bronx community college
of the city university of new york

1980-82
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The program and requirements set forth in this bulletin are necessarily subject to change without notice at any time at the discretion of the administration.
academic calendar 1980-81

FALL 1980 SEMESTER

September 2-10  Registration — Fall 1980
September 13  First day of classes — Fall 1980
September 20  Yom Kippur — no classes
October 13  Columbus Day — no classes
November 4  Election Day — no classes
November 11  Veterans Day — no classes
November 26  Last day to withdraw with a grade of “W”
November 27-29  Thanksgiving Recess — no classes
December 24-January 4, 1981  Winter Recess — no classes
January 7  Last day of classes
January 9-14  Final examinations
January 15  Human Rights Day

SPRING 1981 SEMESTER

January 27-February 4  Registration — Spring 1981
February 7  First day of classes
February 12  Lincoln’s Birthday — no classes
February 16  Washington’s Birthday — no classes
April 17-26  Spring Recess — no classes
May 25  Memorial Day — no classes
May 28  Last day of classes
May 30-June 5  Final examinations

SUMMER SESSION 1981

June 16, 17  Registration
June 22  First day of classes — Summer 1981

*Subject to change.
introducing bronx community college

PHILOSOPHY AND AIMS OF THE COLLEGE

Quality Higher Education for the Many

Bronx Community College was founded in 1957 to offer ever-widened opportunities for higher education to the many. In September 1970, with the advent of the City University's policy of open admissions, the College's original commitment was dramatically extended as it welcomed hundreds of students who previously might have been denied a college education. Open admissions, though modified by the Board of Education in 1976, still offers the College an unprecedented opportunity to demonstrate its commitment to provide quality higher education for the many.

Traditionally, it has been the mission of the community college to provide sound general education, liberal arts transfer education and career education, as well as continuing education for students of all ages. In short, the community college prepares students for a life of independent and creative thinking, dignity and community participation.

At Bronx Community College, the primary emphasis is upon the relationship of the individual faculty member to the individual student. Perhaps more than ever, the administration and faculty recognize the responsibilities and challenges of educating students from a variety of ethnic and linguistic backgrounds. Bronx Community College accepts this responsibility and welcomes this challenge.

A Comprehensive Program: Career and Transfer Curricula

The breadth of the educational programs and curricula of the College provide offerings for students of many interests and talents. The comprehensive nature of the College makes it possible for students to choose career programs which may lead either directly to employment as skilled sub-professionals or technicians or to continued education toward a baccalaureate degree. The "transfer" or "university-parallel" curricula in Liberal Arts and Sciences, Business Administration, Computer Science, Engineering Science, Performing Arts-Music, and Pre-Pharmacy prepare students for continued study toward the baccalaureate degree, or professional and graduate studies.

Bronx Community College offers courses of study, both day and evening, that lead to a career after two years, or transfer to a four-year college.

Career programs leading to an Associate in Applied Science degree (A.A.S.) include accounting, data processing, marketing management and sales, education associate, electrical engineering technology, mechanical engineering technology, medical laboratory technology, nursing, and secretarial studies, and a certificate program in automotive mechanics.

Transfer programs include business administration, business teaching, computer science, engineering science, pre-pharmacy, and music. The Liberal Arts offer studies in art, biology, Black and Puerto Rican studies, chemistry, communication arts and sciences, dance, economics, English, French, German, health education, history, Italian, mathematics, philosophy, physical education, physics, political science, psychology, sociology, Spanish, and theatre.
ACCREDITATION

Bronx Community College is accredited by the Middle States Association of Colleges and Secondary Schools, through its Commission on Institutions of Higher Education, both as a unit of The City University of New York and as an individual college.

The curricula in Electrical and Mechanical Technologies are accredited by the Accreditation Board for Engineering and Technology (formerly Engineers' Council for Professional Development) as engineering technology curricula.

The Nursing curriculum is accredited by the National League for Nursing.

CHARTER

The New York State Board of Regents, through the Division of Higher Education of the New York State Department of Education, has chartered and approved all curricula and programs of Bronx Community College.

AFFILIATIONS

The Bronx Community College is a member of the American Association of Junior Colleges and the New York State Association of Junior Colleges. In addition, the College and its faculty have numerous professional memberships and scholarly affiliations.

NONDISCRIMINATION POLICY

Bronx Community College has a policy of nondiscrimination, and of providing educational opportunities for the disadvantaged as a means of facilitating their access to a broader range of employment opportunities. Accordingly, no person shall, on the basis of race, color, creed, national origin, sex, disability, or status as a disabled or Vietnam-era veteran, be excluded from participation in or be denied the benefits, or be subjected to discrimination in any of the College's programs or activities.

Any student or employee of Bronx Community College who believes that there has been a violation of any affirmative action regulation may invoke these procedures.

For further information, contact Mrs. Ismay Taylor, Affirmative Action Coordinator, Office of Academic Affairs.
HISTORY OF BRONX COMMUNITY COLLEGE

The establishment of Bronx Community College in 1957 crowned a decade of effort by civic-minded groups in Bronx County to meet the growing need for increased higher education facilities in the "Borough of Universities and Progress."

Classes began in February 1959 at the former site of the Bronx High School of Science at Creston Avenue and 184th Street. With Dr. Morris Meister as its first president, the College soon developed into a much-acclaimed comprehensive community college offering a broad range of academic programs.

In April 1961, The City University of New York was created by the State Legislature, with Bronx Community College as one of its seven constituent undergraduate colleges. Presently, the City University includes seventeen undergraduate colleges, a graduate center, and an affiliated medical school.

Dr. James A. Colston became the second president of Bronx Community College on August 1, 1966, following Dr. Meister's retirement. For the next decade, the College grew dramatically, spurred in 1970 by the introduction of open admissions. By 1972 the College was occupying seven additional centers within walking distance of the main building and serving approximately 10,000 matriculated students.

On September 1, 1977, Dr. Roscoe C. Brown, Jr., became the third president of Bronx Community College.

In July 1973 the Dormitory Authority of the State of New York acquired the New York University Heights Campus for the use of Bronx Community College. Beginning with the fall 1973 semester, virtually all operations were moved to the 50-acre site overlooking the Harlem River. Bronx Community College students have the same facilities that served New York University so well. There are modern classrooms, lecture halls and laboratories; a student center, cafeteria and lounges; shaded walks and a grassy mall; athletic fields, tennis courts, and a swimming pool; and advanced media and library facilities. The Hall of Fame, a national landmark, is open to the public.

The College's important contribution to the cultural life of its students and the borough is felt through the Bronx Community and College Symphony, the Bronx Community and College Choir, work with the Bronx Council on the Arts, and the more than 120 events coordinated annually by the Committee on Community Projects and Special Events. Concerts, plays, films, speakers, and art exhibits are open to both students and the public, some at modest prices, many free.
DEGREE PROGRAMS OFFERED

The applicant to Bronx Community College may be admitted to one of the various curricula offered. Detailed descriptions of the requirements for the degree in the curricula (and options) appear on pages 46-73.

The following list summarizes the programs:

1. Business (Career)
   - Career Program — A.A.S. Degree
   - Curricula: Accounting, Marketing Management and Sales, Data Processing (Programming)

2. Business Administration
   - Transfer Program — A.S. Degree for transfer to Baruch College of The City University of New York
   - Options: Accounting, Marketing Management and Sales, Management

3. Business Teaching
   - Transfer Program — A.A. Degree for transfer to Baruch, or Lehman College of The City University of New York
   - For students planning to teach Accounting or Marketing Management and Sales on the secondary level

4. Education Associate
   - Career or Transfer Program — A.A.S. Degree
   - Child Care Option

5. Engineering Science
   - Transfer Program — A.A. Degree

6. Electrical Technology
   - Career or Transfer Program — A.A.S. Degree

7. Mechanical Technology
   - Career or Transfer Program — A.A.S. Degree

8. Liberal Arts and Sciences
   - Transfer Program — A.A. Degree
   - Transfer Program — A.S. Degree

9. Medical Laboratory Technology
   - Career Program — A.A.S. Degree
   - Transfer Program — A.S. Degree

10. Nursing
    - Career or Transfer Program — A.A.S. Degree

11. Performing Arts-Music
    - Transfer or Career Program — A.A.S. Degree

12. Pre-Pharmacy
    - Transfer Program (to a college ofnly)
    — A.A.S. Degree

13. Secretarial Studies
    - Career Program — A.A.S. Degree (Executive Secretarial, Legal Secretarial, Medical Secretarial Assistant, School Secretarial)
    - Transfer Program — A.A. Degree for transfer to senior colleges of The City University of New York for students planning to teach Secretarial Studies on the secondary level

CERTIFICATE PROGRAM

Automotive Mechanics

SUMMER SESSION

Announcements and a bulletin of courses offered in day and evening classes in the Summer Session are issued in the spring by the College.
Continuing and Evening Education

Evening, Saturday and Extension Education

Students may register for courses scheduled during the day or evening, on Saturdays, and in any of the extension centers where the College maintains classes. Most courses leading to the Associate in Arts (A.A.), Associate in Science (A.S.), and Associate in Applied Science (A.A.S.) degrees are available to students during evening hours. A wide range of classes are scheduled on Saturdays from 8:30 a.m. to 3:30 p.m. Course offerings at our extension center in the Bronx Psychiatric Center, 1500 Waters Place, are determined by student demand and space availability. Instructors of evening, Saturday and extension courses are either full-time or adjunct members of the faculty.

Continuing Education and Community Services

Bronx Community College has a distinguished record of extending its resources to the surrounding community. The Office of Continuing Education and Community Services responds to the many and varied needs of the adult out-of-school population, providing approximately thirty innovative programs annually. The programs offer academic upgrading, vocational training and job advocacy, recreational and leisure-time pursuits, and counseling services. With a broad network of community ties, the Office is able to extend its resources into the homes and workplaces of Bronx residents, thus reaching the young, the elderly, the handicapped and the educationally, socially and economically disadvantaged.

Adult Basic Education and Adult Basic Skills (Ms. Gloriana Waters, Director) — mathematics, reading, writing, and English as a Second Language for adults with limited ability.

Bilingual Training in Housing Maintenance and Repair (Mr. Rafael Diaz, Director) — specialized Spanish/English training for adults entering the housing maintenance field.

Career Directions for Displaced Homemakers (Ms. Margaret Hunt, Director) — counseling, support, and job placement for women who are heads of households.

Center for Older Adults (Dr. Alexis Molina, Director) — off campus at 120 East 184 Street, a center for senior citizens featuring a nutrition program and counseling, educational, and recreational program for senior citizens.

Consumer Education for Older Adults (Mr. Arthur Mitchell, Director) — to train adult community organizations to set up their own consumer action committees.

Chuck Davis Dance Company (Ms. Bess Pruitt, Executive Manager) — an artists-in-residence program offering instruction and public performances.

Job Advocacy and Placement for Adults (Mr. William Labarr, Director) — an advisory and placement service for community adults seeking employment.

Junior Management Training Program (Mrs. Paula Freeman Anderson, Director) — training for and placement in junior management positions in private industry. Limited to Bronx Community College students.

Learning Through Listening (Dr. Edward Cobb, Director) — a research program designed to test the efficacy of using dual track audiotapes to teach the visually impaired.

Mini-Semester (Mr. Richard Valcourt, Director) — a series of courses providing academic and vocational upgrading or recreational and leisure activities for the community.

Model High School-College Linkage Program — a work-study program for training students and dropouts from DeWitt Clinton High School toward meeting the requirements for the high school diploma and the High School Equivalency Diploma, respectively. Strong guidance and career components with job placement are integral parts of the program.

Project S.O.S. (Mr. Frank Neubauer, Director) — services, counseling, and referrals for homebound older adults.

Project SPEAR (Ms. Rosalind Brandler, Coordinator) — a program to provide cultural and recreational activities for senior citizens throughout the Bronx, including the annual Bronx Senior Olympics.

Small Business Skills Training for Minorities (Fernando Oliver, Director) — bilingual (Spanish/English) training and workshops for minority business persons or those contemplating going into business.

Summer Horizons Program (Prof. Gus Constantine, Director) — a summer day camp on campus for neighborhood youngsters.
FACILITIES AND OFFICES

Auditoriums
The BCC campus has three major auditoriums. The largest is in the Gould Memorial Library. Its capacity of 750 allows its use for a variety of events including College convocations, cultural programs and community activities.

The Hall of Fame Playhouse in the Gould Student Center, with a capacity of 375 is used as a theatre for dramatic productions, musicals and concerts.

Schwendler Auditorium in Tech II, which seats 200, is also used for concerts and community activities.

BCC Child Development Center
The Bronx Community College Child Development Center was officially opened in October 1972 as a service to students of BCC who are carrying a minimum of 12 credits.

The privately funded, professionally staffed Center, located at Altschul House, 2205 Sedgwick Avenue, attempts to provide a climate for youngsters to develop in all areas at individual rates of growth.

Policy for the Child Development Center is established by a Board of Directors made up of parents whose children are enrolled in the Center, representatives of student government, and members of the faculty and administration.

Bookstore
The bookstore in the Gould Student Center, operated as a private concession under contract with the College, stocks all required and supplementary textbooks and supplies, in addition to greeting cards, stationery, college jewelry, sweatshirts, etc. Part of the bookstore's income goes to the Bronx Community College Association, Inc., funds from which are used to support student activities.

Cafeteria
A cafeteria, located in the Gould Student Center, is operated for the convenience of students and faculty. In addition to the meals and refreshments available, the facilities are used for receptions and meetings.

Computer Center
The Center serves both the administrative and academic needs of the College. Information vital to the proper functioning of the College is processed here. This includes admissions, registration, and end-of-semester grade reporting. All programs written by students and faculty are processed at the Center. Hands-on experience is provided to students on an IBM 360/30. A remote job entry link to the University Computing Center permits access to state of the art IBM computers. A Digital Equipment Corporation PDP 11/34 is provided to support computer-assisted instruction as well as other functions complementary to classroom experience.

Drop-In Center
The Drop-In Center provides comprehensive "after-school" services for children from 5 to 12 years of age. Games, arts and crafts, snacks, athletics and tutoring are all available.

The Center is open from 2 to 8 p.m. Monday through Thursday. Students can register their children to use the Center regularly, or for emergency child care. The Drop-In Center is located at 2195 Andrews Avenue, telephone 933-1225.

Health Services
The office of Health Services is Loew Hall 101. When classes are in session, a registered nurse is on duty from 9 a.m. to 10 p.m. Monday through Thursday, 9 a.m. to 5 p.m. on Friday, and 8:30 a.m. to 2:30 p.m. on Saturday. The Health Service provides first aid, health counseling, and referrals on any health-related matter.

Public Information Office
The Public Information Office is located in Language Hall 31. Information about cultural events and college activities is available there.

Student Association Office
Offices are in the Gould Student Center.

Student Lounges
Students are invited to use and enjoy lounges and recreation areas in the Gould Student Center.

Swimming Pool and Gymnasium
The swimming pool and gymnasium, located in Alumni Gym, are used by Health and Physical Education classes and college athletic teams. They are also available for student and faculty recreational use during specified hours.
LIBRARY AND LEARNING RESOURCES

Chairman: Professor Morton Rosenstock
Professors: J. Kolliner, E. Terry
Associate Professors: D. Canty, J. Skurdenis
Assistant Professors: D. Hadgis, O. Klymowycz, A. Peretz, C. Schumacher

Library and Learning Resources Center at Bronx Community College is constituted as an instructional department. It is a materials center for student research and supplements classroom instruction through its print and nonprint collections.

Library and Learning Resources has two locations: Technology Two Building and Sage Hall.

The print collection now exceeds 80,000 volumes and is growing rapidly. The library currently receives close to 400 periodicals covering a wide variety of subjects and maintains extensive back files. The collection includes books for recreational reading and a pamphlet file on topics of current interest.

Nonprint Services provides many types of media for students and faculty. In the learning resources center a great variety of educational technology is employed to enhance learning — cartridge films, slides, film strips, records, tape recordings and closed-circuit television. Many of these materials are produced on campus to meet the specific requirements of students and faculty.

The Library and Learning Resources staff provides reference aid for the individual reader and prepares bibliographies for specific subject areas. In addition, the staff offers formal classroom instruction in the use of the library and in research procedures.

INSTITUTIONAL RESEARCH

Director: Dr. Norman Eagle

The Office of Institutional Research conducts studies with the aim of providing members of the College community with information and data important for decision-making and planning. It contributes to the evaluation of a wide range of College functions such as placement, remedial, developmental, and experimental programs. Follow-up studies of students are conducted to gauge the success with which the College prepares students for careers, professions, and further education. Surveys of student opinion are conducted to keep faculty and administration abreast of student concerns, problems, and needs. The aim of all studies is to contribute to the improvement of the educational programs offered and to the maximization of student success.

OMBUDSMAN

College Ombudsman: Prof. Bernard Bates
Biology Department

According to Article II of the BCC Constitution: "The Ombudsman is intended to serve the College as an exceptional channel of redress for use only when the normal administrative channels do not adequately respond . . . He shall receive and investigate any student complaints alleging unfairness, discourtesy, undue delay, or other malfunctioning in the processes of the College, and shall investigate to determine the validity of the complaint."

introducing bronx community college

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admission to the college

All inquiries and information pertaining to admission to the College should be addressed:

ADMISSIONS OFFICE
Bronx Community College
The City University of New York
University Avenue and West 181 Street
The Bronx, New York 10453

Office Hours:
Monday through Friday ... 9 a.m. to 5 p.m.
Admissions Officer: Mr. D. Collins
Associate Admissions Officer: Mr. P. Iannelli

An applicant for admission to Bronx Community College may be approved for one of the programs offered by the College if he fulfills the basic admission requirements and follows the admission procedures.

BASIC ADMISSION REQUIREMENTS

All applicants must meet the basic requirements as described below:

High School Diploma
A diploma from an accredited high school is required for admission to Bronx Community College. A high school certificate is not an acceptable substitute for the diploma.

A New York State Equivalency Diploma and General Education Development Examination may be substituted. A USAFI diploma must be converted to a New York State Equivalency Diploma.

Residence
The residency of a student under 18 years of age is governed by the residence of his parents or legal guardian.

New York City Residency Requirements — A student shall be considered a resident of the City of New York for purposes of "resident tuition fee rate" eligibility, if he or she has his or her principal place of abode in the City of New York for a period of at least twelve consecutive months immediately preceding the first day of classes for the semester with respect to which the residency determination is made, and states his or her intention to permanently live and maintain his or her principal place of abode in New York City.

New York State Residency Requirements — Tuition for out-of-city New York State residents, who have on file a valid Certificate of Residence issued by their county of residence, will be the same as tuition charged City residents. All New York State residents who reside outside of New York City and plan to register at Bronx Community College must complete Residence Forms B 80 and B 81, available in the Bronx Community College Admissions Office. Form B 81, Certificate of Residence, should be returned to the Bronx Community College Bursar's Office before registration. New York State residents who live outside New York City, but do not submit the required forms, will be charged nonresident fees. (See Tuition and Fees Schedule, page 22).

Health and Physical Standards
All students must submit, as part of the application, a medical examination report on the form provided by the College. Final admission requires approval by the College of the student's ability to meet the health and physical standards set by the College's Committee on Admissions. In addition, students in Nursing must take a special physical examination given in cooperation with the Department of Hospitals of the City of New York.
APPLICATION PROCEDURE

The Application
The City University is using two application forms:
1. The Regular Application Form permits students to apply to as many as six regular college programs of City University on a single form. Even if the six programs are in six different CUNY colleges, only one application is necessary.
2. The Special Programs Application is designed for students applying to SEEK and College Discovery and contains its own instruction manual. It should be noted, however, that applications from students who cannot be admitted to SEEK and College Discovery but who meet CUNY admissions requirements will be admitted automatically to a regular community or senior college program.

Where to Apply:
The following applicants should complete the Regular Application Form and send it to:

University Application Processing Center
Box 136, Bay Station
Brooklyn, New York 11235

1. Students who are currently attending high school and who seek admission as matriculated students to the lower freshman class of any college (senior or community) of The City University of New York. Students must have completed at least six semesters (11th year) of high school.
2. Students who have earned an Equivalency Diploma and passed the General Education Development Examination.
3. Students who have been graduated from high school and have never attended any institution of higher learning.
4. All students who have had only one year of secondary schooling outside the United States.

All students who have had more than one year of secondary schooling outside the United States should file a Foreign Students Application that is available at the Office of Admission Services, 875 Avenue of the Americas, New York, N.Y. 10001.

The following applicants should apply directly to the college of their choice:
Applicants who wish nondegree status (nonmatriculated students). Each college will advise and supply an application to the above applicants.

Application Fee
All applications must be accompanied by a bank check or money order for $20, made out to The City University of New York. (Instructions for submitting the fee are included with the application forms.)

Deadlines for Applications
All applications to the University Application Processing Center must be submitted by deadline dates: January 15 for the Fall Semester, and October 15 for the Spring Semester.

All applications for direct admission to the College must be submitted by the Friday preceding registration.

Notification Dates
Applicants for Fall admission will be notified by April 15; applicants for Spring, by December 15.
Basic Skills Proficiency
Each student must meet standards of proficiency in the basic skills areas of reading, writing, and mathematics established by the College. In addition, the Board of Higher Education has mandated that students meet a University-wide minimal level of skills proficiency before entrance to the upper division. Consequently, students will be tested in these areas after admission but prior to their freshman year, so as to determine whether they meet the minimal University standards and the College’s standards. Those who fail initially to meet these requirements will be given appropriate remedial instructions to assist them in achieving the required skills competency levels. Students who fail to achieve the minimal standards of CUNY by the end of their sophomore year* will not be permitted to continue in the University.

Students entering the University after Sept. 1, 1978, who have failed to meet the standards of proficiency in the basic skills areas of reading, writing, and mathematics established by the University will not be permitted to transfer.

*In the case of students enrolled in a senior college, the end of the sophomore year shall be the end of the semester, quarter, or session in which the student completes 61 or more credits. In the case of students enrolled in a community college, the end of the sophomore year shall be the semester, quarter, or session in which the student completes the degree requirements for graduation from the program in which he or she is enrolled.

BCC Placement Tests
In addition to the Basic Skills Proficiency Examinations, students are expected to take a separate mathematics, speech, and foreign language placement interview. Separate tests are administered in chemistry (Toledo Examination) and engineering sciences and engineering technologies (Spatial Relations Test).

CHOOSING A CURRICULUM
Many factors need to be considered in selecting the best college curriculum. Every effort will be made to honor the program the applicant chooses. Most students whose high school preparation has prepared them with adequate skills in reading, writing, and mathematics will be able immediately to begin regular college work. Other students will be required to enroll initially in preparatory courses that will prepare them for college-level work. Such students will find that these courses may extend the time necessary to earn a degree. Students with special interests and aptitudes may wish to apply for admission to one of the various Career programs in the areas of business, engineering technology, or the health technologies. The advice of parents, counselors, teachers, and college friends can help you choose a program where your success and personal satisfaction can be attained.
ADVANCED STANDING
ADMISSION

An applicant who has previously attended another college or university must report that fact in his application and have the institution submit an official transcript, including an official statement of the conditions of withdrawal, directly to the Office of Admissions Services. Even if attendance at such a college was for a short period of time and no grades are recorded, a certificate of honorable dismissal is required.

A student seeking advanced standing must have his records evaluated by the Office of Admission Services, 875 Avenue of the Americas, New York, N.Y. 10001, to determine matriculation status and remaining requirements for the degree. A student is allowed a maximum of 30 credits advanced standing (transfer credit) in equivalent courses completed at accredited institutions of collegiate rank. The total number of credits allowed toward the associate degree by BCC may not exceed 30, regardless of whether the courses were taken at other institutions before admission, during attendance at, or after leaving Bronx Community College. Grades of D received in equivalent courses taken at all other institutions will be accepted for credit. Failing grades in equivalent courses will be included in the student’s index.

Courses passed at BCC or another college with a grade of D or higher may not be repeated, except as an auditor (no credit). Exception: Nursing courses must be passed with a grade of C or better and must be repeated if a grade of D is received. A student is permitted to repeat only once any course he has failed.

New York State Equivalency Diploma

Students applying on the basis of a New York State Equivalency Diploma must submit:

1. copies of the Equivalency Diploma and General Educational Development Test Scores, and
2. official copies of any high school or college records they may have accrued.
FOREIGN STUDENTS ADMISSION

Application Procedure
Application forms and detailed information may be obtained from Bronx Community College or from:

City University of New York
Office of Admission Services
875 Avenue of the Americas
New York, New York 10001

The Educational Background Summary Form (Part II of the application) should show a complete chronological survey of the applicant's educational experience in all schools attended, whether in the U.S.A. or elsewhere. It is to the applicant's advantage to complete the summary form accurately and completely.

It is the applicant's responsibility to write to all secondary and higher educational institutions he attended requesting official documents.

Application Fee
Each application form must be accompanied by a U.S. bank check or money order in the exact amount of $20 payable to The City University of New York. This fee is not refundable.

Deadline
The deadline for receipt of completed applications is January 15 for Fall Semester admission; October 15 for Spring Semester admission.

Tuition and Fees
Qualified applicants from other countries pay $712.50 tuition per semester as full-time students. (See page 00 for additional special and general fees.)

Test Requirements
Applicants from non-English-speaking countries must have taken the Test of English as a Foreign Language (TOEFL).

Health Requirements
All applicants accepted for matriculation will be required to submit a health statement from a physician on a form provided by the College. The College determines whether the student's health permits school attendance.

Notification of Admission
Applicants will be notified of their admission by the college which has accepted them. They may be required to furnish additional documents, especially with regard to financial and housing arrangements, before their admission becomes final.

Students are admitted to all units of The City University of New York without regard to race, color, creed or national origin. (This statement is made in compliance with U.S. Department of Health, Education and Welfare regulations.)
The Registrar's Office will supply information to students about registration, grades, scholastic indexes and remaining requirements for graduation. Grade reports that include information on scholastic index and matriculation status are mailed or distributed to each student.

**Student Identification Number**

When he registers for the first time, a student receives an identification number, which he carries with him as his permanent student number for the duration of his stay at the College. This number is recorded on the Bursar's Receipt and ID card.

Each student receives an ID card with his picture and student number on it. He must carry this card at all times for purposes of identification. The ID card is also used as a library card in the College. A replacement fee is charged for lost or mutilated cards.

**Transcripts**

Transcripts may be requested from the Registrar's Office on the special form provided by that office. There is a charge of $4 for each transcript requested to be sent, except that transcripts to be sent to colleges of The City University of New York are forwarded free of charge.

Transcripts are not sent automatically at any time, whether for transfer, employment, or any other reason; each must be specifically requested. Transcript requests cannot be processed during examination or registration week.

**Registration**

All students must register for courses during the official registration period each semester, and at the time designated for that student's classification. The "Registration Guide and Schedule of Classes" is available several weeks before the announced registration period.

An "early registration" period for currently enrolled students only takes place during the last two weeks of the period.

Students are advised to appear for registration, with appropriate credentials, at the time specified in order to take advantage of their registration priority. Late registrants (those registering after the close of the official registration period) will be charged a late registration fee. The College reserves the right to cancel late registration.

**Counseling and Advisement for Registration**

Advisers from all curricula offered in the College are available during the registration period. All students must have their programs approved by advisers during registration. Counselors of the Student Development Department are available throughout the semester. Appointments to see counselors may be made in the Office of Counseling in Loew Hall.

**Auditing Classes**

A student may audit a course only with official approval. An Application to Audit form is available from the Registrar's Office. Approval of the Department Chairman is required.

After permission to audit has been received, an auditor-student must register for the audit class in the same manner and at the same time prescribed for regular classes, and he must pay required fees
as if he were registering for credit in the course. Once registration is completed as an auditor, no credit will be granted retroactively for that course during that semester.

Auditors are required to observe attendance regulations of the College and must participate in class to the extent deemed reasonable, desirable, and necessary by the instructor.

**Requests to Take Courses at Other Colleges**

A student desiring to take a course or courses at another college or at another unit of the City University while at Bronx Community College must fill out the required Permit Form issued by the Registrar’s Office, where permission will be granted according to College regulations.

**Students on Permit from Other Colleges**

Students from other colleges are advised to secure written permission from their home colleges before applying to register for any courses at BCC.

City University of New York matriculants with permits may, subject to prior approval of the BCC Admissions Officer, register at a time reserved for BCC Matriculants in the Registration Schedule. However, baccalaureate matriculants from City University senior colleges will be required to pay nonmatriculant fees. Students with permits from colleges not of City University must all register as nonmatriculants regardless of status in their own colleges.
TUITION AND OTHER FEES

All fees must be paid in full at the time of registration. Where tuition fees are reduced by place of residence, legal proof of such residence may be required to establish eligibility. (Any arrangements for loans or applications for loans or grants must be completed in advance of registration.)

All fees and tuition charges are subject to change at any time by action of the Board of Trustees without prior notice. In the event of any increase in the fees or tuition charges, payments already made to the College will be treated as a partial payment, and notification will be given of the additional amount due and the time and method for payment.

Association Fees
(Payable by all students — matriculated and nonmatriculated.)

1. Students taking Day division courses or any combination of Day and Evening division courses (includes registration, library, laboratory, audio laboratory, breakage, malpractice insurance, student activities and graduation fees).
2. Summer Session students and those taking Evening Division courses only (includes registration, library, laboratory, audio laboratory, breakage, student activities, and graduation fees).

Special Fees
(For all students — matriculated and nonmatriculated.)

1. Application for admission (payable at registration time if not paid before).
2. Transcript (no charge for transcripts sent to colleges of The City University of New York).
3. Make-up and special examinations
   First examination per semester $15
   Each additional examination (maximum fee of $25 per semester for three or more examinations) $5
4. Late registration $15
5. Change of program (schedule of classes) $10
6. Duplicate ID card fee $5
7. Duplicate Record $5

TUITION FEES

FULL-TIME STUDENTS
New York City resident, or New York State resident with a Certificate of Residence $462.50/semester
New York State resident without a Certificate of Residence, or Non-New York State resident, including Foreign Student $712.50/semester

PART-TIME STUDENTS
(fewer than 12 credit weight)
New York City resident, or New York State residence with a Certificate of Residence $35/contact hour
All others, including Foreign Student $55/contact hour

MILITARY SERVICE

Special academic standing and military refund regulations apply to students who enlist or are called to serve in the Armed Forces of the United States (see page 23). These students must present evidence of enlistment or induction orders.

VETERANS’ BENEFITS

Information and advice concerning veterans will be furnished by the Office of Veterans’ Affairs (see page 42).

All new students planning to receive education benefits under G.I. Bills should contact the Veterans’ Administration, 252 Seventh Ave., New York City, before registration to make arrangements for benefits.

Currently enrolled BCC students eligible to continue receiving educational benefits while at BCC must present their current Bursar’s Receipt at the Veterans’ Affairs Office, Loew Hall.
REFUND OF TUITION AND OTHER FEES

Fees are not refunded unless a course is withdrawn by the College. Under exceptional circumstances, upon approval of a written application made to the Registrar,* a refund of tuition fees only may be made in accordance with the following schedule:

A full refund of tuition and General Fees (where applicable) will be made in the event that: (1) courses are cancelled by the College; (2) a student’s registration is cancelled by the College.

*Students who wish to withdraw before the opening date of classes or who wish only to drop a course should apply in person directly to the Registrar’s Office.

Military Refunds

Special Military Refund regulations apply to students who enlist or are called to serve in the military services of the United States.

Military service must be documented with a copy of induction or military orders.

In order to obtain a grade and full academic credits, a student must attend approximately 13 weeks. No refund will be made to a student who has been assigned a grade; regardless of whether the grade is passing or failing.

In instances where students who have enlisted in military service do not attend for a sufficient time to qualify for a grade and full academic credit but continue in attendance to within two weeks of induction, refund of tuition and all other fees except application fee will be made in accordance with the following principles:

Withdrawal before completion of the fourth week of the semester .............. 100%
Withdrawal after this date .............. 50%

SCHEDULE OF TUITION REFUNDS

<table>
<thead>
<tr>
<th>Other Than Summer Session</th>
<th>Summer Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Withdrawal from class before the scheduled date of the session</td>
<td>100%</td>
</tr>
<tr>
<td>Withdrawal from course in order to register at another unit of the City University during that semester</td>
<td>100%</td>
</tr>
<tr>
<td>Withdrawal within one week after scheduled opening date of the session</td>
<td>75%</td>
</tr>
<tr>
<td>Withdrawal during the second week after scheduled opening of the session</td>
<td>50%</td>
</tr>
<tr>
<td>Withdrawal during third week after scheduled opening date of the session</td>
<td>25%</td>
</tr>
<tr>
<td>Withdrawal after completion of third week after scheduled opening date of session</td>
<td>None</td>
</tr>
</tbody>
</table>
THE FEDERAL EDUCATION RIGHTS AND PRIVACY ACT OF 1974

The regulations pursuant thereto, grant you the following rights:

1. To be advised of the types of student records and the information contained therein which are maintained by the college.
2. To be advised by the name and position of the official responsible for the maintenance of each type of record, the persons who have access to those records, and the purposes for which they have access.
3. To be advised of the policies of the college for reviewing and expunging those records.
4. To be advised of the procedures for granting you your access rights to your student records.
5. To be advised of the procedures for challenging the content of your student records.
6. To be advised of the cost if any which will be charged you for reproducing copies of your student records.
7. To be advised of all your other rights and requirements for the Federal Education Rights and Privacy Act of 1974 and the regulations promulgated thereunder.

All of the above information may be obtained from the Registrar, Room 14, Philosophy Hall, from 9 a.m. to 5 p.m. Monday through Friday or at other times by appointment. The following categories of information concerning individual students and former students will, except as indicated below, be made available to the general public: name, attendance dates, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, degrees and awards received, and the most recent previous educational agency or institution attended by the student.

Any student or former student may require that any or all of the above information not be released without his/her prior written consent by completion of a form available in Room 23, Philosophy Hall. The form may be completed, withdrawn, or modified during the hours of 9 a.m. to 5 p.m. Monday through Wednesday and to 7:30 p.m. Thursday.
Enrolled Student: A student who has paid all tuition and fees and is attending classes is considered enrolled. The College will remove from its section files any student who has never attended during the first three weeks. The student will be considered not to be enrolled in the course. The credits will not count toward the determination of full-time status.

Good Standing: A student remains in good standing at the College as long as he or she is enrolled. A student on probation is considered to be warned that he or she is compiling a record that could lead to loss of matriculation and/or suspension.

Satisfactory Progress: In addition to obtaining the index requirements set forth in the Index Classification Chart, students are expected to complete their coursework and obtain academic grades A through F at an appropriate rate. See page 00.

<table>
<thead>
<tr>
<th>Cumulative Credits or Equated Credits Attempted</th>
<th>Minimum Cumulative GPA Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-12*</td>
<td>1.50</td>
</tr>
<tr>
<td>13-24</td>
<td>1.75</td>
</tr>
<tr>
<td>25-upward</td>
<td>2.00</td>
</tr>
</tbody>
</table>

Grade Point Average (Index) is calculated on a cumulative basis.

*First semester freshmen are evaluated by the first line of the chart, even if more than 12 credits are attempted.

Students who fail to achieve the required standards for GPA will be placed on probation for one semester. Students who fail to achieve the required standards while on probation will be notified at the end of the spring semester that they have been academically suspended from the College.

