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.

Curriculum Coordinator: Professor Howard A. Clampman

ACCOUNTING CURRICULUM

60 Credits required for A.S. Degree

REQUIRED CORE

A. ENGLISH COMPOSITION

■ ENG 10 Fundamentals of Composition and Rhetoric OR
  ENG 11 Composition and Rhetoric I (3 Credits)
■ 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 Credits)

B. MATHEMATICAL AND QUANTITATIVE REASONING

■ MTH 21 Survey of Mathematics I OR
  MTH 23 Probability and Quantitative Reasoning (3 Credits)

C. LIFE AND PHYSICAL SCIENCES

■ SCIENCE
  AST 111, BIO 11, CHM 11, CHM 17, ENV 11,
  ESE 11, ESE 12, ESE 13, PHY 110 or PHY 11 (3-4 Credits)

FLEXIBLE CORE

A. WORLD CULTURES AND GLOBAL ISSUES

■ HIS 10 History of the Modern World OR
  HIS 11 Introduction to the Modern World (3 Credits)

B. US EXPERIENCE IN ITS DIVERSITY

C. CREATIVE EXPRESSION OR E. SCIENTIFIC WORLD

■ Flexible Core B: COMM 20, ECO 12, HIS 20, HIS 23,
  HIS 24, HIS 51, POL 11, and POL 41
  Flexible Core C: ART 11, ART 12, ART 55, ART 56,
  COMM 26, FRN 22, ITL 22, MUS 11, MUS 12, SPN 25,
  SPN 30, and SPN 31
  Flexible Core E: BIO 20/ HLT 203 (3 Credits)

D. INDIVIDUAL AND SOCIETY

■ COMM 11 Fundamentals of Interpersonal Communication (3 Credits)

SUBTOTAL 21-22

SPECIALIZATION REQUIREMENTS

■ ACC 11 Fundamental Accounting I (4 Credits)
■ ACC 12 Fundamental Accounting II (4 Credits)
■ ACC 13 Intermediate Accounting (4 Credits)
■ ACC 15 Accounting Information Systems (3 Credits)
■ BUS 10 Introduction to Business (3 Credits)
■ BUS 11 Business Mathematics (3 Credits)
■ COMM 12 Voice and Diction: Business and Professional Speech (2 Credits)
■ DAT 10 Computer Fundamental and Applications (3 Credits)
■ DAT 36 Microcomputer Spreadsheet Applications OR
  DAT 38 Microcomputer Database Applications (3 Credits)
■ KEY 10 Keyboarding for Computers (1 Credit)
■ LAW 41 Business Law (3 Credits)
■ MKT 11 Principles of Marketing (3 Credits)
■ CWE 31 Cooperative Work Experience (2 Credits)
■ Lab Science Credit (0-1 Credit)

SUBTOTAL 38-39

1 Students planning to transfer to a four-year college should take MTH 30 or 31.
2 Students may select either a 4-credit or a 3-credit science course. Students selecting a 3-credit course must also complete an additional 1-credit lab course to fulfill graduation requirements.
3 Flexible Core B: COMM 20, ECO 12, HIS 20, HIS 23, HIS 24, HIS 51, POL 11, and POL 41
Flexible Core C: ART 11, ART 12, ART 55, ART 56, COMM 26, FRN 22, ITL 22, MUS 11, MUS 12, SPN 25, SPN 30, and SPN 31
Flexible Core E: BIO 20/ HLT 20
4 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.
5 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.
AUTOMOTIVE TECHNOLOGY
(PATHWAYS REVISION)

Associate in Applied Sciences Degree  |  Career Program
Physics & Technology Department

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.

Curriculum Coordinator: Clement Drummond

AUTOMOTIVE TECHNOLOGY CURRICULUM
60 Credits required for A.A.S. Degree

REQUIRED CORE
A. English Composition
   ■ ENG 10 Fundamentals of Composition and Rhetoric OR
       ENG 11 Composition and Rhetoric I (3 Credits)
   ■ ENG 12 Composition and Rhetoric II (3 Credits)
C. Life and Physical Sciences
   ■ CHM 11 General Chemistry I OR
       CHM 17 Fundamentals of General Chemistry I (4 Credits)

FLEXIBLE CORE
A. World Cultures and Global Issues
   ■ HIS 10 History of the Modern World OR
       HIS 11 Introduction to the Modern World (3 Credits)
B. US Experience in its Diversity OR
C. Creative Expression
   ■ Humanities Electives ' (3 Credits)
D. Individual and Society
   ■ COMM 11 Fundamentals of Interpersonal Communication
       (3 Credits)
E. Scientific World
   ■ PHY 11 College Physics I (4 Credits)

SUBTOTAL 23

1 3 credits of Humanities Restricted Electives must be selected to fulfill Pathways Flexible Core Areas B or C

REQUIRED AREAS OF STUDY
■ MTH 13 Trigonometry and College Algebra (3 Credits)
■ PEA Physical Education Activity Course OR
   WFA 10 Workplace First Aid (1 Credit)
■ ART 10 Art Survey OR MUS 10 Music Survey (1 Credit)
■ ELC 15 Computer Applications in Technology (2 Credits)

SUBTOTAL 7

SPECIALIZATION REQUIREMENTS
■ ACS 10 Introduction to Automotive Technology (1 Credit)
■ ACS 11 Engine Repair (4 Credits)
■ ACS 12 Brake Systems (3 Credits)
■ ACS 13 Engine Performance (3 Credits)
■ ACS 14 Manual Drive Tran and Axles (3 Credits)
■ ACS 21 Steering and Suspension Systems (3 Credits)
■ ACS 22 Automatic Transmission and Transaxle (4 Credits)
■ ACS 23 Heating and Air-Conditioning (3 Credits)
■ ACS 24 Electrical Systems (3 Credits)
■ ACS 35 Alternate Fuel Systems OR
   ACS 45 Diesel Technology (3 Credits)

SUBTOTAL 30
BUSINESS ADMINISTRATION
(PATHWAYS REVISION)

Associate in Science Degree | Transfer Degree
Business & Information Systems Department

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.

Curriculum Coordinator: Dr. Rosemary Quinn

BUSINESS ADMINISTRATION CURRICULUM
60 Credits required for A.S. Degree

REQUIRED CORE
A. English Composition (6 Credits)
B. Mathematical and Quantitative Reasoning 1 (4 Credits)
C. Life and Physical Sciences (3-4 Credits)

SUBTOTAL 13-14

FLEXIBLE CORE
A. World Cultures and Global Issues 3 (3 Credits)
B. U.S. Experience in Diversity 3 (3 Credits)
C. Creative Expression (3 Credits)
D. Individual and Society 3 (3 Credits)
E. Scientific World (3 Credits)

Restricted Elective Select one course from Areas A-E. (3 Credits)

SUBTOTAL 18

SPECIALIZATION REQUIREMENTS
- ACC 11 Fundamental Accounting I (4 Credits)
- BUS 41 Business Statistics (3 Credits)
- BUS 51 Business Organization and Management (3 Credits)
- DAT 10 Computer Fundamental and Applications OR DAT 30 Introduction to Computer Applications & Programming (3 Credits)
- LAW 41 Business Law (3 Credits)
- Lab Science Credit (0-1 Credit)

SUBTOTAL 16-17

DEGREE OPTIONS
Student must choose an option to graduate: Accounting, Computer Programming, Management, OR Marketing Management (12 Credits)

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.
- ACC 12 Fundamental Accounting II (4 Credits)
- ACC 13 Intermediate Accounting (4 Credits)
- ACC 15 Accounting Information Systems (3 Credits)
- KEY 10 Keyboarding for Computers (1 Credit)

SUBTOTAL 12

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

Continued on next page.
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.

- DAT 38 Database Management Applications (3 Credits)
- DAT 47 JAVA Programming (3 Credits)
- DAT 48 Advanced JAVA Programming (3 Credits)
- DAT 49 UNIX Fundamentals (3 Credits)

**SUBTOTAL 12**

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.

- MKT 11 Principles of Marketing (3 Credits)
- FIN 31 Principles of Finance (3 Credits)
- BUS 52 Organizational Behavior (3 Credits)
- BUS 53 International Management (3 Credits)

**SUBTOTAL 12**

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

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.

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

**SUBTOTAL 12**

1 In order to comply with transfer requirement at Senior Colleges, students are required to complete MTH 30 or MTH 31 to fulfill Required Core B.
2 Students may select either a 4-credit STEM Variant science course or a 3-credit science course to fulfill Required Core C. Students selecting a 3-credit course must also complete an additional 1-credit lab course to fulfill graduation requirements.
3 In an effort to select courses which can be accepted as transfer credits at Senior Colleges and give students the breadth of knowledge required nationally of Business Majors, students are strongly recommended to complete HIS 10 or HIS 11 to fulfill Flexible Core A; ECO 12 to fulfill Flexible Core B; and COMM 11 and/or ECO 11 to fulfill Flexible Core D
4 DAT 10 is for students enrolled in the Accounting; Management; and Marketing Management options.
5 DAT 30 is for students enrolled in the Computer Programming Option only.

Students interested in transferring to Lehman College, SUNY Maritime, SUNY Potsdam, and Baruch College should visit the articulation agreement section of the Transfer Planning web site for recommended courses at: http://www.bcc.cuny.edu/Transfer Counseling/articulation.html.

Note: The program has been given a waiver to require its students to take MTH 30 or MTH 31 to fulfill Required Area B. If students transferring into this program complete a different course in this area, they will be certified as having completed the Common Core, but it may not be possible for them to finish their degree within the regular number (60) of credits.
COMPUTER INFORMATION SYSTEMS
(PATHWAYS REVISION)

Associate in Applied Sciences Degree | Career Program
Business & Information Systems Department

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 college 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 college catalog.

Curriculum Coordinator: Professor Imran Ghafoor

COMPUTER INFORMATION SYSTEMS CURRICULUM
60 Credits required for A.A.S. Degree

REQUIRED CORE
A. English Composition
   ■ ENG 10 Fundamentals of Composition and Rhetoric OR ENG 11 Composition and Rhetoric I (3 Credits)
   ■ 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 Credits)
B. Mathematical and Quantitative Reasoning
   ■ MTH 21 Survey of Mathematics I OR MTH 23 Probability and Statistics (3 Credits)
C. Life and Physical Science
   SCIENCE 2 AST 111, BIO 11, CHM 11, CHM 17, ENV 11, ESE 11, ESE 12, ESE 13, PHY 110 OR PHY 11 (3-4 Credits)

FLEXIBLE CORE
A. World Cultures and Global Issues
   ■ HIS 10 History of the Modern World OR HIS 11 Introduction to the Modern World (3 Credits)
B. US Experience in its Diversity OR C. Creative Expression OR E. Scientific World 3
   ■ Select from ANT, ART, COMM, ECO, GEO, HIS, BIO 20/HLT 20, Modern Language, MUS, PHL, PSY, POL OR SOC (3 Credits)
D. Individual and Society
   ■ COMM 11 Fundamentals of Interpersonal Communication (3 Credits)

SUBTOTAL 21-22

Continued on next page.
SPECIALIZATION REQUIREMENTS
■ ACC 11 Fundamental Accounting I (4 Credits)
■ BIS 13 Introduction to Internet and Web Development (3 Credits)
■ BUS 10 Introduction to Business (3 Credits)
■ BUS 11 Business Mathematics (3 Credits)
■ COMM 12 Voice and Diction: Business and Professional Speech (2 Credits)
■ DAT 30 Introduction to Computer Fundamental and Programming (3 Credits)
■ DAT 33 Microcomputer Applications (2 Credits)
■ DAT 35 BASIC Language Programming (3 Credits)
■ KEY 10 Keyboarding for Computers (1 Credit)
■ CWE 31 Cooperative Work Experience (2 Credits)
■ Lab Science Credit (0-1 Credit)
SUBTOTAL 26-27

DEGREE OPTIONS
Student must choose an option to graduate:
■ Computer Programming
■ Web Page Development
SUBTOTAL 12

COMPUTER PROGRAMMING OPTION:
■ DAT 38 Database Management Applications (3 Credits)
■ DAT 47 JAVA Programming (3 Credits)
■ DAT 48 Advanced JAVA Programming (3 Credits)
■ DAT 49 UNIX Fundamentals (3 Credits)
SUBTOTAL 12

WEB PAGE DEVELOPMENT OPTION:
■ BIS 12 Multimedia Theory and Applications for Business (3 Credits)
■ BIS 23 Advanced Web Page Design and Development (3 Credits)
■ BIS 31 E-Commerce (3 Credits)
■ DAT 38 Database Management Applications (3 Credits)
SUBTOTAL 12

1 Students planning to transfer to a four-year college should take MTH 30 or 31.

2 Students may select either a 4-credit or a 3-credit science course. Students selecting a 3-credit course must also complete an additional 1-credit lab course to fulfill graduation requirements.

3 Flexible Core B: COMM 20, ECO 12, HIS 20, HIS 23, HIS 24, HIS 51, POL 11, and POL 41
Flexible Core C: ART 11, ART 12, ART 55, ART 56, COMM 26, FRN 22, ITL 22, MUS 11, MUS 12, SPN 25, SPN 30, and SPN 31
Flexible Core E: BIO 20/HLT 20

4 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.

5 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.
COMPUTER SCIENCE
(PATHWAYS REVISION)

Associate in Science Degree | Transfer Degree
Department of Mathematics & Computer Science

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 and the B.A. and B.S. programs at Iona 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.

