22-23

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

1 Any PEA one credit course, or CPR 10, or WFA 10, or ART 10, or MUS 10.

2 Students take CHM 22 if CHM 12 is not offered.

TELECOMMUNICATIONS TECHNOLOGY
(A.A.S. Degree)
Curriculum Coordinator: Dr. Ajaz Sana

The Telecommunications Technology curriculum provides training in the expanding field of telecommunications. For students interested in technology, the program will provide state-of-the-art training for fulfilling telecommunications careers. In addition, the program aims to retrain telecommunications workers with technological advances in the field. The program also provides a smooth transition to baccalaureate programs of four-year schools, specifically the bachelor’s degree program in Telecommunications at CUNY New York City Technical College. Graduates can expect to be hired by various companies ranging from small businesses to telecommunication giants such as AT&T, Verizon, MCI and cable television companies.

Telecommunications Technology Curriculum
65 Credits required for A.A.S. Degree

Core Requirements

■ ENG 10 Fundamentals of Composition and Rhetoric OR
ENG 11 Composition and Rhetoric I .............................................................................. 3
■ CMS 11 Fundamentals of Interpersonal Communication .......................................... 3
■ HIS 10 History of the Modern World OR
HIS 11 Introduction to the Modern World .................................................................. 3
■ MTH 13* Trigonometry and College Algebra ............................................................ 3
**PEA Physical Education (one activity course)**

**Total 13**

**Required Areas of Study**

- ENG 23 Scientific & Technical Writing ................................................................. 3
- MTH 14 College Algebra and Introduction to Calculus ........................................ 3
- MTH 15 Calculus ....................................................................................................... 3
- PHY 21** Physics for Engineering Technology I .................................................... 4
- PHY 22 Physics for Engineering Technology II .................................................... 4
- MUS 10 Music Survey OR ART 10 Art Survey ..................................................... 1

**Total 18**

**Specialization Requirements**

- ELC 15 Computer Applications in Technology .................................................... 2
- ELC 11 D.C. Circuit Analysis .................................................................................. 4
- ELC 21 A.C. Circuit Analysis .................................................................................. 4
- ELC 25 Electronics I ............................................................................................... 4
- ELC 96 Digital Systems I ....................................................................................... 4
- TEC 11 Voice Communications ............................................................................... 4
- TEC 21 Data Communications ............................................................................... 4
- TEC 31 Local Area Networks ................................................................................ 4
- TEC 41 Advanced Topics in Telecommunications ................................................ 4

**Total 34**

**Note:** At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

*Students may choose to take MTH 30, 31, and 32 in lieu of MTH 13, 14, and 15 if they plan to continue their studies at CCNY after completing the A.A.S. degree.*

**Students may choose to take PHY 31 and 32 in lieu of PHY 21 and 22 if they plan to continue their studies at CCNY after completing the A.A.S. degree.**

**TELECOMMUNICATIONS TECHNOLOGY (Verizon)**

**(A.A.S. Degree)**

**Curriculum Coordinator:** Dr. Jalil Moghaddasi

This curriculum has been specifically designed to meet the requirements of the Verizon Corporation, the Communications Workers of America and the International Brotherhood of Electrical Workers. Only Verizon employees represented by CWA or IBEW are eligible. This curriculum is part of a statewide program called Next Step and is scheduled and sequenced to be completed over a four-year period while attending class one day per week.

The curriculum prepares Verizon students to enter the field of telecommunications with a wide range of skills needed for employment, advancement and continued education in this high tech
industry. Students learn to install, test, maintain and operate a wide spectrum of telecommunications devices and systems for voice, data and video information transmission, as well as the technical principles and theory on which these devices and systems are based. The theory of telephone, data communications and transmission will be reinforced in current up-to-date laboratories.

Graduates may work as communications engineering technicians or in similar titles, or continue their education to earn a bachelor’s degree.