No student will be permitted to be on academic probation for any reason for more than two consecutive semesters.

In each subsequent semester after the completion of 25 or more credits and/or equated credits, a student must maintain a 2.00 cumulative GPA regardless of the number of credits attempted.

The GPA requirements for determination of academic status shall be applied to all credits and equated credits attempted by the student.

The GPA requirements for determination of graduation shall be applied to all credits in college level courses only. Grades for credits attempted in noncollege level courses or equated credits will not be used to determine a candidate's eligibility for a degree.

Students under academic probation for either unsatisfactory progress or grade point average shall be so informed by having a notice of such status printed on the semester's grade report and on their official permanent record at the College.

A student under academic suspension from the College or University for unsatisfactory GPA shall be separated from the University and may not be readmitted for one semester or equivalent calendar time. During the period of suspension, a student may not attend or be enrolled in any credit or equated credit course in the College or in any other unit of City University. A student suspended for unsatisfactory progress may not enroll as a matriculated student in good standing. A student under temporary GPA suspension may apply for readmission after one semester or six months.
Standards for Rate of Progress

In order to be making satisfactory progress at Bronx Community College, a student will be required to meet the College's Rate of Progress Standards as follows:

<table>
<thead>
<tr>
<th>Cumulative credits attempted</th>
<th>If registered as full time, the student must complete*</th>
<th>If registered as part time, the student must complete*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-11.5</td>
<td>No evaluation</td>
<td>No evaluation</td>
</tr>
<tr>
<td>12-23.5</td>
<td>6 credits</td>
<td>50% of program</td>
</tr>
<tr>
<td>24-48.5</td>
<td>9 credits</td>
<td>75% of program</td>
</tr>
<tr>
<td>49 and more</td>
<td>12 credits</td>
<td>75% of program</td>
</tr>
</tbody>
</table>

Failure to meet these standards the first time will result in probation. Failure to complete the requirements while on probation will result in suspension. Completion of all requirements while on probation will remove the student from probation.

An appeals procedure shall be incorporated in this procedure, but no student may receive more than one waiver from these regulations.

*Complete is defined as receiving a grade of either A, B, C, D, F or R.

PROGRAM ALLOWANCES AND COURSE LOADS

Limited (Probation) Programs

Newly admitted matriculated students may be assigned a limited program, based on the standards of the curriculum and the recommendation of the Curriculum Coordinator or adviser.

Programs Exceeding Limits

A matriculated student may apply to his Curriculum Coordinator for permission to exceed the required program load, after he has consulted with this adviser.

DEGREE REQUIREMENTS

The required courses for the various degrees are listed in the sections on the Curricula and Programs (see pages 46-129). The student is responsible for ascertaining and completing all the requirements for the degree for which he is a candidate at the time he matriculates. He is required to complete all courses prescribed by his curriculum before active candidacy and consideration for a degree can be entertained.

Courses taken at BCC to remove deficiencies in preparatory work, and those courses recommended as a result of placement examinations which are not part of the degree course requirements in the curriculum, are not creditable toward the degree and are not considered part of the minimum and maximum credits required for the degree.

A cumulative index of 2.00 is required for the Associate Degree. Candidates for the degree must be approved by the faculty for submission to the President and the Board of Trustees as worthy, meritorious and deserving, including moral and character qualifications in their record.
Committee on Academic Standing (CAS)
The Committee on Academic Standing formulates policy in all matters pertaining to the quality of scholarship and standards of academic achievements at the College. It deals with matters of standards for matriculation, awarding of degrees, grades, regulation of student program loads, and student appeals on these matters. Communications with the Committee should be made through the Registrar, who serves as its Executive Secretary.

Students are advised to secure a copy of the Codification of Academic Regulations of the Committee on Academic Standing. Copies are available in the Registrar’s Office.

Matriculation
Upon admission to the College, a student is designated as matriculant or nondegree.

The student’s matriculation status determines the course load he may carry during a semester and the order of priority in registration.

Official determination of scholastic index and certification of matriculation status of students already in attendance are made by the Registrar’s Office, in accordance with standards set by the Committee on Academic Standing.

Classification and Categories (Definitions)
Matriculated Student: A student who is a candidate for an associate degree or certificate and has met the basic college admission requirements is classified as a matriculant.

A matriculant may carry a full- or part-time program of courses leading to a degree, and may register for day and/or evening classes, according to his choice and the availability of class space. A full-time course load is a minimum of 12 credits or credit weights up to the number listed for that semester on the curriculum in the Curriculum Patterns, pages 46-73. Be aware that to graduate in four semesters, a minimum of 16 credits is to be taken in each semester.

Students taking fewer than 12 credits, or their equivalent, are not considered full time for purposes of New York State Regents Scholarships, Scholar Incentive Awards, Selective Service, U.S. Immigration Service, etc. For purposes of Selective Service, State Scholarships, and foreign student visa status, a student must be carrying a full-time load or its equivalent.

Nondegree Student: A nondegree student is one who (a) presented incomplete records for admission, or (b) applied too late, or (c) transferred from another college with an unsatisfactory record or (d) who has been permanently suspended by the College. A student becomes a matriculant when all admission or transfer requirements are met. A student who has been permanently suspended can never become matriculated.
READMISSION

After one or more semesters of absence from the College, a student must apply for readmission. Readmission applications are available in the Registrar’s Office for this purpose. A student who has not submitted a medical form within the two year period prior to readmission will also be required to submit a medical form before his readmission will be approved. Deadlines for the receipt of applications for readmission are: Fall Semester, August 30; Spring Semester, January 15; Summer Session, May 15.

CHANGE OF CURRICULUM

For a change of curriculum, a student should contact the Registrar’s Office and complete a Change of Curriculum form. Once the change has been approved, a student must meet the prescribed requirements for the new curriculum. Credits taken and earned in the student's former curriculum may not necessarily be applicable in the new curriculum. Determination of transferability of credits from one curriculum to another rests with the new Curriculum Coordinator.

The following grades may be assigned by instructors:

<table>
<thead>
<tr>
<th>Grade</th>
<th>% Equivalent</th>
<th>Achievement</th>
<th>Point Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90-100</td>
<td>Excellent, superior</td>
<td>4</td>
</tr>
<tr>
<td>B+</td>
<td>85-89</td>
<td>Above average</td>
<td>3.5</td>
</tr>
<tr>
<td>B</td>
<td>80-84</td>
<td>Good</td>
<td>3</td>
</tr>
<tr>
<td>C+</td>
<td>75-79</td>
<td>Satisfactory</td>
<td>2.5</td>
</tr>
<tr>
<td>C</td>
<td>70-74</td>
<td>Average</td>
<td>2</td>
</tr>
<tr>
<td>D+</td>
<td>65-69</td>
<td>Passing, but below average</td>
<td>1.5</td>
</tr>
<tr>
<td>D</td>
<td>60-64</td>
<td>Just passing</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>0-59</td>
<td>Failing (also assigned to a student who is absent from a final examination and has done failing work in course)</td>
<td>0</td>
</tr>
<tr>
<td>R*</td>
<td>Repeat</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

*Applicable only to certain non-credit remedial courses.

GRADERS

The instructor assigns the grade which represents his evaluation of the work performed and the level of scholarship and competence of the student, based on a composite of the elements that went into the course.

Individual departments may set up policies with respect to minimum essentials, relative weighing of factors such as term paper, laboratory work, periodic quizzes, final examinations, special projects, etc.

Grading policies may be department-wide or those of an individual instructor. In either event, they are communicated to students early in the semester.

A permanent academic record for each student is maintained by the Registrar. Students receive reports of their achievement and status each semester.

Mid-Term Grades

Instructors assign and inform students of mid-term grades during a period designated in the Academic Calendar.

Unless otherwise announced, all courses have required final examinations for all students.
Special Grades
During the semester, and under circumstances described below, instructors may assign the following special grades:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>W</td>
<td>Withdrew 3rd through 10th week only.</td>
</tr>
<tr>
<td>WF</td>
<td>Withdrew Failing (counts as a failure) 3rd week through end of semester.</td>
</tr>
<tr>
<td>WU</td>
<td>Withdrew Unofficially and/or Excessive Absence (counts as a failure) 3rd week through end of semester.</td>
</tr>
</tbody>
</table>

Other Grades
NC No Credit Granted (official leave of absence — administrative grade — not to be assigned by instructor).

AUD Audit (registration only by special permission of the Registrar and Department Head).

Z Administrative grade assigned temporarily when an instructor has been delayed in submitting the final grade. (Missing grade.)

Withdrawal Procedure
Students wishing to withdraw from any course in which they are registered may do so at any time prior to completion of all instruction and evaluative procedures of the course. The formal procedure for withdrawal shall be determined by the Registrar.

- Grades issued upon initiation of informal withdrawal procedures shall be as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>W</td>
<td>Withdrawal during registration period (usually through the 3rd week of classes) — no grade assigned.</td>
</tr>
<tr>
<td>W*</td>
<td>Officially withdrew from course — student initiated. May only be administered from 4th through 10th weeks of a semester. Recorded as unsatisfactory rate of progress.</td>
</tr>
<tr>
<td>WF</td>
<td>Officially withdrew — student initiated. Indicates student was failing the course at the time of official withdrawal. May be administered from the 4th week of a semester through the end of the semester. Recorded as unsatisfactory rate of progress and 0.0 quality points in the Grade Point Average.</td>
</tr>
</tbody>
</table>

Grades issued upon initiation of formal withdrawal procedure (student simply disappears) shall be as follows:

Any time during the semester — WU grade only. (Note: WU grade = unofficial withdrawal, excessive absences, debarment.)

CAS Policy: During the change of program period, usually the first through the third week of the semester (or dates as published by the Registrar’s Office), students who officially drop a course or section or who take an official leave of absence are considered as having canceled the particular registration and no grade is assigned. Students are subject to the tuition refund policy, as adopted by the Board of Higher Education, in effect at the time.

Regulations: Temporary Grades

Temporary Grades
An instructor may assign a temporary grade at the end of the semester only, for one of the reasons given below. Requests for the resolution of a temporary grade must be made by the following dates: March 15 for a grade received in the Fall Semester, and by the following dates: October 15 for a grade received in the Spring Semester or Summer Session. It is the responsibility of the student to take the necessary steps for the resolution of a temporary grade. If the grade remains unresolved, it is equivalent to F.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABS</td>
<td>Absent from final examination, but otherwise passing in course. Upon application supported by evidence of legitimate, unavoidable absence, student will be given make-up examination. May resolve to A, B, C, D, F, or INC. Equivalent to F if unresolved. (Refer to Regulations below.)</td>
</tr>
<tr>
<td>INC</td>
<td>Work in course incomplete, but otherwise passing in course. May not be assigned to student absent from final examination. May resolve to A, B, C, D, F or INC. Equivalent to F if unresolved. (Refer to Regulations below.)</td>
</tr>
</tbody>
</table>

1. Registration in subsequent level courses — A student with the grade of ABS or INC in any course may not register for the subsequent level course in a sequence, unless he has received written permission to do so from the Chairperson of the Department in which the course is given.
2. Make-up and special examinations — Scheduled make-up examinations are held as announced in the Academic Calendar. A student who misses (for a legitimate reason) a regularly scheduled final examination must apply to the Registrar for re-examination to be given on the scheduled date as announced. See Special Fees, page 22.

Students assigned the grade of ABS whose application for make-up examination is approved are also so notified. Students who miss the scheduled make-up examination, or who cannot apply for such examination prior to the scheduled date for such make-up examinations, must apply in writing through the Registrar to the Chairperson of the Department in which the course is given for a special examination. If the Department Chairperson does not grant permission for such examination, he should advise the CAS. The denial of an application for examination should be communicated by the Department Chairperson to the CAS.

Honors

Honors and recognition are given to those students who achieve outstanding academic records. All official awards made by the College to students, including Commencement awards and Dean's List Achievement, are noted on the student's permanent academic record. Honors fall into several categories as described below.

Dean's List
A matriculated student who has completed at least 15 degree credits in a given semester with a scholastic index of 3.00 or higher and no failing grade will be placed on the Semester Dean's List.

A matriculated student who has taken at least 24 degree credits and has achieved a cumulative index of 3.00 or higher with no failing grade will be placed on the Cumulative Dean's List.

Both Dean's Lists are issued during the Fall and Spring semesters. (No lists are issued for Summer Session, but Summer Session grades are included in the cumulative index.)

Honor Societies
Presently two honor societies are active at the College: Phi Theta Kappa — a National Junior College Honor Society, and Tau Alpha Pi — a National Honor Society for Engineering Students. Each year, the honor societies initiate students who have met their requirements and qualify for membership.

Commencement Awards
Seniors who have maintained high levels of accomplishment are given special recognition at Commencement time. These awards may include departmental and curricular recognition for excellence in scholarship and for outstanding service to the College.

ATTENDANCE AT CLASSES

Regularity of Attendance
Attendance at all class sessions is required. Instructors keep an official record of absences in their grade folders and communicate with the Office of the Dean of Students regarding excessive absence involving individual students.

Excessive Absence — Warning and Debarment
Students excessively absent as indicated in the chart below may first be warned. If absence continues, they will be debarred, with an assigned grade of WU.
Guideline for Excessive Absences

<table>
<thead>
<tr>
<th>Number of class hours per week:</th>
<th>Warning notice sent after:</th>
<th>Debarment notice sent after:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3 hours of absence</td>
<td>5 hours of absence</td>
</tr>
<tr>
<td>3</td>
<td>4½ or 5 hours of absence</td>
<td>7 hours of absence</td>
</tr>
<tr>
<td>4</td>
<td>6 hours of absence</td>
<td>9 hours of absence</td>
</tr>
<tr>
<td>5</td>
<td>7 or 7½ hours of absence</td>
<td>12 hours of absence</td>
</tr>
<tr>
<td>1 session*</td>
<td>1 session of absence</td>
<td>3 sessions of absence</td>
</tr>
</tbody>
</table>

*In classes such as laboratory, health, physical education, art, or music, which may be scheduled to meet for only one session each week in a block of hours, absence from one such session incurs a warning notice; absence from two such sessions is the maximum permitted for the term. Absence from three such sessions constitutes grounds for debarment from the course.

LEAVES OF ABSENCE

A student who finds it necessary to withdraw from the College for a semester or longer should apply for an official leave of absence through his counselor.

Military Leave

Students who enlist in the armed forces or who are inducted or recalled into service must present and place on file at the College a copy of the official induction notice indicating the exact date on which they must report for duty. Additional regulations concerning military leave are described on page 23.

Maternity Leave

A student who becomes pregnant must immediately notify her counselor and the special counselor in the Department of Student Development. A statement from the student’s physician will be required, and then appropriate arrangements will be made for a leave of absence.

Handicapped Students

Students with physical handicaps requiring special assistance for note-taking in class, writing examinations, etc., should consult with a counselor in the Department of Student Development or contact the Affirmative Action Coordinator.

WITHDRAWAL FROM COLLEGE

A student who plans to withdraw from college should notify his counselor without delay by arranging a personal interview. Students who are unable to withdraw from the College in person may do so by mail, by writing to the Registrar. The date of withdrawal will be the date on which the letter is received by the College. The letter should include the reason for withdrawal, a listing of the courses and sections in which the student is currently enrolled, and the names of the instructors in each class. Students should be certain to receive written acknowledgement of their withdrawal, to avoid academic penalty.

Students are urged to seek guidance before resigning. Counseling and advisement prior to the final decision to withdraw may solve their problem and make it feasible to remain in college. In any event, a formal withdrawal will protect a student’s record.

Under special circumstances, proportional refunds of tuition fees only may be made according to a schedule prescribed by the Board of Trustees, if withdrawal is made within the third week after opening of classes. Application for refund of tuition fees should be made to the Registrar.

TRANSFER POLICIES: FROM BCC TO A SENIOR COLLEGE

From transfer curricula to senior colleges of The City University of New York

- A student who has received an A.A. or A.S., degree, or an A.A.S. degree in a program officially designated as a transfer program by the City University, shall be admitted to the senior college of his choice.
- Upon completion of the Associate Degree, a senior college within The City University of New York will accept a minimum of 64 credits from the community college.
- A student who has completed an approved well-balanced program of at least 30 credits in an A.A. or A.S. curriculum and who has maintained an index of at least 2.75 (with a C being 2.00 and a B being 3.00) shall be admitted to the senior college of his choice.
- A graduate of a City University community college nursing program who has attained a 2.5 index shall be admitted to the nursing program of the senior college of his choice.
From transfer curricula to other higher educational institutions

Generally, students transferring from one of the City University community colleges to other higher educational institutions have found that transfer credit is awarded for credits earned with grades of C or better. Each institution makes its own transfer policies, however, and students planning to transfer to institutions outside the City University would be well-advised to contact the institution to which they are planning to transfer to discuss transfer policies.

Electrical and Mechanical Technology students who plan to continue their studies may transfer directly to The City College or to certain other four-year colleges, offering the baccalaureate degree in Engineering Technology and will receive full transfer credit for technology courses taken at Bronx Community College.

From career curricula to other higher educational institutions

Many four-year institutions will admit graduates of the career programs, granting varying amounts of advanced standing credit for studies completed at BCC.

All credit and noncredit courses taken at Bronx Community College may be incorporated in the calculations of the scholastic index by the receiving college.

All courses and grades taken at Bronx Community College appear on the student's Bronx Community College permanent record and transcript.

CAMPUS BEHAVIOR CODE

In order to ensure the continuance and enhancement of the positive image and reputation of all members of the College community and in the interest of promoting student and faculty welfare at the College and the safety and security of our entire College community, the following Code of Behavior is in effect:

Gambling and the sale of drugs, including marijuana, are illegal by New York State Law; therefore violators will be subject to disciplinary action and/or to referral to outside authorities.

Any student who does not show his or her ID Card upon a legitimate request will be considered a trespasser.

Any visitor to the College not on official business approved by appropriate College authorities, will be considered a trespasser and will be dealt with as such.

Use of alcoholic beverages is prohibited on campus, except for the consumption of beer and/or wine at special events sponsored by chartered student groups under the supervision of a faculty advisor with prior approval of the Dean of Students.

Any form of cheating is prohibited.

Any student violating the code of behavior or any law or regulation established by the College, and by the City, State, or Federal Government (including the use of drugs) shall be subject to formal disciplinary procedures as outlined in Articles 15.3 to 15.5 of the Board of Higher Education Bylaws and sanctions as listed in the Board of Higher Education Bylaws and Article 129A of the Education Law. The initiation of disciplinary procedures requires a predisciplinary hearing before a counselor from the Office of the Dean of Students as set up in line with the requirements of the Bylaws of the Board of Trustees immediately following an incident which is judged to be an infraction of law or Behavior Code to determine whether or not the case should be referred to the Student-Faculty Discipline Committee.

In emergency or extraordinary circumstances immediate suspension can be effectuated pending a hearing within seven (7) school days.

If the charges are of sufficient nature and have not been settled at the prediscipline hearing, a formal hearing will be scheduled
before the Student-Faculty Discipline Committee as specifically outlined in Article 15.3 of the Bylaws of the Board of Trustees.

Students as a result of this hearing or failure to appear at the hearing may be subject to immediate and permanent suspension which may apply to all units of the City University of New York. All students involved will be advised of the various levels of appeal under the Bylaws of the Board of Higher Education.

Copies of Article 15.3 and Article 129A of the Education Law are available from the Dean of Students and the Office of Student Activities.

PUBLIC ORDER (EDUCATION LAW)

Rules and Regulations for the Maintenance of Public Order on Campuses of the City University Pursuant to Article 129A of the Education Law

The tradition of the university as a sanctuary of academic freedom and center of informed discussion is an honored one, to be guarded vigilantly. The basic significance of that sanctuary lies in the protection of intellectual freedoms: the rights of professors to teach, of scholars to engage in the advancement of knowledge, of students to learn and to express their views, free from external pressures or interference. These freedoms can flourish only in an atmosphere of mutual respect, civility and trust among teachers and students, only when members of the university community are willing to accept self-restraint and reciprocity as the condition upon which they share in its intellectual autonomy.

Academic freedom and the sanctuary of the university campus extend to all who share these aims and responsibilities. They cannot be invoked by those who would subordinate intellectual freedom to political ends, or who violate the norms of conduct established to protect that freedom. Against such offenders the university has the right, and indeed the obligation, to defend itself. We accordingly announce the following rules and regulations to be in effect at each of our colleges which are to be administered in accordance with the requirements of due process as provided in the Bylaws of the Board of Higher Education.

With respect to enforcement of these rules and regulations we note that the Bylaws of the Board of Higher Education provide that:

The President
The president, with respect to his educational unit, shall:

"(A) Have the affirmative responsibility of conserving and enhancing the educational standards of the college and schools under his jurisdiction;

"(B) Be the advisor and executive agent to the Board and of his respective College Committee and as such shall have the immediate supervision with full discretionary power in carrying into effect the bylaws, resolutions and policies of the Board, the lawful resolutions of any of its committees and the policies, programs and lawful resolutions of the several facilities;

"(C) Exercise general superintendence over the concerns, officers, employees and students of the educational unit.***"

Rules
1. A member of the academic community shall not intentionally obstruct and/or forcibly prevent others from the exercise of their rights. Nor shall he interfere with the institution's educational process or facilities, or the rights of those who wish to avail themselves of any of the institution's instructional, personal, administrative, recreational, and community services.

2. Individuals are liable for failure to comply with lawful directions issued by representatives of the University/college when they are acting in their official capacities. Members of the academic community are required to show their identification cards when requested to do so by an official of the college.

3. Unauthorized occupancy of University/college facilities or blocking access to or from such areas is prohibited. Permission from appropriate college authorities must be obtained for removal, relocation and use of University/college equipment and/or supplies.

4. Theft from or damage to University/college premises or property, or theft of or damage to property of any person on University/college premises is prohibited.

5. Each member of the academic community or an invited guest has the right to advocate his position without having to fear abuse, physical, verbal, or otherwise, from others supporting conflicting points of view. Members of the academic community and other persons on the college grounds shall not use language or take actions reasonably likely to provoke or encourage physical violence by demonstrators, those demonstrated against or spectators.

academic policies and procedures
34
6. Action may be taken against any and all persons who have no legitimate reason for their presence on any campus within the University/college, or whose presence on any such campus obstructs and/or forcibly prevents others from the exercise of their rights or interferes with the institution’s educational processes or facilities, or the rights of those who wish to avail themselves of any of the institution’s instructional, personal, administrative, recreational, and community services.

7. Disorderly or indecent conduct on University/college-owned or controlled property is prohibited.

8. No individual shall have in his possession a rifle, shotgun or firearm or knowingly have in his possession any other dangerous instrument or material that can be used to inflict bodily harm on an individual or damage upon a building or the ground of the University/college without the written authorization of such educational institution. Nor shall any individual have in his possession any other instrument or material which can be used and is intended to inflict bodily harm on an individual or damage upon a building or the grounds of the University/college.

Penalties
1. Any student engaging in any manner in conduct prohibited under substantive Rules 1-8 shall be subject to the following range of sanctions as hereafter defined in the attached Appendix: admonition, warning, censure, disciplinary probation, restitution, suspension, expulsion, ejection and/or arrest by the civil authorities.
2. Any tenured or nontenured faculty member, or tenured or nontenured member of the administrative or custodial staff, engaging in any manner in conduct prohibited under substantive Rules 1-8 shall be subject to the following range of penalties: warning, censure, restitution, fine not exceeding those permitted by law or by the Bylaws of the Board of Higher Education, or suspension with/without pay pending a hearing before an appropriate college authority, dismissal after a hearing, ejection, and/or arrest by the civil authorities. In addition, in the case of a tenured faculty member, or tenured member of the administrative or custodial staff engaging in any manner in conduct prohibited under substantive Rules 1-8 shall be entitled to be treated in accordance with applicable provisions of the Education Law or Civil Service Law.
3. Any visitor, licensee, or invitee, engaging in any manner in conduct prohibited under substantive Rules 1-8 shall be subject to ejection and/or arrest by the civil authorities.

Appendix — Sanctions Defined:
Admonition — An oral statement to the offender that he has violated university rules.
Warning — Notice to the offender, orally or in writing, that continuation or repetition of the wrongful conduct, within a period of time stated in the warning, may be cause for more severe disciplinary action.
Censure — Written reprimand for violation of specified regulation, including the possibility of more severe disciplinary sanction in the event of conviction for the violation of any university regulation within a period stated in the letter of reprimand.
Disciplinary Probation — Exclusion from participation in privileges or extracurricular university activities as set forth in the notice of disciplinary probation for a specified period of time.
Restitution — Reimbursement for damage to or misappropriation of property. Reimbursement may take the form of appropriate service to repair or otherwise compensate for damages.
Suspension — Exclusion from classes and other privileges or activities as set forth in the note of suspension for a definite period of time.
Expulsion — Termination of student status for an indefinite period. The conditions of readmission, if any is permitted, shall be stated in the order of expulsion.
Complaint to Civil Authorities.
Ejection.

Adopted by the Board of Higher Education June 23, 1969, Calendar No. 3(b).
EDUCATION LAW

Section 224-a.
Students unable because of religious beliefs to attend classes on certain days.

1. No person shall be expelled from or be refused admission as a student to an institution of higher education for the reason that he is unable, because of his religious beliefs, to attend classes or to participate in any examination, study or work requirements on a particular day or days.

2. Any student in an institution of higher education who is unable, because of his religious beliefs, to attend classes on a particular day or days shall, because of such absence on the particular day or days, be excused from any examination or any study or work requirements.

3. It shall be the responsibility of the faculty and of the administrative officials of each institution of higher education to make available to each student who is absent from school, because of his religious beliefs, an equivalent opportunity to make up any examination, study or work requirements which he may have missed because of such absence on any particular day or days. No fees of any kind shall be charged by the institution for making available to the said student such equivalent opportunity.

4. If classes, examinations, study or work requirements are held on Friday after four o'clock post meridian or on a Saturday, similar or makeup classes, examinations, study or work requirements shall be made available on other days, where it is possible and practicable to do so. No special fees shall be charged to the student for these classes, examinations, study or work requirements held on other days.

5. In effectuating the provisions of this section, it shall be the duty of the faculty and of the administrative officials of each institution of higher education to exercise the fullest measure of good faith. No adverse or prejudicial effects shall result to any student because of his availing himself of the provisions of this section.

6. Any student, who is aggrieved by the alleged failure of any faculty or administrative officials to comply in good faith with the provisions of this section, shall be entitled to maintain an action or proceeding in the supreme court of the county in which such institution of higher education is located for the enforcement of his rights under this section.

7. As used in this section, the term "institution of higher education" shall mean schools under the control of the board of trustees of the state university of New York or of the board of higher education of the city of New York or any community college.
STUDENT DEVELOPMENT DEPARTMENT

Chairman: Professor Michael Steuerman
Professors: G. Hobbs, C. Saueracker
Associate Professors: D. Bullard, L. Davis, D. Diamond, W. Kleiber, H. Rosenfeld
Lecturers: J. Asch, A. Figueroa

The Department of Student Development assists the highly diversified student body of Bronx Community College in the process of academic, personal, and vocational growth.

It is concerned with student life on all levels, both in and out of the classroom, and its members strive to aid students to achieve optimum intellectual, social, and emotional development. In order that students can effectively pursue their studies at the College, it is essential that they have the assistance of expert counseling.

The Student Development counselor is concerned with the specific needs of each individual student. Areas of focus for counseling sessions may typically include aptitude and interest assessment and exploration, personal and educational adjustment, motivational factors influencing educational performance, and the vocational decision-making process. In addition to individual counseling, all new students are assigned to group orientation sessions, called SPD 99, conducted by the counselors.

Counseling services are available to all students during the day, evening, and Saturday.

COURSE AND CURRICULUM ADVISEMENT

Course and Curriculum Advisement is done by the Student Development counselor in the student's first and second semesters. Students are assigned according to their curriculum choice. Flexibility is maintained by allowing for the reassignment of a student if there is a curriculum change or if the student's area of interest changes.

Advisement for all other students is provided by academic departments. Faculty advisers are an additional source of career information for students.

PRE-COURSE INTRODUCTION TO THE COLLEGE

Prior to the first day of classes, the Department of Student Development conducts for incoming students information sessions to acquaint them with their fellow students and the facilities, and to help them prepare for the day-to-day expectations of campus life.
ORIENTATION SEMINAR — SPD 99

A ten-session seminar offered by the Department of Student Development is programmed for all entering freshmen or new students. It provides an opportunity for these incoming students to meet with their assigned counselor in a group setting, for the purpose of becoming familiar with all facets of being a student at Bronx Community College. The seminar deals with issues and concerns of students regarding their role in the College community. It enables the student to get an overview of the College structure, academic rules and regulations, and career and vocational choices. Some of the specific areas covered include grading and retention standards, financial aid, curriculum requirements, registration procedures, support services, career exploration, transfer policies and course selections for their second semester.

Students register for SPD 99 according to their curriculum. In instances where this is not possible because of conflicts, the student may choose any SPD section which is convenient.

COUNSELING SERVICES

The Department of Student Development offers a variety of counseling services. Some of these are identified below. All students who need assistance in these and other areas are directed to Loew Hall for the name and room of the appropriate counselor.

Career Planning Services

Career counseling is available to students who are undecided about career goals or wish additional information concerning college majors or occupational fields they hope to pursue. Services include the Transfer-Career Library (pamphlets, books, college catalogs), career exploration workshops, vocational inventory testing, seminars on specific career areas, and individual career counseling.

Pre-Admissions Counseling

Pre-admissions counseling concerning the many educational opportunities at BCC is available to all prospective students. Services include group and individual counseling for prospective freshmen, transfer students, and high school honor students.

Transfer Counseling

The Transfer Office provides counseling for students seeking transfers to other colleges. Information and materials are available about new programs, admission requirements and priorities, and financial aid and scholarships.

Foreign Students Counseling

The central concern of Foreign Student Counseling is that each individual foreign student have the best possible educational and personal experience while enrolled in the college. This is achieved by responding to the unique needs of foreign students, including (1) liaison work with the Immigration and Naturalization Service pertaining to special regulations and residency requirements; (2) financial assistance (tuition deferments and tuition waivers); (3) programming off-campus opportunities in the wider New York community area for cross-cultural and social adjustment; and (4) referral to appropriate resources for housing, legal problems, emergency assistance, etc.

Handicapped Students Counseling

Special services are arranged for handicapped students to provide optimal educational opportunities. Provisions are made for registration, placement examinations, tutorial services, final examinations, and referral to social agencies and special programs at other CUNY units. This area includes not only the physically handicapped but also those serious medical conditions that limit students' physical capacities.

Health Services

The Health Service Office provides emergency first aid and counseling in any health-related matter. Your confidentiality is always respected.

Psychological Counseling

This service complements the counseling process. If situations arise in which the student faces critical issues, whether concerning drugs, classes, social adjustment, family or marriage, help is available in the office of the college psychologist. Individuals may be self-referred or may be referred by counselors, faculty or fellow students. Where necessary, appropriate referral to off-campus facilities will be offered and made.

Employment Counseling and Placement Office

This office, located in Loew Hall, refers students and alumni to potential employers for both part-time and full-time employment. In addition, students and alumni are helped to develop job search strategies, prepare resumes and prepare for employment interviews. For the benefit of graduating students and alumni, employment interviewers from major corporations are invited to recruit on campus. For the convenience of evening session students and alumni, the office is open at least two evenings a week.
Financial Aid Services

Applications
Many types of financial assistance, described below, are available to students at Bronx Community College. The total amount of assistance students may receive, through one or more programs, is based upon financial need. In order to apply for most types of aid, students must attend financial aid workshops at which they fill out the appropriate applications. They must then meet with a counselor who will review their applications. Information about applications and workshops may be obtained at the Financial Aid Office in Loew 106. Awards are made for one academic year and may be renewed upon application. Renewals are based upon continued financial need and satisfactory academic progress.

Tuition Assistance Program (TAP)
TAP is administered by the New York State Higher Education Services Corporation for residents of New York State. Under this program, full-time students (at least 12 credits or equated credits) whose families have an annual New York State taxable income (after exemptions and deductions have been subtracted) of $20,000 or less may qualify for assistance to help meet tuition charges.

Basic Educational Opportunity Grants (BEOG)
This federal aid program is designed to provide financial assistance to students who need it to attend college. Basic grants are intended to be the “floor” of a financial aid package and may be combined with other forms of aid, such as TAP, in order to meet the full costs of education. The amounts students receive are determined on the basis of their own and their families’ financial resources. To be eligible, students must take at least six credits or equated credits each term.

Loans
The National Direct Student Loan Program (NDSL) and the Nursing Student Loan Program (NSL), which are supported by federal and college funds, are available to needy students. In addition, New York State residents who take at least six credits or equated credits each term and are in good academic standing may apply for loans through the Guaranteed Student Loan Program administered by the New York State Higher Education Services Corporation. Applications are available at participating banks. Students must meet with a counselor in order to have their applications certified.

Supplemental Educational Opportunity Grants (SEOG)
This is a federal program designed to help students whose need for financial assistance is exceptionally great.

Nursing Scholarships (NS)
Nursing Scholarships, which are supported by federal funds, are made available to nursing students whose need for financial assistance is exceptionally great.

College Discovery Stipends (CD)
Stipends are made available to needy full-time students (at least 12 credits or equated credits) who are members of the College Discovery Program.

Government regulations require that students be in good standing and making satisfactory academic progress in order to receive financial aid. In addition, since financial aid is paid to help students come to college, students who withdraw from all their classes (officially or unofficially) may have to repay any financial aid they have received.

Regulations for the programs, described above, are subject to change without notice.

The following types of financial assistance are available to students who take at least six credits or equated credits each term. However, preference will be given to those students who take at least twelve credits or equated credits each term.

College Work-Study Program (CWSP)
The College Work-Study Program, which is supported by federal and college funds is designed to provide part-time employment for needy students. Jobs are available on campus and in nonprofit agencies off campus. When possible, students are given jobs which are related to their curricula or career interests. Participants are limited to no more than twenty hours of employment each week when classes are in session and no more than forty hours of employment each week during vacation periods.
STUDENT ACTIVITIES

Coordinator: Prof. Henry Skinner

The student activities program includes a wide variety of organizations, clubs and special activities that are an integral part of the mission of the College.

The educational co-curricula organizations, the ethnic-cultural clubs, honor societies, student government, radio station and publication organizations are all part of the educational process that supports and encourages students in search for positive learning experiences. These programs enhance development of individual potentialities through broader perspectives via exposure to new experiences and roles. These experiences are enriched through the cooperation and guidance of interested faculty advisers. Students have an opportunity to apply skills learned in their academic curriculum. They experience small group dynamics and learn decision-making skills which prepare them for future roles.

The Office of Student Activities is the central clearinghouse for information on all student activities.

All officers of the student association, clubs and publications, and members of the College Senate and athletic teams must be matriculated students with a minimum cumulative scholastic index of 2.00. All student representatives must be registered for classes while they serve.

Student Associations

The student association is responsible for planning and executing the kinds of programs best suited to the needs of its constituents. They work cooperatively for total student welfare through the Student Association Executive Board.

Student Caucus — College Senate

Student representatives from the Student Association and students elected at large hold senatorial seats on the BCC College Senate. Students who are senators make up the Student Caucus.