Curriculum Coordinator: Dr. Sharon Persinger

COMPUTER SCIENCE CURRICULUM
60 Credits required for A.S. Degree

COMMON CORE
A. English Composition (6 Credits)
B. Mathematical and Quantitative Reasoning (4 Credits)
  ■ MTH 31 1 Calculus & Analytic Geometry I (4 Credits)
C. Life and Physical Sciences
  ■ SCIENCE I 2 BIO 11 General Biology I OR
    CHM 11 General College Chemistry I OR
    PHY 11 College Physics I OR PHY 31 Physics I (4 Credits)
SUBTOTAL 14

FLEXIBLE CORE
A. World Cultures and Global Issues (3 Credits)
B. U.S. Experience in Diversity (3 Credits)
C. Creative Expression (3 Credits)
D. Individual and Society (3 Credits)
E. Scientific World
  ■ CSI 30 Discrete Mathematics I (3 Credits)
Additional course from the Flexible Core
  ■ SCIENCE II 2 BIO 12 General Biology II OR
    CHM 12 General College Chemistry II OR
    PHY 12 College Physics II OR PHY 32 Physics II (4 Credits)
SUBTOTAL 19

SPECIALIZATION REQUIREMENTS
■ MTH 32 Analytic Geometry and Calculus II (5 Credits)
■ MTH 33 Analytic Geometry and Calculus III (5 Credits)
■ CSI 31 Introduction to Computer Programming I (3 Credits)
■ CSI 32 Introduction to Computer Programming II (3 Credits)
■ CSI 35 Discrete Mathematics II (3 Credits)
■ CSI 33 Data Structures (3 Credits)
SUBTOTAL 22

FREE ELECTIVES
MTH 30 1 and / or Free Elective (5 Credits)

1 Students requiring MTH 30 must use free elective credits for this purpose.

2 SCI I & II must form a sequence, e.g., BIO 11&12.

Note: The program has been given a waiver to require its students to take MTH 31 to fulfill Required Area B, BIO 11 or CHM 11 or PHY 11 or PHY 31 to fulfill Required Area C, CSI 30 to fulfill Flexible Area E, BIO 12 or CHM 12 or PHY 12 or PHY 32 to fulfill the 6th course in the Flexible Core. If students transferring into this program complete different courses in these areas, they will be certified as having completed the Common Core requirements, but it may not be possible for them to finish their degree within the regular number (60) of credits.
CRIMINAL JUSTICE (PATHWAYS REVISION)

Associate in Arts Degree  |  Joint Degree Program  |  Department of Social Sciences

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.

Curriculum Coordinator: Dr. James Freeman  |  Director of the Criminal Justice Academy: Dr. Michael Roggow

CRIMINAL JUSTICE CURRICULUM

60 Credits required for A.A. Degree

**REQUIRED CORE**

A. English Composition (6 Credits)
B. Mathematical and Quantitative Reasoning (3 Credits)
C. Life and Physical Science ¹ (3-4 Credits)

**SUBTOTAL 12-13**

**FLEXIBLE CORE**

A. World Cultures and Global Issues (3 Credits)
B. US Experience and its Diversity (3 Credits)
C. Creative Expression (3 Credits)
D. Individual and Society (3 Credits)
E. Scientific World (3 Credits)

Select ONE course from Area A. World Cultures and Global Issues

**SUBTOTAL 18**

**BCC REQUIRED AREAS OF STUDY I**

Students will complete a minimum of 12 credits of these requirements within the Flexible Core. Transfer students who have completed Common Core requirements at a previous institution will not be required to complete credits in excess of the 60 credit requirement.

- ART 11 Introduction to Art History OR ART 12 Introduction to Art History: Africa, the Americas, Asia, and the Middle East OR MUS 11 Introduction to Music OR MUS 12 Introduction to Music: A Multi-Cultural Survey of World Music (0-3 Credits)
- ENG ² English Elective (0-3 Credits)
- COMM 11 Fundamentals of Interpersonal Communication OR COMM 20 Public Speaking and Critical Listening (0-3 Credits)
- HISTORY ³ Select ONE from HISTORY, GEOGRAPHY, OR PHILOSOPHY (0-3 Credits)
- HIS 20 American Nation (0-3 Credits)
- POL 11 American National Government (0-3 Credits)
- SOC 11 Introduction to Sociology (0-3 Credits)
- SOC 31 Race and Ethnic Relations OR SOC 37 Social Inequality (0-3 Credits)
- PSY 11 Introduction to Psychology (0-3 Credits)

**SUBTOTAL 12-15**

**BCC REQUIRED AREAS OF STUDY II**

- SCIENCE LAB ¹ Science Laboratory (0-1 Credits)
- PEA Physical Education OR CPR 10 Cardiopulmonary Resuscitation (1 Credit)
- Free Electives (1-4 Credits)

**SUBTOTAL 1-6**

**SPECIALIZATION REQUIREMENTS**

- CRJ 11 Introduction to Criminal Justice (0-3 Credits)
- CRJ 21 Introduction to Criminology (3 Credits)
- CRJ 22 Introduction to Policing (3 Credits)
- CRJ 23 Introduction to Corrections OR LAW 65 Criminal Law and Procedures (3 Credits)

**SUBTOTAL 12**

¹ This requirement is satisfied if a student takes a 4-credit STEM variant course in Required Area C.
² Choose from any ENG course above ENG 16 with the exception of ENG 23.
³ Choose from GEO, PHL or any HIS course other than HIS 20.
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.

Curriculum Coordinator: Professor Charmaine Aleong

Dietetics and Nutrition Science Curriculm

60 Credits required for A.S. Degree

**REQUIRED CORE**
- A. English Composition (6 Credits)
- B. Mathematical and Quantitative Reasoning (3 Credits)
- C. Life and Physical Sciences
  - BIO 23 Human Anatomy and Physiology I (4 Credits)
  
  **SUBTOTAL 13**

**FLEXIBLE CORE**
- A. World Cultures and Global Issues (3 Credits)
- B. U.S. Experience in its Diversity (3 Credits)
- C. Creative Expression (3 Credits)
- D. Individual and Society (3 Credits)
- E. Scientific World
  - BIO 24 Human Anatomy and Physiology II (4 Credits)

Restricted Elective: Select one course from Area A-E³
  - (3 Credits)

  **SUBTOTAL 19**

**SPECIALIZATION REQUIREMENTS**
- CPR 10 Cardiopulmonary Resuscitation OR
  - WFA 10 Workplace First Aid Training (1 Credit)
- HLT 91 Critical Issues in Health (2 Credits)
- HLT 94 Human Nutrition (3 Credits)
- HLT 99 Health of the Nation (2 Credits)
- HCM 11 The U.S. Health Care Delivery System (3 Credits)
- PEA 51 Stress Management (2 Credits)
- CHM 17 Fundamentals of General Chemistry I (4 Credits)
- DAT 10 Computer Fundamentals and Applications (3 Credits)
- PSY 11 Introduction to Psychology (0-3 Credits)
- SOC 11 Introduction to Sociology (0-3 Credits)
- Free Electives (2-8 Credits)

  **SUBTOTAL 28**

1 Students in this curriculum are strongly advised to take MTH 23 to fulfill required Core Area B.

2 Note: The program has been given a waiver to require its students to take BIO 23 to fulfill Required Area C and BIO 24 to fulfill Flexible Area E in the Flexible Core.

3 Restricted Elective: must select one course from Flexible Core A-E. No more than two courses in any discipline or interdisciplinary field.

4 If this course satisfies a Flexible Core Area, free elective credits may be taken.
DIGITAL ARTS
(PATHWAYS REVISION)

Associate in Applied Sciences Degree  |  Career Program
Department of Art & Music

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 proficiency 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 (BTech in Communication Design). Students are encouraged to read these articulation agreements on the Transfer Planning web site.

Curriculum Coordinator: Professor Lisa Amowitz

DIGITAL ARTS CURRICULUM
60 Credits required for A.A.S. Degree

REQUIRED CORE
A. English Composition
   ■ ENG 10 Fundamentals of Composition and Rhetoric OR
   ■ ENG 11 Composition and Rhetoric I (3 Credits)
   ■ ENG 12, ENG 14, ENG 15 OR ENG 16 (3 Credits)
B. Mathematical and Quantitative Reasoning
   ■ MTH 21 Survey of Mathematics I OR
   ■ MTH 23 Probability and Statistics (3 Credits)
C. Life and Physical Science
   ■ SCIENCE Select from AST, BIO, CHM, ENV, ESE OR
     PHY (3-4 Credits)

FLEXIBLE CORE
A. World Cultures and Global Issues
   ■ HIS 10 History of the Modern World OR
     HIS 11 Introduction to the Modern World (3 Credits)
B. Creative Expression
   ■ ART 11 Introduction to Art History (3 Credits)
C. Individual and Society
   ■ COMM 11 Fundamentals of Interpersonal Communication (3 Credits)
A-D - Select one from Flexible Core A, B, C, or D.
   ■ Humanities Elective Select one from ANT, COMM, ECO, ENG, GEO, HIS, MOD LAN, MUS 11, PHI, POL, PSY, OR
     SOC (3 Credits)

SUBTOTAL 24

REQUIRED AREAS OF STUDY
■ PEA Physical Education activity course OR
  HLT 91 Critical Issues in Health (1-2 Credits)
■ Lab Credit (0-1 Credit)
  NOTE: This requirement is satisfied if a student takes a
  4-credit STEM variant course in Required Area C.
■ Free Elective (1-2 Credits)

SUBTOTAL 4

SPECIALIZATION REQUIREMENTS
■ ART 15 Design Basics (2 Credits)
■ ART 21 Drawing (2 Credits)
■ ART 22 Painting (2 Credits)
■ ART 55 Modern Art (3 Credits)
■ ART 56 Graphic and Digital Design History (3 Credits)
■ ART 72 Digital Photography (2 Credits)
■ ART 79 Typographic Design (2 Credits)
■ ART 82 Illustration (2 Credits)
■ ART 84 Digital Imaging (2 Credits)
■ ART 86 Digital Illustration (2 Credits)
■ ART 87 Web Design (2 Credits)

SUBTOTAL 24

DEGREE OPTIONS
Student must choose an option to graduate:
Graphic Design
OR
Web Design (8 Credits)
See next page for option requirements

Continued on next page.
GRAPHIC DESIGN OPTION REQUIREMENTS

■ ART 81 Typography and Layout (2 Credits)
■ ART 89 Publication Design (2 Credits)
■ ART 90 Graphic Design Project (2 Credits)
■ ART 91 Design Portfolio OR
  ART 32 Printmaking OR
  ART 41 Ceramics OR
  ART 95 Intro to 3D Graphics and Animation (2 Credits)

SUBTOTAL 8

WEB DESIGN OPTION REQUIREMENTS

■ ART 88 Web Animation (2 Credits)
■ ART 93 Web Design Project (2 Credits)
■ MUS 13 Sound Design (2 Credits)
■ ART 97 Web Portfolio OR
  ART 32 Printmaking OR
  ART 41 Ceramics OR
  ART 95 Intro to 3D Graphics and Animation (2 Credits)

SUBTOTAL 8
EDUCATION ASSOCIATE
(PATHWAYS REVISION)

Associate in Applied Sciences Degree | Career Program
Education & Reading Department

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 college catalog.

Curriculum Coordinator: Professor Diane D'Alessio

EDUCATION ASSOCIATE CURRICULUM
60 Credits required for A.A.S. Degree

REQUIRED CORE
A. English Composition
   ■ ENG 10 Fundamentals of Composition and Rhetoric OR ENG 11 Composition and Rhetoric I (3 Credits)
   ■ 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 Credits)
B. Mathematical and Quantitative Reasoning
   ■ MTH 21 Survey of Mathematics I OR MTH 23 Probability and Statistics (3 Credits)
C. Life and Physical Science
   ■ SCIENCE 1 AST 111, BIO 11, CHM 11, CHM 17, ENV 11, ESE 11, PHY 110 OR PHY 11 (3-4 Credits)

SUBTOTAL 12-13

FLEXIBLE CORE
A. World Cultures and Global Issues
   ■ HIS 10 History of the Modern World OR HIS 11 Introduction to the Modern World (3 Credits)
B. Creative Expression
   ■ ART 11 Introduction to Art OR MUS 11 Introduction to Music (3 Credits)
C. Individual and Society
   ■ COMM 11 Fundamentals of Interpersonal Communication (3 Credits)

SUBTOTAL 9

REQUIRED AREAS OF STUDY
■ HLT 91 Critical Issues in Health (2 Credits)
■ PSY 11 Introduction to Psychology (3 Credits)
■ PSY 41 Psychology of Infancy and Childhood OR GEO 10 Introduction to Geography (3 Credits)
■ Any MOD. LANG., COMM, THEA, FILM (3 Credits)

SUBTOTAL 11

SPECIALIZATION REQUIREMENTS
■ EDU 10 Child Study- Birth to Grade 6 (3 Credits)
■ EDU 12 Contemporary Urban Education – Birth to Grade 6 OR EDU 26 Human Relations in Urban Schools (3 Credits)
■ EDU 30 Introduction to Special Needs, Schools & Society (3 Credits)
■ EDU 40 Field Work Seminar (3 Credits)

SUBTOTAL 12

RESTRICTED ELECTIVES
■ EDUCATION (Selection of four courses from the list below will depend on career preference) (12 Credits)
   ■ EDU 15 Reading and Other Language Arts for the Early Childhood and Elementary Years
   ■ EDU 16 Literacy in Early Childhood Education(Birth-to Grade 2)
   ■ EDU 17 Literacy in Childhood Education-Grades - 1-6
   ■ EDU 18 Literacy in a Spanish Bilingual Program
   ■ EDU 24 Pre-School Seminar I
   ■ EDU 25 Pre-School Seminar II
   ■ EDU 31 Introduction to Learning Disabilities and Inclusive Education
   ■ EDU 50 Creativity and the Arts for the Early Childhood and Childhood Years
   ■ Lab Sciences1 (0-1 Credit)
■ Free Electives (3 Credits)

SUBTOTAL 30

1 Students may select either a 4-credit or a 3-credit science course. Students selecting a 3-credit course must also complete an additional 1-credit lab course to fulfill graduation requirements.
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. http://www.abet.org/

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.

Program Objectives
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.

Graduate Outcomes
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.

Annual student enrollment and graduation data for students in the Electronic Engineering Technology program

<table>
<thead>
<tr>
<th>Semester and Year</th>
<th>Enrollment</th>
<th>Academic Year</th>
<th>Graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2009</td>
<td>122</td>
<td>2008 – 2009</td>
<td>14</td>
</tr>
<tr>
<td>Fall 2010</td>
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</tr>
<tr>
<td>Fall 2013</td>
<td>139</td>
<td>2012 – 2013</td>
<td>6</td>
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</tbody>
</table>
ELECTRONIC ENGINEERING TECHNOLOGY CURRICULUM
66 Credits required for A.A.S. Degree

REQUIRED CORE
A. English Composition
   □ ENG 10 Fundamentals of Composition and Rhetoric OR
       ENG 11 Composition and Rhetoric I (3 Credits)
   □ ENG 12 Composition and Rhetoric II (3 Credits)
B. Mathematical and Quantitative Reasoning
   □ MTH 30 Pre-Calculus Mathematics (4 Credits)
C. Life and Physical Sciences
   □ PHY 11 College Physics I (4 Credits)

FLEXIBLE CORE
A. World Cultures and Global Issues
   □ HIS 10 History of the Modern World OR
       HIS 11 Introduction to the Modern World (3 Credits)
D. Individual and Society
   □ COMM 11 Fundamentals of Interpersonal Communications
       (3 Credits)
E. Scientific World
   □ PHY 12 College Physics II (4 Credits)

SUBTOTAL 24

REQUIRED AREAS OF STUDY
□ ART 10 Art Survey OR MUS 10 Music Survey (1 Credit)
□ MTH 31 Calculus and Analytical Geometry I (4 Credits)
□ PEA Physical Education Activity Course (1 Credit)
□ Free Elective (1 Credit)

SUBTOTAL 7

SPECIALIZATION REQUIREMENTS
□ ELC 11 DC Circuit Analysis (4 Credits)
□ ELC 15 Computer Applications in Technology (2 Credits)
□ ELC 18 Computer Programming for Engineering Technology (2 Credits)
□ ELC 21 AC Circuit Analysis (4 Credits)
□ ELC 25 Electronics I (4 Credits)
□ ELC 35 Electronics II (4 Credits)
□ ELC 51 Electronics Controls (3 Credits)
□ ELC 81 Electronics Communications (4 Credits)
□ ELC 94 Laser and Fiber Optic Communications (4 Credits)
□ ELC 96 Digital Systems I (4 Credits)

SUBTOTAL 35
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.