Telecommunications Technology (Verizon) Curriculum
60 Credits required for A.A.S. Degree

Core Requirements
■ ENG 11 Composition and Rhetoric I .................................................................3
■ ENG 12 Composition and Rhetoric II .................................................................3
■ CMS 11 Fundamentals of Interpersonal Communication OR
HIS 23 Social and Intellectual History of Modern
America.............................................................................................................3
Total 9

Required Areas of Study
■ MTH 10 Technical Mathematics I .................................................................4
■ MTH 11 Technical Mathematics II .................................................................4
■ PHY 21 Physics for Engineering Technology I .................................................4
Total 12

Specialization Requirements
■ ELC 13 Computer Applications in Telecommunications ...............................3
■ ELC 31 Electric Circuits ..................................................................................4
■ ELC 96 Digital Systems I ................................................................................4
■ ELC 97 Digital Systems II ...............................................................................4
■ ELC 26 Electronic Systems for Telecommunications I ....................................4
■ ELC 36 Electronic Systems for Telecommunications II ...................................4
■ TEC 15 Telecommunications I ........................................................................4
■ TEC 25 Telecommunications II .......................................................................4
■ TEC 35 Telecommunications III ....................................................................4
■ TEC 45 Telecommunications IV .....................................................................4
Total 39

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.
THERAPEUTIC RECREATION
(A.S. Degree)
Curriculum Coordinator: Dr. Charles Alston

Therapeutic Recreation Specialists are employed in health and human services settings such as hospitals, nursing homes, adult day care facilities, youth agencies, drug treatment centers and homeless shelters. They work with people who have a variety of disabilities and health conditions to improve their leisure time skills and their quality of life.

The program in Therapeutic Recreation consists of four semesters of Liberal Arts education and courses directly related to recreation. The Therapeutic Recreation Associate of Science (A.S.) degree program is a joint degree program with Lehman College’s B.S. program in Recreation Education.

Upon completion of the curriculum at Bronx Community College students will automatically be accepted into Lehman College's Recreation Education Program. At Lehman, students can continue in the specialization of Therapeutic Recreation or Administration. Upon graduation from Lehman College students in Therapeutic Recreation are eligible to take the National Certification Examination for Certified Therapeutic Recreation Specialist (CTRS) administered by the National Council for Therapeutic Recreation Certification. Students in the administration specialization are employed in public parks and recreation agencies, not-for-profit organizations such as P.A.L. and the YMCA, health and fitness centers, camps and sports associations. Upon graduation from Lehman College, students can sit for the national certifying examination for Certified Leisure Professional (CLP) administered by the National Recreation and Park Association.

Therapeutic Recreation Curriculum
60 Credits Required for A.S. Degree

Core Requirements
- ENG 10 Fundamentals of Composition and Rhetoric I OR ENG 11 Composition and Rhetoric I ................................................................. 3
- CMS 11 Fundamentals of Interpersonal Communication ........................................ 3
- MTH 23 Probability and Statistics ...................................................................... 3
- HIS 10 History of the Modern World OR HIS 11 Introduction to the Modern World .................................................................................. 3
- BIO 23 and BIO 24 Human Anatomy & Physiology I & II .................................. 8

Total 20

Required Areas of Study
- ENG 12 Composition and Rhetoric II OR ENG 14 Written Composition and Prose Fiction OR ENG 15 Written Composition and Drama OR ENG 16 Written Composition and Poetry ......................................................... 3
- ART 11 Introduction to Art OR MUS 11 Introduction to Music ................................. 3
- PSY 11 Introduction to Psychology ....................................................... 3
- HCM 11 The US Health Care Delivery System ........................................ 3
- HLT 91 Critical Issues in Health .......................................................... 2
- HLT 99 Health of the Nation ............................................................... 2
- PEA Select any Course ........................................................................ 1
- Restricted Elective* ............................................................................. 3
- Modern Language** ............................................................................ 0-8

Total 20-28

Specialization Requirement
- REC 93 Introduction to Therapeutic Recreation .................................... 3
- REC 94 Recreation: Historical and Philosophical Perspective ................ 3
- REC 95 Program Planning and Leadership in Recreation ....................... 3
- PEA 51 Stress Management .................................................................. 2
- CPR 10 Cardiopulmonary Resuscitation OR WFA 10 Workplace First Aid Training .............................................................. 1

Total 12

Free Electives
- To complete the 60 credit requirement ................................................. 0-8

Note: At least two courses must be taken from a list designated as “Writing Intensive” as published each semester in the Registration Guide and Schedule of Classes.

*Select REC 96, any 3 Credit HLT course, or PEA courses totaling 3 credits
**Students who have completed the Modern Language requirement may select courses from Liberal Arts and Science to complete the 60 credit requirement.