The College Senate has legislative power with regard to academic affairs, long-range planning, and campus life and activities. Student senators participate as voting members on various college committees. Among them are: Senate Executive Committee, Nominations and Elections, Budgets and Grants, Governance Structures and Functions, Curriculum, Instruction, Community Projects and Special Events and Student Activities.
The Inter-Organizational Council is the representative body of student clubs and organizations that plans and coordinates various club activities.

Accounting Club
Art Club
Bible Believers Club
African-Caribbean Student Association
Ceramics and Crafts Club
Chinese Club
Círculo Cultural de Estudiantes Dominicanos
Forensic Society
French Club
German Club
Haitian Student Association
Health and Physical Education Club
Hustle & Salsa Dance Club
Institute of Electrical and Electronic Engineers
Latinos Unidos
Music Club
Muslim Student Association
Nursing Students Association
Olympus Society (Greek Club)
Paddleball Club
Phi Theta Kappa (Honorary Society)
Photography Club
Psychology Club
Puerto Rican Student Association
Readers Theatre
Secretarial Club
Society of Manufacturing Engineers
Spanish Club
Special Olympics Club
Tau Alpha Pi (Engineering Honorary)
Theatre Workshop
Veterans’ Association

Student Publications & Media
BARLD (business magazine)
The Communicator (newspaper)
From the Heights (alumni newsletter)
Language Forum (Modern Language literary magazine)
Senior yearbook
Through the Looking Glass (literary magazine)
The Veterans Version
WBCC (Radio Station)

Gould Student Center
The Gould Student Center is dedicated to serving the social, cultural and recreational needs of Bronx Community College students and provides for a variety of services and educational experiences. The facility includes a snack bar, theatre, lounges, game room, quiet browsing room, and meeting rooms. The BCC bookstore is located in the Center. For information regarding use of the facilities for programs, meetings or conferences, contact the Gould Student Center Office, Room 201.

ALUMNI ASSOCIATION
The function of the Alumni Association is to extend services to former students and to further the educational, social and cultural affairs of the College. The Alumni Association is administered by a college-wide board of advisers whose function is to introduce the spirit of innovation and positive communication for the benefit of alumni and the College community. All students become members of the Bronx Community College Alumni Association upon graduation.

VETERANS’ AFFAIRS
The Office of Veterans’ Affairs provides extensive supportive services for approximately 600 veterans currently enrolled at Bronx Community College. All veterans’ certification applications for educational benefits are processed in this office. Other services include: discharge upgrading; housing and employment information; and peer and professional counseling through outreach activities. The Office of Veterans’ Affairs also administers a veterans’ work/study program; works in cooperation with the Veterans Readiness Institute and the students’ Veterans Association; and publishes a bimonthly newsletter.

BRONX COMMUNITY COLLEGE ASSOCIATION, INC.
The Bronx Community College Association, Inc., is a chartered corporation composed of a Board of Directors, with the President of the College as Chairman. Elected student representatives and faculty are charged with the responsibilities of approving budgets and appropriating monies raised in student activity fees, from bookstore and cafeteria dividends and similar sources. The funds are expended for student extracurricular activities, including student publications, clubs, social activities, athletic teams and organizations, based on budgetary recommendations from student and faculty representatives.

The records and budgeted expenditures are audited periodically and carefully supervised.
ATHLETICS

Director of Athletics: Prof. John Whelan
Coordinator of Women’s Athletics: Prof. Michele Stern
Coordinator of Intramurals: Prof. Mitchell Wenzel

The Athletic Program at Bronx Community College is designed to fulfill the student’s natural needs for physical activity under competitive as well as non-competitive conditions.

The intercollegiate program is geared toward those students who exhibit above average athletic abilities and is intended to promote through competitive athletic participation the development of the total personality. The intramural sports program is primarily for those with average athletic abilities and, although spirited, is of a less competitive nature. The recreational activities program is designed to provide opportunity for exercise of a non-competitive nature for all those who are motivated toward attaining or maintaining a satisfactory level of physical fitness.

The college is a member of the National Junior College Athletic Association (NJCAA) Region XV, The Metropolitan Community College Athletic Conference, and the National Association of Intercollegiate Athletics for Women.

Intercollegiate Athletics
Men’s Baseball Team
Men’s Basketball Team
Men’s Indoor Track Team
Men’s Soccer Team
Men’s Wrestling Team
Tennis Team (coed)
Track and Field (coed)
Women’s Basketball Team
Women’s Softball Team
Women’s Tennis Team
Women’s Volleyball Team

Intramurals/Recreation/Clubs
Basketball, volleyball, wrestling, swimming, paddle ball, soccer, tennis and bowling are scheduled on an intramural basis. The program is open to all students with an acceptable medical report on file in the Health Service Office. In addition, the following clubs are open to all interested students:

Bowling Club
Martial Arts Club (Judo, Karate, etc.)
Modern Dance Club
Scuba Club
Synchronized Swimming Club
Yoga Club
INDEPENDENT STUDIES

There are two types of independent studies courses for students who wish to design their own nonclassroom courses. Students are able to pursue supervised projects and studies which transcend discipline limitations. The courses are for elective credit only.

CUNY BACCALAUREATE PROGRAM

This is a four-year City University program leading to a bachelor’s degree. It permits mature and highly motivated students with a clear idea of their educational and career objectives to design their own academic program. It provides an opportunity to do in-depth research and/or field work projects for a maximum of 30 credits. Valid nonclassroom learning experiences prior to admission (life experiences directly related to the student’s area of interest) may be recognized for a maximum of 15 of the 30 credits.

An applicant to the program must be currently matriculated in good standing and must have completed 15 college credits.

COOPERATIVE EDUCATION INTERNSHIP PROGRAM

The Cooperative Education Internship Program is now in effect for matriculated students in the Accounting, Data Processing, Marketing Management and Sales, and Secretarial Studies curricula. It will be expanded in the future to include career students in the technologies and other areas.

Under the coordination of the Program Director, full- and part-time field work experiences relating to a student’s study interests are developed in the business community, and the non-profit sector of the economy. Students are placed in, or assisted to self-develop, appropriate internships through a program of counseling and career preparation. Follow-up consists of weekly seminars, job-site visitations, and employer evaluations. Students receive college credit and the prevailing wage rates.

PROJECT DOWNTOWN

Coordinator: Prof. Allen Pomerantz

Downtown is a unique arrangement which enables students in all humanities departments, Communication Arts and Sciences, English, History, Modern Languages, Music and Art, and Social Sciences, to combine regular classroom study with off-campus structured experiences. As part of the general course work, museums, theatres, courts, radio and television stations, international institutions, embassies and municipal agencies of the City of New York are available to serve as resources for study.

COLLEGE DISCOVERY PROGRAM

The College Discovery Program, supported by state and city funds, was initiated at Bronx Community College in 1964 to offer the possibility for higher education to students of disadvantaged backgrounds. Students now apply directly to City University Special College Programs and must meet financial need criteria. Students who have previously attended college are not eligible to enter the College Discovery Program.

College Discovery students, where their needs indicate, receive money for books, pay no registration fees, and may be eligible to receive a stipend intended to cover their basic needs so that they are able to attend college. Intensive counseling, tutoring, and other support services are provided to assist the students to interpret the demands of college and to resolve some of the more pressing problems that interfere with their academic success.

Students are officially enrolled in the curriculum of their choice, with emphasis on transfer to a baccalaureate degree program. The students are integrated into all classes and are encouraged to participate in all college activities.
MEEOP (MINORITY ENGINEERING EXTENDED OPPORTUNITY PROGRAM)

Coordinator: Prof. Oleg Rodzianko

The MEEOP program is a cooperative venture between Bronx Community College and Cornell University that is designed to encourage minority students to enter and succeed in the field of engineering.

The first part of the program at Bronx Community College concentrates on the mathematics, physics and science courses that are prerequisites for all engineering education. Students completing their studies for the Associate degree with an average of B (3.0) and with grades in mathematics and science courses around the B (3.0) level are assured of admission into Cornell University's College of Engineering. Cornell will carefully review the transfer requests of students with lower averages and an admission decision will be based on their overall progress at Bronx Community College. In general, to enter Cornell as juniors, students will be required to take some extra credits at BCC.

At Cornell, students will conclude their studies towards the degree of Bachelor of Science in a specialized field of engineering.

Special counseling and financial aid are available at both institutions throughout the program. At Cornell, any necessary financial assistance will be given once a student is accepted. To apply for this program, a student must list Bronx Community College as his first choice on the CUNY application, with Engineering Science as the desired curriculum. Once enrolled he may register as a MEEOP student.
BUSINESS AND COMMERCE

Curriculum Coordinator: Prof. A. Hirshfield

The programs offered in Business and Commerce fall into three categories: Business Career, a two-year program which leads to the A.A.S. degree; Business Administration, a transfer program which leads to the A.A. degree and to the third year at Baruch College or Lehman College of The City University of New York;* and Business Teaching, a special program for students planning to teach business subjects at the high school level, which leads to the A.A. degree and to the third year at Baruch College or at Hunter College.

The specific requirements and characteristics of the three categories are described and explained on pages 46-52.

BUSINESS CAREER CURRICULA

There are several areas in the Business Career Curricula leading to the A.A.S. degree. A student may pursue a Business Career specialization in: 1) Accounting, 2) Marketing Management and Sales, 3) Data Processing with a specialization in Computer Programming and Systems Analysis.

Upon satisfactory completion of his work at Bronx Community College, the student may seek immediate employment in the field of his choice. A career program graduate will be accepted directly as a matriculated student in related professional programs of senior units of the City University; or he may transfer to another appropriate college of his choice provided he meets the requirements of that institution; or he may decide — within the first year of his enrollment at Bronx Community College — upon intracurriculum transfer.

Business Career Curriculum — Accounting Specialization

The accountant is indispensable in modern business organization and management. His basic responsibilities include the recording and summarizing of financial transactions. Accountants are called upon to analyze, interpret and prepare business reports, often including recommendations for more efficient operations. Graduates may enter this field of specialization in such positions as bookkeepers, cost accounting clerks, junior accountants, and tax examiners for government agencies. With further study, graduates may go on to 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.

*Students may also transfer to one of the other senior colleges of the City University of New York having a program in Business Administration.
# Curriculum Pattern for Accounting Specialization

65-66 Credits required for A.A.S. Degree

<table>
<thead>
<tr>
<th>Dept. &amp; No.</th>
<th>Course Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ENG 13</td>
<td>Fundamental Composition</td>
<td>3</td>
</tr>
<tr>
<td>BUS 11</td>
<td>Business Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>ACC 11</td>
<td>Fundamental Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>CMS 11</td>
<td>Fundamental Communications</td>
<td>3</td>
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<tr>
<td>MKT 11</td>
<td>Marketing</td>
<td>3</td>
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<tr>
<td>**</td>
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<tr>
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<td>Total 16</td>
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</table>

## First Semester

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<tr>
<th>Dept. &amp; No.</th>
<th>Course Title</th>
<th>Credit</th>
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<tr>
<td>ACC 12</td>
<td>Fundamental Accounting II</td>
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<tr>
<td>MTH 12</td>
<td>Intro. to Mathematical Thought</td>
<td>3</td>
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<tr>
<td>DAT 30</td>
<td>Introduction to Systems</td>
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<tr>
<td>LAW 41</td>
<td>Business Law</td>
<td>3</td>
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<tr>
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## Second Semester

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<tr>
<td>ACC 13</td>
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<tr>
<td>BUS 51</td>
<td>Business Organization and Management</td>
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<tr>
<td>FIN 31</td>
<td>Principles of Finance</td>
<td>3</td>
</tr>
<tr>
<td>SCI</td>
<td>Science (BIO 18 or AST 11)</td>
<td>3-4</td>
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<tr>
<td>MUS 10 or</td>
<td>Music Survey or</td>
<td>1</td>
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<tr>
<td>ART 10</td>
<td>Art Survey</td>
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## Third Semester

1CWE 33 Cooperative Work Experience 4

## Fourth Semester

<table>
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<td>History of the Modern World</td>
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<tr>
<td>ECO 11 or 12</td>
<td>Micro or Macro Economics</td>
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## Fifth Semester

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</table>

*Students who may later transfer to a four-year college should take MUS 11 or ART 11 instead of MUS 10 or ART 10; a lab science from among BIO 11, CHM 11, PHY 11 or AST 12 instead of BIO 18 or AST 11; and MTH 30 instead of MTH 12.*

**Two courses must be selected from among Art, Communications, English, Music, Modern Languages, History, or Social Science.**

1CWE 33 may be taken in the fourth semester, depending on CWE pattern assignment. CWE 33 is not required of full-time evening students. They may substitute one marketing elective.
Business Career Curriculum — Marketing Management and Sales Specialization

The retailer serves as a vital link between producer and consumer. Retailing organizations may be independent, chain or department stores, buying offices, or mail-order houses, all of which sell myriad products through a wide variety of outlets and by various techniques.

Students earn while they learn during their senior semester in the Cooperative Work Experience program, which provides part-time, supervised employment in a college-approved retail organization.

Completion of the marketing curriculum prepares a graduate to start a career in such positions as assistant buyer, head of stock, assistant store manager, comparison shopper, salesman, distributor, section manager.

Curriculum Pattern for the Marketing Management and Sales Specialization

66-67 Credits required for A.A.S. Degree

<table>
<thead>
<tr>
<th>Dept. &amp; No.</th>
<th>Course Title</th>
<th>Credit</th>
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<tr>
<td>BUS 11</td>
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<td>MKT 11</td>
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<td>PEA</td>
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<td><strong>Second Semester</strong></td>
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<tr>
<td>ACC 11</td>
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<tr>
<td>*MTH 12</td>
<td>Intro. to Mathematical Thought</td>
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<td>MKT 33</td>
<td>Retail Buying Techniques</td>
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<td>MKT 43</td>
<td>Advertising &amp; Sales Promotion</td>
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<td>History of the Modern World</td>
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<td>ECO 11 or 12</td>
<td>Micro or Macro Economics</td>
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<tr>
<td>*SCI</td>
<td>Science (BIO 18 or AST 11)</td>
<td>3-4</td>
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<td>*ART 10 or</td>
<td>Art Survey or</td>
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<tr>
<td>MUS 10</td>
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<td>MKT 18</td>
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<td>MKT 17</td>
<td>Consumer Problems</td>
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<td>Marketing Elective</td>
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<td>LAW 41</td>
<td>Business Law</td>
<td>3</td>
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<tr>
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</table>

*Students who may later transfer to a four-year college should take MUS 11 or ART 11 instead of MUS 10 or ART 10; a lab science from among BIO 11, CHM 11, PHY 11 or AST 12 instead of BIO 18 or AST 11; and MTH 30 instead of MTH 12.

**Two courses must be selected from among Art, Communications, English, History, Modern Languages, Music, or Social Science.

TCWE 33 may be taken in the fourth semester, depending on CWE pattern assignment. CWE 33 is not required of full-time evening students. They may substitute FIN 31, DAT 30, or one marketing elective.
BUSINESS ADMINISTRATION CURRICULA

(Transfer to Baruch or Lehman College)

The Business Administration program is designed to provide an introduction to Accounting, Management, or Marketing Management and Sales as part of a foundation for continuing for a baccalaureate degree at Baruch or Lehman College of The City University of New York, to which the student may transfer automatically upon graduation from Bronx Community College. This program also provides a basis for transfer to any other appropriate senior business college for which the student qualifies and chooses to attend. Upon graduation from Bronx Community College, the student earns the A.A. degree.

Business Administration — Accounting

The Accounting option of the Business Administration program prepares the student with fundamental courses in business and accounting and provides him with the proper background for transfer into a senior college and completion of the baccalaureate degree. The student who desires a career in executive and administrative positions in finance and budget direction, or in related business areas, should pursue this program. 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 in the field of business administration.

Curriculum Pattern for the Accounting Option
(Transfer to Baruch or Lehman College)
69 Credits required for A.S. Degree

<table>
<thead>
<tr>
<th>Dept. &amp; No.</th>
<th>Course Title</th>
<th>Credit</th>
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</thead>
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<tr>
<td><strong>First Semester</strong></td>
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<tr>
<td>ENG 13</td>
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<tr>
<td>ACC 11</td>
<td>Fundamental Accounting I</td>
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<tr>
<td>*MTH 30, or 31</td>
<td>Pre-calculus, or Analytic</td>
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<td>Modern Language</td>
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<td>PEA 11</td>
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<td><strong>Total</strong></td>
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<td><strong>Second Semester</strong></td>
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<tr>
<td>ENG 14, 15, or 16</td>
<td>Composition</td>
<td>3</td>
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<tr>
<td>BUS 51</td>
<td>Business Organization &amp; Management</td>
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<tr>
<td>ACC 12</td>
<td>Fundamental Accounting II</td>
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<td>Modern Language</td>
<td>4</td>
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<tr>
<td>CMS 11</td>
<td>Fundamental Communications</td>
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<tr>
<td><strong>Third Semester</strong></td>
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<tr>
<td>HIS 10</td>
<td>History of the Modern World</td>
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<tr>
<td>ACC 13</td>
<td>Intermediate Accounting</td>
<td>4</td>
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<tr>
<td>BUS 41</td>
<td>Business Statistics</td>
<td>3</td>
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<tr>
<td>SCI</td>
<td>Science</td>
<td>4</td>
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<tr>
<td>LAW 41</td>
<td>Business Law</td>
<td>3</td>
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<tr>
<td>PEA</td>
<td>Physical Ed. (choose one)</td>
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<td><strong>Fourth Semester</strong></td>
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<tr>
<td>ACC 14</td>
<td>Cost Accounting</td>
<td>4</td>
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<td>CMS 21</td>
<td>Voice and Diction</td>
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<tr>
<td>ECO 11 or 12</td>
<td>Micro or Macro Economics</td>
<td>3</td>
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<tr>
<td>††</td>
<td>Social Science or History</td>
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<td>MUS 11 or ART 11</td>
<td>Introduction to Music or Introduction to Art</td>
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<td><strong>Total</strong></td>
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</tr>
</tbody>
</table>

*Students who have taken Advanced Algebra in high school may be exempt from MTH 30 by permission of the Mathematics Department. In this instance, MTH 31 is required.

**A student who has completed three years of a foreign language in high school is exempt from the language requirement. Arrange for a course substitution with the Chairman of the Business and Commerce Department.

†A student may choose one semester of any one of the laboratory sciences of BIO 11, CHM 11, PHY 11, or AST 12.

††Choose from History or PHL 11, POL 11, PSY 11, or SOC 11.

‡‡Choose one of the Social Sciences: Philosophy, Psychology, Political Science, or Sociology.

the curricula and programs

49
Business Administration — Management

Curriculum Pattern for the Management Option
(Transfer to Baruch or Lehman College)
67 Credits required for A.S. Degree

<table>
<thead>
<tr>
<th>Dept. &amp; No.</th>
<th>Course Title</th>
<th>Credit</th>
</tr>
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<tbody>
<tr>
<td>First Semester</td>
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<tr>
<td>ENG 13</td>
<td>Fundamental Composition</td>
<td>3</td>
</tr>
<tr>
<td>MKT 11</td>
<td>Marketing</td>
<td>3</td>
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<tr>
<td>*MTH 30 or 31</td>
<td>Pre-Calculus, or Analytic Geometry &amp; Calculus</td>
<td>4</td>
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<tr>
<td>** CMS 11</td>
<td>Fundamental Communications</td>
<td>3</td>
</tr>
<tr>
<td>** Total</td>
<td></td>
<td>17</td>
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</table>

Second Semester

| ENG 14, 15 or 16 | Composition                  | 3      |
| BUS 51           | Business Organization and Management | 3      |
| ACC 11           | Fundamental Accounting I      | 4      |
| ** CMS 21        | Voice and Diction             | 2      |
| ** PEA Physical Ed. (choose one) | 1      |
| ** Total  |                                     | 17     |

Third Semester

| ACC 12       | Fundamental Accounting II      | 4      |
| BUS 41       | Business Statistics            | 3      |
| ECO 11 or 12 | Micro or Macro Economics       | 3      |
| ** SCI Science |                            | 4      |
| HIS 10       | History of the Modern World    | 3      |
| ** Total  |                                     | 17     |

Fourth Semester

| LAW 41       | Business Law                   | 3      |
| FIN 31 or 32 | Principles of Finance, or      | 3      |
| DAT 30       | Introduction to Systems        | 3      |
| ** MUS 11 or 11 | Introduction to Music or Art | 3      |
| ** ART 11    | Introduction to Art            | 3      |
| ** PEA       | Physical Ed. (choose one)      | 1      |
| ** Total  |                                     | 16     |

*Students who have taken Advanced Algebra in high school may be exempt from MTH 30 by permission of the Mathematics Department. In this instance, MTH 31 is required.

**A student who has completed three years of a foreign language in high school is exempt from the language requirement. Arrange for a course substitute with the Chairman of the Business and Commerce Department.

†A student may choose one semester of any of the laboratory sciences of BIO 11, CHM 11, PHY 11, or AST 12.

††Choose from Political Science, Philosophy, Psychology, or Sociology.

§Choose from History or PHL 11, POL 11, PSY 11, or SOC 11.

Business Administration — Marketing Management and Sales
For those students who wish to prepare for a career in marketing management and sales, this option of the Business Administration program provides them with basic courses before transferring into the four-year college. Administrative and executive positions require a firm foundation in the business subjects included in this curriculum.

Curriculum Pattern for the Marketing Management and Sales Option (Transfer to Baruch College)
69 Credits required for A.S. Degree

<table>
<thead>
<tr>
<th>Dept. &amp; No.</th>
<th>Course Title</th>
<th>Credit</th>
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<tbody>
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<td>ENG 13</td>
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<tr>
<td>HIS 10</td>
<td>History of the Modern World</td>
<td>3</td>
</tr>
<tr>
<td>*MTH 30 or 31</td>
<td>Pre-Calculus, or Analytic Geometry &amp; Calculus</td>
<td>4</td>
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<tr>
<td>** CMS 11</td>
<td>Fundamental Language</td>
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<tr>
<td>MKT 11</td>
<td>Marketing</td>
<td>3</td>
</tr>
<tr>
<td>** Total</td>
<td></td>
<td>17</td>
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</tbody>
</table>

Second Semester

| ENG 14, 15 or 16 | Composition                  | 3      |
| ** History or Social Science | 3      |
| ** Modern Language |                            | 4      |
| ACC 11           | Fundamental Accounting I      | 4      |
| MKT 18 Consumer Behavior | 3      |
| ** PEA Physical Ed. (choose one) | 1      |
| ** Total  |                                     | 16     |

Third Semester

| CMS 11       | Fundamental Communications      | 3      |
| ECO 11 or 12 | Micro or Macro Economics        | 3      |
| WTO Trade Law |                            | 4      |
| MKT 33       | Buying Techniques               | 3      |
| ** PEA       | Physical Ed. (choose one)       | 1      |
| ** Total  |                                     | 17     |

Fourth Semester

| CMS 21 Voice and Diction | 2      |
| LAW 41 Social Science   | 3      |
| ** MKT 43 or 30 Advertising & Sales Promotion | 3      |
| ** FIN 31 Principles of Finance | 3      |
| ** DAT 30 Introduction to Systems | 3      |
| ** MUS 11 or 31 Introduction to Music or Art | 3      |
| ** ART 11 Introduction to Art | 3      |
| ** Total  |                                     | 17     |

*Students who have taken Advanced Algebra in high school may be exempt from MTH 30 by permission of the Mathematics Department. In this instance MTH 31 is required.

**A student who has completed three years of a foreign language in high school is exempt from the language requirement. Students exempted from courses will arrange for course substitutions through the Chairman of the Business and Commerce Department.

†Choose from History or PHL 11, POL 11, PSY 11, or SOC 11.

††A student may choose one semester of any of the laboratory sciences of BIO 11, CHM 11, PHY 11, or AST 12.

§Choose from Political Science, Psychology, Philosophy, or Sociology.

the curricula and programs

50
BUSINESS TEACHING CURRICULA

The Business Teaching program offers two plans to students preparing to teach in high school: 1) For students planning to teach Bookkeeping and Accounting at the secondary level and who plan to transfer to Baruch College; 2) for students planning to teach Marketing Management and Sales at the secondary level and who plan to transfer to Baruch College. These programs lead to the A.A. degree. Upon successful completion of this program, a student may transfer to the third year at Baruch College.

Curriculum Pattern for High School Teaching Option: Bookkeeping and Accounting
66-68 Credits required for A.A. Degree

<table>
<thead>
<tr>
<th>Dept. &amp; No.</th>
<th>Course Title</th>
<th>Credit</th>
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<tbody>
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<tr>
<td>ENG 13</td>
<td>Fundamental Composition</td>
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<td>HIS 10</td>
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<td>*MTH 30</td>
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<tr>
<td>BUS 11</td>
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<tr>
<td>**</td>
<td>Modern Language</td>
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<tr>
<td>Total 17</td>
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<tr>
<td>Second Semester</td>
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<tr>
<td>ENG 14, 15</td>
<td>Composition</td>
<td>3</td>
</tr>
<tr>
<td>CMS 11</td>
<td>Fundamental Communications</td>
<td>3</td>
</tr>
<tr>
<td>**</td>
<td>Modern Language</td>
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<tr>
<td>ACC 11</td>
<td>Fundamental Accounting I</td>
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<td>MKT 11</td>
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<td>Total 17</td>
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<tr>
<td>Third Semester</td>
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</tr>
<tr>
<td>CMS 21</td>
<td>Voice and Diction</td>
<td>2</td>
</tr>
<tr>
<td>ECO 11 or 12</td>
<td>Micro or Macro Economics</td>
<td>3</td>
</tr>
<tr>
<td>†</td>
<td>Science</td>
<td>4</td>
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<tr>
<td>ACC 12</td>
<td>Fundamental Accounting II</td>
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<tr>
<td>BUS 51</td>
<td>Business Organization and Management</td>
<td>3</td>
</tr>
<tr>
<td>PEA</td>
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</tr>
<tr>
<td>Total 17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fourth Semester</td>
<td></td>
<td></td>
</tr>
<tr>
<td>††</td>
<td>History or Social Science</td>
<td>3</td>
</tr>
<tr>
<td>ACC 13</td>
<td>Intermediate Accounting</td>
<td>4</td>
</tr>
<tr>
<td>LAW 41</td>
<td>Business Law</td>
<td>3</td>
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<tr>
<td>§</td>
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<td>3</td>
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<tr>
<td>MUS or ART</td>
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<td>1</td>
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<tr>
<td>Total 15-17</td>
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</table>

*Students who have taken Advanced Algebra in high school may be exempt from MTH 30 by permission of the Mathematics Department. In this instance MTH 31 is required.
**A student who has completed three years of a foreign language in high school is exempt from the language requirement. Arrange for a course substitution with the Chairman of the Business and Commerce Department.
††Student may choose one semester of BIO 11, CHM 11, PHY 11, or AST 12.
†Choose from History or PHL 11, POL 11, PSY 11, or SOC 11.
§Choose from Political Science, Psychology, Philosophy, or Sociology.

Curriculum Pattern for the High School Teaching Option: Marketing Management and Sales
(Transfer to Baruch College) 66-68 Credits required for A.A. Degree

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<td>CMS 11</td>
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<td>ENG 14, 15</td>
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<td>MTH 33</td>
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<td>††SCI</td>
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<td>ACC 11</td>
<td>Fundamental Accounting I</td>
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<td>LAW 41</td>
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<td>MKT 15</td>
<td>Consumer Behavior</td>
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<td>MKT 43</td>
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</table>

Note: Students exempted from courses will arrange for course substitution through the Chairman of the Business and Commerce Department.
*Students who have completed three years of a foreign language in high school are exempt from the language requirement. Arrange for a course substitution with the Department Chairman.
**Students who have had Advanced Algebra in high school may be exempt from MTH 30 with permission of the Mathematics Department. In this instance, MTH 31 is required.
†Choose from History or PHL 11, POL 11, PSY 11, or SOC 11.
††Student may choose one semester of BIO 11, CHM 11, PHY 11, or AST 12.
§Choose from Political Science, Psychology, Philosophy, or Sociology.

the curricula and programs
**DATA PROCESSING**

**Curriculum Coordinator:** Prof. A. Hirshfield

The field of data processing is rich in career opportunities. Business organizations and government agencies use computers to perform such essential functions as inventory control, sales forecasting, production scheduling, statistical analysis and accounting applications.

Trained data processing personnel are in demand because of the ever-growing use of computers. Starting salaries are excellent for both men and women who qualify in the areas of systems analysis, programming, computer operations and the use of unit record equipment.

The Data Processing curriculum provides a well-grounded program of:

- general education in liberal arts and sciences
- business background preparation
- data processing specialization

Students who satisfactorily complete the Data Processing Curriculum and earn the A.A.S. degree may transfer to the third year at Baruch College.

---

**Curriculum Pattern for Data Processing Programming and Systems Option**  
**67-68 Credits required for A.A.S. Degree**

<table>
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<tr>
<th>Dept. &amp; No.</th>
<th>Course Title</th>
<th>Credit</th>
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<td><strong>First Semester</strong></td>
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<tr>
<td>ENG 13</td>
<td>Fundamental Composition</td>
<td>3</td>
</tr>
<tr>
<td>DAT 30</td>
<td>Introduction to Systems</td>
<td>3</td>
</tr>
<tr>
<td>BUS 11</td>
<td>Business Mathematics</td>
<td>3</td>
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<tr>
<td>*MTH 12</td>
<td>Intro. to Mathematical Thought</td>
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<td>BUS 10</td>
<td>Introduction to Business</td>
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<tr>
<td>PEA</td>
<td>Physical Ed. (choose one)</td>
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<tr>
<td>ENG 14, 15 or 16</td>
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<td>BUS 51</td>
<td>Business Organization and Management</td>
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<td>ACC 11</td>
<td>Fundamental Accounting I</td>
<td>4</td>
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<tr>
<td>CMS 11</td>
<td>Fundamental Communications</td>
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<tr>
<td>DAT 40</td>
<td>COBOL Programming</td>
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<td><strong>Third Semester</strong></td>
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<td><strong>CWE 33</strong></td>
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<td>4</td>
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<td><strong>Fourth Semester</strong></td>
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<tr>
<td>ACC 12</td>
<td>Fundamental Accounting II</td>
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<td>BUS 41</td>
<td>Business Statistics</td>
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<tr>
<td>DAT 32</td>
<td>Computer Programmers</td>
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<td></td>
<td>Concepts &amp; Intro. to R.P.G. Programming</td>
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<tr>
<td>DAT 43</td>
<td>Advanced COBOL Programming</td>
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<td>*MUS or ART</td>
<td>Music or Art Survey</td>
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<td>PEA</td>
<td>Physical Ed. (choose one)</td>
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<td><strong>Total 16</strong></td>
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<tr>
<td><strong>Fifth Semester</strong></td>
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<tr>
<td>ACC 14</td>
<td>Cost Accounting</td>
<td>4</td>
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<td>DAT 41</td>
<td>Assembly Programming (BAL)</td>
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<td>HIS 10</td>
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<td>*SCI</td>
<td>Science (BIO 18 or AST 11)</td>
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<td><strong>Total 14-15</strong></td>
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</table>

*Students who may later transfer to a four-year college should take ART 11 or MUS 11 instead of ART 10 or MUS 10; a lab science from among BIO 11, CHM 11, PHY 11, or AST 12 instead of BIO 18 or AST 11; and MTH 30 instead of MTH 12.

**CWE 33 may be taken in the fourth semester, depending on CWE pattern assignment. CWE 33 is not required of full-time evening students. They may substitute either FIN 31 or MKT 11.
CHEMICAL TECHNOLOGY

Students interested in this field of study should see the Industrial Chemical Laboratory option (page 68).

EDUCATION ASSOCIATE — Child Care Option

Curriculum Coordinator: Dr. H. Shenkman

Bronx Community College offers an Education Associate degree (A.A.S.) for students who major in early childhood and elementary education. This degree is also for students who want to concentrate in child care or in the education of the handicapped.

The degree prepares students for a paraprofessional position in one or more of the following settings: public schools, day care centers, and/or agencies that service the handicapped.

All courses are competency-based and have a field work component. Competency-based means that the specific knowledge, skills, abilities, and insights to be gained are explicitly stated, together with the method of acquiring and assessing them, and that the student has a chance to apply theoretical knowledge to practical situations by working directly with children or with school personnel. The intent is to assure that upon satisfactory completion of a course, the student not only has knowledge, skills, abilities, and insights, but is also competent to use them in real situations.

Curriculum Pattern for Education Associate — Child Care Option
(The first two years of the Early Childhood or Elementary Education Sequence)

64-65 Credits required for the A.A.S. Degree

Core Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tr>
<td>ENG 13</td>
<td>Fundamental Composition</td>
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<tr>
<td>CMS 11</td>
<td>Fundamental Communications</td>
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<td>MTH 21</td>
<td>Survey of Mathematics I</td>
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<td>HIS 10</td>
<td>History of the Modern World</td>
<td>3</td>
</tr>
<tr>
<td>HLT 91</td>
<td>Critical Health Issues</td>
<td>3</td>
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</tbody>
</table>

Total 14

Required Areas of Study

Natural Science — One laboratory science course (Biology or Chemistry or Physics or Astronomy) | 4
Humanities A — To be chosen from English, Communications, or Modern Languages (at least one course in English) | 6-7
Humanities B — Music or Art (any course or courses for which student qualifies) | 3
History and Social Sciences — One course in History, PSY 11 and PSY 41 | 9

Total 22-23

Specialization Requirements for Education Associate

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDU 10</td>
<td>Child Study</td>
<td>3</td>
</tr>
</tbody>
</table>
*EDU 15, 16, or 17 | Reading and Other Language Arts for the Early Childhood and Elementary Years, or Teaching Reading in the Primary Grades (N-3), or Teaching Reading in the Middle Grades (4-6) | 3 |
| EDU 26 | Human Relations in Urban Schools | 3 |
| EDU 40 | Field Work Seminar | 3 |

One or two of the following Education electives: 3-6
EDU 12 Contemporary Urban Education
EDU 31 Introduction to Learning Problems
EDU 32 Nature and Needs of the Handicapped
EDU 50 Survey of Creative Experiences for the Early Childhood and Elementary Years

Total 15

Specialization Requirements for Child Care Option

<table>
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<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>EDU 10</td>
<td>Child Study</td>
<td>3</td>
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</table>
*EDU 15, 16, or 40 | Reading and Other Language Arts for the Early Childhood and Elementary Years, or Teaching Reading in the Primary Grades (N-3), or Field Work Seminar | 3 |
| EDU 24 | Child Care Seminar I | 3 |
| EDU 25 | Child Care Seminar II | 3 |
| EDU 26 | Human Relations in Urban Schools | 3 |

Total 15

Concentration in Education of the Handicapped

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>EDU 10</td>
<td>Child Study</td>
<td>3</td>
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</tbody>
</table>
*EDU 15, 16, or 17 | Reading and Other Language Arts for the Early Childhood and Elementary Years, or Teaching Reading in the Primary Grades (N-3), or Teaching Reading in the Middle Grades (4-6) | 3 |
| EDU 31 | Introduction to Learning Problems | 3 |
| EDU 32 | Nature and Needs of the Handicapped | 3 |
| EDU 40 | Field Work Seminar | 3 |

Total 15

Free Electives — To complete the required minimum of 64 credits or the required maximum of 65 credits

Transfer credit information: Twelve of the 15 required Education degree credits will be accepted towards Education degree requirements at City College, Hunter College, Lehman College, and other City University senior colleges. Additional Education degree credits will be considered electives and require consultation with the department. For transfer credit information regarding specific Education courses, see department.