Curriculum Coordinator: Dr. Akhil Lal

ENERGY SERVICES AND TECHNOLOGY CURRICULUM
60 Credits required for A.A.S. Degree

**REQUIRED CORE**
A. English Composition
   - ENG 10 Fundamentals of Composition and Rhetoric OR
     ENG 11 Composition and Rhetoric I (3 Credits)
   - ENG 12 Composition and Rhetoric II (3 Credits)
B. Mathematical and Quantitative Reasoning
   - MTH 23 Probability and Statistics (3 Credits)
C. Life and Physical Sciences
   - PHY 11 College Physics I (4 Credits)

**FLEXIBLE CORE**
A. World Cultures and Global Issues
   - HIS 10 History of the Modern World OR
     HIS 11 Introduction to the Modern World (3 Credits)

B. Individual and Society
   - COMM 11 Fundamentals of Interpersonal Communications (3 Credits)

C. Scientific World
   - ENV 11 Introduction to Environmental Health OR
     CHM 11 General College Chemistry I (4 Credits)

<table>
<thead>
<tr>
<th>REQUIRED AREAS OF STUDY</th>
<th>ELC 11 DC Circuit Analysis (2 Credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ELC 15 Computer Applications in Technology (2 Credits)</td>
</tr>
<tr>
<td></td>
<td>MTH 13 Trigonometry and College Algebra (3 Credits)</td>
</tr>
<tr>
<td></td>
<td>Restricted Elective 2 (1 Credit)</td>
</tr>
</tbody>
</table>

SUBTOTAL 18

**SPECIALIZATION REQUIREMENTS**

- EST 11 Introduction to Energy Technology (2 Credits)
- EST 15 Energy Economics (3 Credits)
- EST 21 Energy Analysis of Mechanical and Electrical Equipment (2 Credits)
- EST 31 Building Systems I (3 Credits)
- EST 32 Building Systems II (3 Credits)
- EST 41 Principles of Energy Management I (3 Credits)
- EST 42 Principles of Energy Management I (3 Credits)

SUBTOTAL 19

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1 Students planning on transferring to a four-year program may substitute MTH 30 and MTH 31 for MTH 13 and MTH 23.
2 Choose from ART 10, MUS 10, any PEA one credit course, CPR 10, or WFA 10.
ENGINEERING SCIENCE
(PATHWAYS REVISION)

Associate in Science Degree  |  Transfer Degree
Physics & Technology Department

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.

Curriculum Coordinator: Dr. A. Lal

ENGINEERING SCIENCE CURRICULUM

60 Credits required for A.S. Degree

REQUIRED CORE
A. English Composition (6 Credits)
B. Mathematical and Quantitative Reasoning¹
  ■ MTH 30 Pre-Calculus Mathematics OR
  ■ MTH 31 Analytic Geometry & Calculus I (4 Credits)
C. Life and Physical Science¹
  ■ PHY 31 Physics I (4 Credits)

SUBTOTAL 14

FLEXIBLE CORE
A. World Cultures and Global Issues² (3 Credits)
B. US Experience and its Diversity² (3 Credits)
C. Creative Expression (3 Credits)
D. Individual and Society² (3 Credits)
E. Scientific World¹
  ■ PHY 32 Physics II (4 Credits)
Additional course from the Flexible Core
  ■ CHM 11 General Chemistry I (4 Credits)

SUBTOTAL 20

SPECIALIZATION REQUIREMENTS
■ EGR 11 Introduction to Engineering Design (1 Credit)
■ EGR 21 Analysis Tools for Engineers OR EGR 31 Circuit Analysis (2-3 Credits)
■ MTH 31 Analytic Geometry & Calculus I (0-4 Credits)
■ MTH 32 Analytic Geometry & Calculus II (5 Credits)
■ MTH 33 Analytical Geometry & Calculus III (5 Credits)
■ MTH 34 Differential Equations & Selected Topics in Advanced Calculus (4 Credits)
■ PHY 33 Physics III (4 Credits)
■ Restricted Electives³ (0-5 Credits)

SUBTOTAL 26

¹This program has received a waiver to require students to take MTH 30 or MTH 31 to fulfill Required Core Area B, PHY 31 to fulfill Required Core Area C, PHY 32 to fulfill Flexible Area E and CHM 11 to fulfill the 6th Flexible Area course. Note that MTH 30 is a prerequisite to MTH 31. If students transferring into this program complete different courses in these areas, they will be certified as having completed the Common Core requirements, but it may not be possible for them to finish their degree within the regular number (60) of credits.

²In choosing courses to fulfill Pathways Flexible Core requirements for Areas A, B, C, and D, students are strongly advised to select courses from no fewer than three (3) different departments.

³Select from the following:
■ CHM 12 General Chemistry II (4 Credits) OR
  ■ CHM 22 General Chemistry II with Qualitative Analysis (5 Credits)
■ CHM 31 Organic Chemistry I (5 Credits)
■ EGR 21 Analysis Tools for Engineers (2 Credits)
■ EGR 31 Circuit Analysis (3 Credits)
■ ENG 23 Scientific and Technical Writing (3 Credits)
■ ENG 96 Digital Systems I (4 Credits)
ENVIRONMENTAL TECHNOLOGY
(PATHWAYS REVISION)

Associate in Applied Sciences Degree  |  Career Program
Department of Chemistry & Chemical Technology

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.

Curriculum Coordinator: Dr. Neal Phillip

ENVIRONMENTAL TECHNOLOGY CURRICULUM
60 Credits required for A.A.S. Degree

REQUIRED CORE
A. English Composition
   ■ ENG 10 Fundamentals of Composition & Rhetoric OR
     ENG 11 Composition and Rhetoric I (3 Credits)
B. Mathematical and Quantitative Reasoning
   ■ MTH 23 Probability & Statistics 1 (3 Credits)
C. Life and Physical Sciences
   ■ CHM 17 Fundamentals of General Chemistry 2 (4 Credits)

FLEXIBLE CORE
A. World Cultures and Global Issues
   ■ HIS 10 History of the Modern World OR
     HIS 11 Introduction to the Modern World (3 Credits)
D. Individual and Society
   ■ COMM 11 Fundamentals of Interpersonal Communication (3 Credits)
E. Scientific World
   ■ CHM 18 Fundamentals of General Chemistry II 2 (4 Credits)
   Additional Flexible Core Requirement – Area E.
  ■ BIO 11 General Biology I (4 Credits)

SUBTOTAL 24

REQUIRED AREAS OF STUDY
■ BIO 12 General Biology II (4 Credits)
■ DAT 33 Microcomputer Applications 3 (2 Credits)
■ ENG 23 Scientific and Technical Writing 4 (3 Credits)
■ MTH 13 Trigonometry & College Algebra 1 (3 Credits)
■ PHY 11 College Physics I (4 Credits)
■ Restricted Elective 5 (1 Credit)

SUBTOTAL 17

SPECIALIZATION REQUIREMENTS
■ ENV 11 Introduction to Environmental Health (4 Credits)
■ ENV 12 Environmental & Occupational Regulations (4 Credits)
■ ENV 23 Environmental Toxicology (3 Credits)
■ ENV 31 Water Chemistry and Pollution (4 Credits)
■ ENV 32 Atmospheric Chemistry and Pollution (4 Credits)

SUBTOTAL 19

1 Students intending to transfer to four-year programs in Environmental Science and Environmental Engineering should take MTH 30 and MTH 31 in lieu of MTH 13 and MTH 23.
2 Students intending to transfer to four-year programs in Environmental Science and Environmental Engineering should take CHM 11 and CHM 12 in lieu of CHM 17 and CHM 18.
3 Students can substitute CHM 38 for DAT 33.
4 Students can substitute ENG 12 for ENG 23.
5 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.
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**

#### REQUIRED CORE

A. English Composition
- ENG 10 Fundamentals of Composition and Rhetoric OR ENG 11 Composition and Rhetoric I (3 Credits)
- 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 Credits)

B. Mathematical and Quantitative Reasoning
- MTH 21 Survey of Mathematics I OR MTH 23 Probability and Statistics (3 Credits)

C. Life and Physical Sciences
- BIO 21 The Human Body (4 Credits)

**SUBTOTAL 13**

#### FLEXIBLE CORE

A. World Cultures and Global Issues
- SOC 11 Introduction to Sociology (3 Credits)

B. US Experience in its Diversity
- POL 11 American National Government (3 Credits)

C. Creative Expression
- ART 11 Introduction to Art History OR ART 12 Introduction to Art History: Africa, the Americas, Asia and the Middle East OR MUS 11 Introduction to Music OR MUS 12 Introduction to Music: A Multi-Cultural Survey of World Music (3 Credits)

D. Individual and Society
- PSY 11 Introduction to Psychology (3 Credits)

**Additional Flexible Core Requirement – Area A**
- HIS 10 or History of the Modern World OR HIS 11 Introduction to the Modern World (3 Credits)

**SUBTOTAL 15**

#### REQUIRED AREAS OF STUDY

- COMM 11 Fundamentals of Interpersonal Communication OR COMM 20 Public Speaking and Critical Listening (0-3 Credits)
- HLT 91 Critical Issues in Health (2 Credits)

**SUBTOTAL 5**

#### SPECIALIZATION REQUIREMENTS

- HSC 10 Human Services and Social Welfare Institutions (0-3 Credits)
- HSC 11 Case Management (3 Credits)
- HSC 12 Human Services Skills and Methods (3 Credits)
- HSC 91 Fieldwork and Seminar in Human Services I (3 Credits)
- HSC 92 Fieldwork and Seminar in Human Services II (3 Credits)
- SOC 35 Introduction to Social Work (3 Credits)
- SOC 37 Social Inequity (3 Credits)
- PSY 31 Abnormal Psychology (3 Credits)
- PSY 40 Life Span Development (3 Credits)

**SUBTOTAL 27**

1 Students planning on transferring to a four-year college are advised to take MTH 21 or MTH 23.
LIBERAL ARTS AND SCIENCES
(PATHWAYS REVISION)

Associate in Arts Degree | Transfer Degree | Education and Reading Department
EDUCATION OPTION

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. The academic experiences in liberal arts and sciences provide the foundation for later specialization, graduate study, and professional school. The Education Option offers a greater degree of specialization.

Curriculum Coordinator: Professor Diane D’Alessio

LIBERAL ARTS AND SCIENCES CURRICULUM
60 Credits required for A.A. Degree

REQUIRED COMMON CORE
A. English Composition (6 Credits)
B. Mathematical and Quantitative Reasoning (3 Credits)
C. Life and Physical Sciences (3-4 Credits)

SUBTOTAL 12-13

FLEXIBLE COMMON CORE
A. World Cultures and Global Issues (6 Credits)
B. U.S. Experience in Diversity (3 Credits)
C. Creative Expression (3 Credits)
D. Individual and Society (3 Credits)
E. Scientific World (3 Credits)

SUBTOTAL 18

REQUIRED AREAS OF STUDY
■ ART 11 Introduction to Art History OR
ART 12 Introduction to Art History: Africa, the Americas, Asia, and the Middle East OR
MUS 11 Introduction to Music OR
MUS 12 Introduction to Music: A Multicultural Survey of World Music (0-3 Credits)
■ COMM 11 Fundamentals of Interpersonal Communication
OR COMM 20 1 Public Speaking and Critical Listening 2
(0-3 Credits)
■ HIS 10 History of the Modern World OR
HIS 11 Introduction to the Modern World (0-3 Credits)
■ PSY 11 Introduction to Psychology (0-3 Credits)
■ MODERN LANGUAGES Choose from FRN, ITL, POR, OR SPN (0-3 Credits)

SUBTOTAL 0-15

REQUIRED AREAS OF STUDY II
■ LAB SCIENCES 3 (0-1 Credit)
■ PEA Select any Physical Education course OR
HLT 91 Critical Issues in Health (1-2 Credits)
■ FREE ELECTIVES 4

SUBTOTAL 2-17

SPECIALIZATION REQUIREMENTS
■ EDU 10 Child Study- Birth to Grade 6 (3 Credits)
■ EDU 12 Contemporary Urban Education – Birth to Grade 6 (3 Credits)
■ EDU 40 Field Work Seminar (3 Credits)
■ EDU 26 2 Human Relations in Urban Schools OR
EDU 30 Introduction to Special Needs† (3 Credits)

SUBTOTAL 12

1. It is recommended that students planning to transfer to City College take COMM 20.
2 It is recommended that students planning to transfer to Lehman College's Early Childhood / Childhood Education Program take EDU 26.
3. This requirement is satisfied if students take STEM variant courses in Required Core C or Flexible Core E.
4. It is recommended that students take a second course in the same language if they have free elective credits. It is also recommended that students who fulfill the Flexible Core with courses from the Required Area of Study select courses from the Liberal Arts and Sciences disciplines.

Note: 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 and a grade point average of 2.75 or better for admission into Lehman College's Early Childhood/Childhood Program.

†NYS Education Department requires teacher education candidates to complete a three credit course designed to meet the needs of all students in an inclusive classroom (EDU 30). After May 2014, teacher candidates will be required to take an examination –Educating All Students.

Continued on next page.
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
(PATHWAYS REVISION)

Associate in Arts Degree  |  Transfer Degree  |  Department of History

HISTORY OPTION

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. The History Option offers a greater degree of specialization.