Course required depends upon advisement and transfer plans.
ENGINEERING SCIENCE
(The first two years of the Engineering sequence)

Curriculum Coordinator: Prof. O. Rodzianko

The Engineering Science program is designed for students with a special interest in engineering or physical science. Scientists and engineers need rigorous preparation in mathematics and basic science. In addition the curriculum includes a substantial proportion of courses in the humanities.

The College offers a Minority Engineering Extended Opportunity Program in cooperation with Cornell University. (See page 45.)

The accompanying curriculum pattern, with modifications, prepares the student for continuation in a program leading to a bachelor's degree in architecture.

Curriculum Pattern for Engineering Science
67-68 Credits required for the A.A. Degree

<table>
<thead>
<tr>
<th>Dept. &amp; No.</th>
<th>Course Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ART 10 or MUS 10</td>
<td>Art Survey or Music Survey</td>
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<td>ENG 13</td>
<td>Fundamental Composition</td>
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<tr>
<td>PEA</td>
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<tr>
<td>*CHM 11</td>
<td>Chemistry I</td>
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<tr>
<td>PHY 31</td>
<td>Physics I</td>
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<tr>
<td>MTH 31</td>
<td>Anal. Geometry &amp; Calculus I</td>
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<td>ORI 15</td>
<td>Engrg. Sci. Fr. Orientation</td>
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**MEC 11**

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<td>MTH 31</td>
<td>Anal. Geometry &amp; Calculus I</td>
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<td>ORI 15</td>
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<td>CHM 12</td>
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<td>Analytic Geometry &amp; Calculus II</td>
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<td>PHY 32</td>
<td>Physics II</td>
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Total 17

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<td>Analytic Geometry &amp; Calculus III</td>
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<td>PHY 33</td>
<td>Physics III</td>
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<td>PHY 61</td>
<td>Computer Methods for Applied Sciences</td>
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<td>MEC 12</td>
<td>Applied Engineering Graphics</td>
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Total 18

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<tr>
<td>PHY 33</td>
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<td>Computer Methods for Applied Sciences</td>
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Total 16-17

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<td>MTH 34</td>
<td>Advanced Calculus</td>
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<td>PHY 34</td>
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Total 16

*Students planning to enter the Computer Science program at The City College may substitute BIO 11 and 12 for CHM 11 and 12.

**Placement examination will determine if student is to register for MEC 01. Upon recommendation of the instructor, two credits may be earned for MEC 11.

†Any three credits of Social Sciences or History.

Notes: Students planning to enter Biomedical or Pre-Medical options offered by the four basic engineering departments at The City College should consult curriculum coordinator to determine possible alternate programs.
ELECTRICAL TECHNOLOGY

Electrical Engineering Technology is one of the fastest-growing professions. The rapidity of technological advance has created a serious shortage of trained personnel.

Electrical engineering technicians are needed to design, build, test and maintain such complex electronic equipment as computers, control systems, communications systems, and medical devices.

Students who plan to continue their studies may transfer directly to certain four-year colleges offering the baccalaureate degree in Engineering Technology.

Curriculum Pattern for Electrical Technology

<table>
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<tr>
<th>Dept. &amp; No.</th>
<th>Course Title</th>
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<td>ENG 13</td>
<td>Fundamental Composition</td>
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<td>*MTH 16</td>
<td>11th Year Mathematics II</td>
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<td>PHY 21</td>
<td>Physics for Engrg. Tech. I</td>
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<td>**ELC 11</td>
<td>Intro. to Electric Circuits</td>
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<tr>
<td>Second Semester</td>
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<td>PHY 22</td>
<td>Physics for Engrg. Tech. II</td>
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<td>ELC 21</td>
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<td>ELC 25</td>
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<tr>
<td>Third Semester</td>
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<tr>
<td>MTH 18</td>
<td>Mathematical Analysis</td>
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<td>History of the Modern World</td>
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<td>ELC 35</td>
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<td>ELC 38</td>
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<td>Engineering Mfg. Process</td>
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<td>ELC 82 or</td>
<td>Networks &amp; Trans. Lines, or</td>
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<td>ELC 92</td>
<td>Pulse &amp; Digital Circuits</td>
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<tr>
<td>or HLT 91</td>
<td>or Critical Health Issues</td>
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</tr>
<tr>
<td>ELC 45</td>
<td>Electronic Project Lab</td>
<td>2</td>
</tr>
<tr>
<td>††ELC 75 or</td>
<td>Electrical Instrumentation, or</td>
<td></td>
</tr>
<tr>
<td>ELC 85 or</td>
<td>Microwaves, or</td>
<td></td>
</tr>
<tr>
<td>ELC 95</td>
<td>Computer Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>††ELC 78 or</td>
<td>Electrical Control Systems, or</td>
<td></td>
</tr>
<tr>
<td>ELC 88 or</td>
<td>Comm. Systems, or</td>
<td></td>
</tr>
<tr>
<td>ELC 98</td>
<td>Computer Design</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>**Total 15-16</td>
<td></td>
</tr>
</tbody>
</table>

*Students completing equivalent of MTH 16 in high school should choose a free elective approved by adviser.

**Students taking MTH 06 should register for ELC 01. Upon achievement of a grade of C or better, four credits will be earned for ELC 11.

†Placement examination will determine if student is to register for MEC 01. Upon recommendation of the instructor, two credits may be earned for MEC 11.

††Power and Controls Option students take ELC 72, 75, and 78; Communication Option students take ELC 82, 85, and 88; Computer Option students take ELC 92, 95, and 98.

§Any one-credit art or music course for which the student qualifies.

#Choose from Humanities, History or Social Sciences.
MECHANICAL TECHNOLOGY

Mechanical Engineering Technology covers the design, production, installation, and operation of machines, tools, and all types of products and devices. It is concerned with devices and machines that convert the chemical energy stored in coal, oil, gas and nuclear fuels into mechanical power, as well as with general manufacturing processes and design.

Mechanical engineering technicians are involved in design-drafting, design of production processes, industrial organization, inspection, sales engineering, quality control and other industrial careers.

Students who plan to continue their studies may transfer directly to certain four-year colleges offering the baccalaureate degree in Engineering Technology.

Curriculum Pattern for Mechanical Technology
64-68 Credits required for A.A.S. Degree

<table>
<thead>
<tr>
<th>Dept. &amp; No.</th>
<th>Course Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 13</td>
<td>Fundamental Composition</td>
<td>3</td>
</tr>
<tr>
<td>*ART or MUS</td>
<td>Art or Music</td>
<td>1</td>
</tr>
<tr>
<td>HIS 10</td>
<td>History of the Modern World</td>
<td>3</td>
</tr>
<tr>
<td>**MTH 16</td>
<td>11 Year Mathematics II</td>
<td>3</td>
</tr>
<tr>
<td>PHY 21</td>
<td>Physics for Engrg. Tech. I</td>
<td>4</td>
</tr>
<tr>
<td>†MEC 11</td>
<td>Basic Engineering Graphics</td>
<td>2</td>
</tr>
<tr>
<td>**</td>
<td></td>
<td>Total 16</td>
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</table>

<table>
<thead>
<tr>
<th>Second Semester</th>
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<tbody>
<tr>
<td>MTH 17</td>
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<tr>
<td>PHY 22</td>
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<td>MEC 12</td>
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<td>MEC 21</td>
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<tr>
<td>MEC 27</td>
</tr>
<tr>
<td>ELC 15</td>
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</table>

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>CHM 15</td>
</tr>
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<td>MEC 25</td>
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<td>MEC 28</td>
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<td>MEC 31</td>
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<td>MEC 33</td>
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<tr>
<td>ELC 16</td>
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<tr>
<td>**</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMS 11</td>
</tr>
<tr>
<td>††</td>
</tr>
<tr>
<td>PEA or HLT 91</td>
</tr>
<tr>
<td>MEC 41</td>
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<tr>
<td>MEC 45</td>
</tr>
<tr>
<td>MEC 60</td>
</tr>
<tr>
<td>§</td>
</tr>
<tr>
<td>**</td>
</tr>
</tbody>
</table>

*Any one-credit art or music course for which the student qualifies.
**Students completing equivalent of MTH 16 in high school should choose a free elective approved by the curriculum coordinator.
†Placement examination will determine if student is to register for MEC 01. Upon recommendation of the instructor, two credits may be earned for MEC 11.
††Choose from Humanities, History or Social Sciences.
§To complete maximum of 68 credits, students may take courses in any department or discipline. Students transferring to a Bachelor of Technology degree program are advised to take MTH 18 as well as to familiarize themselves with the requirements of the senior college of their choice and to consult the curriculum coordinator.
LIBERAL ARTS AND SCIENCES
Curriculum Coordinator: Prof. S.D. Ehrenpreis

The Liberal Arts and Sciences curriculum prepares a student to be a productive and creative human being. This kind of education can open doors to the professions and to rewarding and responsible careers. Future physicians, teachers, scientists, lawyers, and businessmen, for example, develop themselves as sensitive individuals, in addition to completing their preprofessional work, through studies in the liberal arts and sciences. The academic experiences in liberal arts and sciences provide the foundation for later specialization, graduate study, and professional school.

There are several paths offered within 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.

Creative specialization in all disciplines may be pursued within the framework of this general Associate in Arts curriculum by concentrating elective courses in a specific subject area, such as:

- Communication Arts and Sciences
- Italian
- Music
- Philosophy
- Physical Education
- Recreation
- Sociology
- Spanish
- Theatre

Those who wish to pursue a program which allows a greater degree of specialization in the first two years of college may select one of these options or concentrations:

**Associate in Science (A.S. Degree)**
- Biology
- Chemistry
- Computer Science
- Mathematics
- Physics

**Associate in Arts (A.A. Degree)**
- Art
- Black and Puerto Rican Studies
- History
- Political Science
- Psychology

In order to graduate, a student must satisfy either all the requirements of the Associate in Arts general curriculum, or all of the requirements of one of the Associate in Science options or all of the requirements of one of the Associate in Arts options.
Curriculum Pattern for Liberal Arts and Sciences
(Transfer)
*64 Credits required for the A.A. Degree

Core Requirements

- ENG 13 Fundamental Composition 3
- CMS 11 Fundamental Communications 3
- HLT 91 Critical Health Issues 2
- MTH 21, 23, 30 or 31 Mathematics 3-4
- ** Modern Language 4-12
- HIS 10 History of the Modern World 3

Required Areas of Study

Natural Science and Mathematics — To be chosen from Math, Biology, Chemistry, Physics, Science, Astronomy (at least one laboratory science)

- Humanities A — To be chosen from English and/or Communications (at least one course in English)
- Humanities B — To be chosen from Art or Music
- Social Studies — To be chosen from Economics, History, Philosophy, Political Science, Psychology and Sociology

Physical Education — activity course 1

Free Electives — To complete the required 64 credits.

Up to 16 credits may be taken in any department or discipline. Any free electives beyond 16 credits must be in humanities, natural science and mathematics, and social sciences, plus Modern Language 7-18

Total 64

Note: Students are advised to consult the requirement of the senior college of their choice.

*48 credits must be taken in the Humanities, Natural Sciences and Mathematics, and Social Studies.

**See language requirements, p. 109.

LIBERAL ARTS AND SCIENCES
TRANSFER OPTIONS
(A.A. Degree)

Curriculum Pattern for Liberal Arts and Sciences
(Transfer)
Art Option
64-68 Credits required for A.A. Degree

Dept. & No. Course Title Credit

First Semester

| ENG 13 | Fundamental Composition | 3 |
| HIS 10 | History of the Modern World | 3 |
| HLT 91 | Critical Health Issues | 2 |
| ART 11 or 12 | Introduction to Art | 3 |
| ART 15 | Design | 2 |
| ART 21 | Drawing & Painting I | 2 |
| ** | Total 15 |

Second Semester

| ENG | English Elective | 3 |
| CMS 11 | Fundamental Communications | 3 |
| * | Social Studies | 3 |
| PEA | Physical Ed. (choose one) | 1 |
| ART 22 | Drawing & Painting II | 2 |
| ART 51 or 52 | Art of Africa & North America or Oriental Art | 3 |
| ** | Total 17-18 |

Third Semester

| ** | Modern Language or Elective | 3-4 |
| MTH | Mathematics | 3-4 |
| ART 31 | Graphic Arts I | 2 |
| ART 41 | Ceramics I | 2 |
| ART 55 | Modern Art | 3 |
| ** | Total 16-19 |

Fourth Semester

| ** | Modern Language or Elective | 3-4 |
| * | Social Studies | 3 |
| MTH | Mathematics | 4 |
| ART 32 | Graphic Arts II | 2 |
| ART 42 | Ceramics II | 2 |
| ART 61 | Art as a Human Value | 2-0 |
| ** | Total 16-17 |

*To be chosen from Economics, History, Philosophy, Political Science, Psychology and Sociology.

**Credit will be given for one semester of repeated high school language, provided degree requirement is met. See Language Requirements for A.A. degree, p. 109.

†To be chosen from Mathematics, Biology, Chemistry, Physics, Astronomy, Science (at least one course to be a laboratory science).
Curriculum Pattern for Liberal Arts and Sciences (Transfer)
Black and Puerto Rican Studies Option
68 Credits required for A.A. Degree

Puerto Rican Studies Option Curriculum Coordinator: Prof. L. Pinto

Core Requirements
- ENG 13: Fundamental Composition 3
- CMS 11: Fundamental Communications 3
- HLT 91: Critical Health Issues 2
- MTH 21, 22, 23, 30 or 31: Mathematics 3-4
- HIS 10: History of the Modern World 3

Total Credits: 15-23

Required Areas of Study
Natural Science and Mathematics — To be chosen from Math, Biology, Chemistry, Physics or Astronomy (at least one laboratory science) 7-8
Humanities A — To be chosen from English and/or Communications (at least one course in English) 6
Humanities B — To be chosen from Art or Music 3
Social Science and History — To be chosen from History, Economics, Philosophy, Political Science, Psychology and Sociology 9
Physical Education — activity course 1

Total Credits: 26-27

Concentration Requirements
**A minimum of 15 credits must be selected from among the following:**
- PEA 46: African & Caribbean Dance
- SPN 30, 31: Puerto Rican Literature & Culture I & II
- CMS 71: Afro-American & Puerto Rican Spokesmen
- HIS 39: History of Puerto Rico & The Caribbean
- ENG 53: Black Writers in American Literature
- ENG 54: Black Poetry
- HIS 35: History of Africa
- HIS 37: Afro-American History
- HIS 38: Afro-American Intellectual History
- ART 12: Intro. to Western and Non-Western Culture
- MUS 12: Intro. to Music with Emphasis on Non-Western Cultures
- ART 51: Art of Africa and North America

†Free Electives — To complete the required 68 credits.

*See language requirements, p. 109.
**These courses may be taken as free electives and/or to fulfill area requirements.
†These credits may be taken in any department or discipline provided that a minimum of 48 credits are in the Humanities, Natural Science and Mathematics and the Social Sciences.

Curriculum Pattern for Liberal Arts and Sciences (Transfer)
History Option
64 Credits required for A.A. Degree

Curriculum Coordinator: Prof. S.D. Ehrenpreis

Core Requirements
- ENG 13: Fundamental Composition 3
- CMS 11: Fundamental Communications 3
- HLT 91: Critical Health Issues 2
- MTH 21, 22, 23, 30 or 31: Mathematics 3-4
- HIS 10: History of the Modern World 3

Total Credits: 14-27

Required Areas of Study
Mathematics and/or Natural Sciences — To be chosen from Math, Biology, Chemistry, Physics or Astronomy (at least one laboratory science) 7-8
Humanities A — English and/or Communications (at least one course in English) 6
Humanities B — Art or Music (any course in Art or Music for which the student qualifies) 3
Social Sciences — Chosen from Economics, Political Science, Philosophy, Psychology and Sociology 6
Physical Education — activity course 1

Total Credits: 23-24

**Specialization Requirements**
12

Free Electives — To complete the required 64

Total Credits: 64

*See Liberal Arts and Sciences language requirements, p. 109.
**Suggested grouping for special requirements:
I. American History — HIS 21, 22, 23, 24, 37, 50, 51.
II. Area studies — HIS 25, 27, 31, 35, 36, 39.
III. General — HIS 14, 15, 22, 24, 40, 50.
Curriculum Pattern for Liberal Arts and Sciences (Transfer)
Social Science Option — Political Science Concentration
64 Credits required for A.A. Degree

Curriculum Coordinator: Prof. H. Harris

Core Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 13</td>
<td>Fundamental Composition</td>
<td>3</td>
</tr>
<tr>
<td>CMS 11</td>
<td>Fundamental Communications</td>
<td>3</td>
</tr>
<tr>
<td>HLT 91</td>
<td>Critical Health Issues</td>
<td>2</td>
</tr>
<tr>
<td>MTH 21, 22, 23, 30</td>
<td>Mathematics</td>
<td>3-4</td>
</tr>
<tr>
<td>*</td>
<td>Modern Language</td>
<td>0-12</td>
</tr>
<tr>
<td>HIS 10</td>
<td>History of the Modern World</td>
<td>3</td>
</tr>
</tbody>
</table>

Total 14-27

Required Areas of Study

Natural Science and Mathematics — To be chosen from Math, Biology, Chemistry, Physics, Astronomy, Principles of Science (at least one laboratory science) 7-8

Humanities A — To be chosen from English and/or Communications (at least one course in English) 6

Humanities B — Art and/or Music (any course for which the student qualifies) 3

Social Sciences and History — Economics, History, Philosophy, Psychology, and Sociology 6

**Physical Education — activity course 1

Total 23-24

Concentration Requirements

A minimum of 15 credits must be selected from among the following, with POL 11 as the first course:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>POL 11</td>
<td>American National Government</td>
</tr>
<tr>
<td>POL 31</td>
<td>Comparative Government</td>
</tr>
<tr>
<td>POL 41</td>
<td>The National Government &amp; Civil Rights Since 1954</td>
</tr>
<tr>
<td>POL 42</td>
<td>Civil Rights Throughout the World</td>
</tr>
<tr>
<td>POL 51</td>
<td>Urban Politics</td>
</tr>
<tr>
<td>POL 61</td>
<td>Solving Social Problems Through the Political Process</td>
</tr>
<tr>
<td>POL 81</td>
<td>Field Work and Seminar in Political Science</td>
</tr>
</tbody>
</table>

Free Electives — To complete the required 64 credits.

*See Language Requirements for Liberal Arts and Sciences A.A. degree, p. 109.

**Or a substitute approved by the Health and Physical Education Department.
LIBERAL ARTS AND SCIENCES TRANSFER OPTIONS (A.S. Degree)

Curriculum Pattern for Liberal Arts and Sciences (Transfer)
Mathematics Option
64-68 Credits required for A.S. Degree

Curriculum Coordinator: Dr. E. Just

Core Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 13</td>
<td>Fundamental Composition</td>
<td>3</td>
</tr>
<tr>
<td>CMS 11</td>
<td>Fundamental Communications</td>
<td>3</td>
</tr>
<tr>
<td>HLT 91</td>
<td>Critical Health Issues</td>
<td>2</td>
</tr>
<tr>
<td>HIS 10</td>
<td>History of the Modern World</td>
<td>3</td>
</tr>
<tr>
<td>*</td>
<td>Modern Language</td>
<td>0-8</td>
</tr>
</tbody>
</table>

Total 11-19

**Required Areas of Study

Humanities A — To be chosen from English, Communications, Modern Languages, History, or Social Sciences — One course must be in English

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>8-9</td>
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Humanities B — To be chosen from Art or Music

<table>
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Physical Education

<table>
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<tbody>
<tr>
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History or Social Science Elective — To be chosen from Economics, History, Philosophy, Political Science, Psychology, or Sociology

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<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
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Total 15-16

Specialization Requirements

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<tbody>
<tr>
<td>MTH 31</td>
<td>First Semester</td>
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<tr>
<td>MTH 32</td>
<td>Second Semester</td>
<td>5</td>
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<tr>
<td>MTH 33</td>
<td>Third Semester</td>
<td>5</td>
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<tr>
<td>MTH 34, 35</td>
<td>Physics I and II</td>
<td>8</td>
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</table>

Total 30

Free Electives

To complete the required 64 to 68 credits, students may take up to 12 credits in any department or discipline

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0-12</td>
</tr>
</tbody>
</table>

Total 64-68

Note: MTH 16 will not be accepted for credit in the Liberal Arts curricula.

**See Language Requirements of Liberal Arts and Sciences A.A. degree, p. 109.

**Students are advised to consult the requirements of the senior college of their choice.

Curriculum Pattern for Liberal Arts and Sciences (Transfer)
Social Science Option — Psychology
64 Credits required for A.A. Degree

Curriculum Coordinator: Prof. H. Harris

Core Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 13</td>
<td>Fundamental Composition</td>
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<td>Fundamental Communications</td>
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<tr>
<td>HLT 91</td>
<td>Critical Health Issues</td>
<td>2</td>
</tr>
<tr>
<td>MTH 21, 23, 30</td>
<td>Mathematics</td>
<td>3-4</td>
</tr>
<tr>
<td>*</td>
<td>Modern Language</td>
<td>0-8</td>
</tr>
<tr>
<td>HIS 10</td>
<td>History of the Modern World</td>
<td>3</td>
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</tbody>
</table>

Total 14-23

Required Areas of Study

Natural Science and Mathematics — To be chosen from Math, Biology, Chemistry, Physics, Astronomy, Principles of Science (at least one laboratory science)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
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</tbody>
</table>

Humanities A — To be chosen from English and/or Communications (at least one course in English)

<table>
<thead>
<tr>
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<th>Title</th>
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Humanities B — Art and/or Music

<table>
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<tr>
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<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
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</table>

Social Sciences and History — Economics, History, Philosophy, Political Science, Psychology**, and Sociology

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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Physical Education — activity course

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td></td>
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<td>1</td>
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</table>

Total 23-24

**Concentration Requirements for Psychology — A minimum of 15 credits must be selected in Psychology. PSY 11 must be taken, followed by at least 12 credits in Psychology elective courses.

Free Electives — To complete the required 64 credits

*See language requirements, p. 109.

**Maximum of three credits in Psychology for area requirement.

*For a substitute approved by the Health and Physical Education Department.

**Specializations:

A. Clinical Psychology — Elect from PSY 31, PSY 35 and 36, PSY 41 and 42, PSY 51 and 52, PSY 71 and 72.

B. Social Psychology — Elect from PSY 22, PSY 51 and 52.

C. General Psychology Education — PSY 22, PSY 35 and 36, PSY 41 and 42, PSY 51.

Students wishing to specialize in paraprofessional clinical services must complete PSY 11, PSY 31, PSY 51, PSY 61, PSY 71, plus at least one other Psychology elective.

the curricula and programs 61
Computer science may be thought of as the study of the computer; its theory, its design, and the manner in which it may be applied. The computer scientist must be well trained in mathematics and in addition be familiar with a physical science; he will possess the breadth of knowledge presented by a liberal arts program, while at the same time concentrating on those areas particularly applicable to the computer.

The aim of this program is to provide the student with an introduction to the field of computer science, to provide him with a background in mathematics, science, and the humanities necessary to study, and to enable him to successfully transfer to a computer science department of a senior college.

Growth in the employment of computer scientists has been rapid in the past decade and job opportunities should continue to expand in the 1980s. At the same time salary levels for men and women have been among the top in the professional fields.

Curriculum Pattern for Liberal Arts and Sciences Mathematics Option — Computer Science Concentration 64-68 Credits required for A.S. Degree

Curriculum Coordinator: Dr. E. Just

Dept. & No. Course Title Credit

First Semester

| HLT 91 | Critical Health Issues | 2 |
| PHY 31 | Physics I | 4 |
| MTH 31 | Analytic Geom. & Calculus I | 4 |
| ENG 13 | Fundamental Composition | 3 |
| CMS 11 | Fundamental Communications | 3 |
| **Total** | **16** |

Second Semester

| PHY 32 | Physics II | 4 |
| MTH 32 | Analytic Geom. & Calculus II | 5 |
| HIS 10 | History of the Modern World | 3 |
| PEA | Physical Ed. (choose one) | 1 |
| ENG | English Elective | 3 |
| **Total** | **16** |

Third Semester

| PHY 33 | Physics III | 4 |
| PHY 61 | Computer Methods & Programming | 3 |
| MTH 33 | Analytic Geom. & Calculus III | 5 |
| ART or MUS | Art or Music | 3 |
| SOC | Social Science Elective | 3 |
| **Total** | **18** |

Fourth Semester

| *DAT 41 | Advanced Programming | 4 |
| MTH 45 | Discrete Math. Systems | 3 |
| MTH 34 | Diff. Equations & Adv. Calculus | 4 |
| MTH 35 | Adv. Calculus & Linear Algebra | 4 |
| | Elective | 0-3 |
| **Total** | **15-18** |

*Prerequisite for Computer Science students: PHY 61 only.

The curricula and programs 62
Curriculum Pattern for Liberal Arts and Sciences
(Transfer)

64-67 Credits required for A.S. Degree — Biology Specialization
64-67 Credits required for A.S. Degree — Chemistry Specialization
64-67 Credits required for A.S. Degree — Physics Specialization

Biological Option Curriculum Coordinator:
Prof. F. Costello
Chemistry Option Curriculum Coordinator:
Prof. J. G. Riley
Physics Option Curriculum Coordinator:
Dr. L. DeAcetis

Core Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Subject</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 13</td>
<td>Fundamental Composition</td>
<td>3</td>
</tr>
<tr>
<td>CMS 11</td>
<td>Fundamental Communications</td>
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<tr>
<td>HLT 91</td>
<td>Critical Health Issues</td>
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<tr>
<td>HIS 10</td>
<td>History of the Modern World</td>
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</tr>
<tr>
<td></td>
<td>Modern Language</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
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</tr>
</tbody>
</table>

**Required Areas of Study**

Humanities A — To be chosen from English, Communications, or Modern Languages (one course must be in English) 6-7
Humanities B — To be chosen from Art or Music 3
History or Social Science — To be chosen from Economics, History, Philosophy, Political Science, Psychology, and Sociology 3
Physical Education — activity course 1

**Total 13-14**

Specialization Requirements

I. Biology:
- CHM 11, MTH 31 — First Semester 8
- CHM 22, MTH 32 — Second Semester 10
- BIO 11, CHM 31 — Third Semester 8
- BIO 12, CHM 32 — Fourth Semester 8

**Total 34**

II. Chemistry:
- CHM 11, MTH 30 — First Semester 8
- CHM 22, MTH 31 — Second Semester 9
- CHM 31, CHM 33 — Third Semester 8
- MTH 32 — Third Semester 5
- CHM 32 — Fourth Semester 4

**Total 34**

III. Physics:
- PHY 31, MTH 31 — First Semester 8
- PHY 32, MTH 32 — Second Semester 9
- PHY 33, PHY 34, MTH 33 — Third Semester 13
- **PHY 41 or 51** — Fourth Semester 3

**Total 33**

Free Electives

To complete the required 64 to 67 credits, students may take courses in any department or discipline.

*See language requirements of Liberal Arts and Sciences, A.S. Degree, p. 109.

**Students are advised to consult the requirements of the senior college of their choice.

†If level of preparation is adequate, student may take MTH 31, 32, 33.

‡PHY 61 may be accepted in lieu of PHY 41 or 51 by special permission of the curriculum coordinator.
The advance of scientific knowledge in the field of medicine has multiplied the need for personnel trained in such areas as hematology, serology, histology, and biochemistry. Opportunities for service and employment are plentiful for technicians and medical research assistants, in private or government offices, hospitals, laboratories and clinics, research divisions of drug and chemical companies, and in private and public educational and research institutions.

Training in biological and chemical science prepares the student for immediate employment. The Medical Laboratory Technology curriculum is a career program in which the student earns the A.A.S. degree. In addition to taking general education courses, the student has an opportunity to work in up-to-date, newly equipped laboratories to gain extensive experience in the performance of a medical laboratory technologist's duties.

Students will perform the chemical cytological, bacteriological, histological and other medical laboratory procedures used in the detection, diagnosis and treatment of disease. Such work demands knowledge and skill gained by careful and devoted preparation.

Note: Effective September 1978, requirements for all students wishing to enter the Medical Laboratory Technology curricula include completion of the following pre-MLT sequence with a minimum index of 2.0: BIO 15, ENG 13, CHM 02, MTH 05, 06 or 07, or 16.
Curriculum Pattern for Medical Laboratory Technology* (Career Program) 65-68 Credits required for A.A.S. Degree

### Core Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 15</td>
<td>Zoology</td>
<td>4</td>
</tr>
<tr>
<td>ENG 13</td>
<td>Fundamental Composition</td>
<td>3</td>
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<tr>
<td>CMS 11</td>
<td>Fundamental Communications</td>
<td>3</td>
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<tr>
<td>HIS 10</td>
<td>History of the Modern World</td>
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<td><strong>MTH</strong></td>
<td>Mathematics</td>
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<tr>
<td>PEA</td>
<td>Physical Ed. (choose one)</td>
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Total 21-22

### Required Areas of Study

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<tr>
<th>Area</th>
<th>Courses</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Humanities A — PSY 11 or SOC 11</td>
<td>Fundamentals, Psychology or Sociology</td>
<td>3</td>
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<tr>
<td>Humanities B — ART or MUS 10</td>
<td>Art Survey or Music Survey</td>
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Total 4

### Specialization Requirements

#### First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>BIO 25</td>
<td>Anatomy &amp; Physiology I</td>
<td>4</td>
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<tr>
<td>BIO 71</td>
<td>Clinical Techniques I</td>
<td>3</td>
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<tr>
<td>CHM 17</td>
<td>Chemistry for Lab. Technologies I</td>
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#### Second Semester

<table>
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<th>Credits</th>
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<tbody>
<tr>
<td>BIO 26</td>
<td>Anatomy &amp; Physiology II</td>
<td>4</td>
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<td>BIO 72</td>
<td>Clinical Techniques II</td>
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<td>CHM 18</td>
<td>Chemistry for Lab. Technologies II</td>
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#### Third Semester

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<th>Credits</th>
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<tr>
<td>BIO 42</td>
<td>Histology &amp; Microtechniques</td>
<td>4</td>
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<td>BIO 43</td>
<td>Microbiology</td>
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<td>BIO 73</td>
<td>Clinical Techniques III</td>
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#### Fourth Semester

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<tr>
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<td>Medical Microbiology</td>
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<tr>
<td>BIO 74</td>
<td>Clinical Techniques IV</td>
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<tr>
<td>BIO 75</td>
<td>Clinical Practicum</td>
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</table>

Total 41

### Free Electives

To complete the required 65-68 credits, students may select free electives from any academic department.

*Students must complete two semesters of college-level mathematics (MTH 16, 17 or higher).

---

*Mandatory 1,000 hours clinical practicum required for New York City Department of Health Licensing (1 credit). Students already possessing New York City Department of Health License as a Medical Technologist are exempt from this requirement.

**Students must complete two semesters of college-level mathematics (MTH 16, 17, or higher).
NURSING

Curriculum Coordinator: Prof. A.P. Fuller

Effective September 1975, requirements for all students wishing to enter the Nursing curriculum include completion of a one-semester pre-nursing sequence of courses with a minimum index of 2.5 basis skills at a level acceptable to the Nursing Department, and a satisfactory performance on the Pre-Nursing Guidance Test of the National League for Nursing. This examination costs $16.

Students matriculated in the full-time Nursing program may become nurses after two academic years of study. Students who win New York State Regents Scholarships may receive them at Bronx Community College.

Members of the faculty of the Department of Nursing offer instruction and guidance in clinical experience at Montefiore Medical Center, Bronx Lebanon Hospital Center, Lincoln Hospital, Veterans Administration Hospital, Bronx Psychiatric Center, Albert Einstein College of Medicine Hospital, St. Barnabas Hospital, Misericordia Hospital, Bronx Municipal Hospital Center (Van Etten and Jacobi Hospitals), North Central Bronx Hospital, Metropolitan Hospital, Doctors Hospital, Morningside House, and Jewish Home and Hospital.

Students enjoy valuable supplementary experience through arrangements with other community agencies, such as clinics, nursery schools, and nursing homes.

Graduates of the Nursing program receive the A.A.S. degree and are eligible to take the R.N. Licensure Examination given by the State of New York. Graduates who achieve a 2.5 index are eligible to enter a senior institution within City University to continue study for a baccalaureate degree.

Curriculum Pattern for Nursing — 31 Series
65-68 Credits required for A.A.S. Degree

*Pre-Nursing Semester

<table>
<thead>
<tr>
<th>Dept. &amp; No.</th>
<th>Course Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 13</td>
<td>Fundamental Composition</td>
<td>3</td>
</tr>
<tr>
<td>PSY 11</td>
<td>Psychology</td>
<td>3</td>
</tr>
<tr>
<td>CMS 11</td>
<td>Fundamental Communications</td>
<td>3</td>
</tr>
<tr>
<td>BIO 23</td>
<td>Human Anatomy &amp; Physiology I</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>13</strong></td>
</tr>
</tbody>
</table>

First Semester

| NUR 31     | Essential Process of Nursing: Interaction | 4      |
| BIO 24     | Human Anatomy & Physiology II            | 4      |
| PEA        | Physical Ed. (choose one)                | 1      |
| CHM 14 or  | Intro. to Chemistry, or Intro. to        | 3-4    |
| MTH 12     | Mathematical Thought                     |        |
|            | **Total**                               | **12-13** |

Second Semester

| NUR 32     | Major Health Problems & Clinical Nursing Activities I (Relatedness) | 3      |
| NUR 33     | Foundations of Nursing Skills/ Critical Situations                  | 4      |
| BIO 28     | Bacteriology                                                         | 3      |
| SOC 11     | Sociology                                                            | 3      |
|            | **Total**                                                           | **13**  |

Third Semester

| NUR 34     | Major Health Problems & Clinical Nursing Activities II (Long Term Problems: Motor & Neurological) | 4      |
| NUR 35     | Major Health Problems & Clinical Nursing Activities III (Reproduction & the Young Family)        | 4      |
| MUS 10 or  | Music Survey, or Art Survey                                         | 1      |
| ART 10     | Elective                                                             |        |
| †          | **Total**                                                           | **12-13** |

Fourth Semester

| NUR 36     | Major Health Problems — Medical & Surgical Problems of Adults & Children | 4      |
| NUR 37     | Clinical Nursing Activities — Medical & Surgical Problems of Adults & Children | 4      |
| NUR 38     | Management in Nursing Health Promotion                               | 4      |
| ††         | Elective                                                             | 3-4    |
|            | **Total**                                                           | **15-16** |

*Remediation in English, Reading, Mathematics, and Chemistry, if required.
†Choose from English, History, or Modern Languages.
PERFORMING ARTS — MUSIC

Curriculum Coordinator: Prof. J. Hamell

With the renaissance of the arts, there is a growing need for musicians, especially music teachers. Graduates with the Bachelor of Music degree will be prepared to be orchestra or ensemble instrumentalists, choral or ensemble vocalists, and teachers of music in private or public institutions. They may serve in schools and in community centers, in the music and performing arts industries, including radio, theatre, broadcasting, and telecasting.

Students can earn an Associate in Applied Science degree in Music in a two-year program at Bronx Community College. This includes private lessons at no additional cost in instrumental or vocal areas of the student’s choice.