Curriculum Coordinator:  Dr. Tamar Rothenberg

LIBERAL ARTS AND SCIENCES CURRICULUM
60 Credits required for A.A. Degree

REQUIRED CORE
A. English Composition (6 Credits)
B. Mathematical and Quantitative Reasoning (3 Credits)
C. Life and Physical Sciences ¹ (3-4 Credits)

SUBTOTAL 12-13

FLEXIBLE CORE
A. World Cultures and Global Issues (6 Credits)
B. U.S. Experience in Diversity (3 Credits)
C. Creative Expression (3 Credits)
D. Individual and Society (3 Credits)
E. Scientific World (3 Credits)

SUBTOTAL 18

REQUIRED AREAS OF STUDY I
Note: Students will complete a minimum of six credits of these requirements within the Flexible Core. Transfer students who have completed Common Core requirements at a previous institution will not be required to complete credits in excess of the 60 credit requirement.

■ ART 11 Introduction to Art History OR ART 12 Introduction to Art History: Africa, the Americas, Asia and the Middle East OR MUS 11 Introduction to Music OR MUS 12 Introduction to Music: A Multi-Cultural Survey of World Music (0-3 Credits)
■ COMM 11 Fundamentals of Interpersonal Communication OR Select ONE from COMM, THEA, FILM, MEST (0-3 Credits)
■ ENG English Elective ² (0-3 Credits)
■ HIS 10 History of the Modern World OR HIS 11 Introduction to the Modern World (0-3 Credits)
■ SOCIAL SCIENCE Select one course from ANT, ECO, POL, PSY, SOC (0-3 Credits)
■ MODERN LANGUAGES Select a sequence of two courses from the same Modern Language (0-6 Credits)

SUBTOTAL 6-15

REQUIRED AREAS OF STUDY II
■ PEA Physical Education OR HLT 91 Critical Issues in Health (1-2 Credits)
■ LAB Lab Science ¹ (0-1 Credit)
■ FREE ELECTIVES (0-10 Credits)

SUBTOTAL 1-13

SPECIALIZATION REQUIREMENTS
■ HIS 20 The American Nation (3 Credits)
■ HIS Select TWO additional HIS courses (6 Credits)
■ Restricted Elective Select one of the following: GEO; PHL; ANT; ECO; POL; SOC; MUS 11 OR 12; ART 11 OR 12; ART 55; FILM 61 or 91; THEA 70; ENG 41, 48, 50, 51, 53, 56, 57 OR 61; FRN 22; ITL 23; SPN 21, 22, 24, 25, 30 OR 31 (3 Credits)

SUBTOTAL 12

¹ This requirement is satisfied if a student takes a 4-credit STEM variant course in Required Area C.
² Choose from any ENG course above ENG 16 with the exception of ENG 23.
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. The Human Services Option offers a greater degree of specialization.

Curriculum Coordinator: Professor Donna Mangiante

LIBERAL ARTS AND SCIENCES CURRICULUM
60 Credits required for A.A. Degree

REQUIRED CORE
A. English Composition (6 Credits)
B. Mathematical and Quantitative Reasoning (3 Credits)
C. Life and Physical Sciences ¹ (3-4 Credits)

SUBTOTAL 12-13

FLEXIBLE CORE
A. World Cultures and Global Issues (6 Credits)
B. U.S. Experience in Diversity (3 Credits)
C. Creative Expression (3 Credits)
D. Individual and Society (3 Credits)
E. Scientific World ² (3 Credits)

SUBTOTAL 18

REQUIRED AREAS OF STUDY I
Note: Students will complete a minimum of six credits of these requirements within the Flexible Core. Transfer students who have completed Common Core requirements at a previous institution will not be required to complete credits in excess of the 60 credit requirement.

ART & MUSIC
ART 11 Introduction to Art History OR
ART 12 Introduction to Art History: Africa, the Americas, Asia and the Middle East OR
MUS 11 Introduction to Music OR
MUS 12 Introduction to Music: A Multi-Cultural Survey of World Music (0-3 Credits)

COMMUNICATIONS COMM, THEA, FILM, MEST (0-3 Credits)
ENGLISH Any English above ENG 16 except ENG 23 (0-3 Credits)
HISTORY Select ONE from HIS, GEO, PHL (0-3 Credits)
MODERN LANGUAGES Select TWO from the same language at the appropriate level (0-6 Credits)
SOCIAL SCIENCE Select ONE from ANT, CRJ, ECO, HSC, POL, PSY, SOC (0-3 Credits)

SUBTOTAL 6-15

REQUIRED AREAS OF STUDY II
PEA Physical Education OR HLT 91 Critical Issues in Health (1-2 Credits)
SCIENCE LAB ¹ Science Laboratory (0-1 Credit)
FREE ELECTIVES (0-10 Credits)

SUBTOTAL 1-13

HUMAN SERVICES SPECIALIZATION
PSY 11 Introduction to Psychology (0-3 Credits)
SOC 11 Introduction to Sociology (0-3 Credits)
SOC 35 Introduction to Social Work (3 Credits)
HSC 10 Social Welfare Institutions (0-3 Credits)

SUBTOTAL 12

¹ This requirement is satisfied if a student takes a 4-credit STEM variant course in Required Area C.
² It is recommended that Human Services students take at least ONE course in Biology.
LIBERAL ARTS AND SCIENCES
(PATHWAYS REVISION)

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. The International Studies Option offers a greater degree of specialization.

Curriculum Coordinator: Dr. James Freeman

LIBERAL ARTS AND SCIENCES CURRICULUM
60 Credits required for A.A. Degree

REQUIRED CORE
A. English Composition (6 Credits)
B. Mathematical and Quantitative Reasoning (3 Credits)
C. Life and Physical Sciences ¹ (3-4 Credits)
   SUBTOTAL 12-13

FLEXIBLE CORE
A. World Cultures and Global Issues (6 Credits)
B. U.S. Experience in Diversity (3 Credits)
C. Creative Expression (3 Credits)
D. Individual and Society (3 Credits)
E. Scientific World (3 Credits)
   SUBTOTAL 18

REQUIRED AREAS OF STUDY I
Note: Students will complete a minimum of six credits of these requirements within the Flexible Core. Transfer students who have completed Common Core requirements at a previous institution will not be required to complete credits in excess of the 60 credit requirement.

■ ART 11 Introduction to Art History OR
  ART 12 Introduction to Art History: Africa, the Americas, Asia and the Middle East OR
  MUS 11 Introduction to Music OR
  MUS 12 Introduction to Music: A Multi-Cultural Survey of World Music (0-3 Credits)
■ COMMUNICATIONS COMM, THEA, FILM, MEST (0-3 Credits)

■ ENGLISH ² Any English above ENG 16 except ENG 23 (0-3 Credits)
■ HISTORY Select ONE from HIS, GEO, PHL (0-3 Credits)
■ MODERN LANGUAGES Select TWO from the same language at the appropriate level (0-6 Credits)
■ SOCIAL SCIENCES Select ONE from ANT, CRJ, ECO, HSC, POL, PSY, SOC (0-3 Credits)
   SUBTOTAL 6-15

REQUIRED AREAS OF STUDY II
■ PEA Physical Education OR HLT 91 Critical Issues in Health (1-2 Credits)
■ SCIENCE LAB ¹ Science Laboratory (0-1 Credit)
■ FREE ELECTIVES (0-10 Credits)
   SUBTOTAL 1-13

INTERNATIONAL STUDIES SPECIALIZATION
Select FOUR courses from the following:
■ POLITICAL SCIENCE Select ONE from POL 31, POL 42, POL 71 OR POL 72 (0-3 Credits)
■ ENGLISH Select ONE from ENG 47, ENG 48, OR ENG 57 (0-3 Credits)
■ ECONOMICS Select ONE from ECO 72, ECO 12, ECO 11, OR ECO 15 (0-3 Credits)
   SUBTOTAL 0-12

RESTRICTED ELECTIVE
■ Select ONE from ANT 11, GEO 10, HIS 10/11, HIS 13, HIS 14, HIS 15, HIS 24, HIS 25, HIS 27, HIS 31, HIS 35, HIS 39, SOC 11 (0-3 Credits)
   SUBTOTAL 0-3

¹ This requirement is satisfied if a student takes a 4-credit STEM variant course in Required Area C.
² Choose from any ENG course above ENG 16 with the exception of ENG 23
LIBERAL ARTS AND SCIENCES
(PATHWAYS REVISION)

Associate in Arts Degree  |  Transfer Degree  |  Department of Communication Arts & Sciences

MEDIA STUDIES OPTION

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. The Media Studies Option offers a greater degree of specialization.

Curriculum Coordinator:  Dr. Debra A. Gonsher

LIBERAL ARTS AND SCIENCES CURRICULUM
60 Credits required for A.A. Degree

REQUIRED CORE
A. English Composition 1 (6 Credits)
B. Mathematical and Quantitative Reasoning 2 (3 Credits)
C. Life and Physical Sciences 3 (3-4 Credits)

SUBTOTAL 12-13

FLEXIBLE CORE
A. World Cultures and Global Issues (6 Credits)
B. U.S. Experience in Diversity (3 Credits)
C. Creative Expression (3 Credits)
D. Individual and Society (3 Credits)
E. Scientific World (3 Credits)

SUBTOTAL 18

REQUIRED AREAS OF STUDY I
Note: Students will complete a minimum of six credits of these requirements within the Flexible Core. Transfer students who have completed Common Core requirements at a previous institution will not be required to complete credits in excess of the 60 credit requirement.

■ ART 11 Introduction to Art OR
■ ART 12 Introduction to Art History: Africa, the Americas, Asia and the Middle East OR MUS 11 Introduction to Music OR
MUS 12 Introduction to World Music (0-3 Credits)

■ COMM 11 Introduction to Communication OR Select ONE from COMM, THEA, FILM, MEST (0-3 Credits)
■ ENGLISH English Elective (0-3 Credits)
■ HIS 10 History of the Modern World OR
HIS 11 Introduction to the Modern World (0-3 Credits)
■ MODERN LANGUAGES Select one course from FRN, ITL, POR, or SPN (0-3 Credits)
■ SOCIAL SCIENCE Select one course from ANT, ECO, POL, PSY, SOC (0-3 Credits)

REQUIRED AREAS OF STUDY II
■ PEA Physical Education OR
■ HLT 91 Critical Issues in Health (1-2 Credits)
■ LAB 3 Lab Science (0-1 Credit)

SPECIALIZATION REQUIREMENTS
■ FILM 61 Introduction to Film (0-3 Credits)
■ FILM 91 World Cinema (0-3 Credits)
■ MEST 60 Introduction to Mass Communication (0-3 Credits)
■ MEST 96 Television, Society, and the Individual (0-3 Credits)

FREE ELECTIVES
■ Free Elective to complete 60 credits 4 (3-12 Credits)

SUBTOTAL 29-30

1 ENG 10/11 plus one course from ENG 12, 14, 15, and 16. It is recommended that students choose ENG 15.
2 MTH 23 is recommended in Required Core B
3 Select appropriate lab course to match lecture course. The 1 credit lab requirement is satisfied if a student takes a 4-credit STEM variant course in Required Area C.
4 It is recommended that students use free elective credits to take MEDP 18. Select additional free electives in consultation with Media Studies advisor.
LIBERAL ARTS AND SCIENCES
(PATHWAYS REVISION)

Associate in Arts Degree | Transfer Degree Program
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: 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.

Curriculum Coordinator: Dr. James Freeman

LIBERAL ARTS AND SCIENCES CURRICULUM
60 Credits required for A.A. Degree

REQUIRED CORE
A. English Composition (6 Credits)
B. Mathematical and Quantitative Reasoning (3 Credits)
C. Life and Physical Sciences ¹ (3-4 Credits)
   SUBTOTAL: 12-13

FLEXIBLE CORE
A. World Cultures and Global Issues (6 Credits)
B. U.S. Experience in Diversity (3 Credits)
C. Creative Expression (3 Credits)
D. Individual and Society (3 Credits)
E. Scientific World (3 Credits)
   SUBTOTAL: 18

REQUIRED AREAS OF STUDY I
Note: Students will complete a minimum of six credits of these requirements within the Flexible Core. Transfer students who have completed Common Core requirements at a previous institution will not be required to complete credits in excess of the 60 credit requirement.

   ■ ART 11 Introduction to Art History OR
   ■ ART 12 Introduction to Art History: Africa, the Americas, Asia and the Middle East (0-3 Credits)

   ■ MUS 11 Introduction to Music OR
   ■ MUS 12 Introduction to Music: A Multi-Cultural Survey of World Music (0-3 Credits)
   ■ COMM 11 Fundamentals of Interpersonal Communication (0-3 Credits)
   ■ COMMUNICATION Select ONE from COMM, THEA, FILM, MEST (0-3 Credits)
   ■ ENGLISH English Elective ² (0-3 Credits)
   ■ HIS 10 History of the Modern World OR
   ■ HIS 11 Introduction to the Modern World (0-3 Credits)
   ■ HISTORY Select ONE from HIS, GEO, PHL (0-3 Credits)
   ■ MODERN LANGUAGE Select TWO from the same language (0-6 Credits)
   ■ SOCIAL SCIENCE Select TWO courses from ANT, CRJ, ECO, HSC, POL, PSY, and SOC (0-6 Credits)

REQUIRED AREAS OF STUDY II

   ■ PEA Physical Education OR HLT 91 Critical Issues in Health (1-2 Credits)
   ■ Lab Science ¹ (0-1 Credit)
   ■ Free Electives (0-10 Credits)
   SUBTOTAL: 29-30

¹ This requirement is satisfied if a student takes a 4-credit STEM variant course in Required Area C.
² Choose from any ENG course above ENG 16 with the exception of ENG 23.
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. The Performing Arts Option offers a greater degree of specialization.