In addition to regular requirements, students must meet special standards in musical aptitude and ability, as well as demonstrate proficiency in vocal or instrumental areas, to be determined by tests, auditions and interviews conducted by the faculty of Bronx Community College. Students found deficient in musical aptitude skills may be required to take MUS 40 and/or MUS 50.

Curriculum Pattern for Performing Arts — Music
64-68 Credits required for A.A.S. Degree

<table>
<thead>
<tr>
<th>Dept. &amp; No.</th>
<th>Course Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Semester</td>
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<td></td>
</tr>
<tr>
<td>ENG 13</td>
<td>Fundamental Composition</td>
<td>3</td>
</tr>
<tr>
<td>CMS 11</td>
<td>Fundamental Communications</td>
<td>3</td>
</tr>
<tr>
<td>MUS 11 or 12</td>
<td>Introduction to Music</td>
<td>3</td>
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<tr>
<td>MUS 21 or 31</td>
<td>Choral Performance I, or Orchestral Performance I</td>
<td>1</td>
</tr>
<tr>
<td>MUS 41</td>
<td>Theory I</td>
<td>2</td>
</tr>
<tr>
<td>MUS 51</td>
<td>Ear Training I</td>
<td>1</td>
</tr>
<tr>
<td>MUS 71</td>
<td>Secondary Piano I</td>
<td>1</td>
</tr>
<tr>
<td>MUS 83</td>
<td>Private Instruction I</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Total</td>
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</tr>
<tr>
<td>Second Semester</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIS 10</td>
<td>History of the Modern World</td>
<td>3</td>
</tr>
<tr>
<td>*SCI or MTH</td>
<td>Science or Mathematics</td>
<td>3-4</td>
</tr>
<tr>
<td>MUS 22 or 32</td>
<td>Choral Performance II, or Orchestral Performance II</td>
<td>1</td>
</tr>
<tr>
<td>MUS 42</td>
<td>Theory II</td>
<td>2</td>
</tr>
<tr>
<td>MUS 52</td>
<td>Ear Training II</td>
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</tr>
<tr>
<td>MUS 72</td>
<td>Secondary Piano II</td>
<td>1</td>
</tr>
<tr>
<td>MUS 81</td>
<td>Recital Performance</td>
<td>1</td>
</tr>
<tr>
<td>MUS 84</td>
<td>Private Instruction II</td>
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<tr>
<td></td>
<td>Elective</td>
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<tr>
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<td>Total</td>
<td>17-18</td>
</tr>
<tr>
<td>Third Semester</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PEA or HLT 91</td>
<td>Language I, (choose one), or Critical Health Issues</td>
<td>4</td>
</tr>
<tr>
<td>MUS 23 or 33</td>
<td>Choral Performance III, or Orchestral Performance III</td>
<td>1</td>
</tr>
<tr>
<td>MUS 43</td>
<td>Theory III</td>
<td>2</td>
</tr>
<tr>
<td>MUS 53</td>
<td>Ear Training III</td>
<td>1</td>
</tr>
<tr>
<td>MUS 61</td>
<td>Keyboard I</td>
<td>1</td>
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<tr>
<td>MUS 85</td>
<td>Private Instruction III</td>
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<tr>
<td>MUS 91 or 95</td>
<td>Instrumental Ensembles I, or Chamber Chorus I</td>
<td>1</td>
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<tr>
<td></td>
<td>Elective</td>
<td>3</td>
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<tr>
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<td>Total</td>
<td>16-17</td>
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<tr>
<td>Fourth Semester</td>
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<tr>
<td>MUS 24 or 34</td>
<td>Choral Performance IV, or Orchestral Performance IV</td>
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<tr>
<td>MUS 44</td>
<td>Theory IV</td>
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<tr>
<td>MUS 54</td>
<td>Ear Training IV</td>
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<tr>
<td>MUS 62</td>
<td>Keyboard I</td>
<td>1</td>
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<tr>
<td>MUS 86</td>
<td>Private Instruction IV</td>
<td>2</td>
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<tr>
<td>MUS 92 or 96</td>
<td>Instrumental Ensembles II, or Chamber Chorus II</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>15-17</td>
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</tbody>
</table>

*Science course to be chosen from Astronomy, Biology, Chemistry, Physics or Science.
**To be chosen from English, Communications, or Art.
†To be taken, if needed, to meet the degree requirements. Otherwise, may be used as elective credits or another elective may be substituted. See language requirements, p. 109.
‡To be chosen from History or Social Sciences.

the curriculum and programs

67
The Industrial Chemical Laboratory option of the Pre-Pharmacy curriculum is designed primarily for students who wish to seek employment in the chemical or pharmaceutical industry. The program provides a firm foundation in the practical as well as theoretical aspects of chemistry with emphasis on modern laboratory techniques.

This option exposes students to current industrial and research practices which are used in such diverse fields as petrochemicals, foods, plastics, cosmetics, air and water pollution control, forensic science, and many others. An important feature of this program is the Cooperative Work Experience course during which students spend twenty hours each week while completing their final credits for the Associate in Applied Science degree.

Curriculum Pattern for Pre-Pharmacy Industrial Chemical Laboratory Option
64-67 Credits required for A.A.S. Degree

Core Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 13</td>
<td>Fundamental Composition</td>
<td>3</td>
</tr>
<tr>
<td>CMS 11</td>
<td>Fundamental Communications</td>
<td>3</td>
</tr>
<tr>
<td>HIS 10</td>
<td>History of the Modern World</td>
<td>3</td>
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<tr>
<td>HLT 91</td>
<td>Critical Health Issues</td>
<td>2</td>
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<td>MTH 16</td>
<td>11th Year Mathematics</td>
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<tr>
<td>MTH 17</td>
<td>College Algebra</td>
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<tr>
<td>PEA</td>
<td>Physical Ed. (choose one)</td>
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Total 19

Required Areas of Study

Art or Music

English, Modern Language, or Communications—Choose one course (in addition to ENG 13 and CMS 11)

History or Social Science—Select one course from any of the following: History, Economics, Philosophy, Political Science, Sociology, Psychology. (Choice of history course is in addition to HIS 10).

Total 8-10

Specialization Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tr>
<td>PHY 21</td>
<td>Physics for Engineering Tech. I</td>
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<tr>
<td>PHY 22</td>
<td>Physics for Engineering Tech. II</td>
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<tr>
<td>*CHM 11 or 17</td>
<td>General Chemistry I</td>
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<td>*CHM 22 or 18</td>
<td>General Chemistry II</td>
<td>4-5</td>
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<td>CHM 31</td>
<td>Organic Chemistry I</td>
<td>4</td>
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<tr>
<td>CHM 32</td>
<td>Organic Chemistry II</td>
<td>4</td>
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<tr>
<td>CHM 33</td>
<td>Quantitative Analysis</td>
<td>4</td>
</tr>
<tr>
<td>CHM 44 or Instrumental Methods of Industrial &amp; Environmental Analysis or</td>
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<td>BIO 74</td>
<td>Clinical Techniques</td>
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</tr>
<tr>
<td>CHM 61</td>
<td>Cooperative Work Exp. and Seminar in Chem. Tech.</td>
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</tr>
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</table>

Total 36-37

Free Electives

To complete the maximum of 67 credits, students may take courses in any department with the approval of an adviser.

*Student may choose the first year chemistry sequence from either CHM 11, 22 or CHM 17, 18. Choice should be made in consultation with an adviser.
PRE-PHARMACY

Curriculum Coordinator: Prof. J.G. Riley

The Pre-Pharmacy curriculum is a two-year course for which students receive complete credit on admission to the third year of the five-year pharmacy course at colleges of pharmacy such as St. John's University and Arnold and Marie Schwartz College of Pharmacy of Long Island University (formerly Brooklyn College of Pharmacy).

Curriculum Pattern for Pre-Pharmacy
67-68 Credits required for A.A.S. Degree

<table>
<thead>
<tr>
<th>Dept. &amp; No.</th>
<th>Course Title</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
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<td></td>
</tr>
<tr>
<td>CHM 11</td>
<td>General Chemistry I</td>
<td>4</td>
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<tr>
<td>BIO 11</td>
<td>General Biology I</td>
<td>4</td>
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<tr>
<td>ENG 13</td>
<td>Fundamental Composition</td>
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</tr>
<tr>
<td>MTH 30</td>
<td>Pre-Calculus Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>PEA</td>
<td>Physical Ed. (choose one)</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>16</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
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<tr>
<td>CHM 22</td>
<td>General Chemistry and Qualitative Analysis</td>
<td>5</td>
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<td>BIO 12</td>
<td>General Biology II</td>
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<tr>
<td>ENG 14, 15, or 16</td>
<td>Composition &amp; Prose, Drama, or Poetry</td>
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</tr>
<tr>
<td>MTH 31</td>
<td>Analytical Geometry &amp; Calculus I</td>
<td>4</td>
</tr>
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<tr>
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<tr>
<td>CHM 31</td>
<td>Organic Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHM 33</td>
<td>Quantitative Analysis</td>
<td>4</td>
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<tr>
<td>PHY 11</td>
<td>College Physics I</td>
<td>4</td>
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<tr>
<td>HIS 10</td>
<td>History of the Modern World</td>
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<tr>
<td><strong>Elective</strong></td>
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<tr>
<td><strong>Total</strong></td>
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<tr>
<td>CHM 32</td>
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</tr>
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<tr>
<td>CMS 11</td>
<td>Fundamental Communications</td>
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<tr>
<td><strong>Elective</strong></td>
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<td>3</td>
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<tr>
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<td>3-4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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<td>17-18</td>
</tr>
</tbody>
</table>

*Arnold and Marie Schwartz College of Pharmacy of Long Island University (formerly Brooklyn College of Pharmacy) requires both HIS 10 and one other history course to be chosen from HIS 15, 21, 22, 27, 31, or 35. For transfer to St. John's College of Pharmacy, choose ECO 11.

**Students planning to transfer to Arnold and Marie Schwartz College of Pharmacy of L.I.U. should choose an English course from ENG 14-81. For transfer to St. John's College of Pharmacy, choose ECO 12.

†Students planning to transfer to Arnold and Marie Schwartz College of Pharmacy of L.I.U. should choose PSY 11 or PHL 11. For transfer to St. John's College of Pharmacy, choose HLT 91, and a 1 or 2 credit MUS or ART course.

Students planning to transfer to pharmacy schools other than St. John's or Arnold and Marie Schwartz College of Pharmacy should consult the schools' catalogs for the proper requirements for electives.
The College offers five options in Secretarial Studies — Executive Secretary, Legal Secretary, Medical Secretarial Assistant, School Secretary and Word Processing. Graduates qualify as secretaries in business — advertising, publishing, finance; in government civil service positions; in law offices — assisting attorneys and judges; in doctors' offices and hospitals — assisting general practitioners, specialists, and hospital administrators; and in school offices — assisting administrators.

### Curriculum Pattern for Executive Secretary Option

**65-68 Credits required for A.A.S. Degree**

<table>
<thead>
<tr>
<th>Dept. &amp; No.</th>
<th>Course Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Semester</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENG 13</td>
<td>Fundamental Composition</td>
<td>3</td>
</tr>
<tr>
<td>HIS 10</td>
<td>History of the Modern World</td>
<td>3</td>
</tr>
<tr>
<td>SHO 11 or 15</td>
<td>Shorthand I (Gregg or Pitman)</td>
<td>3</td>
</tr>
<tr>
<td>BUS 11</td>
<td>Business Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>TYP 11</td>
<td>Typing I</td>
<td>2</td>
</tr>
<tr>
<td>CMS 11</td>
<td>Fundamental Communications</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

| Second Semester                                      |        |
| **BIO 18** | Human Physiology                    | 4      |
| PEA        | Physical Ed. (choose one)           | 1      |
| TMTTH 12   | Intro. to Math. Thought             | 3      |
| ACC 11     | Fundamental Accounting I            | 4      |
| SHO 12 or 16| Shorthand II                        | 3      |
| TYP 12     | Typing II                           | 2      |
| ORI 42     | Career Orientation                  | 0      |
|             | **Total**                           | **17** |

| Third Semester                                      |        |
| ART or MUS  | Art or Music                        | 3      |
| COM 31      | Business Communications             | 3      |
| SHO 13 or 17| Shorthand III                       | 3      |
| TYP 13      | Typing III                          | 2      |
| §           | Business & Commerce Elective        | 3      |
| §           | Free Elective                       | 3      |
|             | **Total**                           | **17** |

| Fourth Semester                                      |        |
| SHO 14 or 18| Shorthand IV                         | 3      |
| SEC 41      | Secretarial Practice                 | 2      |
| #CWE 31     | Cooperative Work Exp. I             | 2      |
| §           | Business & Commerce Elective        | 3      |
| §           | Social Science Elective             | 3      |
| §           | Free Electives                      | 3-4    |
|             | **Total**                           | **16-17** |

*Students receiving exemption in Shorthand and/or Typewriting need 65 credits; others require 68 credits.

**Students considering transfer to a senior college should consult their curriculum adviser for science requirement.**

*Students may qualify for advanced math placement resulting from evaluation of high school math background. MTH 10 is recommended for students considering transfer to a senior college.

†May be waived for Evening Session students with approval of curriculum coordinator.

$MKT 11, BUS 51, LAW 41 or any other course subject to the approval of the counselor.

#CWE 31 may be taken as an elective in the third semester or may be waived with the approval of the curriculum coordinator.
**Curriculum Pattern for Word Processing Option**

*64-65 Credits required for A.A.S. Degree*

<table>
<thead>
<tr>
<th>Dept. &amp; No.</th>
<th>Course Title</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td></td>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>ENG 13</td>
<td>Fundamental Composition</td>
<td>3</td>
</tr>
<tr>
<td>HIS 10</td>
<td>History of the Modern World</td>
<td>3</td>
</tr>
<tr>
<td>TYP 11</td>
<td>Typing I</td>
<td>2</td>
</tr>
<tr>
<td>BUS 11</td>
<td>Business Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>CMS 11</td>
<td>Fundamental Communications</td>
<td>3</td>
</tr>
<tr>
<td>PEA</td>
<td>Physical Ed. (choose one)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td><strong>SCI</strong></td>
<td>Any Science course</td>
<td>3-4</td>
</tr>
<tr>
<td>ACC 11</td>
<td>Fundamental Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>TYP 12</td>
<td>Typing II</td>
<td>2</td>
</tr>
<tr>
<td>TMTH 12</td>
<td>Intro. to Math. Thought</td>
<td>3</td>
</tr>
<tr>
<td>†ORI 42</td>
<td>Career Orientation</td>
<td>0</td>
</tr>
<tr>
<td>BUS 51</td>
<td>Business Organization &amp; Management</td>
<td>3</td>
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<tr>
<td></td>
<td><strong>Third Semester</strong></td>
<td></td>
</tr>
<tr>
<td>ART 11 or 12 or MUS 11 or 12</td>
<td>Introduction to Art or or</td>
<td>3</td>
</tr>
<tr>
<td>TYP 13</td>
<td>Typing III</td>
<td>2</td>
</tr>
<tr>
<td>WPR 11</td>
<td>Machine Transcription I</td>
<td>3</td>
</tr>
<tr>
<td>COM 31</td>
<td>Business Communications</td>
<td>3</td>
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<tr>
<td>PSY 11 or SOC 11 or CMS 15</td>
<td>Psychology or Sociology or Public Speaking &amp; Critical Listening</td>
<td>3</td>
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<tr>
<td>WPR 21</td>
<td>Word Processing Administration</td>
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<tr>
<td></td>
<td><strong>Fourth Semester</strong></td>
<td></td>
</tr>
<tr>
<td>TYP 14</td>
<td>Typing IV</td>
<td>3</td>
</tr>
<tr>
<td>WPR 12</td>
<td>Machine Transcription II</td>
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</tr>
<tr>
<td>§CWE 31</td>
<td>Cooperative Work Exp. I</td>
<td>2</td>
</tr>
<tr>
<td>WPR 22</td>
<td>Word Proc. Office Simulation</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Secretarial Studies or Business &amp; Commerce Elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total 17</strong></td>
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</tr>
</tbody>
</table>

**Students receiving exemption in Typewriting need 64 credits; others require 65 credits.**

**Students considering transfer to a senior college should consult their curriculum adviser for science requirement.**

†Students may qualify for advanced math placement resulting from evaluation of high school math background. MTH 30 is recommended for students considering transfer to a senior college.

††May be waived for Evening Session students with approval of curriculum coordinator.

§CWE 31 may be taken as an elective in the third semester or waived with the approval of the curriculum coordinator.

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**Curriculum Pattern for Legal Secretary Option**

*65-68 Credits for A.A.S. Degree*

<table>
<thead>
<tr>
<th>Dept. &amp; No.</th>
<th>Course Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>ENG 13</td>
<td>Fundamental Composition</td>
<td>3</td>
</tr>
<tr>
<td>HIS 10</td>
<td>History of the Modern World</td>
<td>3</td>
</tr>
<tr>
<td>SHO 11 or 15</td>
<td>Shorthand I (Gregg or Pitman)</td>
<td>3</td>
</tr>
<tr>
<td>BUS 11</td>
<td>Business Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>TYP 11</td>
<td>Typing I</td>
<td>2</td>
</tr>
<tr>
<td>CMS 11</td>
<td>Fundamental Communications</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td><strong>BIO 18</strong></td>
<td>Human Physiology</td>
<td>4</td>
</tr>
<tr>
<td>ACC 11</td>
<td>Fundamental Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>LAW 47</td>
<td>Legal Procedures</td>
<td>3</td>
</tr>
<tr>
<td>SHO 12 or 16</td>
<td>Shorthand II</td>
<td>3</td>
</tr>
<tr>
<td>TYP 12</td>
<td>Typing II</td>
<td>2</td>
</tr>
<tr>
<td>PEA</td>
<td>Physical Ed. (choose one)</td>
<td>1</td>
</tr>
<tr>
<td>†ORI 42</td>
<td>Career Orientation</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td><strong>Third Semester</strong></td>
<td></td>
</tr>
<tr>
<td>COM 31</td>
<td>Business Communications</td>
<td>3</td>
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<tr>
<td>LAW 41</td>
<td>Business Law</td>
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<tr>
<td>SHO 13</td>
<td>Shorthand III</td>
<td>3</td>
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<tr>
<td>17 or 16</td>
<td>Typing III</td>
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<tr>
<td>TYP 13</td>
<td>Legal Shorthand I</td>
<td>3</td>
</tr>
<tr>
<td>SHO 31</td>
<td>Intro. to Math. Thought</td>
<td>3</td>
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<tr>
<td>††MTH 12</td>
<td><strong>Fourth Semester</strong></td>
<td></td>
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<tr>
<td>SHO 32</td>
<td>Legal Shorthand II</td>
<td>4</td>
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<tr>
<td>ART or MUS</td>
<td>Art or Music</td>
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<tr>
<td>SEC 41</td>
<td>Secretarial Practice</td>
<td>2</td>
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<tr>
<td>§CWE 31</td>
<td>Cooperative Work Exp. I</td>
<td>2</td>
</tr>
<tr>
<td>Free Elective</td>
<td>Social Science Elective</td>
<td>3</td>
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<tr>
<td></td>
<td><strong>Total 17</strong></td>
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</tr>
</tbody>
</table>

**Students receiving exemption in Shorthand and/or Typewriting need 65 credits; others require 68 credits.**

**Students considering transfer to a senior college should consult their curriculum adviser for science requirement.**

†May be waived for Evening Session students with approval of curriculum coordinator.

††Students may qualify for advanced math placement resulting from evaluation of high school math background. MTH 30 is recommended for students considering transfer to a senior college.

§CWE 31 may be taken as an elective in the third semester or waived with the approval of the curriculum coordinator.
# Curriculum Pattern for Medical Secretarial Assistant Option

**65-68 Credits required for A.A.S. Degree**

<table>
<thead>
<tr>
<th>Dept. &amp; No.</th>
<th>Course Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENG 13</td>
<td>Fundamental Composition</td>
<td>3</td>
</tr>
<tr>
<td>HIS 10</td>
<td>History of the Modern World</td>
<td>3</td>
</tr>
<tr>
<td>BIO 18</td>
<td>Human Physiology</td>
<td>4</td>
</tr>
<tr>
<td>TYP 11</td>
<td>Typing I</td>
<td>2</td>
</tr>
<tr>
<td>HLT 91</td>
<td>Critical Health Issues</td>
<td>2</td>
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<tr>
<td>BUS 11</td>
<td>Business Mathematics</td>
<td>3</td>
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<tr>
<td><strong>Total</strong></td>
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<td><strong>17</strong></td>
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<tr>
<td><strong>Second Semester</strong></td>
<td></td>
<td></td>
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<tr>
<td>CMS 11</td>
<td>Fundamental Communications</td>
<td>3</td>
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<tr>
<td>PSY 11</td>
<td>Psychology</td>
<td>3</td>
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<tr>
<td><strong>MTH 12</strong></td>
<td>Intro. to Math. Thought</td>
<td>3</td>
</tr>
<tr>
<td>ACC 11</td>
<td>Fundamental Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>TYP 12</td>
<td>Typing II</td>
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</tr>
<tr>
<td>BIO 22</td>
<td>Medical Terminology</td>
<td>2</td>
</tr>
<tr>
<td><strong>ORI 42</strong></td>
<td>Career Orientation</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>17</strong></td>
</tr>
<tr>
<td><strong>Third Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ART or MUS</td>
<td>Art or Music</td>
<td>3</td>
</tr>
<tr>
<td>TYP 13</td>
<td>Typing III</td>
<td>2</td>
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<tr>
<td>BIO 46</td>
<td>Clinical Techniques I</td>
<td>2</td>
</tr>
<tr>
<td>SEC 34</td>
<td>Medical Office Practice I</td>
<td>2</td>
</tr>
<tr>
<td>COM 31</td>
<td>Business Communications</td>
<td>3</td>
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<tr>
<td>PSY</td>
<td>Clinical Psychology Elective</td>
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<tr>
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<tr>
<td>SEC 35</td>
<td>Medical Office Practice II</td>
<td>2</td>
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<tr>
<td>BIO 47</td>
<td>Clinical Techniques II</td>
<td>2</td>
</tr>
<tr>
<td>SOC 11</td>
<td>Sociology</td>
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<td>LAW 45</td>
<td>Medical Law</td>
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<tr>
<td><strong>CWE 31</strong></td>
<td>Cooperative Work Exp. I</td>
<td>2</td>
</tr>
<tr>
<td>PEA</td>
<td>Physical Ed. (choose one)</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

---

*Students receiving exemption in Shorthand and/or Typewriting need 65 credits; others require 68 credits.

**Students may qualify for advanced math placement resulting from evaluation of high school math background. MTH 30 is recommended for students considering transfer to a senior college.

†May be waived for Evening Session students with approval of curriculum coordinator.

††CWE 31 may be taken as an elective in the third semester or may be waived with the approval of the curriculum coordinator and another course substituted.

---

# Curriculum Pattern for School Secretary Option

**65-68 Credits required for A.A.S. Degree**

<table>
<thead>
<tr>
<th>Dept. &amp; No.</th>
<th>Course Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENG 13</td>
<td>Fundamental Composition</td>
<td>3</td>
</tr>
<tr>
<td>HIS 10</td>
<td>History of the Modern World</td>
<td>3</td>
</tr>
<tr>
<td>SHO 11 or 15</td>
<td>Shorthand I (Gregg or Pitman)</td>
<td>3</td>
</tr>
<tr>
<td>BUS 11</td>
<td>Business Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>TYP 11</td>
<td>Typing I</td>
<td>2</td>
</tr>
<tr>
<td>CMS 11</td>
<td>Fundamental Communications</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>17</strong></td>
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<tr>
<td><strong>Second Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BIO 18</strong></td>
<td>Human Physiology</td>
<td>4</td>
</tr>
<tr>
<td>T*MTH 12</td>
<td>Intro. to Math. Thought</td>
<td>3</td>
</tr>
<tr>
<td>ACC 11</td>
<td>Fundamental Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>SHO 12 or 16</td>
<td>Shorthand II</td>
<td>3</td>
</tr>
<tr>
<td>TYP 12</td>
<td>Typing II</td>
<td>2</td>
</tr>
<tr>
<td>PEA</td>
<td>Physical Ed. (choose one)</td>
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</tr>
<tr>
<td><strong>ORI 42</strong></td>
<td>Career Orientation</td>
<td>0</td>
</tr>
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<td><strong>Total</strong></td>
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<td><strong>17</strong></td>
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<tr>
<td><strong>Third Semester</strong></td>
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<td></td>
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<tr>
<td>ART or MUS</td>
<td>Art or Music</td>
<td>3</td>
</tr>
<tr>
<td>COM 31</td>
<td>Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>SHO 13 or 17</td>
<td>Shorthand III</td>
<td>3</td>
</tr>
<tr>
<td>TYP 13</td>
<td>Typing III</td>
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<tr>
<td>SEC 47</td>
<td>Educational Problems of School Secretaries I</td>
<td>2</td>
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<td><strong>Fourth Semester</strong></td>
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<td></td>
</tr>
<tr>
<td>SEC 48</td>
<td>Educational Problems of School Secretaries II</td>
<td>2</td>
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<td>SEC 45</td>
<td>School Records &amp; Accounts</td>
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<tr>
<td>SHO 14 or 18</td>
<td>Shorthand IV</td>
<td>3</td>
</tr>
<tr>
<td>SEC 41</td>
<td>Secretarial Practice</td>
<td>2</td>
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<td>Cooperative Work Exp. I</td>
<td>2</td>
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<td><strong>17-18</strong></td>
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</tbody>
</table>

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*Students receiving exemption in Shorthand and/or Typewriting need 65 credits; others require 68 credits.

**Students considering transfer to a senior college should consult their curriculum adviser for science requirement.

†Students may qualify for advanced math placement resulting from evaluation of high school math background. MTH 30 is recommended for students considering transfer to a senior college.

††May be waived for Evening Session students with approval of curriculum coordinator.

$CWE 31$ may be taken as an elective in the third semester or may be waived with the approval of the curriculum coordinator and another course substituted.
students who wish to teach secretarial studies in high schools may earn the A.A. degree at Bronx Community College and transfer into the third year at senior colleges of The City University of New York.

Curriculum Pattern for H.S. Teaching Option: Secretarial Studies
*65-68 Credits required for A.A. Degree

<table>
<thead>
<tr>
<th>dept. &amp; No.</th>
<th>Course Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>ENG 13</td>
<td>Fundamental Composition</td>
<td>3</td>
</tr>
<tr>
<td>PEA</td>
<td>Physical Ed. (choose one)</td>
<td>1</td>
</tr>
<tr>
<td>HIS 10</td>
<td>History of the Modern World</td>
<td>3</td>
</tr>
<tr>
<td>SHO 11 or 15</td>
<td>Modern Language</td>
<td>4</td>
</tr>
<tr>
<td>TYP 11</td>
<td>Typing I</td>
<td>2</td>
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<td></td>
<td><strong>Second Semester</strong></td>
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</tr>
<tr>
<td>HLT 91</td>
<td>Critical Health Issues</td>
<td>2</td>
</tr>
<tr>
<td>ART or MUS</td>
<td>Art or Music Course</td>
<td>3</td>
</tr>
<tr>
<td>BUS 11</td>
<td>Business Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>SHO 12 or 16</td>
<td>Shorthand II (Gregg or Pitman)</td>
<td>3</td>
</tr>
<tr>
<td>TYP 12</td>
<td>Typing II</td>
<td>2</td>
</tr>
</tbody>
</table>

Total 16

*Students receiving exemption in Shorthand and/or Typewriting need 65 credits; others require 68 credits.

**Students must consult counselor for language requirements of senior college to which they plan to transfer.

†To be chosen from MTH 21, 22, 23, 30 or 31.

‡To be chosen from AST 12, BIO 11, CHM 11, PHY 11, or SCI 11.

§ACC 11 required for students planning to transfer to Baruch College.

#To be chosen from English, Communications, Economics, Political Science, Psychology, Philosophy, Sociology, or History.

§May be waived for evening students with approval of curriculum coordinator.

AUTOMOTIVE MECHANICS CURRICULUM
Curriculum Coordinator: Prof. Henry Frisz

The Automotive Mechanics curriculum is designed to introduce and develop basic automotive skills required in most automotive repair shops. The curriculum integrates automotive theory with an emphasis on shop experience. Upon the successful completion of this curriculum, students will receive certification.

Curriculum Pattern for Automotive Mechanics
30 Credits required for Certification

<table>
<thead>
<tr>
<th>dept. &amp; No.</th>
<th>Course Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>First Semester</strong></td>
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</tr>
<tr>
<td>ACS 11</td>
<td>Engine</td>
<td>6</td>
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<tr>
<td>ACS 13</td>
<td>Fuel Systems</td>
<td>3</td>
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<tr>
<td>ACS 14</td>
<td>Manual Transmission</td>
<td>3</td>
</tr>
<tr>
<td>ACS 24</td>
<td>Brakes</td>
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<tr>
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<td><strong>Second Semester</strong></td>
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<tr>
<td>ACS 21</td>
<td>Front Ends</td>
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<tr>
<td>ACS 22</td>
<td>Automotive Transmission</td>
<td>4</td>
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<tr>
<td>ACS 23</td>
<td>Heating &amp; Air Conditioning</td>
<td>4</td>
</tr>
<tr>
<td>ACS 12</td>
<td>Electrical Systems</td>
<td>4</td>
</tr>
</tbody>
</table>

Total 16
EXPLANATION OF SYMBOLS

Prerequisites must be completed with a passing grade before the subsequent course may be taken.

Corequisites may be taken simultaneously, or before a given course.

AN EXPLANATION OF CREDIT

The allocation of credits to courses is based on New York State Department of Education regulations in higher education.

Generally, the formula is that one semester-hour of credit is awarded in a course meeting for 15 weeks for each hour of class or lecture for which considerable out-of-class preparation is required; or for a unit of two or three "laboratory," "gym," or "clinic" hours.

1. The term rec (recitation) refers to the traditional recitation-discussion-seminar form.

2. The term lect (lecture) means that several sections have been combined into a single group in which the presentation is sometimes accompanied by a demonstration and audio-visual material.

3. The term lab (laboratory) indicates that the class meets in a specially equipped area where students may do individualized work in experimentation with instruments, tools and similar equipment.

4. The term clin (clinic) indicates supervised, individualized clinical experience in a hospital setting, including group and individual instruction.

The College reserves the right to limit the number of students registered in any course, or to cancel any course for which there is insufficient enrollment, or to make any changes in prerequisites, course descriptions, credit allocations, schedule and section offerings in the academic year as it may deem necessary for the proper and efficient functioning of the College.

Students who place into ENG 01 and RDL 01 are allowed to register only for the following credit-bearing courses:

- PEA courses
- Music performance courses
- ESL II (by placement)
- Language courses (Level 12 or above, by placement)
- ELC 11 and/or 15 (corequisite MTH 16, recommended for Engineering Technology students only)
- TYP II
- MEC II (by placement)
- Art studio courses
- CMS 13 and/or CMS 21
The Department of Biology and Medical Laboratory Technology requires that students complete all remedial requirements before taking any Biology courses.

**BIO 11 General Biology I**
2 lect 4 lab 4 cr
Anatomy, physiology, morphology, taxonomy, ecology, evolution and economic importance at the cellular and organism levels of representative phyla of the plant and animal kingdoms. For Liberal Arts and Sciences and Pre-Pharmacy students.

**BIO 12 General Biology II**
2 lect 4 lab 4 cr
A continuation of BIO 11. Prerequisite: BIO 11.

**BIO 15 Zoology**
2 lect 4 lab 4 cr
Anatomy, physiology, morphology, taxonomy, ecology and economic importance of the animal kingdom, relationships of animal parasites to the human organism. Required for Medical Lab. Tech. students.

**BIO 18 Human Physiology**
4 lect 4 cr
A physiological study of the skeletal, muscular, integumentary, digestive, nervous, circulatory, excretory, respiratory, endocrine and reproductive systems of the human body; special senses.

**BIO 22 Medical Terminology**
2 lect 2 cr
Acquaintance with medical concepts, medical terms and scientific principles; various ailments and diseases; tests used in their analyses; treatments and therapeutic techniques for alleviation and cure. Required for Medical Secretarial Assistants.

**BIO 23 Human Anatomy and Physiology I**
3 lect 3 lab 4 cr
An integrated lab-lecture method for the study of gross and microscopic anatomy, basic chemistry, fluid and electrolyte balance, normal physiological processes, integumentary, skeletal, digestive, muscular, circulatory and respiratory systems. Required for Nursing students.

**BIO 24 Human Anatomy and Physiology II**
3 lect 3 lab 4 cr
An integrated lab-lecture method for the study of gross and microscopic anatomy, normal physiological processes, reproductive, excretory, neuroendocrine systems, special senses, embryology, genetics, and aging. Prerequisite: BIO 23. Required for Nursing students.
BIO 25 Anatomy and Physiology I
Cellular and organic approach to the integumentary, skeletal, muscular, circulatory, digestive, nervous and respiratory systems of the human. Prerequisites: CHM 17, BIO 15. Required for Medical Laboratory Technology students.

BIO 26 Anatomy and Physiology II
Study of human excretory, reproductive and endocrine systems; electrolyte and water balance; the senses; metabolism, immunity. Recent advances in prevention of disease. Prerequisites: CHM 18, BIO 25. Required for Medical Laboratory Technology students.

BIO 28 Bacteriology
Isolation, culturing and identification of pathogenic and nonpathogenic bacteria; clinical observation of bacterial effects on human organism. Required for Nursing students.

BIO 41 Histological Techniques*
Study and preparation of vertebrate tissues and organs for microscopic study, with emphasis on clinical histologic techniques. Prerequisites: M.L.T.—CHM 17, 18, BIO 26.

BIO 43 Microbiology*
Introduction to basic microbiological concepts and role of microorganisms in health and other applied areas. Emphasizes on microbial physiology, genetics and ecology. Prerequisites: CHM 18, BIO 26.

BIO 44 Medical Microbiology*
Advanced study of microorganisms with emphasis on diagnostic techniques for identifying pathogens. Included are morphological, cultural, biochemical, immunological and serological methods, and antibiotic testing. Prerequisite: BIO 43.

BIO 46 Clinical Techniques
Use and care of such instruments as the microscope, sphygmomanometer, basal metabolator, electrocardiograph, sterilizer, centrifuge and balance; urinalysis — physical, chemical and microscopic tests. Prerequisite: BIO 18, BIO 22.

BIO 47 Clinical Techniques for Medical Secretaries II
Use and care of various medical instruments; sterile techniques; analysis of blood — complete blood count, hematocrit, sedimentation rate, blood glucose. Prerequisite: BIO 46.

BIO 51 Fundamentals of Ecology
Introduction to dynamics of the ecosystem, population development, food chains, succession; current topics in ecology. Laboratory and field work utilize techniques useful in basic environmental and community analysis. Field trips. Prerequisite: BIO 11.

BIO 55 Genetics and Man
Principles of heredity, an historical view culminating in modern genetics. Cytogenetics and the physical basis of heredity; Mendelian and non-Mendelian genetics; molecular and biochemical genetics; chromosomal aberrations; sex chromosomes; blood groups; population genetics; social impact of genetic control. Prerequisite: Any one of the following: BIO 11, BIO 15, BIO 21, BIO 23 or BIO 24.