Curriculum Coordinator: Dr. Debra A. Gonsher

LIBERAL ARTS AND SCIENCES CURRICULUM
60 Credits required for A.A. Degree

REQUIRED CORE
A. English Composition ¹ (6 Credits)
B. Mathematical and Quantitative Reasoning ² (3 Credits)
C. Life and Physical Sciences (3-4 Credits)

SUBTOTAL 13

FLEXIBLE CORE
A. World Cultures and Global Issues (6 Credits)
B. U.S. Experience in its Diversity (3 Credits)
C. Creative Expression (3 Credits)
D. Individual and Society (3 Credits)
E. Scientific World (3 Credits)

SUBTOTAL 18

REQUIRED AREAS OF STUDY
- ART 11 Introduction to Art OR
  ART 12 Introduction to Art History: Africa, the Americas, Asia and the Middle East OR
- MUS 11 Introduction to Music OR
- MUS 12 Introduction to World Music (0-3 Credits)
- COMM 11 Introduction to Communication OR
  COMM 20 Public Speaking and Critical Listening (0-3 Credits)
- HIS 10 History of the Modern World OR
  HIS 11 Introduction to the Modern World (0-3 Credits)
- MODERN LANGUAGES ³ Select one course from FRN, ITL, POR, OR SPN (0-3 Credits)
- SOCIAL SCIENCE Select one course from ANT, ECO, POL, PSY, OR SOC (0-3 Credits)
- PEA Physical Education OR
  HLT 91 Critical Issues in Health (1-2 Credits)
- LAB ⁴ Lab Science (0-1 Credit)

SUBTOTAL 1-18

SPECIALIZATION REQUIREMENTS
- THEA 70 Introduction to Theatre (0-3 Credits)
- THEA 75 Introduction to Acting (0-3 Credits)
- ENG 40 Folklore OR
  ENG 61 Shakespeare (0-3 Credits)
- PERFORMING ARTS
  Choose One From:
  - COMM 26 Oral Interpretation of Literature OR
  - FILM 61 Introduction to Film OR
  - FILM 91 World Cinema
  - MUS 14 Creative Computer Music OR
  - MUS 21 Choral Performance 1 OR
  - MUS 22 Choral Performance 2 OR
  - MUS 23 Choral Performance 3 OR
  - MUS 24 Choral Performance 4 OR
  - MEST 60 Introduction to Mass Communication
  - PEA 41 Techniques of Jazz Dance OR
  - PEA 46 African, Caribbean and Black Dance Forms OR
  - PEA 47 Beginning Salsa (0-3 Credits)

SUBTOTAL 0-12

FREE ELECTIVES
- To complete 60 credits ⁵ ⁶ (0-16 Credits)

1 ENG 10/11 plus one course from ENG 12, 14, 15, and 16. ENG 15 is recommended for this option.
2 MTH 21 or 23 is recommended in Required Core B.
3 Students who have completed two years of a modern language in high school are exempt from this requirement.
4 Select appropriate lab course, if needed, to match lecture course.
5 Students should see the language requirements at the senior college to which they are planning to transfer and consult with an advisor about using free elective credits to complete a two-semester modern language sequence, if needed.
6 Select additional free electives in consultation with Performing Arts advisor.
LIBERAL ARTS AND SCIENCES
(PATHWAYS REVISION)

Associate in Arts Degree | Transfer Degree | Social Sciences Department

POLITICAL SCIENCE OPTION

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. The Political Science Option offers a greater degree of specialization.

Curriculum Coordinator: Dr. Peter Kolozi

LIBERAL ARTS AND SCIENCES CURRICULUM

60 Credits required for A.A. Degree

REQUIRED CORE
A. English Composition (6 Credits)
B. Mathematical and Quantitative Reasoning (3 Credits)
C. Life and Physical Sciences ¹ (3-4 Credits)

SUBTOTAL 12-13

FLEXIBLE CORE
A. World Cultures and Global Issues (6 Credits)
B. U.S. Experience in Diversity (3 Credits)
C. Creative Expression (3 Credits)
D. Individual and Society (3 Credits)
E. Scientific World (3 Credits)

SUBTOTAL 18

REQUIRED AREAS OF STUDY I

Note: Students will complete a minimum of six credits of these requirements within the Flexible Core. Transfer students who have completed Common Core requirements at a previous institution will not be required to complete credits in excess of the 60 credit requirement.

■ ART & MUSIC
  ART 11 Introduction to Art History OR ART 12 Introduction to Art History: Africa, the Americas, Asia and the Middle East OR MUS 11 Introduction to Music OR MUS 12 Introduction to Music: A Multi-Cultural Survey of World Music (0-3 Credits)

■ COMMUNICATIONS
  COMM, THEA, FILM, MEST (0-3 Credits)

■ ENGLISH
  Any English above ENG 16 except ENG 23 (0-3 Credits)

■ HISTORY
  Select ONE from HIS, GEO, PHL (0-3 Credits)

■ MODERN LANGUAGES
  Select TWO from the same language at the appropriate level (0-6 Credits)

■ SOCIAL SCIENCE
  Select ONE from ANT, CRJ, ECO, HSC, POL, PSY, SOC (0-3 Credits)

SUBTOTAL 6-15

REQUIRED AREAS OF STUDY II

■ PEA
  Physical Education OR HLT 91 Critical Issues in Health (1-2 Credits)

■ SCIENCE LAB ¹ Science Laboratory (0-1 Credit)

■ Free Electives (0-10 Credits)

SUBTOTAL 1-13

POLITICAL SCIENCE SPECIALIZATION

■ POL 11 American National Government (0-3 Credits)

■ POLITICAL SCIENCE
  Choose any THREE from POL 21, POL 31, POL 41, POL 42, POL 51, POL 61, POL 71, POL 72, POL 81 (0-9 Credits)

SUBTOTAL 12

¹ This requirement is satisfied if a student takes a 4-credit STEM variant course in Required Area C.
LIBERAL ARTS AND SCIENCES  
(PATHWAYS REVISION)

Associate in Arts Degree  |  Transfer Degree  |  Social Sciences Department

PSYCHOLOGY OPTION

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. The Psychology Option offers a greater degree of specialization.

Curriculum Coordinator:  Dr. Rafael Mendez

LIBERAL ARTS AND SCIENCES CURRICULUM

60 Credits required for A.A. Degree

REQUIRED CORE
A. English Composition (6 Credits)
B. Mathematical and Quantitative Reasoning (3 Credits)
C. Life and Physical Sciences ¹ (3-4 Credits)

SUBTOTAL 12-13

FLEXIBLE CORE
A. World Cultures and Global Issues (6 Credits)
B. U.S. Experience in Diversity (3 Credits)
C. Creative Expression (3 Credits)
D. Individual and Society (3 Credits)
E. Scientific World (3 Credits)

SUBTOTAL 18

REQUIRED AREAS OF STUDY I

Note: Students will complete a minimum of six credits of these requirements within the Flexible Core. Transfer students who have completed Common Core requirements at a previous institution will not be required to complete credits in excess of the 60 credit requirement.

- ART & MUSIC  
  ART 11 Introduction to Art History OR ART 12 Introduction to Art History: Africa, the Americas, Asia and the Middle East OR MUS 11 Introduction to Music OR MUS 12 Introduction to Music: A Multi-Cultural Survey of World Music (0-3 Credits)
- COMMUNICATIONS  
  COMM, THEA, FILM, MEST (0-3 Credits)
- ENGLISH Any English above ENG 16 except ENG 23 (0-3 Credits)
- HISTORY Select ONE from HIS, GEO, PHL (0-3 Credits)
- MODERN LANGUAGES Select TWO from the same language at the appropriate level (0-6 Credits)
- SOCIAL SCIENCE Select ONE from ANT, CRJ, ECO, HSC, POL, PSY, SOC (0-3 Credits)

SUBTOTAL 6-15

REQUIRED AREAS OF STUDY II

- PEA Physical Education OR HLT 91 Critical Issues in Health (1-2 Credits)
- SCIENCE LAB ¹ Science Laboratory (0-1 Credit)
- Free Electives (0-10 Credits)

SUBTOTAL 1-13

PSYCHOLOGY SPECIALIZATION

- PSY 11 Introduction to Psychology (0-3 Credits)
- PSYCHOLOGY Choose any THREE from PSY 22, PSY 23, PSY 27, PSY 31, PSY 35, PSY 40, PSY 41, PSY 42, PSY 43, PSY 44, PSY 51, PSY 71, PSY 72 (9 Credits)

SUBTOTAL: 9-12

¹ This requirement is satisfied if a student takes a 4-credit STEM variant course in Required Area C.
LIBERAL ARTS AND SCIENCES
(PATHWAYS REVISION)

Associate in Arts Degree  |  Transfer Degree  |  Social Sciences Department

SOCILOGY OPTION

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. The Sociology Option offers a greater degree of specialization.

Curriculum Coordinator:  Dr. Vaso Thomas

LIBERAL ARTS AND SCIENCES CURRICULUM
60 Credits required for A.A. Degree

REQUIRED CORE
A. English Composition (6 Credits)
B. Mathematical and Quantitative Reasoning (3 Credits)
C. Life and Physical Sciences ² (3-4 Credits)

SUBTOTAL 12-13

FLEXIBLE CORE
A. World Cultures and Global Issues (6 Credits)
B. U.S. Experience in Diversity (3 Credits)
C. Creative Expression (3 Credits)
D. Individual and Society (3 Credits)
E. Scientific World (3 Credits)

SUBTOTAL 18

REQUIRED AREAS OF STUDY I

Note: Students will complete a minimum of six credits of these requirements within the Flexible Core. Transfer students who have completed Common Core requirements at a previous institution will not be required to complete credits in excess of the 60 credit requirement.

■ ART & MUSIC ART 11 Introduction to Art History OR
  ART 12 Introduction to Art History: Africa, the Americas, Asia and the Middle East OR   MUS 11 Introduction to Music OR
  MUS 12 Introduction to Music: A Multi-Cultural Survey of World Music (0-3 Credits)

■ COMMUNICATIONS COMM, THEA, FILM, MEST (0-3 Credits)
■ ENGLISH ¹ Any English above ENG 16 except ENG 23 (0-3 Credits)
■ HISTORY Select ONE from HIS, GEO, PHL (0-3 Credits)
■ MODERN LANGUAGES Select TWO from the same language at the appropriate level (0-6 Credits)
■ SOCIAL SCIENCE Select ONE from ANT, CRJ, ECO, HSC, POL, PSY, SOC (0-3 Credits)

SUBTOTAL 6-15

REQUIRED AREAS OF STUDY II

■ PEA Physical Education OR
  HLT 91 Critical Issues in Health (1-2 Credits)
■ SCIENCE LAB ¹ Science Laboratory (0-1 Credit)
■ FREE ELECTIVES (0-10 Credits)

SUBTOTAL 1-13

SOCILOGY SPECIALIZATION

■ SOC 11 Introduction to Sociology (0-3 Credits)
■ SOCIOLOGY Select Three from the following:
  SOC 31 Race and Ethnic Relations;
  SOC 32 Sociology of the City;
  SOC 33 Marriage and Family; SOC 34 Social Deviance;
  SOC 35 Introduction to Social Work ³;
  SOC 37 Social Inequality;
  SOC 92 Religion and Society (9 Credits)

SUBTOTAL 12

¹ Choose from any ENG course above ENG 16 with the exception of ENG 23.
² This requirement is satisfied if a student takes a 4-credit STEM variant course in Required Area C.
³ Students planning to transfer to Lehman College to major in Sociology should not take SOC 35.
LIBERAL ARTS AND SCIENCES

Associate in Arts Degree | Transfer Degree | Department of Modern Languages

SPANISH OPTION

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. The Spanish Option offers a greater degree of specialization.

Curriculum Coordinator: Professor Diana Flores

LIBERAL ARTS AND SCIENCES CURRICULUM

60 Credits required for A.A. Degree

REQUIRED CORE
A. English Composition (6 Credits)
B. Mathematical and Quantitative Reasoning (3 Credits)
C. Life and Physical Sciences (3-4 Credits)

SUBTOTAL 12-13

FLEXIBLE CORE
A. World Cultures and Global Issues (6 Credits)
B. U.S. Experience in Diversity (3 Credits)
C. Creative Expression (3 Credits)
D. Individual and Society (3 Credits)
E. Scientific World (3 Credits)

SUBTOTAL 18

REQUIRED AREAS OF STUDY I
Note: Students will complete a minimum of six credits of these requirements within the Flexible Core. Transfer students who have completed Common Core requirements at a previous institution will not be required to complete credits in excess of the 60 credit requirement.

■ ART 11 Introduction to Art OR ART 12 Introduction to Art History: Africa, the Americas, Asia and the Middle East OR MUS 11 Introduction to Music OR MUS 12 Introduction to World Music (0-3 Credits)
■ COMM 11 Introduction to Communication OR Select ONE from COMM, THEA, FILM, MEST (0-3 Credits)
■ ENGLISH 2 English Elective (0-3 Credits)
■ HIS 10 History of the Modern World OR HIS 11 Introduction to the Modern World OR Select ONE from GEO, PHL (0-3 Credits)
■ MODERN LANGUAGES Select from FRN, ITL or POR at the appropriate level (0-3 Credits)
■ SOCIAL SCIENCES Select one course from ANT, CRJ, ECO, HSC, POL, PSY, SOC (0-3 Credits)

SUBTOTAL 12

REQUIRED AREAS OF STUDY II
■ PEA Physical Education OR HLT 91 Critical Issues in Health (1-2 Credits)
■ LAB 1 Lab Science (0-1 Credit)

SUBTOTAL 1-3

SPECIALIZATION REQUIREMENTS
(choose four based on initial placement in Spanish)
■ SPN-111* Beginning Spanish I 3
■ SPN-112* Beginning Spanish II 3
■ SPN 113* Intermediate Spanish Language and Culture 3
Select one from the following 3:
■ SPN-20* Advanced Spanish Composition and Creative Writing
■ SPN-121* Spanish Language and Culture
■ SPN 122* Latin American Language and Culture
■ SPN 130* Literature and Culture of Puerto Rico OR
■ SPN 131* Literature and Culture of the Spanish Caribbean

SUBTOTAL: 12

FREE ELECTIVES (3-10 Credits)

1 This requirement is satisfied if a student takes a 4-credit STEM variant course in Required Area C.
2 Choose from any ENG course above ENG 16 with the exception of ENG 23.
* A student who places into SPN 111 will begin the Spanish Specialization sequence with 111 and complete four courses. A student who places out of SPN 111 will begin the Spanish Specialization sequence with SPN 112 and complete four courses. A student who places out of SPN 111 and SPN 112 will begin the Spanish Specialization sequence with SPN 113 and complete four courses. A student who places out of SPN 111, 112, and 113 will begin the Spanish Specialization sequence with SPN 20 and complete four courses.

In some cases, SPN 24 or SPN 125 may substitute for SPN 130/131. No credit will be granted toward the Spanish Option for a course taken below a student’s proficiency level.
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. The Speech Pathology Option offers a greater degree of specialization.

Curriculum Coordinator: Dr. Joel Magloire

LIBERAL ARTS AND SCIENCES CURRICULUM
60 Credits required for A.A. Degree

REQUIRED CORE
A. English Composition 1 (6 Credits)
B. Mathematical and Quantitative Reasoning 2 (3 Credits)
C. Life and Physical Sciences 3 (3-4 Credits)
SUBTOTAL 12-13

FLEXIBLE CORE
A. World Cultures and Global Issues (6 Credits)
B. U.S. Experience in Diversity (3 Credits)
C. Creative Expression (3 Credits)
D. Individual and Society (3 Credits)
E. Scientific World (3 Credits)
SUBTOTAL 18

REQUIRED AREAS OF STUDY
Note: Students will complete a minimum of six credits of these requirements within the Flexible Core. Transfer students who have completed Common Core requirements at a previous institution will not be required to complete credits in excess of the 60 credit requirement.

■ ART 11 Introduction to Art OR
■ ART 12 Introduction to Art History: Africa, the Americas, Asia and the Middle East OR MUS 11 Introduction to Music OR
■ MUS 12 Introduction to World Music (0-3 Credits)

■ COMMUNICATIONS 11 Fundamentals of Interpersonal Communication OR Select ONE from MEST, FILM or THEA (0-3 Credits)
■ ENGLISH 4 English Elective (0-3 Credits)
■ HISTORY HIS 10 History of the Modern World OR
HIS 11 Introduction to the Modern World OR Select ONE from GEO, PHL (0-3 Credits)
■ MODERN LANGUAGES 5 Select one course from FRN, ITL, POR, or SPN (0-3 Credits)
■ SOCIAL SCIENCES 6 Select one course from ANT, ECO, POL, PSY, SOC (0-3 Credits)
SUBTOTAL 3-12

REQUIRED AREAS OF STUDY II
■ PEA Physical Education OR
■ HLT 91 Critical Issues in Health (1-2 Credits)
■ LAB 7 Lab Science (0-1 Credit)
■ FREE ELECTIVES (3-16 Credits)
SUBTOTAL 3-19

SPECIALIZATION REQUIREMENTS
■ BIO 21 The Human Body (0-4 Credits)
■ COMM 20 Public Speaking and Critical Listening (0-3 Credits)
■ COMM 41 The Theory of Language Development (3 Credits)
■ COMM 42 Anatomy and Physiology of the Speech Mechanism (3 Credits)
SUBTOTAL 6-13

1 ENG 10/11 plus one course from ENG 12, 14, 15, and 16.
2 MTH 23 is recommended in Required Core B.
3 BIO 21 is recommended in ‘Required Core C.
4 Select from any ENG course above ENG 16 with the exception of ENG 23.
5 Select from any Modern Language listed above at appropriate level with the exception of ITL 23. Students who have passed two years of a Modern Language in high school are exempt from this requirement and may take additional free elective credits.
6 It is recommended that students take PSY 11 in this area.
7 This requirement is satisfied if a student takes a 4-credit STEM variant course in Required Area C. BIO 21 is recommended.
8 Select additional free electives in consultation with Speech Pathology advisor. PSY 11 is recommended for students who have not taken it to fulfill their Social Science requirement.
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**

**REQUIRED CORE**

<table>
<thead>
<tr>
<th>Area</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. English Composition</td>
<td><em>(6 Credits)</em></td>
<td></td>
</tr>
<tr>
<td>B. Mathematical and Quantitative Reasoning</td>
<td>MTH 30 Pre-Calculus Mathematics OR MTH 31 Analytic Geometry &amp; Calculus I <em>(4 Credits)</em></td>
<td></td>
</tr>
<tr>
<td>C. Life and Physical Science</td>
<td>CHM 11 General Chemistry I <em>(4 Credits)</em></td>
<td>14</td>
</tr>
</tbody>
</table>

**FLEXIBLE CORE**

<table>
<thead>
<tr>
<th>Area</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. World Cultures and Global Issues</td>
<td><em>(3 Credits)</em></td>
<td>9</td>
</tr>
<tr>
<td>B. US Experience and its Diversity</td>
<td><em>(3 Credits)</em></td>
<td></td>
</tr>
<tr>
<td>C. Creative Expression</td>
<td><em>(3 Credits)</em></td>
<td></td>
</tr>
<tr>
<td>D. Individual and Society</td>
<td><em>(3 Credits)</em></td>
<td></td>
</tr>
<tr>
<td>E. Scientific World</td>
<td><em>(4 Credits)</em></td>
<td></td>
</tr>
</tbody>
</table>

**SPECIALIZATION REQUIREMENTS**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 31 Analytic Geometry &amp; Calculus I</td>
<td><em>(0 - 4 Credits)</em></td>
<td></td>
</tr>
<tr>
<td>MTH 32 Analytical Geometry &amp; Calculus II</td>
<td><em>(5 Credits)</em></td>
<td></td>
</tr>
<tr>
<td>Specialization requirements for option***</td>
<td><em>(17-18 Credits)</em></td>
<td></td>
</tr>
<tr>
<td>Free Electives</td>
<td><em>(0 - 5 Credits)</em></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL 27**

1 This program has obtained a waiver to require STEM variant courses in Required Core Area B and Area C and Flexible Core Area E. If students transferring into this program complete different courses in these areas, they will be certified as having completed the Common Core requirements, but it may not be possible for them to finish their degree within the regular number (60) of credits.

*Restricted Elective: must select one course from Flexible Core A-E. No more than two courses in any discipline or interdisciplinary field.

**For students that take MTH 30 to fulfill the Required Core.

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

Curriculum Coordinator: Dr. Charles Maliti

**BIOLOGY & MEDICAL LAB TECHNOLOGY DEPARTMENT**

**BIOLOGY OPTION**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 11 General Biology I</td>
<td><em>(4 Credits)</em></td>
</tr>
<tr>
<td>BIO 12 General Biology II</td>
<td><em>(4 Credits)</em></td>
</tr>
<tr>
<td>CHM 31 Organic Chemistry I</td>
<td><em>(5 Credits)</em></td>
</tr>
<tr>
<td>CHM 32 Organic Chemistry II</td>
<td><em>(5 Credits)</em></td>
</tr>
</tbody>
</table>

**TOTAL 18**

Curriculum Coordinator: Dr. Nicolas Anuku

**DEPARTMENT OF CHEMISTRY & CHEMICAL TECHNOLOGY**

**CHEMISTRY OPTION**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 31 Organic Chemistry I</td>
<td><em>(5 Credits)</em></td>
</tr>
<tr>
<td>CHM 32 Organic Chemistry II</td>
<td><em>(5 Credits)</em></td>
</tr>
</tbody>
</table>

Choose two of the three courses below:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 33 Quantitative Analysis AND / OR</td>
<td><em>(4 Credits)</em></td>
</tr>
<tr>
<td>BIO 11 General Biology I AND / OR</td>
<td><em>(4 Credits)</em></td>
</tr>
<tr>
<td>PHY 11 Physics I</td>
<td><em>(8 Credits)</em></td>
</tr>
</tbody>
</table>

**TOTAL 18**

Curriculum Coordinator: Dr. Farnosh Saeedi

**DEPARTMENT OF CHEMISTRY & CHEMICAL TECHNOLOGY**

**EARTH SYSTEMS AND ENVIRONMENTAL SCIENCE OPTION**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 27 Principles of Laboratory Safety</td>
<td><em>(2 Credits)</em></td>
</tr>
<tr>
<td>CHM 33 Quantitative Analysis</td>
<td><em>(4 Credits)</em></td>
</tr>
</tbody>
</table>

Choose two of the three courses below:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESE 11 Earth Systems Science: The Earth OR</td>
<td><em>(8 Credits)</em></td>
</tr>
<tr>
<td>ESE 12 Earth Systems Science: The Atmosphere OR</td>
<td><em>(8 Credits)</em></td>
</tr>
<tr>
<td>ESE 13 Earth Systems Science: The Ocean</td>
<td><em>(8 Credits)</em></td>
</tr>
</tbody>
</table>

**TOTAL 18**

Curriculum Coordinator: Dr. Akhil Lal

**PHYSICS & TECHNOLOGY DEPARTMENT**

**PHYSICS OPTION**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 31 General Physics I</td>
<td><em>(4 Credits)</em></td>
</tr>
<tr>
<td>PHY 32 General Physics II</td>
<td><em>(4 Credits)</em></td>
</tr>
<tr>
<td>PHY 33 General Physics III</td>
<td><em>(4 Credits)</em></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 33 Analytic Geometry &amp; Calculus III</td>
<td><em>(5 Credits)</em></td>
</tr>
</tbody>
</table>

**TOTAL 17**

The Biology Option fully articulates with Lehman's B.S. in 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.
MARKETING MANAGEMENT
(PATHWAYS REVISION)

Associate in Applied Sciences Degree | Career Program
Business and Information Systems Department

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.

Curriculum Coordinator: Professor Howard A. Clampman

MARKETING MANAGEMENT CURRICULUM
60 Credits required for A.A.S. Degree

REQUIRED CORE
A. English Composition
   ■ ENG 10 Fundamentals of Composition and Rhetoric OR
      ENG 11 Composition and Rhetoric I (3 Credits)
   ■ 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 Credits)
B. Mathematical and Quantitative Reasoning
   ■ MTH 21 Survey of Mathematics I OR MTH 23 Probability and
      Quantitative Reasoning (3 Credits)
C. Life and Physical Science
   ■ SCIENCE 2 AST 11, BIO 11, CHM 11, CHM 17, ENV 11,
      ESE 11, ESE 12, ESE 13, PHY 10 OR PHY 11 (3-4 Credits)

FLEXIBLE CORE
A. World Cultures and Global Issues
   ■ HIS 10 History of the Modern World OR HIS 11 Introduction to
      the Modern World (3 Credits)
B. Individual and Society
   ■ COMM 11 Fundamentals of Interpersonal Communication
      (3 Credits)
C. US Experience in its Diversity OR C. Creative Expression
   ■ Select from ANT, ART, COMM, ECO, GEO, HIS,
      BIO 20 / HLT 20, Modern Language, MUS, PHL, PSY, POL
      OR SOC (3 Credits)

SUBTOTAL 21-22

1 Students planning to transfer to a four-year college should take MTH 30 or 31.
2 Students may select either a 4-credit or a 3-credit science course. Students selecting a 3-credit course must also complete an additional
   1-credit lab course to fulfill graduation requirements.
3 Select one course in Health Education or two courses in Physical Education.
4 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.
5 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 employ
   ment. 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.

REQUIRED AREAS OF STUDY
   ■ Physical Education 3 (2 Credits)
   SUBTOTAL 2

SPECIALIZATION REQUIREMENTS
   ■ ACC 11 Fundamental Accounting I (4 Credits)
   ■ BUS 10 Introduction to Business (3 Credits)
   ■ BUS 11 Business Mathematics (3 Credits)
   ■ COMM 12 Voice and Diction: Business and Professional Speech (2 Credits)
   ■ DAT 10 Computer Fundamental and Applications (3 Credits)
   ■ LAW 41 Business Law (3 Credits)
   ■ MKT 11 Principles of Marketing (3 Credits)
   ■ MKT 18 Consumer Behavior OR
       MKT 47 E-Marketing (3 Credits)
   ■ MKT 48 Marketing Management (3 Credits)
   ■ MKT 41 Management of Retail Operations OR
       FIN 31 Principles of Finance (3 Credits)
   ■ MKT 43 Principles of Advertising (3 Credits)
   ■ CWE 31 Cooperative Work Experience (2 Credits)
   ■ KEY 10 Keyboarding for Computers (1 Credit)
   ■ Lab science credit (0-1 Credit)
   SUBTOTAL 36-37
MATHEMATICS (PATHWAYS REVISION)

Associate in Science Degree | Transfer Degree
Department of Mathematics & Computer Science

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.

Curriculum Coordinator: Dr. Cormac O’Sullivan

MATHEMATICS CURRICULUM
60 Credits required for A.S. Degree

REQUIRED CORE
A. English Composition (6 Credits)
B. Mathematical and Quantitative Reasoning
   ■ MTH 31 Calculus & Analytic Geometry I (4 Credits)
C. Life and Physical Sciences
   ■ SCIENCE I BIO 11 OR CHM 11 OR PHY 11 OR PHY 31 (4 Credits)

   SUBTOTAL 14

FLEXIBLE CORE
A. World Cultures (3 Credits)
B. U.S. Experience (3 Credits)
C. Creative Expression (3 Credits)
D. Individual and Society (3 Credits)
E. Scientific World
   ■ SCIENCE II BIO 12 OR CHM 12 OR PHY 12 OR PHY 32 (4 Credits)

Restricted Elective Select one course from Area A-E. (3 Credits)

   SUBTOTAL 19

SPECIALIZATION REQUIREMENTS
■ MTH 32 Analytic Geometry and Calculus II (5 Credits)
■ MTH 33 Analytic Geometry and Calculus III (5 Credits)
■ MTH 42 Linear Algebra (4 Credits)
■ MTH OR CSI (Two chosen from MTH 34, 44, 46, 48, CSI 35) (7-8 Credits)

   SUBTOTAL 21-22

FREE ELECTIVES
■ MTH 30 ¹ and/or Free Elective ³ (5-6 Credits)

1 Students requiring MTH 30 must use free elective credits for this purpose.
2 SCI I & II must form a sequence, e.g., BIO 11&12.

Note: The program has been given a waiver to require its students to take MTH 31 to fulfill Required Area B, BIO 11 or CHM 11 or PHY 11 or PHY 31 to fulfill Required Area C, and BIO 12 or CHM 12 or PHY 12 or PHY 32 to fulfill Flexible Area E. If students transferring into this program complete different courses in these areas, they will be certified as having completed the Common Core requirements, but it may not be possible for them to finish their degree within the regular number (60) of credits.
MEDICAL LABORATORY TECHNOLOGY
(PATHWAYS REVISION)

Associate in Applied Sciences Degree | Career Program
Biology & Medical Lab Technology Department

Curriculum Coordinator: Dr. Latchman Somenarain

Why study Medical Laboratory Technology at BCC?
The instructional facilities for Medical Laboratory Technology at BCC are excellent. We have modern, spacious laboratories with ample supplies and modern laboratory equipment. Both an independent study lab and computer lab support classroom and laboratory instruction. These facilities house a large collection of supplemental models, software and audio-visual aids for students to use at their own pace. The college's Library and Learning Center provide additional support for science and technology classes.

Medical Laboratory Technology Curriculum
The Medical Laboratory Technology (MLT) 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 a requirement to train in state-of-the-art hospital laboratories. Upon completion, students will qualify to sit for the NYS MLT license exam (this technician license is required for employment in NYS diagnostic laboratories).

Some students seek employment upon graduation, while others transfer to a four-year college to pursue a baccalaureate degree in Medical Technology (MT). An articulation agreement allows students to transfer credits and 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 web site. Graduates who transfer and successfully complete a BS degree in Medical Technology will be eligible for the NYS Medical Technologist license exam.

Note: 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.