BIO 71 Clinical Laboratory
Use of basic laboratory equipment; skills of urinalysis — physical, chemical and microscopic examinations; introduction to blood banking — blood typing, ABO, Rh, compatibility testing; introduction to serology — principles, pregnancy testing, latex tests. Prerequisites: BIO 15, CHM 02.

BIO 72 Clinical Laboratory
Complete blood counts, normal and abnormal smears; basic routine blood procedures — sickle cell, sedimentation rate, reticulocyte count, platelet count; coagulation studies — prothrombin time, clot retraction; special procedures — alkaline phosphatase staining, electrophoresis. Prerequisites: BIO 71, BIO 25, CHM 17.
BIO 73 Clinical Laboratory 1 lect 4 lab 3 cr Techniques III* Principles and practice of volumetric equipment and spectrophotometers (visible and ultraviolet). Clinical chemistry tests: BUN and creatinine, glucose, serum proteins, bilirubin and other liver function tests, electrolytes, isozymes used in cardiac profile, acid and alkali phosphatases. Emphasis on clinical techniques, chemical principles and diagnostic significance. Prerequisites: CHM 18, BIO 26, 72.

BIO 74 Clinical Laboratory 1 lect 4 lab 3 cr Techniques IV* Basic principles, operation and proper maintenance of instruments used in clinical laboratories: Coulter counter, electrophoresis and densitometry, fluorometer, flame photometers, chloridometer. Particular emphasis placed on chemical analyzers: discrete, centrifugal force and auto-analyzers. Prerequisite: BIO 73 or written permission of the chairman.

BIO 75 Clinical Practicum 1 cr Six-month, full-time clinical laboratory training in an approved hospital laboratory. Required for a New York City Department of Health License as a medical laboratory technician. Placement for training is limited and cannot be guaranteed. Prerequisite: completion of all other requirements and departmental approval.

Exemption for MLT Courses

*Students who have acquired knowledge and skills in clinical work experience or through specialized training in the armed forces are eligible for exemption exams. After completing such exemption exams, students will be granted credit with grade and index value for the appropriate courses. For further information, the student should consult the department chairman prior to registration.

MEDICAL LABORATORY TECHNOLOGY ADVISORY COMMITTEE

Sylvia Blatt, Assistant Director, Department of Laboratories, New York City Department of Health
Calvin Hatcher, Administrative Assistant, Columbia Presbyterian Medical Center
John K. Li, M.D., Director of Laboratories, North Central Bronx Hospital
Fiorezo Paranello, M.D., Chief of Clinical Laboratory Services, Kingsbridge Veterans Administration Hospital
Courtney Wood, M.D., Associate Chief of Staff for Education & Allied Health, Kingsbridge Veterans Administration Hospital

CLINICAL ASSOCIATES

Vera Bandurca, B.S. Clinical Pathology Supervisor, Columbia Presbyterian Medical Center
Mark H. Edelman, B.S. Assistant Supervisor, Clinical Laboratory, Beth Abraham Hospital
Sylvia Ford, M.A. Assistant Supervisor, Clinical Pathology, Columbia-Presbyterian Medical Center
Emile Francois, B.S. Hematology Supervisor, North Central Bronx Hospital
William Hertelendy, M.S. Pediatric Chemistry Supervisor, Columbia Medical Center
Charles Hunter Chief, Hematology Section, Veterans Administration Hospital
Ezra Levy, Ph.D. Chief, Biochemistry Section Clinical Laboratories and Coordinator of Clinical Laboratory Education, Veterans Administration Hospital
Susanna Levy, Ph.D. Chief of Clinical Chemistry, St. Barnabas Hospital
Abraham N. Neufeld, B.S. Technologist, Beth Abraham Hospital
Edward M. Rudnick, B.S. Clinical Laboratory Supervisor, Beth Abraham Hospital
Robert Simpson, B.A. Chief, Blood Banking Section, Veterans Administration Hospital
Joseph Tatz, B.S. Chief, Microbiology Section Clinical Laboratories, Veterans Administration Hospital
Neville Trowers, M.S. Microbiology Supervisor, North Central Bronx Hospital
Accounting

ACC 11 Fundamental Accounting I 5 rec 4 cr

ACC 12 Fundamental Accounting II 5 rec 4 cr
Extension of the principles of accounting to partnerships and corporations. Prerequisite: ACC 11.

ACC 13 Intermediate Accounting 5 rec 4 cr
Theory and problems of accounting applied to construction; financial statements; problems of valuation and income determination. Prerequisite: ACC 12.

ACC 14 Cost Accounting 5 rec 4 cr
Principles of cost accounting for manufacturing and business; managerial uses of cost data under the job order and process system; use of estimate, standard and direct costing techniques related to job order and process costing. Prerequisite ACC 13; for Data Processing students: ACC 12.

Business

BUS 10 Introduction to Business 3 rec 3 cr
Introductory survey course to acquaint students with Business as a field of study. Analysis of the role of business in society, with emphasis on how the business system operates. Functional areas of accounting, marketing, finance, business law, management and information systems are explored. Prerequisites: RDL 02 or ENG 02 if required.

BUS 11 Business Mathematics* 4 rec 3 cr
Principles and problems of interest, bank discounts, purchase discounts, installment sales, payrolls, depreciation, profit distribution, taxes and insurance. Prerequisite: RDL 02 or ENG 02 if required.

*Business Mathematics (BUS 11) is prerequisite to ACC 11 for all students except those matriculated in Liberal Arts and Sciences and Business Administration. BUS 11 is pre- or corequisite to ACC 11 for matriculants in the Business Curriculum with Accounting Specialization.
BUS 41 Business Statistics 3 rec 1 lab 3 cr
Introduction to statistical methods as a basis for decision-making and operations control in business, utilizing principles of probability, sampling error, estimation and the descriptive methods of frequency distribution, correlation, index numbers and time series analysis. Application to data pertinent to business and economic problems in such areas as accounting controls, production and marketing. Prerequisite: Three years of high school mathematics or MTH 06; corequisite: ENG 02 or RDL 02 if required.

BUS 51 Business Organization and Management 3 rec 3 cr
Advantages, limitations and financing of basic forms of business organization. Management problems of organization, policy formation, communication and efficiency with particular reference to personnel and their supervision, budget and automation. Prerequisite or corequisite: ENG 13.

Data Processing

DAT 20 Punched Cards and Basic Wiring 2 lec 5 lab 4 cr
Not offered 1980-82.

DAT 21 Advanced Wiring Concepts 2 lec 5 lab 4 cr
Not offered 1980-82.

DAT 22 Machine Accounting Applications I 8 lab 3 cr
Not offered 1980-82.

DAT 23 Machine Accounting Applications II 8 lab 3 cr
Not offered 1980-82.

DAT 30 Introduction to Systems 3 lect 3 cr
Introduction to data processing equipment and operation; ranges from unit-record equipment to electronic computers. Introduction to basic elements of electronic data processing, input, processing, storage, and output; flowcharting, numbering systems, and programming languages. Applications include business, economics, science and social problems. Prerequisites: Students are expected to complete RDL 02, ENG 01, MTH 05 or equivalent prior to enrolling in DAT 30.

DAT 31 Advanced Systems Analysis 3 lect 3 cr
Not offered 1980-82.

DAT 32 Computer Programming 3 lect 3 cr
Concepts and Introduction to R.P.G. Programming
Designed to introduce concepts and techniques involved in analyzing and designing business data processing systems. Topics cover file organization and control, documentation, forms design, system implementation and maintenance. Practical applications to business situations utilize Report Program Generator (R.P.G.) as its programming language. Included are R.P.G. concepts and techniques used in designing and writing programs for card, printer, magnetic tape and magnetic disc application. Students develop understanding of how to write R.P.G. programs for any computer on which it is available. Prerequisite: DAT 30.

DAT 40 COBOL Programming 3 lect 2 lab 4 cr
Introduction to COBOL programming utilizing the IBM/360. Problems are assigned and students are required to flowchart, code, debug, test, and document their solutions. Applications in accounting, inventory control, retailing, and other record-keeping operations. Prerequisite: DAT 30 or permission of chairman.

DAT 41 Assembly Programming 3 lect 2 lab 4 cr
Techniques of writing computer programs in Basic Assembly Language, a symbolic language. This includes data representation, operation codes, direct and indirect addressing, development of data files and use of macro instructions. Students are assigned several programs to demonstrate their programming ability. Prerequisite: DAT 40 or PHY 61, or permission of chairman.

DAT 42 Advanced Programming and Systems Application 3 lect 2 lab 4 cr
Not offered 1980-82.
OAT 43 Advanced COBOL Programming
Designed to present concepts of magnetic tape and direct access processing, and programming techniques taught will be usable on almost all computers. Topics cover data definitions, data usage in mixed modes, data conversion, decimal point alignment sign control and subscripting, concepts of magnetic tape processing, sequential file updating, DASD sequential file processing, DASD indexed sequential file processing, COBOL subroutined, program overlays and segmentation. Use of Report Writer feature. Prerequisite: DAT 40.

DAT 50 Management of Data Processing Installation
Not offered 1980-82.

Finance
FIN 31 Principles of Finance
American financial system; public and private financial institutions; financial problems of industrial and commercial firms. Procedures of business, foreign trade, and consumer financing; governmental policies and their effects on economic activities. Corequisite: ENG 02 or RDL 02 if required.

Law
LAW 41 Business Law
Survey of American legal system; principles of law and application of Uniform Commercial Code involved in contracts; application of principles to typical business problems. Corequisite: ENG 02 or RDL 02 if required.

LAW 45 Medical Law
Law as it affects work of medical secretarial assistants including medical practice acts, legal relationship of physician and patient, professional liability, types of medical practice; preparation of reports for workmen's compensation, court litigation. Corequisite: ENG 02 or RDL 02 if required.

LAW 47 Legal Procedures
Common, statutory and constitutional law; the judicial system; proceedings, civil and criminal, from initiation to enforcement and judgment. Role of the legal secretary. Corequisite: ENG 02 or RDL 02 if required.
### Marketing Management and Sales

#### MKT 11 Marketing
- **3 rec 3 cr**
- Principles of marketing goods and methods of distribution from producer of manufacturer to consumer. Types, functions, practices of wholesalers and retailers; efficient marketing techniques. **Prerequisite or corequisite: ENG 13.**

#### MKT 13 Textiles
- **4 rec 4 cr**
- Characteristics and uses of major textile fibers and fabrics — cotton, wool, linen, silk, rayon, acetate, nylon, polyesters, acrylics, spandex and other synthetics. Processes of weaving, dyeing, printing, finishing; identification of fibers, weaves and fabric finishes. **Corequisite: ENG 02 or RDL 02 if required.**

#### MKT 14 Fashion Markets and Trends
- **3 rec 3 cr**
- Style, construction and quality of apparel and accessories; application of color line and design to fashion; fashion coordination and analysis of fashion trends. **Prerequisite: MKT 13.**

#### MKT 17 Consumer Problems and Personal Finance
- **3 rec 3 cr**
- Introduction to consumers’ problems in purchasing services and goods, including housing, medical services, insurance, social security, credit, and the detection of fraud relating to these purchases. Money management, taxes, savings, loans, investments, and estate planning. **Prerequisite: MKT 11 or permission of department.**

#### MKT 18 Consumer Behavior
- **3 rec 3 cr**
- Introduction to basic characteristics of consumers that affect choices in the marketplace; techniques of marketing agencies and advertisers to optimize sales and profits. Study of consumer behavioral patterns of independent and group travelers related to travel operators. **Prerequisite: MKT 11.**

#### MKT 31 Salesmanship
- **2 rec 2 cr**
- Not offered 1980-82.

#### MKT 33 Retail Buying Techniques
- **3 rec 3 cr**
- Duties and responsibilities of buyer; practical principles and procedures used to determine consumer demand; sources of supply and relations with resources; techniques of merchandising selection; pricing. **Prerequisite: MKT 11.**

#### MKT 35 Retail Merchandising
- **4 rec 4 cr**
- Theory and principles of merchandising and its applications to the basic profit elements; mathematics of markup, markdown, gross margin, turnover, stock planning, sales planning, the merchandise plan, price lining, open-to-buy; and the retail method of inventory procedure. **Prerequisites: ACC 11 and BUS 11; corequisite: MKT 33.**

#### MKT 41 Management of Retail Operations
- **3 rec 3 cr**
- Organization and operation of retail stores; layouts, budgeting, credit procedures, maintenance, personnel employment, training and management; receiving and marking procedures; security; public relations. **Prerequisite: MKT 11.**

#### MKT 43 Advertising and Sales Promotion
- **3 rec 3 cr**
- Advertising department organization and procedure; planning, preparation and coordination of external and internal methods of various types of advertising; evaluation and selection of media; development and integration of sales promotion techniques and advertising plans. **Prerequisite: MKT 11.**

#### MKT 53 Current Retailing Concepts
- **2 rec 2 cr**
- Not offered 1980-82.

#### MKT 61 International Travel
- **2 cr**
- Not offered 1980-82.

#### MKT 70 International Marketing
- **3 rec 3 cr**
- Introduction to international marketing with emphasis on the empirical dimensions of world economy, business enterprises in international trade, concepts and theory of international trade, research on world markets, advertising, financing, foreign legal and cultural restrictions, and role of government in fostering international business. **Prerequisite: MKT 11.**

#### MKT 71 Tourism
- **3 rec 3 cr**
- Not offered 1980-82.

#### MKT 72 Regulatory Agencies and Types of Carriers
- **3 rec 3 cr**
- Not offered 1980-82.

#### MKT 73 Wholesale Tour Operation
- **3 rec 3 cr**
- Not offered 1980-82.

#### MKT 74 Retail Travel Agency Operation
- **3 rec 3 cr**
- Not offered 1980-82.
CHEMISTRY AND CHEMICAL TECHNOLOGY

Chairman: Associate Professor Joseph G. Riley
Professors: S. Atlas, J. Buckley, R. Clarke, H. Stein, I. Zimmerman
Associate Professors: J. Fahey, D. Gracian, M. Pulver
Assistant Professors: R. Leinaeng, R. Miller, E. Passer

CHM 01 Foundations of Chemistry 2 rec/lab
Chemistry 2 lect 0 cr
Not offered 1980-82.

CHM 02 Introduction to Chemistry 1 rec 2 lect
Introduction to types of matter, elements, compound, formulas, equations, use of arithmetic for chemical problem-solving, nomenclature, atomic structure and chemical bonding. Basic laboratory skills. Corequisite: MTH 05 or RDL 02 or permission of department.

CHM 10 Chemistry for Citizens 3 rec 3 cr
Exploration of problems arising from the expanding human population and increasing industrial technology and how chemistry relates to and can aid in understanding the problems and attempting solutions. Corequisite: ENG 02 or RDL 02 if required.

CHM 11 General College Chemistry I** 1 rec 2 lect
Chemistry II 3 lab 4 cr

CHM 12 General College Chemistry II 1 rec 2 lect
Chemistry I** 3 lab 4 cr
Fundamental principles and theories of chemistry, aspects of atomic structure and bonding, chemical calculations, states of matter, solutions, kinetics equilibria, electro-chemistry, properties of nonmetallic and metallic elements, nuclear chemistry, organic chemistry. Laboratory chemical techniques and principles, qualitative analysis. (Chemistry and other science majors should take CHM 22 in the second semester. Engineering Science majors may choose either CHM 12 or CHM 22 in the second semester.) Prerequisites for CHM 11: Placement exam or CHM 02, MTH 05; for CHM 12: CHM 11.

CHM 13 Chemistry for Citizens Laboratory 3 lab 1 cr
Laboratory includes introduction to properties of chemicals and use of techniques for present pollution detection and monitoring. Laboratory is optional. Recommended for non-science Liberal Arts students. Corequisite: ENG 02 or RDL 02 if required.

CHM 14 Introduction to General, Organic and Biological Chemistry 3 lect 3 lab 4 cr
Matter, atomic structure, chemical bonds, radioactivity, liquid state and solutions, ionization, acids and bases, hydrocarbons and derivatives, carbohydrates, lipids and proteins, metabolism, respiration, blood and urine, hormones. Required of Nursing students. Prerequisites: BIO 21 or BIO 28 or permission of the department; placement exam or CHM 02.

CHM 15 Fundamentals of Chemistry 2 lect 4 lab 3 cr
Fundamental principles and theories of chemistry; emphasis on topics of interest to the technologies. Required of Mechanical Technology students. Can satisfy one semester of laboratory science in Liberal Arts programs. Corequisite: ENG 02 or RDL 02 if required.

*Students who have completed one year of chemistry in high school and plan to major in Engineering Science, Medical Laboratory Technology, Pre-Pharmacy, Pre-Medicine, Pre-Dentistry, and other science curricula, are required to take a placement examination. Students with an insufficient background in high school chemistry, or students who fail the placement examination and wish to specialize in one of the above-mentioned curricula, are required to take CHM 02. Nursing students should see their curriculum adviser to determine whether they must take CHM 02. This course is not intended for non-science Liberal Arts students.

**Required for students in: Engineering Science, Medical Laboratory Technology, Pre-Pharmacy, Pre-Medicine, Pre-Dentistry, and other science curricula. This course is not intended for non-science Liberal Arts students.
CHM 17 Chemistry for 1 rec 2 lect
Laboratory Technologies I 3 lab 4 cr

CHM 18 Chemistry for 1 rec 2 lect
Laboratory Technologies II 3 lab 4 cr
Fundamental principles of theories of chemistry, aspects of atomic structure and bonding, chemical calculations, states of matter, solutions, kinetics equilibria, electro-chemistry, properties of nonmetallic and metallic elements, nuclear chemistry, organic chemistry. Laboratory chemical techniques, qualitative analysis. (Laboratory is more quantitative, intended for the Medical Laboratory curriculum.) Prerequisite for CHM 17: Placement exam or CHM 02; for CHM 18: CHM 17.

CHM 22 General Chemistry II with Qualitative Analysis 1 rec 2 lect 6 lab 5 cr
Emphasis on solutions, equilibria, acids and bases, ionization equilibria, solubility product, complex ions, oxidation-reduction and survey of metallic and nonmetallic elements, organic and nuclear chemistry. Laboratory: qualitative analysis of solutions; salts and alloys. Prerequisite: CHM 11.

CHM 24 Plastics Chemistry 3 rec 3 lab 4 cr
Chemistry in relation to the plastics industry. Special emphasis on organic chemistry and chemistry of high polymers. Corequisite: ENG 02 or RDL 02 if required.

CHM 31 Organic Chemistry I 1 rec 2 lect 4 lab 4 cr
Structure, nomenclature, properties and reactions of organic compounds including electronic theory and mechanism. Laboratory: preparation, purification and identification of representative organic compounds. Prerequisites: CHM 12 or CHM 22.

CHM 32 Organic Chemistry II 1 rec 2 lect 4 lab 4 cr
A continuation of CHM 31. Prerequisite: CHM 31.

CHM 33 Quantitative Analysis 2 lect 6 lab 4 cr
Theory and laboratory methods of Quantitative Chemical Analysis with laboratory determinations employing gravimetric and titrimetric (volumetric) methods, including acid-base, precipitation and oxidation-reduction reactions; use of chelating agents and analytical instruments. Prerequisite: CHM 22.

CHM 35 Fundamentals of Organic Chemistry 1 rec 2 lect 3 lab 4 cr
Nomenclature, structure, properties and reactions of typical organic molecules. Laboratory: preparation, properties and identification of typical organic compounds. Prerequisite: CHM 12 or CHM 18.

CHM 41 Biochemistry 1 rec 2 lect 4 lab 4 cr
Chemistry of metabolism, electrolytic equilibrium, reaction mechanism, catalysis, oxidation reduction, enzymes, metabolism of carbohydrates, proteins, fats and nucleic acids. Prerequisite: CHM 35.

CHM 43 Physical Chemistry 1 rec 2 lect 3 cr
Not offered 1980-82.

CHM 44 Instrumental Methods 2 rec 4 lab 3 cr
of Industrial and Environmental Analysis
Introduction to concepts of modern analytical methods. Elementary principles of electronics and uses of instruments. Spectrophotometry (visual, ultraviolet and infrared); polarography, potentiometry, gas liquid partition, chromatography, electrogravimetric methods, radioactive techniques, emission spectrophotometry, flame and atomic absorption photometry. Prerequisite: CHM 33.
CHM 45 Industrial and \hspace{1em} 2 rec 6 lab 4 cr Environmental Methods of Analysis Analysis of representative products of chemical plant operations as well as air, water and environmental materials, using typical industrial equipment. Methods according to ASTM, AOAC, EPA and OSHA. Prerequisites: CHM 31, CHM 33. NOTE: Students in their final semester may substitute CHM 61.

CHM 46 Introduction to 3 rec 2 cr Chemical Industry Not offered 1980-82.

CHM 51 Chemistry — 1 rec 2 lect
A Cultural Approach I 3 lab 4 cr

CHM 52 Chemistry — 1 rec 2 lect
A Cultural Approach II 3 lab 4 cr
Fundamental principles and theories of chemistry, aspects of atomic structure and bonding, chemical calculations, states of matter, solutions, kinetics equilibria, electro-chemistry, properties of nonmetallic and metallic elements, nuclear chemistry, organic chemistry. Laboratory chemical techniques and principles, qualitative analysis. Emphasis on the humanistic approach. Recommended for non-science Liberal Arts students. Prerequisites: MTH 05 or high school equivalent and high school chemistry or permission of adviser. Corequisite: ENG 02 or RDL 02 if required.

CHM 61 Cooperative Work 3 rec 6 cr
Experience and 20 hrs field work
Seminar in Chemical Technology* An opportunity for chemical technology students to work in an industrial laboratory of a cooperating employer. Students are compensated at the prevailing wage rate for the job they hold.** Accompanying seminar integrates chemical principles with the practical aspects of industrial analysis, methods, and processes. Experiences and problems encountered in their work are discussed and analyzed. Satisfactory ratings by industrial supervisor and seminar instructor required. Prerequisites: Fully matriculated student status in Chemical Technology, CHM 33, and departmental approval.

*Students in their final semester may substitute CHM 61 or CHM 45 and 46.

**Paid part-time employment of at least 20 hours per week for a 14-week semester.

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**Plastics Technology**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PLS 11</td>
<td>Fundamentals of Plastics</td>
<td>2 rec 2 cr</td>
</tr>
<tr>
<td>PLS 12</td>
<td>Materials</td>
<td>2 rec 3 lab 3 cr</td>
</tr>
<tr>
<td>PLS 13</td>
<td>Compounding and Process Instrumentation</td>
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</tr>
<tr>
<td>PLS 31</td>
<td>Plastics Processing</td>
<td>2 rec 4 lab 3 cr</td>
</tr>
<tr>
<td>PLS 32</td>
<td>Plastics Processing and Production Control</td>
<td></td>
</tr>
<tr>
<td>PLS 35</td>
<td>Materials Engineering</td>
<td>2 rec 2 cr</td>
</tr>
<tr>
<td>PLS 36</td>
<td>Plastic Mold and Product Design</td>
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</tr>
<tr>
<td>PLS 37</td>
<td>Extrusion Technology</td>
<td>2 rec 4 lab 3 cr</td>
</tr>
<tr>
<td>PLS 38</td>
<td>Fabrication</td>
<td>2 rec 4 lab 3 cr</td>
</tr>
<tr>
<td>PLS 41</td>
<td>Materials Testing</td>
<td>2 rec 3 lab 3 cr</td>
</tr>
</tbody>
</table>

Laboratory
See department for information.

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**PRINCIPLES OF SCIENCE***

An interdepartmental offering, in cooperation with the Departments of Biology, Chemistry, and Physics, administered in the Department of Chemistry.

All courses in Principles of Science have a corequisite of ENG 02 or RDL 02 if required.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tr>
<td>SCI 11</td>
<td>Principles of Science I</td>
<td>1 rec 2 lect 2 lab 4 cr</td>
</tr>
<tr>
<td>SCI 12</td>
<td>Principles of Science II</td>
<td>1 rec 2 lect 2 lab 4 cr</td>
</tr>
</tbody>
</table>

Beginnings of science and planetary motion, the laws of motion, gravitation, energy and heat, matter and its chemical nature, electricity and magnetism, light, structure of the atom.

*Students expecting to transfer to a senior college of City University should consult their curriculum advisers before registering for these courses.
COMMUNICATION ARTS
AND SCIENCES

Chairman: Professor Robert King
Professors: W. Duncan, N. Gilroy, I. Ronson
Associate Professors: A. Cosentino, A. Lande,
M. Stergiopoulos
Assistant Professors: J. Coppolino, M. Diehl,
J. Graham, G. Greenfield, L. Powell

CMS 01 Speech Clinic 3 rec 0 cr
Clinical program of speech therapy for
organic and functional disorders such as
severe voice, lisp, stuttering, and related
articulatory difficulties. Students are
assigned on the basis of Speech Place­
ment Screening, diagnostic interview, or
referral by department faculty. Required
course for students where evaluation
indicates need.

CMS 11 Fundamentals of
Interpersonal
Communication 3 rec 3 cr
Dynamics of communication through
examination of theory and discussion.
Designed to provide understanding of
communicative processes; oppor­
tunities for each student to experiment
with his personal communicative activity.
Corequisite: ENG 02 or RDL 02 if
required.

CMS 13 Phonetics 3 rec 3 cr
Study of contemporary American
English through phonetic analysis; prac­
tice in broad and narrow transcription,
using the International Phonetic
Alphabet, and exercises designed to
develop auditory and kinesthetic sensi­
tivity to phonetic distinctions.

CMS 14 Introduction to
Mass Communication 3 rec 3 cr
Survey of mass communication media,
including radio, television, film, and
print (press); the development, charac­
teristics and uses of the media and their
effects on the individual and his environ­
ment. Prerequisite: CMS 11.

CMS 15 Public Speaking and
Critical Listening 3 rec 3 cr
Principles and practice of contemporary
forms of public speech communication:
informative, persuasive, inspirational,
and entertaining; principles and practice
of critical listening; analysis and evalua­
tion of public communication. Core­
quise: ENG 02 or RDL 02 if required.

CMS 16 Small Group Discussion 3 rec 3 cr
Principles and practice of small group
discussion; investigation and analysis of
problems in selected group situations.
Corequisite: ENG 02 or RDL 02 if
required.

CMS 21 Voice and Diction: 2 rec 2 cr
Communication in the
Professional Environment
Study of voice and articulatory factors
in effective speech communication, with
special attention to individual needs
through speech diagnosis, development
of auditory discrimination, and exercises
gearied to individual and group needs.
Designed for the student who needs
more effective speech communication
for the business and professional envi­
rionment.

CMS 25 Argumentation and Debate 3 rec 3 cr
Principles and practices of argumenta­
tion and debate, including the nature of
persuasion, stating and analyzing propo­
sitions, identifying issues, collecting
materials, making briefs, preparing the
case, evidence and reasoning, refutation,
style and delivery. Individual confer­
cences. Prerequisite: CMS 11.

CMS 31 Oral Interpretation of Literature 3 rec 3 cr
Principles and practice of oral interpre­
tation of literature, including oral presen­
tation of appropriate selections of prose
and poetry. Final oral project and
critical paper are required. Corequisite:
ENG 02 or RDL 02 if required.

CMS 35 Parliamentary Procedure and Practice 2 rec 1 cr
A practical course in the efficient use of
parliamentary procedure as a democratic
instrument for group deliberations.
Field work.

CMS 61 Communicative Techniques in the
Democratic Procedures 3 rec 3 cr
Not offered 1980-82.

CMS 71 Afro-American and Puerto Rican Spokesmen 3 rec 3 cr
Analysis and evaluation of the messages
and rhetorical methods of selected Afro­
American and Puerto Rican spokesmen.
Field work. Corequisite: ENG 02 or RDL
02 if required.
### CMT 41 Stagecraft I
3 rec 3 cr
Elements of acting, directing, stage managing, lighting, sets, costume and make-up; emphasis on directing and stage managing. Opportunity for evaluated practical experience. Corequisite: ENG 02 or RDL 02 if required.

### CMT 42 Stagecraft II
3 rec 3 cr
Theatre arts; individual projects chosen by the student from costuming, make-up, lighting, scenic design and construction, rehearsal techniques, role of the director and/or producer, and stage manager are the major areas of study. Goal is to give students the technical skill to mount an actual production. Field work. Corequisite: ENG 02 or RDL 02 if required.

### CMT 43 Principles of Directing
3 rec 3 cr
Directing elements of play scripts analyzed and dramatized. Students cast and rehearse members of acting classes in brief scenes. Full direction of a one-act play to be presented before the public. Prerequisite: CMT 41 or 42 or CMT 51 or 52, and/or permission of instructor.

### CMT 51 Acting I
3 rec 3 cr
Introduction to basic acting problems of analyzing and creating a character through improvisation, pantomime, theatre games, scene practice and analysis of scenes, culminating in presentation of a one-act play. Outside class assignments. Field work. Corequisite: ENG 02 or RDL 02 if required.

### CMT 52 Acting II
3 rec 3 cr
Advanced course for those who have successfully completed CMT 51. Rehearsal and study performance techniques. Problems of auditioning, research work on theories of acting, interpretation of absurdist and avant-garde theatre culminating in presentation of a full-length play. Field work. Corequisite: ENG 02 or RDL 02 if required.

### CMT 53 Theory of the Theatre
3 rec 3 cr
Study of the movements and theories of world theatre, including an examination of relevant theatrical structures and equipment. European and American theatre; Oriental theatre and related dance, including Japanese, Chinese, Indian, Balinese; African theatre. Emphasis on theatrical elements rather than dramatic literature. Corequisite: ENG 02 or RDL 02 if required.

### CMT 81 Seminar and Independent
1 rec 3 cr
Study in Dramatic Arts with Field Projects
Elective for students who wish to work independently in some area of dramatic art. Weekly seminar in addition to independent work on an acceptable creative project, or with the Bronx Council on the Arts in a community center supervising and instructing in drama. Prerequisite: CMT 41 or 42 or CMT 51 or 52, and/or permission of instructor.

### CMF 91 Man and the Movies I
3 rec 3 cr
Study of documentary and narrative motion pictures and their role in the world. Development of the film as an art form, as entertainment, as a business, and as a major source of influence upon and reflection of society. Corequisite: ENG 02 or RDL 02 if required.

### CMF 92 Man and the Movies II
3 rec 3 cr
Study of the aesthetics, techniques, and production aspects of filmmaking through lecture, discussion, reading, writing, viewing, and making films. Corequisite: ENG 02 or RDL 02 if required.

### CMV 96 Man and Television I
3 rec 3 cr
Study of social, educational and economic impact of television. Relation between the urban community and the medium examined. Is the medium the message? What are the cultural implications? What can be done to improve the medium? Technological, artistic and communicative aspects explored for their educational potential. Permission of instructor required. Corequisite: ENG 02 or RDL 02 if required.

### CMV 97 Man and Television II
3 rec 3 cr
Continuation of CMV 96. Seminars and independent student projects designed to explore the cultural impact of television on our society. Permission of instructor required. Corequisite: ENG 02 or RDL 02 if required.
COOPERATIVE EDUCATION

CWE 31 Cooperative Work Experience I
0 rec 2 cr

CWE 32 Cooperative Work Experience II
0 rec 2 cr

Students are assigned to a job with cooperating employer for part-time work (minimum of 15 hours a week for 13 weeks a semester) under the supervision of professional Job Coordinator. Students receive the prevailing wage rate for job they hold. Students are required to attend periodic job review with the Job Coordinator, maintain daily log of job activities, prepare semester report analyzing the problems and procedures of assigned organization. Prerequisite: Fully matriculated students carrying minimum of 12 credits, who have satisfactorily completed 30 credits in chosen curriculum pattern for CWE 31; 42 credits for CWE 32.

CWE 33 Cooperative Work Experience (Experimental)
1 rec 4 cr

Under supervision of program director, students are placed in full-time internships (jobs) with cooperating employers for 26 weeks (February through July or August through January). Individualized program of job preparation and counseling precede placements. Wages are paid at prevailing rates. Students attend 15 evening sessions during internship period, the first ten meetings consisting of a Practicum devoted to problem-sharing, problem-solving, and integrating classroom theory with practical job applications; the last five sessions, evaluation seminars, concern analysis of the work experience from the standpoint of learning objectives. Prerequisite: Fully matriculated students who have completed 30 degree credits with an overall G.P.A. of 2.00 and departmental approval.
ENGINEERING TECHNOLOGIES

Chairman: Professor Oleg Rodzianko
Associate Professors: S. Lawrence, S. Ritterman
Assistant Professor: G. Gean

Electrical Technology

ELC 01 Basic Electricity 4 rec 3 lab 0 cr
Relationship between voltage, current, resistance, power and energy in linear DC circuit elements. Concepts are extended to networks containing several branches and generators. Includes Thevenin’s theorem, introduction to capacitors, inductors, magnetic circuits. Use of basic test instruments. (Upon completion of course requirements with a grade of C or better, 4 credits will be earned for ELC 11.) Corequisite: MTH 06.

ELC 11 Introduction to Electric Circuits 3 rec 3 lab 4 cr
Relationship between voltage, current, resistance, power and energy in linear DC circuit elements. Concepts are extended to networks containing several branches and generators. Includes Thevenin’s theorem, introduction to capacitors, inductors, magnetic circuits. Use of basic test instruments. Corequisite: MTH 16.

ELC 15 Electric Circuits 1 rec 2 lab 2 cr
Introduction to DC and AC circuits. Qualitative approach. Voltage, current, resistance impedance, power and energy in linear DC and AC circuit elements and networks. Use of basic electrical test instruments. (For Mechanical Technology students only.) Corequisite: MTH 16.

ELC 16 Industrial Electronics 1 rec 2 lab 2 cr
and Instrumentation
Introduction to semiconductors and vacuum tube electronics, basic principles of electrical machinery controls; qualitative approach to study of transistor, vacuum tube electronics and electrical machinery; emphasis on areas of electronic instrumentation. (For Mechanical Technology students only.) Prerequisite: ELC 15; corequisite: ENG 02 or RDL 02 if required.

ELC 21 AC Circuits 3 rec 3 lab 4 cr
Voltage, current, impedance, power and energy in linear AC circuit elements and networks. Introduction to networks, series resonance, and parallel resonance. Prerequisite: ELC 11; corequisite: MTH 17 and RDL 02 or ENG 02 if required.

ELC 25 Transistor and Vacuum Tube Electronics 3 rec 3 lab 4 cr
Semiconductor and vacuum tubes as physical devices and circuit elements; rectification, filtering and amplification. Emphasis on transistors. Laboratory: experiments include diode and triode characteristics (vacuum tube and semiconductors), power supplies and amplification. Prerequisite: ELC 11; corequisites: ELC 21, MTH 17.
ELC 35 Communication Electronics 3 rec 3 lab 4 cr
Continuation of ELC 25. Multistage amplifiers, power amplifiers including class of operation, frequency range and response, coupling methods and feedback conditions. Modulation, detection and heterodyning, with applications in radio broadcasting and high fidelity techniques. Experiments include frequency response, feedback, amplifiers, oscillators. Prerequisite: ELC 25; corequisite: MTH 18; prerequisite or corequisite: PHY 21.