MEDICAL LABORATORY TECHNOLOGY CURRICULUM
66 Credits required for A.A.S. Degree

REQUIRED CORE
A. English Composition
■ ENG 10 Fundamentals of Composition and Rhetoric OR
■ ENG 11 Composition and Rhetoric I (3 Credits)
B. Mathematical and Quantitative Reasoning
■ MTH 23 Probability and Statistics (3 Credits)
C. Life and Physical Sciences
■ BIO 11 General Biology I (4 Credits)

FLEXIBLE CORE
A. World Cultures and Global Issues
■ HIS 10 History of the Modern World OR
■ HIS 11 Introduction to the Modern World (3 Credits)
D. Individual and Society
■ COMM 11 Fundamentals of Interpersonal Communication (3 Credits)
E. Scientific World
■ BIO 12 General Biology II (4 Credits)
Additional Flexible Core Requirement – Area E
■ CHM 17 Fundamentals of General Chemistry I (4 Credits)
SUBTOTAL 24

REQUIRED AREAS OF STUDY
■ ART 10 Art Survey OR MUS 10 Music Survey (1 Credit)
■ BIO 22 Medical Terminology (2 Credits)
■ CHM 18 Fundamentals of General Chemistry II (4 Credits)
■ MTH 13 Trigonometry and College Algebra (3 Credits)
■ PSY 11 Introduction to Psychology OR SOC 11 Introduction to Sociology (3 Credits)
SUBTOTAL 13

SPECIALIZATION REQUIREMENTS
■ BIO 28 Microbiology and Infection Control (4 Credits)
■ BIO 44 Diagnostic Microbiology (4 Credits)
■ BIO 81 Introduction to Medical Laboratory Technology (2 Credits)
■ BIO 82 Clinical Hematology and Coagulation (4 Credits)
■ BIO 83 Clinical Chemistry (4 Credits)
■ BIO 85 Immunology / Serology (2 Credits)
■ BIO 86 Immunohematology (3 Credits)
■ BIO 87 Urinalysis and Body Fluids (2 Credits)
■ BIO 90 Clinical Internship (4 Credits)
SUBTOTAL 29
MEDICAL OFFICE ASSISTANT
(PATHWAYS REVISION)

Associate in Applied Sciences Degree | Career Program
Business & Information Systems Department

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.

Curriculum Coordinator: Dr. Rosemary Quinn

MEDICAL OFFICE ASSISTANT CURRICULUM
60 Credits required for A.A.S. Degree

REQUIRED CORE
A. English Composition
■ ENG 10 Fundamentals of Composition and Rhetoric
   OR ENG 11 Composition and Rhetoric I (3 Credits)
B. Mathematical and Quantitative Reasoning
■ MTH 21 Survey of Mathematics I OR
   MTH 23 Probability and Quantitative Reasoning (3 Credits)
C. Life and Physical Science
■ BIO 21 The Human Body (4 Credits)

FLEXIBLE CORE
A. World Cultures and Global Issues
■ HIS 10 History of the Modern World OR
   HIS 11 Introduction to the Modern World (3 Credits)
B. Individual and Society
■ COMM 11 Fundamentals of Interpersonal Communication (3 Credits)
C. US Experience in its Diversity 1 OR C. Creative Expression OR E. Scientific World

REQUIRED AREAS OF STUDY
■ BUS 11 Business Mathematics (3 Credits)
■ DAT 36 Microcomputer Spreadsheet Applications (3 Credits)
■ HLT 91 Critical Issues In Health (2 Credits)
■ LAW 45 Medical Law (3 Credits)
■ PEA Physical Education (1 Credit)

SUBTOTAL 12

SPECIALIZATION REQUIREMENTS
■ KEY 10 Keyboarding for Computers (1 Credit)
■ KEY 11 Document Formatting and Speed Development (2 Credits)
■ KEY 12 Advanced Document Production (2 Credits)
■ WPR 11 Transcription for Business (3 Credits)
■ WPR 21 Word Processing Applications (3 Credits)
■ BIO 22 Medical Terminology (2 Credits)
■ BIO 46 Clinical Techniques I (2 Credits)
■ BIO 47 Clinical Techniques II (2 Credits)
■ SEC 35 Medical Office Procedures & Management (2 Credits)
■ COM 31 Business Communications (3 Credits)
■ NMT 78 EKG – Interpretations and Techniques (2 Credits)
■ NMT 79 Phlebotomy (2 Credits)

SUBTOTAL 26

1 Students must select two 3-credit courses that fulfill Pathways Flexible Core B, C or E (no more than one course in each Core area).
2 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.
3 Completion of BIO 22 and BIO 23 is required prior to registering for these courses as well as permission of the Medical Office Assistant Program Curriculum Coordinator.
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 Educational Programs in Nuclear Medicine Technology (JRCNMT), nationally recognized by the Council for Higher Education Accreditation (CHEA).

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.

1 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.
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 an 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.

Effective Fall 2013, the Bronx Community College (BCC) RN Nursing Program will be administering the TEAS V Admissions Examination for students interested in entering into the program for the Spring 2014 semester. The National League for Nursing (NUR) Program’s PAX-RN Examination will no longer be administered for admission into the program after Spring 2013. Students who have a valid PAX-RN score will not be required to take the TEAS V. PAX-RN passing results (no older than two [2] years) will be honored until Spring 2015 for admission into the program. Students who are unsuccessful on the spring 2013 PAX-RN examination will be required to take the TEAS V examination.

To be considered for admission into the BCC RN Nursing Program, applicants must obtain an individual score within the “Proficient” range. The TEAS V examination may be repeated provided the applicant participates in the Assessment Technologies Institute (ATI) testing remediation program before repeating the TEAS V examination.

The TEAS V examination is a multiple-choice test that evaluates essential academic skills: Math, Science, Reading and English. It is recommended that applicants review Biology, Chemistry, and Math content in preparation for taking the TEAS V examination. Assessment Technologies Institute, INC. (ATI) testing, the author of the TEAS V examination, has study materials and programs available for interested students. The test will take approximately 3 ½ hours to complete. Testing fees are not refundable. Information about ATI is available at: https://atitesting.com/Home.aspx

The testing schedule will be published early in Fall 2013. The initial testing must be completed at Bronx Community College.

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 of 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.

Curriculum Coordinator: Professor Deborah C. Morris

Continued on next page.
NURSING CURRICULUM
67 Credits required for A.A.S. Degree

REQUIRED CORE
A. English Composition
   ■ ENG 10 Fundamentals of Composition and Rhetoric OR ENG 11 Composition and Rhetoric (3 Credits)
C. Life and Physical Sciences
   ■ BIO 23 Human Anatomy and Physiology I (4 Credits)

FLEXIBLE CORE
A. World Cultures and Global Issues
   ■ SOC 11 Introduction to Sociology (3 Credits)
D. Individual and Society
   ■ COMM 11 Fundamentals of Interpersonal Communication (3 Credits)
E. Scientific World
   ■ BIO 24 Human Anatomy and Physiology II (4 Credits)
Additional Flexible Core requirement – Area E.
   ■ CHM 17 Fundamentals of General Chemistry I (4 Credits)
SUBTOTAL 21

REQUIRED AREAS OF STUDY
■ ART 10 Art Survey OR MUS 10 Music Survey (1 Credit)
■ PEA Physical Education-one activity course (1 Credit)
■ PHM 10 Pharmacology Computations (2 Credits)
■ PSY 11 Introduction to Psychology (3 Credits)
SUBTOTAL 7

SPECIALIZATION REQUIREMENTS
■ BIO 28 Microbiology and Infection Control (4 Credits)
■ NUR 41 Nursing Process and Therapeutic Communication (2 Credits)
■ NUR 42 Fundamental Skills in Nursing (4 Credits)
■ NUR 43 Mental Health Nursing (4 Credits)
■ NUR 44 Nursing of the Adult I (4 Credits)
■ NUR 45 Maternal, Newborn and Women’s Health (4 Credits)
■ NUR 46 Nursing of the Adult II (4 Credits)
■ NUR 47 Pediatric Nursing (4 Credits)
■ NUR 48 Nursing of the Adult III (4 Credits)
SUBTOTAL 34

ELECTIVES
■ To complete the required 67 credits (5 Credits)
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).
SUBTOTAL 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.

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.

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 Credits)
   ■ NUR 42 Fundamental Skills in Nursing (4 Credits)
   ■ NUR 44 Nursing of the Adult I (4 Credits)
   ■ NUR 45 Maternal, Newborn and Women’s Health (4 Credits)
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 Credit)

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
(PATHWAYS REVISION)

Associate in Applied Sciences Degree | Career Program
Business & Information Systems Department

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.

Curriculum Coordinator: Dr. Rosemary Quinn

OFFICE ADMINISTRATION AND TECHNOLOGY CURRICULUM
60 Credits required for A.A.S. Degree

CORE REQUIREMENTS
Required Core
A. English Composition
■ ENG 10 Fundamentals of Composition and Rhetoric OR ENG 11 Composition and Rhetoric I (3 Credits)
B. Mathematical and Quantitative Reasoning
■ MTH 21 Survey of Mathematics I OR MTH 23 Probability and Quantitative Reasoning (3 Credits)
C. Life and Physical Science
SCIENCE 2 AST 11, BIO 11, CHM 11, CHM 17, ENV 11, ESE 11, ESE 12, ESE 13, PHY 10 OR PHY 11 (3-4 Credits)

Flexible Core
A. World Cultures and Global Issues
■ HIS 10 History of the Modern World OR HIS 11 Introduction to the Modern World (3 Credits)
B. US Experience in its Diversity 3 OR
C. Creative Expression OR E. Scientific World
Select from ANT, ART, COMM, ECO, GEO, HIS, BIO 20/
HLT 20, Modern Language, MUS, PHL, PSY, POL OR SOC (6 Credits)

SUBTOTAL 21-22

REQUIRED AREAS OF STUDY
■ BUS 10 Introduction to Business (3 Credits)
■ BIS 13 Introduction to Internet and Web Development (3 Credits)
■ WPR 23 Office Administration and Supervision (2 Credits)
■ DAT 10 Computer Fundamental and Applications (3 Credits)

SUBTOTAL 11

SPECIALIZATION REQUIREMENTS
■ KEY 10 Keyboarding for Computers (1 Credit)
■ KEY 11 Document Formatting and Speed Development (2 Credits)
■ KEY 12 Advanced Document Production (2 Credits)
■ WPR 11 Transcription for Business (3 Credits)
■ WPR 21 Word Processing Applications (3 Credits)
■ WPR 24 Presentation for Business (3 Credits)
■ COM 31 Business Communications (3 Credits)
■ DAT 36 Microcomputer Spreadsheet Applications (3 Credits)
■ DAT 38 Microcomputer Database Applications (3 Credits)
■ SEC 41 Office Procedures (2 Credits)
■ CWE 31 Cooperative Work Experience (2 Credits)
■ Lab Science Credit 2 (0-1 Credit)
SUBTOTAL 27-28

1 Students planning to transfer to a four-year college should take MTH 30 or 31. Please check prerequisites for these math courses.

2 Students may select either a 4-credit or a 3-credit science course. Students selecting a 3-credit course must also complete an additional 1-credit lab course to fulfill graduation requirements.

3 Students must select two 3-credit courses that fulfill Pathways Flexible Core B, C or E (no more than one course in each Core area).

4 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.
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.

Curriculum Coordinator: Ms. Rebecca Araya

ORNAMENTAL HORTICULTURE CURRICULUM
60 Credits required for A.A.S. Degree

REQUIRED CORE
A. English Composition
   ■ ENG 10 Fundamentals of Composition and Rhetoric OR
   ■ ENG 11 Composition and Rhetoric I (3 Credits)
C. Life and Physical Sciences
   ■ BIO 11 General Biology I (4 Credits)

FLEXIBLE CORE
A. World Cultures and Global Issues
   ■ HIS 10 History of the Modern World OR
   ■ HIS 11 Introduction to the Modern World (3 Credits)
E. Individual and Society
   ■ COMM 11 Fundamentals of Interpersonal Communication (3 Credits)
E. Scientific World
   ■ BIO 12 General Biology II (4 Credits)
Additional Flexible Core Requirement – Area E
   ■ CHM 17 Fundamentals of General Chemistry I (4 Credits)

SUBTOTAL 21

REQUIRED AREAS OF STUDY
   ■ ART 10 Art Survey OR MUS 10 Music Survey (1 Credit)
   ■ BUS 11 Business Mathematics (3 Credits)
   ■ BUS 51 Business Organization & Management (3 Credits)
   ■ PSY 11 Introduction to Psychology OR
   ■ SOC 11 Introduction to Sociology (3 Credits)
   ■ PEA Physical Education-one activity course (1 Credit)

SUBTOTAL 11

NYBG CORE REQUIREMENTS
   ■ BOT 11 Basic Botany (1 Credit)
   ■ BOT 12 Plant Form and Function (1 Credit)
   ■ BOT 13 Plant Physiology (1 Credit)
   ■ BOT 41 Entomology (1 Credit)
   ■ GAR 11 Horticultural Techniques I (1 Credit)
   ■ GAR 12 Horticultural Techniques II (1 Credit)
   ■ GAR 13 Pruning (1 Credit)
   ■ GAR 21 Soil Science I (1 Credit)
   ■ GAR 24 Soil Science II (1 Credit)
   ■ GAR 31 Preparation for Pesticide Applicator Certification (2 Credits)
   ■ GAR 32 Diseases of Ornamental Plants (1 Credit)

TOTAL 12

SPECIALIZATION (Select One)

Continued on next page.
## Commercial Floristry Specialization
- FLO 11 Basic Centerpieces (1 Credit)
- FLO 12 Holiday Arrangements (1 Credit)
- FLO 13 Funeral Arrangements (1 Credit)
- FLO 15 Wedding Flowers (1 Credit)
- FLO 23 House Plants and Their Care (0.5 Credit)
- FLO 24 Essential Floral Techniques and Arrangements (0.5 Credit)
- FLO 25 Basic Floral Business Techniques (0.5 Credit)
- FLO 26 Intermediate Floral Arrangements (0.5 Credit)
- FLO 61 Commercial Floristry Field Exp. I (3 Credits)
- FLO 62 Commercial Floristry Field Exp. II (3 Credits)
- FLO 63 Commercial Floristry Field Exp. III (3 Credits)
- GAR 44 Commercial Greenhouse Management (1 Credit)

**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 ² Horticulture Field Exp. Electives 1
- LND 11 Landscape Design Theory 1
- LND 12 Graphics 1

**TOTAL 16**

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¹ Core and specialization requirements are given at the New York Botanical Garden.

² To be chosen from Horticulture with approval of department.

The 9 credits of Field Experience I-III in the Commercial Floristry specialization represent 540 hours of practical field work.