ELC 38 Electric Product Design and Measurements 6 lab 2 cr

ELC 45 Electronic Project 1 rec 3 lab 2 cr
Laboratory Application of electrical and electronic theory to the solution of practical laboratory problems. Students work as technicians under direction of instructor who acts as project engineer. Projects include design of circuits, fabrication and testing of breadboards and prototypes, the submission of tests, data and reports. Continuation of ELC 38, microelectronic equipment utilization. Prerequisites: ELC 35, ELC 38; corequisites: ELC 72 (Power and Control option only), ELC 82 (Communication option only), ELC 92 (Computer option only).

ELC 72 Electric Machines and Power 3 rec 3 lab 4 cr
Not offered 1980-82.

ELC 75 Electrical Instrumentation 3 rec 3 lab 4 cr
Not offered 1980-82.

ELC 78 Electrical Control Systems 3 rec 3 lab 4 cr
Not offered 1980-82.

ELC 82 Networks and Transmission Lines 3 rec 3 lab 4 cr
Use of lumped circuit elements in coupled circuits and filters to obtain specified current and voltage characteristics with variation of frequency, extended to distributed parameters in transmission lines. (Required for Communication option only.) Prerequisite: ELC 21; corequisite: MTH 18.

ELC 85 Microwaves 3 rec 3 lab 4 cr
Microwave technology involves the discussion of microwave transmission lines, circuits, electronics, and measurements. Principles of microwave technology, transmission lines, waveguides, power sources (klystrons, magnetrons, and traveling wave tubes), ferrite devices, cavities, filters and spectrum analyzer. (Required for Communication option only.) Prerequisite: ELC 82; prerequisite or corequisite: ELC 35.

ELC 88 Communication Systems 3 rec 3 lab 4 cr
Principles of pulse and digital techniques applicable to modern practices; modulation, detection, and reception to analyze the electrical characteristics of audio, radio, television, telemetering, and radar communication systems. (Required for Communication option only.) Prerequisites: ELC 82, MTH 18; corequisite: ELC 85, prerequisite or corequisite: ELC 35.

ELC 92 Pulse and Digital Circuits 3 rec 3 lab 4 cr
Circuits used in generation and control of non-sinusoidal waveshapes, applications to timing, telemetering, cathode ray displays, television, computers, limiters, DC restorers, differentiators, integrators, multivibrators and blocking oscillators. Laboratory: operating characteristics of typical pulse circuits and use of specialized instrumentation employed in pulse techniques. (Required for Computer option only.) Prerequisite: ELC 25; corequisite: ELC 35.
ELC 95 Computer Fundamentals 3 rec 3 lab 4 cr
Applications of mathematical logic, number systems, and Boolean algebra leading to understanding of both digital and analog computers. Systematic study of major computer units, and principles of computer programming. Laboratory: assembly, operation and testing of elementary computer and logic circuits. (Required for Computer option only.) Prerequisite: ELC 92, ELC 35.

ELC 98 Computer Design 3 rec 3 lab 4 cr
Principles and circuitry of analog computers. Application of prior knowledge of waveshaping circuits to digital circuits of major component units of a digital computer. Study of hybrid computer systems. Laboratory: Operation and testing of advanced computer and logic circuits and of large computer complexes and applications of computer programming. (Required for Computer option only.) Prerequisites: ELC 92, MTH 18; corequisite: ELC 95.

Mechanical Technology

MEC 01 Introduction to Engineering Graphics 1 lect 4 lab 0 cr
(For students with difficulty in spatial visualization ability.) Fundamental engineering drawing and industrial drafting room practice. Lettering, orthographic projection, auxiliary views, pictorials, sections and conventions, threads and fasteners, detail drawing, dimensioning and electrical drawings. (Upon completion of course requirements with a grade of C or better 2 credits will be earned for MEC 11.) Prerequisite or corequisite: MTH 05.

MEC 09 Elementary Problem-Solving 3 rec 0 cr
Not offered 1980-82.

MEC 11 Basic Engineering Graphics 1 lect 3 lab 2 cr
Fundamental engineering drawing and industrial drafting room practice. Lettering, orthographic projection, auxiliary views, sections and conventions, pictorials, threads and fasteners, tolerances, detail drawing, dimensioning and electrical drawings; introduction to computer-aided graphics. Prerequisite or corequisite: MTH 05.

MEC 12 Applied Engineering Graphics 1 lect 3 lab 2 cr
Introduction to engineering drawing practices in specific fields. Such selected specialties as gears, cams, piping, welding structural and architectural drawing. Prerequisite: MEC 11, corequisite: MEC 11, corequisite: RDL 02 or ENG 02 if required.

MEC 21 Engineering Manufacturing Processes 1 lect 3 lab 2 cr
Basic engineering processes and unit production measurements. Fabrication of mechanical products in small quantities. Processes include casting, forging, welding, drilling, lathework, milling, woodworking, forming of plastics and sheet metal, and heat treating. Laboratory practice with hand and machine tools. Corequisite: RDL 02 or ENG 02 if required.

MEC 25 Production Processes and Numerical Control 2 rec 3 lab 3 cr
Industrial mass production and measurement techniques. Including automation, numerical control, and quality control; product design and fabrication methods. Precision layout, measurement and gauging procedures. Laboratory practice with hand and machine tools, precision measuring equipment, and numerically controlled machining center. Projects include design and fabrication of jigs, fixtures, simple dies, and volume production. Prerequisites: MEC 11, MEC 21; corequisite: MTH 17.

MEC 27 Mechanics and Introduction to Strength of Materials 4 rec 0 lab 4 cr
Application of principles of statics, dynamics and strength of materials. Types of loading; relationships between externally applied forces and internally induced stresses in various types of structural and machine members. Prerequisite: MEC 11; corequisite: MTH 17.

MEC 28 Strength of Materials 2 rec 3 lab 3 cr
Analysis and solution of practical strength of materials problems. Laboratory: destructive and nondestructive tests of materials, machine members and structures using industrial equipment and ASTM standard procedures. Prerequisite: MEC 27.
MEC 31 Machine Design  2 lect 2 lab 3 cr
Principles of kinematics, mechanics and strength of materials in analysis and design of typical machine members. Machine kinematics, theories of failure, basic mechanisms and power transmission, linkage mechanism, cams, shafting, power screws, gears and gear trains and application of digital computer. Prerequisite: MEC 12; corequisite: MEC 28.

MEC 33 Thermodynamics  2 rec 3 lab 3 cr
and Fluid Dynamics
Energy and energy interchange; ideal and actual thermodynamic cycles: Carnot, Otto, Rankin, and Reversed Carnot. Ideal and actual gases and vapors as working substances. Fluid statics and mechanics. Fundamentals of heat transfer. Laboratory work includes measurements of temperature and pressure, internal combustion engine, fluid flow, refrigeration and air conditioning, steam turbine and plant visits. Prerequisites: MTH 17, PHY 22; corequisite: CHM 15.

MEC 41 Metallurgy and Engineering Materials  2 rec 2 lab 3 cr
Physical metallurgy, properties of ferrous and nonferrous metals, as well as non-metallic materials and plastics. Laboratory: preparation of samples, metallographic examination of metals, and tests for various properties of metallic and nonmetallic materials. Prerequisites: MEC 21, MEC 27, CHM 15.

MEC 45 Mechanical Projects Laboratory  3 lab 1 cr
Application of mechanical engineering theory to the solution of practical laboratory problems. Projects include the design, fabrication and testing of prototype mechanical or electromechanical equipment. Students work as technicians under direction of instructor who acts as project engineer. Prerequisite: MEC 25.

MEC 51 Descriptive Geometry  1 lect 4 lab 2 cr
Not offered 1980-82.

MEC 61 Advanced Machine Design  2 rec 2 lab 3 cr
Not offered 1980-82.

MEC 62 Tool Design  2 rec 2 lab 3 cr
Not offered 1980-82.

MEC 63 Refrigeration and Air Conditioning  2 rec 2 lab 3 cr
Not offered 1980-82.

MEC 64 Heating and Ventilating  2 rec 2 lab 3 cr
Not offered 1980-82.

MEC 65 Industrial Management  2 rec 2 lab 3 cr
Survey of the operations of typical industrial manufacturing and processing plants. Organization, plant location and layout, research and development, product design, methods engineering, standards, production control, quality control, inventory control, operations research, computer applications. Laboratory problems in simple management and production systems. Prerequisite: MEC 25.

MEC 67 Instrumentation and Control Systems  2 rec 2 lab 3 cr
Not offered 1980-82.

ORI 14 Technology College Orientation  1 lect 0 cr
Not offered 1980-82.

ORI 15 Engineering Science College Orientation  1 lect 0 cr
Not offered 1980-82.

ORI 44 Technology Career Orientation  1 lect 0 cr
Not offered 1980-82.

ORI 45 Engineering Science Senior Orientation  1 lect 0 cr
Not offered 1980-82.
ENGLISH

Chairman: Professor Irwin Berger
Professors: C. Auser, A. Beringause, R. Donovan, M. Frank, L. Gottesman, N.J. Hall, L. Lieberman, B. Mandelbaum, G. Motola
Associate Professors: M. Cummins, L. Fergenson, N. Grill, A. Sakban, A. Sandberg, N. Sandrow, B. Witlieb

ENG 01 Writing Laboratory I 4 rec 0 cr
Review and practice of basic principles of grammar and usage, with emphasis upon sentence structure and various mechanical aspects of writing. Concentrates on correction of severe writing problems: sentence fragments, sentence misconstruction, lack of subject-verb agreement, faulty use of pronouns, misspellings and inaccuracy in punctuation.

ENG 02 Writing Laboratory II 4 rec 0 cr
Extensive writing practice with emphasis upon paragraph development and unity. Students learn to develop paragraphs through argument, narration, particulars and details, comparison-contrast, process, cause and effect, etc. Helps the student to write effective paragraphs in preparation for ENG 13.

All courses offered by the English Department include composition. In courses providing a fourth recitation hour, the fourth hour will be utilized by the instructor for instructional purposes for designated students as he determines to be necessary.

ENG 13 Fundamentals of Written Composition 3 rec
Fundamental principles of organization and grammar; practice in expository writing; selected readings; research paper techniques. Prequisite: ENG 01 and/or ENG 02 if required.

ENG 14 Written Composition and Prose Fiction 3 rec
Continued emphasis on the writing of clear, effective expository prose based on readings in short stories and novels. Research paper required. Prerequisite: ENG 13.

ENG 15 Written Composition and Drama 3 rec
Continued emphasis on the writing of clear, effective expository prose based on readings in world drama. Research paper required. Prerequisite: ENG 13.

ENG 16 Written Composition and Poetry 3 rec
Continued emphasis on the writing of clear, effective expository prose based on readings in poetry. Research paper required. Prerequisite: ENG 13.
ENG 17 Poetry as a Musical Art 3 rec 1 conf/rec 3 cr
A study of poetry utilizing the student’s knowledge of music. Consideration of musical analogies that exist between poetry and music, song style, rhythm, reiteration, harmonic and stanzaic organization, sound patterning and suggestivity. Prerequisite: ENG 13 and ability to read simple musical notation.

ENG 18 Advanced Composition 3 rec 3 cr
To improve skills in expository writing through writing articles, formal and informal essays, reviews, scholarly reports according to individual interests and needs. Problems in rhetoric, semantics, style, and developing one’s own style. Prerequisite: ENG 13.

ENG 19 Journalism I 3 rec 1 conf/rec 3 cr
Study of all forms of journalistic writing — news story, feature story, editorial, critical review — and the development of skills necessary for newspaper writing. Visits to newspaper offices and plants and participation in production of College newspaper. Prerequisite: ENG 13.

ENG 20 Journalism II 2 rec 2 cr
Student is assigned to write for, edit, and proofread BCC’s two student publications, the Communicator and Newsletter. Once a week, students meet with instructor to evaluate their work. Prerequisite: ENG 13.

ENG 23 Scientific and Technical Writing 2 rec 2 cr
Study and practice of various types of writing in scientific and technological disciplines, including abstract, progress reports, description of a process, technical proposals, and technical reports. For students in career and technical programs. (Liberal Arts students must have written permission of Chairperson of the English Department.) Prerequisite: ENG 13.

ENG 40 Folklore 3 rec 3 cr
Study of American folk literature including an examination of oral traditions such as folk speech, proverbs, folktales, folksongs and ballads. Elements of folk superstitions, dreams, games, and folk life. Prerequisite: ENG 13.

ENG 41 History of the English Language 3 rec 3 cr
Focus is on description and history of the English language from Old English language to 20th century American English as evidenced in literary texts; language elements; writing systems, language families, grammars, dictionaries, and geographical and social dialects. Prerequisite: ENG 13.

ENG 50 American Literature and Thought I 3 rec 3 cr
Major themes in American literature, thought and history from colonial period to the end of the era of the new republic. Selected authors may include Paine, Cooper, Irving, Poe, Thoreau, Emerson, and Whitman. Prerequisite: ENG 13.

ENG 51 American Literature and Thought II 3 rec 3 cr
Major themes in American literature and thought from the end of the Civil War to the present. Selected authors may include Melville, James, Twain, Eliot, Hughes, Hemingway, and Ellison. Prerequisite: ENG 13.

ENG 53 The Black Writer in American Literature 3 rec 3 cr
Literature by Black American authors; consideration of the nature of this literature — its characteristic forms, imagery, archetypes and styles. Readings include works of Dunbar, Hughes, Cullen, DuBois, Wright, Ellison, Jones, and Baldwin, with emphasis on prose. Critical or research paper required. Prerequisite: ENG 13.

ENG 54 Black Poetry 3 rec 1 conf/rec 3 cr
Poetry of all modes by Black American poets. Consideration of social environments producing this literature; study of techniques and subjects of various Black poets, particularly of the Harlem Renaissance and Black Revolution. Readings include works of Cullen, McKay, Hughes, Toomer, Tolson, Hayden, Jones, Evans, Brooks, Pritchard, Ted Joans, Victor Hernandez, Cruz, and others. Composition is an integral part of the course. Prerequisite: ENG 13.
ENG 55 Literary Criticism 3 rec 3 cr
Philosophies and examples of literary criticism, such as Aristotle's Poetics, Trilling's The Opposing Self, and the theories analyzed by such writers as Wellek and Hyman. Critical analysis of a literary work required. Prerequisite: ENG 13.

ENG 56 Children's Literature 2 rec 2 cr
Discussions and lectures on history, development, and critical evaluation of children's literature (including works from other cultures in translation), and the opportunity to write a work for children. Prerequisite: ENG 13.

ENG 61 Shakespeare 3 rec 3 cr
Introduction to plays of Shakespeare. Representative tragedies, comedies, and histories are read and analyzed. Poetic and dramatic techniques and the Elizabethan theatre are studied. Critical or research paper required. Prerequisite: ENG 13.

ENG 62 Knights, Ladies and Romance 3 rec 3 cr
Reading and discussion of selections (in modern English) of Chaucer's Canterbury Tales, Sir Gawain and the Green Knight, Second Shepherd's Play, Everyman, love lyrics, Malory's Morte d'Arthur, sagas, Dante's Inferno, Arabian Nights, Irish heroic tales, Hebrew tales of King Arthur and El Cid. Prerequisite: ENG 13.

ENG 65 Honors Elective: Independent Research 3 cr
To involve the intellectually aware, creative student in the study in depth of some phase of English studies through independent research. Each student will work closely with his instructor; he will be guided in research techniques, organizing bibliography in the specific area, and preparing drafts of his honors paper. Prerequisite: B or higher average in previous English courses taken, and the recommendation of an instructor in the English Department.

ENG 71 A Survey of Post-Biblical Hebrew and Yiddish Literature 3 rec 3 cr
Literature of various genres by Jewish writers. Consideration of the historical and social milieu which produced this literature; study of techniques and subjects of various Jewish writers. Readings include works of Ibn Gabirol, Halevi, Singer, Aleichem, Peretz, Asch, Agnon, Bialik, and samplings from Talmudic, Midrashic, and Kabbalistic literature. Written themes on relevant topics are assigned. All literature studied is in English. Prerequisite: ENG 13.

ENG 72 The Bible as Literature 3 rec 3 cr
Study of the prime Biblical narratives as well as chief poetic and wisdom sections of both Old and New Testaments, including the Apocrypha. Biblical texts to be read in English; short themes on both texts and their scholarly critiques. Prerequisite: ENG 13.

ENG 73 Introduction to Jewish Folklore 3 rec 3 cr
The Biblical exegetes, Agadah, and Midrashic literature; mores and folkways of Jewish life in the "pale" and the development of such literature as the stories of Chelm and Sholem Aleichem. Analysis of modern American and Israeli literature and effect of Jewish folklore on such writers as Malamud, Roth, Agnon, Singer. All works studied are in English or English translation. Prerequisite: ENG 13.

ENG 81 Oriental Thought in Western Literature 3 rec
Investigation of the ways in which Western writers, including Emerson, Thoreau, Whitman, Hesse, Ginsberg and Snyder, have incorporated Oriental thought in their works. Comparison of Oriental and Western thought. Readings in literature of India, China and Japan; attendance at museums, films, concerts and dance performances. Prerequisite: ENG 13.
A medical examination is required every two years on the College Medical Form, which can be secured in any of the Health Service offices. Students unable to participate in any activity course for medical reasons must make an appointment to see the College nurse upon admission to the College.

PEA 11 Elementary Gymnastics 2 rec 1 cr and Body Conditioning (Coeducational)
Introductory gymnastic and body conditioning course designed to apprise students of their present level of fitness and to provide opportunities for self-improvement, using resistance exercises and elementary gymnastic skills.

PEA 12 Elementary 2 rec 1 cr Hatha Yoga
Progressive exercises designed to improve flexibility, develop efficient breathing and apply relaxation techniques. History of yoga, physiological benefits, nutritional aspects and body awareness are interwoven to emphasize the integral nature of body and mind.

PEA 13 Fundamentals of 2 rec 1 cr Women's Gymnastics
Basic gymnastic movements and beginning level skills on the apparatus to develop physical fitness in all dimensions, including strength, flexibility, balance, endurance and motor coordination. Focus on aesthetic awareness of the beauty of human motion as a foundation for recreational or competitive pursuits.

EA 21 Beginning Swimmer 2 rec 1 cr Level (Coeducational)
Basic water safety skills and knowledge to make an individual reasonably safe while in, on, or about the water. Registration limited to non-swimmers.
PEA 22 Intermediate Swimmer 2 rec 1 cr Level (Coeducational) Basic elements of good swimming; includes swimming techniques with emphasis upon mastering form and endurance in the front crawl, back crawl, elementary backstroke and deep water survival skills. Prerequisite: PEA 21 or the ability to swim at least 15 yards but no more than 25 yards, using a crawl and/or backstroke, and inability to swim in water over the head.

PEA 23 Swimmer (Coeducational) 2 rec 1 cr Intended for students beyond the intermediate swimming level. Emphasis on mastering form and endurance in crawl, back crawl, breaststroke, butterfly and sidestroke. Also covers competitive techniques of swimming, fundamentals of springboard diving, survival skills, and basic skin diving. Prerequisite: PEA 22 or the ability to swim at least 25 yards, using a crawl stroke and/or backstroke in deep water.

PEA 24 Advanced Lifesaving and Water Safety (Coeducational) 2 rec 1 cr The development of skills and knowledge essential to insure personal safety and to help save the lives of others. American Red Cross Lifesaving Certification. Prerequisite: PEA 23 or the ability to swim 200 yards, employing front crawl, sidestroke, breaststroke and backstroke.

PEA 25 Water Safety 1 lect 2 rec 2 cr Instructor (Coeducational)* Course prepares the student to teach the American Red Cross Water Safety Program. Operation of pool filters, and organization of basic synchronized swimming program. Successful completion of this course qualifies a student for an American Red Cross Water Safety Instructor certificate. Prerequisite: Student must be at least 17 years of age and hold current Red Cross Advanced Lifesaving Certificate.

PEA 26 Synchronized Swimming (Coeducational) 2 rec 1 cr Basic techniques of synchronized swimming; includes modified swimming strokes, fundamental sculling movement, basic stunts, figures, and pattern formations, the understanding and appreciation of music and musical accompaniment leading to formation of a musical routine. Prerequisite: Ability to swim 25 yards.

PEA 27 Basic Skin Diving and Scuba Diving 2 rec 1 cr (Coeducational) Selection, usage, and care of equipment; basic principles of skin diving and scuba diving. Strong emphasis on safety in all aspects of diving. Includes optional open water dive for national certification. Prerequisite: Ability to swim 200 yards continuously without fins, and to stay afloat or tread water for ten minutes without accessories. Students should expect to spend approximately $10 to cover the cost of airfills. All equipment provided by the College.

PEA 31 Fundamentals of Volleyball and Basketball 2 rec 1 cr (Coeducational) Basketball — Basic skills of passing, dribbling, shooting, rebounding, post play, zone defense, zone press and patterns of team play in order to more fully appreciate the game. Volleyball — Fundamentals of passing, serving, spiking, blocking offense and defense.

PEA 32 Golf and Tennis 2 rec 1 cr (Coeducational)** Spring: Tennis — Fundamentals of the forehand stroke, backhand stroke, serve, and gain strategy. Golf — Fundamentals of golf grip, stance, swing, woods, irons, putting, chipping and pitching, rules and golf etiquette.

PEA 33 Tennis 1 (Coeducational) 2 rec 1 cr The development of more intensive techniques in tennis including forehand drive, backhand stroke, volley, lob, overhead smash and chop, and singles and doubles strategy.

PEA 34 Golf 1 (Coeducational) 2 rec 1 cr Grip, stances, swing, woods, irons, chipping, pitching, putting, rules, and etiquette. Students should expect to spend approximately $8 to cover the cost of one required round of golf.

PEA 35 Bowling 1 (Coeducational) 2 rec 1 cr Basic skills, different types of delivery, bowling errors and corrections. Students should expect to spend approximately $1.50 per session to cover the cost of bowling.
PEA 36  Archery and Badminton (Coeducational)
Basic skills of archery and badminton. Archery: shooting fundamentals, type of shooting, rules and regulations. Badminton: fundamental skills of serving, overhead clear, forehand and backhand drive, drop shot, and smash shot; singles and doubles strategy.

PEA 41  Techniques of Modern Dance I (Coeducational)
Basic skills of modern dance; development of physical strength, flexibility, endurance, and freedom of movement. Explorations and improvisations leading to basic choreographic skills and appreciation of dance as a means of self-expression and communication.

PEA 42  Techniques of Modern Dance II (Coeducational)
Advanced beginning and intermediate techniques of movement. Elements of compositional form, and the development and execution of compositional studies. Prerequisite: PEA 41 and/or permission of instructor.

PEA 44  International Folk and American Square Dance (Coeducational)
Explores in-depth skills in international folk and American square dance; develops locomotor skills through dance formations and patterns; designed to foster understanding of other countries through their music and cultural heritage as reflected in their dances.
PFA 46 African, Caribbean 1 lect 2 rec 2 cr and Black Dance Forms (Coeducational)
The study of African and Caribbean dance reflecting the customs and heritage of each; explores transitions and relationships of African dance to Caribbean and other Black dance forms.

PFA 71, Varsity Athletics 1 cr
72, 73 hours arranged
Students may enroll in one or more of the following intercollegiate athletic courses and receive up to three credits for work in such courses. Admission to each course, which is based on tryouts and permission of the instructor, may be used to fulfill the PEA requirement. Students opting to receive credit are required to participate in games, scrimmages, conditioning programs, practices, ongoing individual and team analysis, post-season tournament play, written assignments, team and individual statistics and a final examination. Students who wish to participate without course credit may do so.

Baseball (Men)
Basketball (Men & Women)
Indoor Track & Field (Co-ed)
Outdoor Track & Field (Co-ed)
Soccer (Men)
Softball (Women)
Tennis (Men & Women)
Volleyball (Women)
Wrestling (Men)

PFA 81 Techniques of Self-Defense (Coeducational)
Introduction to the skills and techniques of martial arts; judo, karate, jujitsu and aikido for the purpose of understanding their value for self-defense.

PFA 91 Critical Issues in Health 2 rec 2 cr
Intended to develop and encourage critical judgment in three vital areas of health: mental health, addictions and dependencies, human sexuality. Corequisite: ENG 02 or RDL 02 if required.

HLT 92 Self, Drugs and Alternate Highs* 3 rec 3 cr
Drug use and abuse; influence of environmental factors; exploration of alternate highs: physical activity, relaxation, yoga, martial arts, Tai Chi or dance. Students must become personally involved in alternative modes of stimulating a sense of well-being. Prerequisite: HLT 91.

HLT 93 Human Sexuality 3 rec 3 cr
Consideration of physical, sociological, and psychological aspects of human sexuality with emphasis on development of critical judgment in dealing with ethical controversies. Prerequisite: HLT 91.

HLT 94 Human Nutrition 3 rec 3 cr
Introduction to essentials of nutrition and the relationship of food to the student’s personal goals and life experiences. Students as consumers find their choices and responsibilities emphasized by classroom experiments, self-examination and experiential learning. Weight control, changing food requirements in the life cycle, special diets, food labeling, additives, food economics in relationship to health are included. Prerequisite: HLT 91 and ENG 02 or placement in ENG 13.

HLT 97 Field Work in Community Health Resources 1 sem 5 hrs
Provides students with firsthand knowledge of the community, its health problems and the forces operating on them. It offers a unique opportunity to become involved in solving community problems. Prerequisite: HLT 91 and/or permission of instructor.

REC 95 Program Planning 3 rec 3 cr
and Leadership in Recreation* Survey of community agencies providing recreational opportunities. View of program areas associated with recreation, with attention to the recreation interests and needs of participants. Leadership application and practical knowledge of group situations. Corequisite: ENG 13.

*Offered during Day Session, Spring Semester.
**Offered during Day Session and Saturdays.
HISTORY

Chairman: Professor Samuel D. Ehrenpreis
Professors: N. Bindler, D. Felix, G. Lankevich, J. Ryan, J. Wieczerzak
Associate Professors: V. Bonelli, B. Eisenberg, W. Sokolsky
Assistant Professors: G. Diallo, S. Miranda
Lecturer: J. Gutwirth

GEO 10 An Introduction to Human Geography
Introduces key geographical concepts both cultural and physical. Considers how such geographic factors as location, landforms, climate, soil, and natural resources have shaped cultures and civilizations, and the role played by people in gradually altering their environments through time. Such audiovisual materials as maps, photographs, slides, and films will be used extensively. Corequisite: RDL 02 or ENG 02 if required.

HIS 10 History of the Modern World
Exploration of outstanding political, intellectual, philosophical, social and economic trends, movements and events from mid-19th century to present. Analysis of forces that have shaped the modern world. Corequisite: RDL 02 or ENG 02 if required. HIS 10 is the prerequisite for all other history courses.

HIS 14 Europe in the Middle Ages
Effects of the major ideas, the social and economic changes, as well as political concepts and their impacts upon the society of the West during the Middle Ages. Emphasis on interaction of these aspects within the cultural context of medieval Europe. Prerequisite: HIS 10.

HIS 15 Intellectual and Social History of Modern Europe
Effects of major ideas in Western society from the 18th century in their political and cultural context. The revolutionary dynamic in democracy, romanticism and conservatism, changing situation of religion, role of women in modern society, socialism in 19th and communism in 20th centuries, interaction between philosophy and politics extending from idealism to existentialism, class conflict and social stability, racism and egalitarianism, scientism and irrationalism. Prerequisite: HIS 10.

HIS 21 American History I (1492-1865)
American history from colonial times through the Civil War; special attention to institutions and politics. Recent historical interpretations and examination of historical origins of current problems. Prerequisite: HIS 10.

HIS 22 American History II (1865 to present)
American history since the Civil War, with special attention to intellectual developments; reconstruction; political developments during the Gilded Age and Progressive Era. American involvement in both World Wars and resolution of the clash between isolation and world participation. Prerequisite: HIS 10.

HIS 23 Social and Intellectual History of Modern America
Fundamental concepts of the American experience that permeate our lives today, including puritanism, class consciousness, prejudice, violence, feminism, pragmatism. Prerequisite: HIS 10.

HIS 24 The History of American Foreign Relations
Major developments in foreign relations of the U.S., from the American Revolution to Vietnam, and their domestic and international effects. Emphasis on policies of this century; evolution of the republic into a world power and the consequent tensions and crises. Origins and progress of efforts at international cooperation and peace. Prerequisite: HIS 10.

HIS 25 The Third World and the West: History of Modern Imperialism and Colonialism
Survey of the world scene since 1870, especially in the building of colonial empires in Africa, Asia and Latin America; the rivalries among the imperialistic powers; the relationship of imperialism to World Wars I and II; decline of colonialism; rise of Soviet and Communist Chinese imperialism. Prerequisite: HIS 10.
HIS 27 Modern History of the Far East 3 rec 3 cr
China, Japan and Korea in the modern period; political and cultural institutions; structure of oriental societies; advances of the West and the effect of imperialism; industrialism, agrarian reforms; Communism; problems of the post-World War II period. Prerequisite: HIS 10.

HIS 28 Women: The Historical Perspective 3 rec 3 cr
The changing status of, and attitudes towards women from antiquity to 20th century America. A variety of historical materials are used to assess how women themselves and the image of women have changed. Analysis in historical perspective of feminine achievement and the dynamics of undertakings yet ahead. Prerequisite: HIS 10.

HIS 31 Modern Latin American History 3 rec 3 cr
Historical development of the Latin American area through the 19th and 20th centuries. Prerequisite: HIS 10.

HIS 34 History of Science and Technology 3 rec 3 cr
Major developments in science and technology in the Western world and their impact on man and society. Growth and interaction of science and technology from the dawn of civilization to present day. Prerequisite: HIS 10.

HIS 35 History of Africa 3 rec 3 cr
Multidiscipline approach to a history of Africa; ancient and medieval African societies, the era of slavery, geographic discovery, missionary contact, imperialism and the emergency of modern nationalism; the era of independence. Prerequisite: HIS 10.

HIS 36 The History of Modern Russia 3 rec 3 cr
The history, culture, and economic and social development of Russia in modern times, with some emphasis on Russia’s relations with her neighbors in Eastern Europe. Prerequisite: HIS 10.

HIS 37 Afro-American History 3 rec 3 cr
The African experience; development and abolition of slavery in America, reconstruction after Civil War; migration out of the South; manifold consequences of urban relocation; Black education, church and arts; writing of Black Americans including Frederick Douglass and Franklin Frazier. Prerequisite: HIS 10.

HIS 38 Intellectual History 3 rec 3 cr
An advanced course exploring intellectual contributions of Black Americans from the colonial period to the present. Works of many representative Black Americans will be studied and analyzed in terms of their impact on the historical development of Black America. Prerequisite: HIS 37 or 21 or 22.
HIS 39  History of Puerto Rico and the Caribbean
Political, economic, social and cultural history of Puerto Rico, Cuba, Dominican Republic and Haiti from Spanish discovery to present. Emphasis on Puerto Rican contributions to culture and society of the Caribbean area and the United States. Prerequisite: HIS 10.

HIS 40  Modern History of the Jewish People
Brief introductory survey of ancient Israel, and the Jewish people under Christian and Islamic rule during Middle Ages; concentration on modern Jewish history from era of Enlightenment and the French Revolution through developments of the 20th century (including growth of the Zionist ideal, the Holocaust, and the birth and development of Israel through the Six-Day War of 1967). Prerequisite: HIS 10.

HIS 50  American Urban History
America began as an urban nation, became rural, and is now again predominantly urban. Course examines various American cities, and considers issues that modern communities must surmount to survive this century. Prerequisite: HIS 10.

HIS 51  History of the City of New York
Political, economic and social history of New York City from its Dutch origins to the present; consideration of the City's crucial role in creating modern urban America. Prerequisite: HIS 10.

INDEPENDENT STUDIES

IND 21  Independent Study in a Specific Discipline
For students who wish to pursue a problem of special interest in a specific discipline. Students will devise projects that transcend traditional departmental offerings. Activities to be pursued and outside involvements, if any, are to be arranged in cooperation with the coordinator. Written reports or other evaluative instruments will be required of the student. This course is intended for elective credit only. A maximum number of 6 credits may be earned in either Independent or Inter-disciplinary Study or a combination of both. Prerequisites: ENG 13, the successful completion of 30 college credits with a general cumulative index of 2.0, and 3.0 within the discipline and permission of the department chairperson. Granting of credit for any independent study and/or interdisciplinary study shall require the approval of the chairperson of the appropriate academic department(s).

INT 11  Interdisciplinary Independent Study
Designed for students who wish to participate in an interdisciplinary project of their own planning. Supervised projects and studies combine subject areas. Students will arrange their own activities and/or agency involvements in cooperation with the course coordinator. Seminars and individual conferences included as appropriate. Students are allowed a maximum of 6 credits in either Independent or Inter-disciplinary Study or a combination of both throughout their stay at BCC (30 hours of work = 1 credit). This course is for elective credits only. Prerequisites: ENG 13, the successful completion of 30 college credits with cumulative index of 2.0, and permission of the departmental chairperson. Granting of credit for any independent study and/or interdisciplinary study shall require the approval of the chairperson of the appropriate academic department(s).
MATHEMATICS

Chairman: Professor Erwin Just
Professors: H. Jick, A. Paullay, N. Schaumberger, L. Toralballa
Associate Professors: F. Buianouckas, T. Finnegan, J. Furst, N. Gore, B. Kabak, G. Lieblich, S. Penner
Assistant Professors: M. Bates, M. Bennett, M. Berman, S. Bhalla, S. Friedlander, H. Frisz, M. Glass, G. Glier, P. Klarreich, J. O'Sullivan, J. Rothschild, B. Stein
Instructor: J. Trent
Lecturers: G. Bhalla, S. Forman, S. Greenspan, R. Miller

The zero-level courses are taken for no credit and are remedial or compensatory in nature. They are designed for students who lack the preparation necessary to enter the college-level mathematics courses. MTH 05 and 06 are sequential.

MTH 05 Basic Concepts of Mathematics I
Topics selected from elements of arithmetic, elementary algebra and geometry, including operations with rational numbers, numerical geometry, equations, polynomials, rational algebraic expressions, graphing.

MTH 06 Basic Concepts of Mathematics II
Topics selected from real and complex numbers, function concept, coordinate geometry, linear and quadratic equations, systems of equations, elements of trigonometry, laws of sines and cosines, trig identities. Prerequisite: MTH 05 or two years of high school mathematics consisting of algebra and geometry.

MTH 07 Selected Topics in 11th Year Mathematics
Topics selected from relations and functions, quadratic equations, systems of equations, right triangle, trigonometry, coordinate geometry, radicals.

Any course numbered 12 through 18 is, with some modification, recommended only for those students enrolled in two-year career programs. MTH 12 and MTH 16 are not recommended for transfer curricula, and will not be accepted for credit in the Liberal Arts curricula.

MTH 12 Introduction to Mathematical Thought
3 rec 3 cr
Topics selected from probability, statistics, logic, set theory, geometry, matrices, number system structures. Not acceptable for credit in the Liberal Arts curriculum. Prerequisite: 1 year of elementary algebra or its equivalent; corequisite: ENG 02 or RDL 02 if required.

RDL 02, if required, is a prerequisite for all MTH courses numbered 16 and higher.

MTH 16 Topics in 11th Year Mathematics II
4 rec 3 cr
Topics selected from trigonometric functions, radian measure, vectors, laws of sines and cosines, graphs, ratio, proportion and variation, logarithms. Not recommended for transfer degrees. MTH 16 is not acceptable for credit in Liberal Arts curricula. Prerequisite: Intermediate Algebra or its equivalent.