Note: Course numbers are different in the BCC catalog and the NYBG Catalog.
RESTRICTED ELECTIVES
Choose one of the following three courses:
■ ACC 11 Fundamental Accounting I (4 Credits)
■ BUS 11 Business Mathematics (3 Credits)
■ TAX 11 Introduction to Taxation (3 Credits)
SUBTOTAL 3-4

Choose three of the following nine courses:
■ LAW 52 Business Organizations (3 Credits)
■ LAW 62 Family Law (3 Credits)
■ LAW 64 Constitutional Law (3 Credits)
■ LAW 65 Criminal Law and Procedures (3 Credits)
■ LAW 72 Real Property (3 Credits)
■ LAW 77 Immigration Law (3 Credits)
■ LAW 82 Insurance and Torts (3 Credits)
■ LAW 92 Estates, Trusts and Wills (3 Credits)
■ LAW 91 ² Landlord Tenant Advocacy (3 Credits)
SUBTOTAL 9

FREE ELECTIVES
■ To complete the 60 credit requirement 0-1

LAY ADVOCATE OPTION
Students selecting the Lay Advocate option should replace 9 credits of the Paralegal Studies curriculum restricted electives and LAW 98 in the specialization requirements with the following:
■ HLT 97 ³ Field Work in Community Health Resources (3 Credits)
■ LAW 62 Family Law (3 Credits)
■ LAW 65 Criminal Law and Procedures (3 Credits)
■ LAW 89 Legal Advocacy (3 Credits)
SUBTOTAL 12

¹ Students must choose one science course. This course may be selected from courses included in Required Core C or Flexible Core E.

² Department permission required

³ HLT 97 is in lieu of LAW 98
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.

Curriculum Coordinator: Dr. Thomas Brennan

PHARMACEUTICAL MANUFACTURING TECHNOLOGY CURRICULUM
60 Credits required for A.A.S. Degree

REQUIRED CORE
A. English Composition
■ ENG 10 Fundamentals of Composition and Rhetoric OR
■ ENG 11 Composition and Rhetoric I (3 Credits)
C. Life and Physical Sciences
■ CHM 11 General Chemistry I (4 Credits)

FLEXIBLE CORE
A. World Cultures and Global Issues
■ HIS 10 History of the Modern World OR
■ HIS 11 Introduction to the Modern World (3 Credits)
D. Individual and Society
■ COMM 11 Fundamentals of Interpersonal Communication (3 Credits)
E. Scientific World
■ CHM 12 General Chemistry II (4 Credits)
■ Additional Flexible Core Requirement – Scientific World
■ BIO 11 1 General Biology I (4 Credits)

SUBTOTAL 21

REQUIRED AREAS OF STUDY
■ ART 10 2 Art Survey (1 Credit)
■ BIO 12 1 General Biology II (4 Credits)
■ CHM 31 Organic Chemistry I (5 Credits)
■ CHM 32 Organic Chemistry II (5 Credits)
■ ENG 23 Scientific and Technical Writing (3 Credits)
■ MTH 13 3Trigonometry and College Algebra (3 Credits)
■ MTH 14 3 Algebra and Introduction to Calculus (3 Credits)

SUBTOTAL 24

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

SUBTOTAL 15

1 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.

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

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

4 Students may choose any combination of restricted electives CHM 39, CHM 40, PMT 41, PMT 42 and PMT 43 to meet the program credits requirement.
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 pre-clinical course sequence average of 2.77 or higher in ENG 10/11, HIS 10/11, COMM 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, COMM 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.

Joint Review Committee on Education in Radiologic Technology
20 N. Wacker Drive, Suite 2850
Chicago, IL 60606-3182
Phone: (312) 704-5300
Fax: (312) 704-5304
http://www.jrcert.org/

Students receive their clinical education at Montefiore Medical Center, Jacobi Medical Center, New York Presbyterian Hospital, or Montefiore Wakefield 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, outpatient 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
- Students will be clinically competent.
- Students will demonstrate professionalism.
- Students will demonstrate critical thinking.
- Students will demonstrate effective communication skills.
CREDENTIALING EXAMINATION (ARRT) PASS RATE

Five-year average credentialing examination (American Registry of Radiologic Technologists Radiography examination) pass rate of not less than 75% at first attempt within six months of graduation.

<table>
<thead>
<tr>
<th>Year</th>
<th>Percent passing on 1st attempt</th>
<th>Number of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>100%</td>
<td>36 out of 36 passed on 1st attempt</td>
</tr>
<tr>
<td>2010</td>
<td>100%</td>
<td>37 out of 37 passed on 1st attempt</td>
</tr>
<tr>
<td>2011</td>
<td>100%</td>
<td>24 out of 24 passed on 1st attempt</td>
</tr>
<tr>
<td>2012</td>
<td>100%</td>
<td>33 out of 33 passed on 1st attempt</td>
</tr>
<tr>
<td>2013</td>
<td>97%</td>
<td>29 out of 30 passed on 1st attempt</td>
</tr>
<tr>
<td></td>
<td><strong>Five Year Average</strong></td>
<td><strong>99.4%</strong></td>
</tr>
</tbody>
</table>

PROGRAM COMPLETION RATE

Program completion rate is defined as the number of students who complete the didactic and clinical phase of the program within 150% of the program length. The program length is 24 months.

<table>
<thead>
<tr>
<th>Year</th>
<th>Percent completion</th>
<th>Number of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>92.3%</td>
<td>39 began, 36 graduated</td>
</tr>
<tr>
<td>2010</td>
<td>71.4%</td>
<td>35 began, 25 graduated</td>
</tr>
<tr>
<td>2011</td>
<td>69.4%</td>
<td>36 began, 25 graduated</td>
</tr>
<tr>
<td>2012</td>
<td>82.5%</td>
<td>40 began, 33 graduated</td>
</tr>
<tr>
<td>2013</td>
<td>91.6%</td>
<td>36 began, 33 completed</td>
</tr>
<tr>
<td></td>
<td><strong>Five Year Average</strong></td>
<td><strong>81.4%</strong></td>
</tr>
</tbody>
</table>
### JOB PLACEMENT RATE

Five-year average job placement rate of not less than 75% at first attempt within twelve months of graduation.

<table>
<thead>
<tr>
<th>Year</th>
<th>Percent job placement</th>
<th>Number of students</th>
</tr>
</thead>
</table>
| 2009  | 75.6%                 | 12 Graduates completed graduate survey or telephone survey  
|       |                       | 0 Not actively seeking employment  
|       |                       | 9 Employed within 12 months of graduation |
| 2010  | 96.2%                 | 27 Graduates completed graduate survey or telephone survey  
|       |                       | 0 Not actively seeking employment  
|       |                       | 26 Employed within 12 months of graduation |
| 2011  | 66.6%                 | 15 Graduates completed graduate survey or telephone survey  
|       |                       | 2 Not actively seeking employment  
|       |                       | 10 Employed within 12 months of graduation |
| 2012  | 86.6%                 | 15 Graduates completed graduate survey or telephone survey  
|       |                       | 2 Not actively seeking employment  
|       |                       | 13 Employed within 12 months of graduation |
| 2013  | 84.4%                 | 15 Graduates completed graduate survey or telephone survey  
|       |                       | 4 Not actively seeking employment  
|       |                       | 13 Employed within 12 months of graduation |

**Five Year Average**: 81.88
RADIOLOGIC TECHNOLOGY CURRICULUM
65 Credits required for A.A.S. Degree

REQUIRED CORE
A. English Composition
   ■ ENG 10 Fundamentals of Composition and Rhetoric OR
     ENG 11 Composition and Rhetoric I (3 Credits)
C. Life and Physical Sciences
   ■ BIO 23 Human Anatomy and Physiology I (4 Credits)

FLEXIBLE CORE
A. World Cultures and Global Issues
   ■ HIS 10 History of the Modern World OR
     HIS 11 Introduction to the Modern World (3 Credits)
D. Individual and Society
   ■ COMM 11 Fundamentals of Interpersonal
     Communication (3 Credits)
E. Scientific World
   ■ BIO 24 Human Anatomy and Physiology II (4 Credits)

Additional Flexible Core Requirement – Area D.
■ PSY 11 Introduction to Psychology (3 Credits)

SUBTOTAL 20

REQUIRED AREAS OF STUDY
■ MTH 13 \(^1\) Trigonometry and College Algebra (3 Credits)
■ PEA Physical Education activity course (1 Credit)

SUBTOTAL 4

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

SUBTOTAL 41

\(^1\) MTH 30 should be considered for transfer to a senior college.

\(^2\) 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.
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.

Curriculum Coordinator: Dr. John Molina

**SCIENCE FOR FORENSICS CURRICULUM**

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

### REQUIRED CORE

- **A. English Composition** (6 Credits)
- **B. Mathematical and Quantitative Reasoning**
  - MTH 31 Calculus and Analytical Geometry (4 Credits)
- **C. Life and Physical Sciences**
  - CHM 11 General College Chemistry I (4 Credits)

**SUBTOTAL 14**

### FLEXIBLE CORE

Select two courses from any of the following areas (Flexible Core A-D), with no more than one course in any area, and no more than one course in any discipline or interdisciplinary field (6 Credits)

- **A. World Cultures and Global Issues**
- **B. U.S. Experience in Diversity**
- **C. Creative Expression**
- **D. Individual and Society**

The following courses are required:

- **E. Scientific World**
  - CHM 12 General Chemistry II (4 Credits)
  - PHY 31 Physics I (4 Credits)

**SUBTOTAL 14**

### REQUIRED AREAS OF STUDY

- **BIO 11** General Biology I (4 Credits)
- **BIO 12** General Biology II (4 Credits)
- **MTH 32** Analytic Geometry and Calculus II (5 Credits)
- **PHY 32** Physics II (4 Credits)
- **RESTRICTED ELECTIVE** (1 Credit)

**SUBTOTAL 18**

### SPECIALIZATION REQUIREMENTS

- **CHM 31** Organic Chemistry I (5 Credits)
- **CHM 32** Organic Chemistry II (5 Credits)
- **CHM 33** Quantitative Analysis (4 Credits)

**SUBTOTAL 14**

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1. This program has received a waiver to require students to complete MTH 31 to fulfill Required Core B, CHM 11 to fulfill Required Core C, CHM 12 to fulfill Flexible Core E, and PHY 31 (selected from Flexible Core E) to fulfill the sixth Flexible Core course.

2. To fulfill the two-year degree requirements of this Joint Degree with John Jay College, this program has received an additional waiver to allow students to complete a portion of the Common Core requirements prior to transfer and complete the remaining requirements upon transfer.

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

Curriculum Coordinator: Dr. Ajaz Sana

TELECOMMUNICATIONS TECHNOLOGY CURRICULUM

65 Credits required for A.A.S. Degree

REQUIRED CORE
A. English Composition
   ■ ENG 10 Fundamentals of Composition and Rhetoric OR ENG 11 Composition and Rhetoric I (3 Credits)
   ■ ENG 12 Composition and Rhetoric II (3 Credits)
B. Mathematical and Quantitative Reasoning
   ■ MTH 30 Pre-Calculus Mathematics (4 Credits)
C. Life and Physical Sciences
   ■ PHY 11 College Physics I (4 Credits)

FLEXIBLE CORE
A. World Cultures and Global Issues
   ■ HIS 10 History of the Modern World OR HIS 11 Introduction to the Modern World (3 Credits)
D. Individual and Society
   ■ COMM 11 Fundamentals of Interpersonal Communications (3 Credits)
E. Scientific World
   ■ PHY 12 College Physics II (4 Credits)
   
   SUBTOTAL 24

REQUIRED AREAS OF STUDY
   ■ ART 10 Art Survey OR MUS 10 Music Survey (1 Credit)
   ■ MTH 31 Calculus and Analytical Geometry I (4 Credits)
   ■ PEA Physical Education activity course (1 Credit)
   ■ Free elective (1 Credit)
   
   SUBTOTAL 7

SPECIALIZATION REQUIREMENTS
   ■ ELC 11 DC Circuit Analysis (4 Credits)
   ■ ELC 15 Computer Applications in Technology (2 Credits)
   ■ ELC 21 AC Circuit Analysis (4 Credits)
   ■ ELC 25 Electronics I (4 Credits)
   ■ ELC 96 Digital Systems I (4 Credits)
   ■ TEC 11 Voice Communications (4 Credits)
   ■ TEC 21 Data Communications (4 Credits)
   ■ TEC 31 Local Area Networks (4 Credits)
   ■ TEC 41 Advanced Topics in Telecommunications (4 Credits)
   
   SUBTOTAL 34
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*

**REQUIRED CORE**

A. English Composition (6 Credits)
B. Mathematical and Quantitative Reasoning* (3 Credits)
*Students in this curriculum are strongly advised to take MTH 23
C. Life and Physical Sciences**
■ BIO 23 Human Anatomy and Physiology I (4 Credits)
** This program has received a waiver to require STEM variant courses to fulfill Required Core B and Flexible Core E requirements.

**SUBTOTAL 13**

**FLEXIBLE CORE**

No more than two courses in any discipline or interdisciplinary field.
A. World Cultures and Global Issues (3 Credits)
B. U.S. Experience in its Diversity (3 Credits)
C. Creative Expression (3 Credits)
D. Individual and Society (3 Credits)
E. Scientific World**
■ BIO 24 Human Anatomy and Physiology II (4 Credits)
** This program has received a waiver to require STEM variant courses to fulfill Required Core B and Flexible Core E requirements.

Restricted Elective Select one course from Flexible Core A-E (3 Credits)

**SUBTOTAL 19**

**SPECIALIZATION REQUIREMENTS**

■ CPR 10 Cardiopulmonary Resuscitation OR WFA 10 Workplace First Aid Training (1 Credit)
■ REC 93 Introduction to Therapeutic Recreation (3 Credits)
■ REC 94 Recreation: Historical & Philosophical Perspective (3 Credits)
■ REC 95 Program Planning and Leadership in Recreation (3 Credits)
■ PEA 51 Stress Management (2 Credits)
■ HLT 91 Critical Issues in Health (2 Credits)
■ HLT 99 Health of the Nation (2 Credits)
■ HCM 11 The U.S. Health Care Delivery System (3 Credits)
■ PEA Select any Course (1 Credit)
■ PSY 11 Introduction to Psychology (0-3 Credits)
■ Restricted Electives 1 (3 Credits)
■ Free Electives (2-5 Credits)

**SUBTOTAL 28**

1 If this course satisfies a flexible core area, free electives may be taken.
2 Select from REC 96, any 3 credit HLT, or PEA courses totaling 3 credits.