MTH 17 College Algebra
4 rec 4 cr
Topics selected from determinants and systems of equations, complex numbers, DeMoivre's theorem, theory of equations, exponents, radicals, introduction to analytic geometry and calculus. Prerequisite: Trigonometry or MTH 16.

MTH 18 Introduction to Mathematical Analysis
3 rec 3 cr
Topics selected from function concept, limit concept, differentiation of algebraic functions, differentials, definite integral, anti-derivatives, indefinite integral, limits, differentiation and integration of transcendental functions, applications. Prerequisite: MTH 17 or equivalent.

MTH 21, 22, and 23 are nonsequential courses primarily for Liberal Arts students enrolled in non-science transfer programs. MTH 21 and MTH 22 are recommended for Liberal Arts students and as electives for students in other curricula. MTH 23 is recommended for students in such social sciences as economics, political science, psychology, and sociology.
MTH 21 Survey of Mathematics I
Designed for non-science liberal arts students. Emphasis on key concepts and structure of mathematics. Topics selected from decimal notation, computation in other bases, groups, sets, logic, elementary number theory, development of real number system, analytic geometry, linear programming networks, complex numbers. Prerequisite: Intermediate Algebra or MTH 07.

MTH 22 Survey of Mathematics II
Topics selected from geometry, algebra, graphs, functions, linear programming, game theory, mathematical induction, permutations, combinations, probability, logic, euclidean, non-euclidean, projective, finite, and coordinate geometries, groups, matrices. Prerequisite: MTH 07 or intermediate algebra.

MTH 23 Probability and Statistics
Topics selected from permutations, combinations, probability, sets, finite sample spaces, probabilities as areas, basic statistical concepts, the normal distribution, central limit theorem. Prerequisite: Intermediate Algebra or MTH 07.

MTH 26 Mathematics in the Modern World
For Liberal Arts students with a minimum mathematical background. BASIC computer language; mathematical simulation of problems from diverse fields including water pollution, population studies, political polls, and artificial intelligence; mathematical algorithms and interpretation of graphs. Prerequisite: MTH 21 or 22 or 23.

Recommended for students who receive an A grade in the required previous course and have departmental approval.
# Mathematics Course Sequence

## HIGH SCHOOL PREPARATION

To the Student: To assist in the selection of courses in Mathematics, find your professional or vocational objective (left column); look under high school preparation (A, B, C, or D).

<table>
<thead>
<tr>
<th>Student's Professional or Vocational Objective</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BUSINESS CAREER</strong></td>
<td>MTH 12</td>
<td>MTH 12</td>
<td>MTH 16</td>
<td>MTH 30</td>
</tr>
<tr>
<td><strong>DATA PROCESSING</strong></td>
<td>MTH 12</td>
<td>MTH 12</td>
<td>MTH 21</td>
<td>MTH 21</td>
</tr>
<tr>
<td><strong>ELECTRICAL TECHNOLOGY</strong></td>
<td>MTH 05, 07, 16, 17, 18</td>
<td>MTH 07, 16, 17, 18</td>
<td>MTH 16, 17, 18</td>
<td>MTH 17, 18</td>
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<tr>
<td><strong>MECHANICAL TECHNOLOGY</strong></td>
<td>MTH 05, 07, 16, 17</td>
<td>MTH 07, 16, 17</td>
<td>MTH 16, 17</td>
<td>MTH 17, 18</td>
</tr>
<tr>
<td><strong>MED. LAB. TECHNOLOGY</strong></td>
<td>MTH 05, 07, 16, 17</td>
<td>MTH 07, 16, 17</td>
<td>MTH 16, 17</td>
<td>MTH 17, 18</td>
</tr>
<tr>
<td><strong>BUSINESS ADMIN. TRANSFER</strong> (Baruch, Lehman)</td>
<td>MTH 05, 06, 30</td>
<td>MTH 06, 30</td>
<td>MTH 06, 30</td>
<td>MTH 30</td>
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<tr>
<td><strong>BUSINESS EDUCATION TRANSFER</strong> (Hunter)</td>
<td>MTH 05, 07, 21</td>
<td>MTH 07, 21</td>
<td>MTH 21</td>
<td>MTH 21</td>
</tr>
<tr>
<td><strong>CHEMISTRY, BIOLOGY</strong></td>
<td>MTH 05, 06, 30, 31, 32</td>
<td>MTH 06, 30, 31, 32</td>
<td>MTH 06, 30, 31, 32</td>
<td>MTH 30, 31, 32</td>
</tr>
<tr>
<td><strong>MEDICINE, DENTISTRY</strong></td>
<td>MTH 05, 06, 30, 31</td>
<td>MTH 06, 30, 31</td>
<td>MTH 06, 30, 31</td>
<td>MTH 30, 31</td>
</tr>
<tr>
<td><strong>ENGINEERING, MATHEMATICS, PHYSICS, COMPUTER SCIENCE</strong></td>
<td>MTH 05, 06, 30, 31, 32, 33, 34</td>
<td>MTH 06, 30, 31, 32, 33, 34</td>
<td>MTH 06, 30, 31, 32, 33, 34</td>
<td>MTH 30, 31, 32, 33, 34</td>
</tr>
<tr>
<td><strong>ELEM. SCHOOL EDUCATION</strong></td>
<td>MTH 05, 07, 21, 22</td>
<td>MTH 07, 21, 22</td>
<td>MTH 21, 22</td>
<td>MTH 21, 22</td>
</tr>
<tr>
<td><strong>MUSIC</strong></td>
<td>MTH 12</td>
<td>MTH 12</td>
<td>MTH 16</td>
<td>MTH 21</td>
</tr>
<tr>
<td><strong>PRE-PHARMACY</strong></td>
<td>MTH 05, 06, 30, 31</td>
<td>MTH 06, 30, 31</td>
<td>MTH 06, 30, 31</td>
<td>MTH 30, 31</td>
</tr>
<tr>
<td><strong>HUMANITIES — SOCIAL SCIENCES, ART</strong></td>
<td>MTH 05, 07, 21, 23</td>
<td>MTH 07, 21, 23</td>
<td>MTH 21, 23</td>
<td>MTH 21, 23</td>
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<tr>
<td><strong>EDUCATION ASSOCIATE</strong></td>
<td>MTH 05, 07, 21</td>
<td>MTH 07, 21</td>
<td>MTH 07, 21</td>
<td>MTH 21</td>
</tr>
<tr>
<td><strong>SECRETARIAL STUDIES</strong></td>
<td>MTH 12</td>
<td>MTH 12</td>
<td>MTH 12</td>
<td>MTH 21</td>
</tr>
<tr>
<td><strong>SECRETARIAL TEACHING</strong></td>
<td>MTH 05, 07, 21</td>
<td>MTH 07, 21</td>
<td>MTH 21</td>
<td>MTH 21</td>
</tr>
</tbody>
</table>

Note: MTH 12 and 16 are not recommended toward transfer degrees, and will not be accepted for credit in the Liberal Arts curricula.
MTH 30 through 35 are designed for students majoring in mathematics, physics, biology, chemistry, engineering science, computer science, medicine, and dentistry; and are recommended for those in other curricula with advanced preparation.

MTH 30 Pre-Calculus Mathematics 4 rec 4 cr
Topics selected from sets, relations, function concept, special functions, rational and irrational functions, binomial theorem, complex numbers, DeMoivre's theorem, trigonometric functions, mathematical induction. Prerequisite: MTH 06 or trigonometry.

MTH 31 Analytic Geometry 6 rec 4 cr
and Calculus I
Limits, rates of change, differentiation and anti-differentiation of algebraic functions, applications, integrals, curve sketching. For Engineering Science students or for Liberal Arts and Sciences students planning to major in mathematics or physical science. Prerequisites: MTH 30 or equivalent.

MTH 32 Analytic Geometry 6 rec 5 cr
and Calculus II
Differentiation and integration of transcendental functions, hyperbolic functions, applications of the definite integral; parametric equations, theorem of mean value, polar coordinates, plane analytic geometry, determinants. Prerequisite: MTH 31.

MTH 33 Analytic Geometry 5 rec 5 cr
and Calculus III
Vectors, applications of vectors to analytic geometry and calculus, partial differentiation, multiple integrals, volumes and surface area, infinite series, applications. Prerequisite: MTH 32.

MTH 34 Differential Equations and Selected Topics in Advanced Calculus 4 rec 4 cr
Methods of solving ordinary differential equations; selected topics from among the following: hyperbolic functions, power series, Fourier series, gamma functions, Bessel functions, problems of motion, electric circuits, damped and forced vibrations, Laplace transform. Prerequisite: MTH 33.

MTH 35 Selected Topics in Advanced Calculus and Linear Algebra 4 rec 4 cr
Matrices, introduction to linear algebra and vector analysis, integral theorems of Gauss, Green and Stokes, applications. Prerequisite or corequisite: MTH 34.

Mathematics courses in the 40 series are required for those students majoring in computer science but may be taken for elective credit by students in Liberal Arts curricula.

MTH 45 Discrete Mathematical Systems 3 rec 3 cr
Topics selected from logic, sets, induction, Boolean algebra, number systems, combinatorial analysis, game theory, number theory, vectors and matrices, special topics in algebra. Prerequisite: MTH 31.
MODERN LANGUAGES

Chairman: Professor John D'Andrea
Professors: D. McCulloch, H. Winterfeldt
Associate Professor: P. Lalli
Assistant Professors: F. DeLuca, L. Gorycki, R. Gourin, A. Lessard, L. Pinto, A. Pomerantz, F. Stabile, S. Wilkofsky
Lecturers: A. Resto, I. Taylor

French

FRN 11 Beginning French I 4 rec 4 cr
A conversation course that will enable the student to understand, read, write and speak simple everyday French. Audio laboratory practice. Corequisite: ENG 02 or RDL 02 if required.

FRN 12 Beginning French II 4 rec 4 cr
Continuation of FRN 11. Prerequisite: FRN 11 or placement test.

FRN 13 Intermediate French 4 rec 4 cr
Continuation of FRN 12. Prerequisite: FRN 12 or placement test.

FRN 15 Beginning French Conversation 4 rec 4 cr
Not offered 1980-82.

FRN 16 Intermediate French Conversation 4 rec 4 cr
Not offered 1980-82.

FRN 21 Language and Civilization of France 4 rec 4 cr
Contemporary French culture and language. Color slides with accompanying tapes in French as well as reading material from modern literary masterpieces serve as basis for comprehension and conversation. Prerequisite: FRN 13 or placement test.

FRN 22 Readings in Modern French 4 rec 4 cr
Not offered 1980-82.

FRN 23 French Renaissance 3 rec 3 cr
Not offered 1980-82.

FRN 24 French Romanticism 3 rec 3 cr
Not offered 1980-82.

German

GER 11 Beginning German I 4 rec 4 cr
Pronunciation; language structure reading and translation of simple texts dictation; conversation. Audio laboratory practice. Corequisite: ENG 02 or RDL 02 if required.

GER 12 Beginning German II 4 rec 4 cr
Continuation of GER 11 with emphasis on conversation. Prerequisite: GER 11 or placement test.

GER 13 Intermediate German 4 rec 4 cr
Advanced language structures; reading; translation and discussion of modern texts; composition; dictation. Emphasis on conversation. Prerequisite: GER 12 or placement test.

GER 21 Language and Civilization of Germany 4 rec 4 cr
Review of language structure; discussion; literary analysis, oral reports and composition based on a text treating historical development of the German people and its literary movements; simplified excerpts from works by 18th-century German authors. Prerequisite: GER 13 or placement test.

GER 22 18th-Century German Literature 4 rec 4 cr
Not offered 1980-82.

GER 23 19th-Century German Literature 3 rec 3 cr
Not offered 1980-82.

GER 24 20th-Century German Literature 3 rec 3 cr
Not offered 1980-82.
### Hebrew

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEB 11</td>
<td>Beginning Hebrew I</td>
<td>4 rec 4 cr</td>
<td>Aim is to familiarize the student with the sounds of the language. Basic structural aspects of Hebrew are covered; simple texts are read, discussed and translated to form the basis for conversation. Dictation to train the student's ear for the new sounds and also to understand the spoken word. Corequisite: ENG 02 or RDL 02 if required.</td>
</tr>
<tr>
<td>HEB 12</td>
<td>Beginning Hebrew II</td>
<td>4 rec 4 cr</td>
<td>Not offered 1980-82.</td>
</tr>
</tbody>
</table>

### Italian

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITL 11</td>
<td>Beginning Italian I</td>
<td>4 rec 4 cr</td>
<td>Pronunciation; language structure; conversation; reading of simple texts; dictation. Audio laboratory practice. Corequisite: ENG 02 or RDL 02 if required.</td>
</tr>
<tr>
<td>ITL 12</td>
<td>Beginning Italian II</td>
<td>4 rec 4 cr</td>
<td>Continuation of ITL 11. Language structure; conversation; reading of elementary literary texts; dictation. Prerequisite: ITL 11 or placement test.</td>
</tr>
<tr>
<td>ITL 13</td>
<td>Intermediate Italian</td>
<td>4 rec 4 cr</td>
<td>Advanced language structures; conversation; reading; translation and discussion of modern texts; composition. Prerequisite: ITL 12 or placement text.</td>
</tr>
<tr>
<td>ITL 15</td>
<td>Beginning Italian Conversation</td>
<td>4 rec 4 cr</td>
<td>Not offered 1980-82.</td>
</tr>
<tr>
<td>ITL 16</td>
<td>Intermediate Italian Conversation</td>
<td>4 rec 4 cr</td>
<td>Not offered 1980-82.</td>
</tr>
<tr>
<td>ITL 21</td>
<td>Language and Civilization of Italy</td>
<td>4 rec 4 cr</td>
<td>Review of language structures; conversation; oral reports; composition and oral analysis of literary texts in Italian. Prerequisite: ITL 13 or placement test.</td>
</tr>
<tr>
<td>ITL 22</td>
<td>Readings in Modern Italian</td>
<td>4 rec 4 cr</td>
<td>Not offered 1980-82.</td>
</tr>
<tr>
<td>ITL 23</td>
<td>Dante's Divina Commedia</td>
<td>3 rec 3 cr</td>
<td>Not offered 1980-82.</td>
</tr>
<tr>
<td>LAN 11</td>
<td>French, German, and Italian Diction</td>
<td>2 rec 2 cr</td>
<td>Not offered 1980-82.</td>
</tr>
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</table>
**Modern Language Requirements**

<table>
<thead>
<tr>
<th>High School Language</th>
<th>Placement Results</th>
<th>A.A. Degree</th>
<th>A.A. Degree History Option</th>
<th>Black &amp; Puerto Rican Studies A.A. Degree Art, Psych. Option</th>
<th>A.S. Degree Math., Chem., Bio., Physics Option</th>
<th>Credit</th>
<th>Credit</th>
<th>Credit</th>
<th>Credit</th>
<th>Credit</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>Student elects to continue language studied in high school</td>
<td>3 Years</td>
<td>21 or above</td>
<td>21 or above</td>
<td>No requirement</td>
<td>No requirement</td>
<td>No requirement</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>12, 13</td>
<td>11, 12, 13</td>
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<td></td>
<td>13</td>
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**Course Descriptions**

108
LIBERAL ARTS AND SCIENCES CURRICULA

Students who have completed four years of one language or three years of one language and one year of another in high school are exempt from placement examinations and/or further requirement. These students may, however, take a modern language for elective credit.

All Liberal Arts students (A.A. and A.A. History Option) who have completed three years of language in high school must take placement examinations and demonstrate third year proficiency in order to satisfy the language requirement. History Option requires three semesters of language.

All students in A.S. Options, Music and Business Transfer curricula who have two years of high school language must take a placement test and qualify for Language 13 in order to fulfill the language requirements of their curriculum.

All other Liberal Arts students (A.A. Options except History; A.S. and A.S. Options) who have completed two years of language in high school must take placement examinations and qualify for Language 13 in order to satisfy the language requirement.

History Option requires three semesters of language.

Students must elect a sequence — 11, 12, 13 or 15, 16, 17 (Conversational Language). Hunter, Lehman and City College will not accept 15, 16, 17 to fulfill the core requirement in language.

At the present time, conversational language is accepted only by Baruch to meet both core requirement and elective credit. All units of City University, of course, grant elective credit for the conversational courses.

Students who enter BCC with the language requirement fulfilled may enroll in 15, 16 or 17 for elective credit.

Potential language majors should not take 15, 16, 17.

It is strongly recommended that students in A.S. and A.A. Options complete courses through Language 13.

Students who place at the level of 21 or above are exempt from further language requirement. Such students, however, are strongly advised to consult the requirements of the senior college to which they wish to transfer.

BUSINESS CURRICULA

Although the requirement for Business Teaching is shown for the 11, 12 sequence, because some senior colleges recommend conversational language, it is essential that the specific requirements of the college to which the student wishes to transfer be determined before the student elects the 11, 12 sequence.

Business Administration and Business Teaching students who have completed three years in high school do not have to take placement examinations and have no further requirement. Business Administration students with one or two years of high school language also do not need placement examinations, but are required to take Language 15 and 16 or 11 and 12.

All Foreign Language courses at BCC carry college credit.
Russian

RUS 11 Beginning Russian I 4 rec 4 cr
RUS 12 Beginning Russian II 4 rec 4 cr
RUS 13 Intermediate Russian 4 rec 4 cr
RUS 21 College Russian I 4 rec 4 cr

Not offered 1980-82.

Spanish

SPN 11 Beginning Spanish I 4 rec 4 cr
Pronunciation; language structure; conversation and reading of simple texts; dictation. Audio laboratory practice. Corequisite: ENG 02 or RDL 02 if required.

SPN 12 Beginning Spanish II 4 rec 4 cr
Continuation of SPN 11. Language structure; conversation; reading of elementary literary texts; dictation. Prerequisite: SPN 11 or placement test.

SPN 13 Intermediate Spanish 4 rec 4 cr
Advanced language structures; conversation; reading, translation and discussion of modern texts; composition. Prerequisite: SPN 12 or placement test.

SPN 15 Beginning Spanish Conversation 4 rec 4 cr
Intensive conversation course emphasizing practical and realistic situations including the business, community and civil service areas. Use of Audio lab required. (For non-Spanish speaking students.)

SPN 16 Intermediate Spanish Conversation 4 rec 4 cr
Continuation of SPN 15. Conversation based on social and work situations. Use of Audio lab required. Prerequisite: SPN 15 or placement test.

SPN 17 Advanced Spanish Conversation 4 rec 4 cr
Continuation of SPN 16. Students participate in dialogues and conversations related to contemporary problems and everyday situations to improve conversational skill. Course conducted in Spanish. Prerequisite: SPN 13 or 16 or placement test.

SPN 18 Elementary Spanish for Nurses and Hospital Personnel I (formerly SPN 41) 4 rec 4 cr
Basic Spanish pronunciation, intonation and sentence structure; relevant medical terminology; idiomatic and colloquial expressions. Model dialogues on taking medical history; routine medical examination; diet and nutrition; nursing care; treatment instructions; pediatrics; cardiology; and others. Additional vocabulary according to the student's interests and field of medical specialization. Intended for non-Spanish-speaking students.

SPN 19 Elementary Spanish for Nurses and Hospital Personnel II (formerly SPN 42) 4 rec 4 cr
Review and continuation at a higher level of pronunciation, speaking and understanding. Additional vocabulary in new medical situations, such as admissions, X-rays, and pregnancy. Prerequisite: SPN 18 or placement test.

SPN 20 Advanced Spanish Composition and Creative Writing 3 rec 3 cr
Style illustrations with literary texts, text analysis, reading for comprehension, paragraph construction, imitation of models, expository writing, translation of literary texts, thematic discussions, stylistic discussions, written reports on research. Prerequisite: SPN 13 or 17 or placement.

SPN 21 Spanish Language and Culture 4 rec 4 cr
A literary and historical study of Spanish culture; develops basic language skills. Class discussions on social, historical and artistic values of Spain, past and present. Course conducted in Spanish. Prerequisite: SPN 13 or 17 or placement test.

SPN 22 Latin-American Language and Culture 4 rec 4 cr
Readings in Latin-American literature. Representative texts on Latin-American and Caribbean culture, civilization, history and tradition. Conversation; literary analysis and interpretation. Course conducted in Spanish. Prerequisite: SPN 13 or 17 or placement test.
SPN 23 19th-Century Spanish Literature: Romanticism and Realism
Literary analysis of selections from representative Spanish authors. Oral discussion and reports. Outside readings to be assigned. Course conducted in Spanish. Prerequisite: SPN 13 or 17 or placement test.

SPN 24 Don Quijote and Other Cervantes Masterpieces
Reading, discussion, analysis and written reports on selections from the original text. Selections from Cervantes' Novelas Ejemplares. Course conducted in Spanish. Prerequisite: SPN 13 or 17 or placement test.

SPN 25 Generation of '98 Literary analysis of selections from the principal writers of the movement. Reading, discussion, oral and written reports. Course conducted in Spanish. Prerequisite: SPN 13 or 17 or placement test.

SPN 30 Puerto Rican Literature and Culture I
Survey of Puerto Rican history, culture and literature to 1880. Reading, discussion, oral and written reports based on representative Puerto Rican authors. Course conducted in Spanish. Prerequisite: SPN 13 or 17 or placement test.

SPN 31 Puerto Rican Literature and Culture II
Continuation of SPN 30. Survey of Puerto Rican history, culture and literature from 1880 to the present. Reading, discussion, oral and written reports based on representative Puerto Rican authors. Course is conducted in Spanish. Prerequisite: SPN 13 or 17 or placement test.

MUSIC AND ART
Chairman: Associate Professor John Hamell
Professors: P. Rosenfeld, M. Salzberg, L. Simon
Associate Professors: R. Bass, V. Capers, P. Schira
Assistant Professors: N. Canton, R. Cordray, J. D'Angelo, S. Eversole
Lecturers: E. Kissel, J. Magaziner, F. Sharpe

Music or Art requirements for all curricula may be satisfied by any course or combination of courses in Art and/or Music for which the student is qualified. Students planning to transfer to a four-year college should check with that institution to see which courses are acceptable for transfer credit.

Art

ART 10 Art Survey 2 rec 1 cr
Survey of art in selected historical periods of Western civilization. Note: Not open to students taking ART 11 or ART 12. Corequisite: ENG 02 or RDL 02 if required.

ART 11 Introduction to Art 3 rec 3 cr
Survey of our artistic heritage from the classical period of Western civilization to modern art. Discussion of social and philosophical influences. Creative studio experiences are encouraged. Art museum visits. Corequisite: ENG 02 or RDL 02 if required.

ART 12 Introduction to Western and Non-Western Cultures
African, pre-Columbian and Oceanian; their relationship to the art of our Western world. Creative studio experiences are encouraged. Museum visits. (May be taken to fulfill ART 11 requirement.) Corequisite: ENG 02 or RDL 02 if required.

ART 15 Design 4 rec 2 cr
Fundamentals of two- and three-dimensional design as applied to different art forms. Art museum visits.

ART 21 Drawing and Painting I 4 rec 2 cr
Development of basic skills in drawing and painting. Use of such media as crayon, charcoal, pen-and-ink, tempera, watercolor, acrylics and oil. Art museum visits.

ART 22 Drawing and Painting II 4 rec 2 cr
Continuation of ART 21. Emphasis on painting in oil or acrylic.
ART 31  Graphic Arts I  4 rec 2 cr
Printmaking techniques of linoleum, woodcut and etching. Encouragement of individual experimentation in selected graphic media. Art museum visits.

ART 32  Graphic Arts II  4 rec 2 cr
Continuation of ART 31, including the exploration of silkscreen techniques.

ART 41  Ceramics I  4 rec 2 cr

ART 42  Ceramics II  4 rec 2 cr
Continuation of ART 41. Emphasis on mastering potter's wheel.

ART 51  Art of Africa and North America  3 rec 3 cr
Exploration of the art forms of West, Central and East Africa, as well as those of the Eskimo and of the North American Indian. Discussion of impact of these cultures on the development of modern art, with attention to the humanistic traditions involved. Art museum visits. Corequisite: ENG 02 or RDL 02 if required.

ART 52  Oriental Art  3 rec 3 cr
Emphasis on art of China and Japan from prehistoric periods through the great Buddhist and dynastic styles in architecture, sculpture, pottery, painting and calligraphy. Studio practice in techniques of Chinese painting. Art museum visits. Corequisite: ENG 02 or RDL 02 if required.

ART 55  Modern ART  3 rec 3 cr
European and American painting from Impressionism to the present. Development of architecture and sculpture during the same periods. Art museum visits. Corequisite: ENG 02 or RDL 02 if required.

ART 61  Art as a Human Value  2 rec 2 cr
Not offered 1980-82.

ART 71  Photography I  4 rec 2 cr
Basic photographic techniques as a creative medium; emphasis on composition and lighting; developing, printing and enlarging. Students provide their own cameras.

ART 72  Photography II  4 rec 2 cr
Continuation of ART 71. More creative experimentation through studio and field assignments. Photographic exhibitions. Prerequisite: ART 71 or permission of instructor.

ART 80  Introduction to Commercial Art  4 rec 2 cr
Introduction to art requirements of advertising, publishing, merchandising, training and education, business and industry, theatre, television and motion pictures, fundamental requirements of all commercial art with emphasis on the use of communicating forms in mass media.

ART 81  Media and Communication Art  4 rec 2 cr
Introduction to skills and techniques used in commercial art: composition and layout, lettering and typography, mechanicals and paste-ups, reproduction methods, style and techniques for rough and comprehensive layouts, use of photography and photo-reproductions, finished art and illustrations. Prerequisite: ART 80 or permission of the instructor.
MUS 10 Music Survey 2 rec 1 cr
Introduction to the vast symphonic and chamber music literature; opera from Baroque to the contemporary period. Attendance at live concerts required. Not open to students taking MUS 11 or MUS 12. Corequisite: ENG 02 or RDL 02 if required.

MUS 11 Introduction to Music 3 rec 3 cr
Nature of music expression; elements of music, including tempo, meter, rhythm, melodic and harmonic material and structure, tone color, texture, structure examined in instrumental and vocal "forms." History of development of musical styles and forms. Audio laboratory listening assignments. Attendance at live concerts required. Corequisite: ENG 02 or RDL 02 if required.

MUS 12 Introduction to Music, with emphasis on Non-Western Cultures 3 rec 3 cr
Nature of music expression; elements of music, including tempo, meter, rhythm, melodic and harmonic material and structure, tone color, structure examined in instrumental and vocal "forms"; examples drawn from non-western cultures. Audio laboratory listening assignments. Attendance at live concerts required. (May be taken in fulfillment of MUS 11 requirement.) Corequisite: ENG 02 or RDL 02 if required.

MUS 15 Twentieth-Century Music 3 rec 3 cr
Not offered 1980-82.

MUS 16 Introduction to Folk Music of the Americas 2 rec 2 cr
Not offered 1980-82.

MUS 17 Songwriting 3 rec 2 cr
Classroom instruction in songwriting stressing the development of individual talent and ability through analysis, listening, ear training, keyboard awareness, creative writing and performance. Prerequisite: MUS 40 or Theory Placement Examination within the department.

MUS 18 Introduction to Jazz 3 rec 2 cr
Study of jazz, its history and influence on 20th-century American culture. Outside readings; audio laboratory work and attendance at live concerts required. Corequisite: ENG 02 or RDL 02 if required.

MUS 19 Introduction to Jazz Improvisation 2 rec 2 cr
Development of the skills of improvisation and stylization necessary to this form of music. Ear training and sight-reading; listening and analysis of music; evaluation of individual performances. Open to singers and instrumentalists. Prerequisite: Placement examination given by the department.

MUS 21 Choral Performance 3 rec 1 cr each
The study and presentation of standard and contemporary choral literature for mixed voices. Choral training and performances at concerts, college ceremonies and functions. Registration only with permission of department.

MUS 25 Voice Class 2 rec 1 cr
Classroom vocal instruction stressing individual skills, proper tone production, breath control, diction, musician-ship, style, interpretation and performance.

MUS 31 Orchestral Performance 3 rec 1 cr each
The study and presentation of standard and contemporary orchestral literature. Orchestral training and performance at concerts, college ceremonies and functions. Registration only with permission of department.

MUS 37 Instrumental Class 1 rec 1 cr
Instruction in the Recorder
Basic instruction in playing a musical instrument, the recorder, for both solo and group use. No previous musical training necessary.

MUS 40 Fundamentals of Music 2 rec 2 cr
Basic reading skills, including treble and bass clefs, key signatures, major and minor scales, some elementary sight reading techniques, rhythms, simple harmony.

MUS 41 Theory I 3 rec 2 cr
Introduction to chord construction and movement. Analysis of two-voice writing. Prerequisite: MUS 40 or permission of department.

MUS 42 Theory II 3 rec 2 cr
Introduction to diatonic four-part harmony. Chordal movement and realization of figured basses. Analysis of compositions from traditional literature. Prerequisite: MUS 41.
MUS 43 Theory III 3 rec 2 cr
Continuation of the study of diatonic harmony. Introduction to seventh chords and the secondary dominant. Practice of simple modulation. Harmonization of melodies and basses; realization of figured basses. Prerequisite: MUS 42.

MUS 44 Theory IV 3 rec 2 cr
Study of chromatic harmony including use of augmented sixth chords. Modulation through chromaticism. Harmonization of melodies and basses; realization of figured basses. Prerequisite: MUS 43.

MUS 51 Ear Training I 2 rec 1 cr
MUS 52 Ear Training II 2 rec 1 cr
Development of ability to sing melodies at sight and to notate melodies and chords. Elementary sight singing and dictation. Prerequisite: For MUS 51: MUS 40 or permission of department; for MUS 52: MUS 51.

MUS 53 Ear Training III 2 rec 1 cr
MUS 54 Ear Training IV 2 rec 1 cr
Continuation of Ear Training I and II. Prerequisite: For MUS 53: MUS 52; for MUS 54: MUS 53.

MUS 61 Keyboard I 2 rec 1 cr
MUS 62 Keyboard II 2 rec 1 cr
Development of keyboard skills through study of intervals, diatonic and chromatic progressions, harmonicization of melodies, and realization of figured basses. Non-Music majors may register only with permission of department. Prerequisites: Ability to read music; for MUS 61: MUS 72 or permission of department; for MUS 62: MUS 61.

MUS 65 Beginning String Class I 2 rec 1 cr
Basic classroom instruction in guitar and electric bass, or bowed string instruments (violin, viola, cello, double bass). Course designed especially for beginners. Students must provide their own instrument or rent one through the College.

MUS 66 String Class II 2 rec 1 cr
Continuation of classroom instruction in guitar and electric bass, or bowed string instruments. (Violin, viola, cello, double bass). Prerequisite: MUS 65 or permission of instructor.

MUS 67 Beginning Brass Class 2 rec 1 cr
Not offered 1980-82.

MUS 70 Piano Class for Beginners 2 rec 1 cr
Introduction to basic piano techniques, harmonization and transposition of simple melodies, sight-reading at the keyboard, simple accompanying techniques for folk songs, easy piano literature from all stylistic eras. Practice facilities available.

MUS 71 Secondary Piano I 2 rec 1 cr
MUS 72 Secondary Piano II 2 rec 1 cr
Class instruction to attain an elementary facility at the piano. Taken by all Music majors except pianists. Registration only with permission of department. Prerequisite for MUS 71: MUS 40 or placement examination; for MUS 72: MUS 71.

MUS 81 Recital Performance 2 rec 1 cr
Study and performance of standard and contemporary music emphasizing recital techniques. Registration only with permission of department.

MUS 83, 84, 85, 86 Instruction I, II, III, IV 2 cr
Private instruction in a major instrument, voice, or composition. Registration only with permission of department. Open only to Music majors. Prerequisite for MUS 84: a grade of C or higher in MUS 83; for MUS 85: a grade of C or higher in MUS 84; for MUS 86: a grade of C or higher in MUS 85.

MUS 91 Instrumental Ensemble I 2 rec 1 cr
MUS 92 Instrumental Ensemble II 2 rec 1 cr
(Latin-Jazz Ensemble)
Study and performance of standard and contemporary chamber music. Taken by all instrumentalists. Prerequisite for MUS 91: permission of instructor.

MUS 95 Chamber Chorus I 2 rec 1 cr
MUS 96 Chamber Chorus II 2 rec 1 cr
Study and performance of standard and contemporary chamber choral music. Taken by all vocalists. Prerequisite for MUS 95: permission of instructor.
NURSING*

Chairperson: Professor Alice P. Fuller
Professors: J. Gardiner, A. Gotta, A. Jackson, V. Katz, A. Levey, A. Pitman
Associate Professors: D. Darby, C. Lofstedt, R. Tate, M. Walsh
Lecturer: R. Morowitz

Admission to all Nursing courses is based on the approved priority list which is on file in the Nursing Department.

NUR 31 The Essential Process of Nursing: Interaction**
The nurse's interaction with the healthy and the sick. Covers interpersonal development and physical growth and development from infancy to old age, communication, the helping process, effects of illness on interpersonal behavior and communications, and the inquiry process (including general assessment of client characteristics). Extensive use of small groups and labs; limited use of clinical facilities, most of which occur in the latter part of the course. Prerequisites: ENG 13, PHY 11, CMS 11, BIO 23; corequisites: BIO 24, MTH 12 or CHM 14.

NUR 32 Major Health Problems and Clinical Nursing Activities I (Relatedness) **
Focuses on understanding the nurse needs in order to function effectively with clients who have major problems in the area of mental health, prenatal care and care of the aged. Prerequisites: NUR 31, MTH 12 or CHM 14; corequisite: NUR 33.

NUR 33 Foundations of Nursing Skills/Critical Situations**
Provides background knowledge of common acute life-threatening health problems, then focuses on general assessment skills in terms of client's functional abilities, assessment skills in critical and/or emergency nursing situations, and intervention skills in specified emergency situations. Designed to develop competency in assessment and comfort in meeting emergency needs to enable the nurse to ascertain better the more comprehensive needs of clients (which are the focus of the later nursing courses). Prerequisites: NUR 31, MTH 12 or CHM 14, BIO 24; corequisites: NUR 32, BIO 28.

NUR 34 Major Health Problems and Clinical Nursing Activities II (Long-Term Problems — Motor and Neurological)**
Major health problems in our society are organized in relation to the necessary activities and regulatory needs of people. Focus is on nursing care of clients with surgical, mobility and neurological problems. Prerequisites: NUR 32, NUR 33, BIO 28.
NUR 35 Major Health Problems 2 lect 6 clin and Clinical Nursing 4 cr Activities III (Reproduction and the Young Family)**
Organized around families and their development especially during the reproductive cycle. Focus is on the nurse's responsibility in meeting and promoting health needs in beginning and expanding families, in community health agencies, clinics and hospitals. Prerequisites: NUR 32, NUR 33, corequisite: NUR 34.

NUR 36 Major Health Problems: 2 lect 6 clin Medical and Surgical Problems of Adults and Children 4 cr Focuses on certain major health problems related to activities and regulatory needs of people of all ages. Categories of a Medical-Surgical nature include intrinsic and extrinsic chemical balance, circulation, oxygenation, nutrition and cell growth, intact skin and elimination. Clinical practice includes hospitalized children and adults. Prerequisites: NUR 34, NUR 35, corequisite: NUR 36.

NUR 37 Clinical Nursing 2 lect 6 clin Activities: Medical and Surgical Problems of Adults and Children 4 cr Focuses on clinical nursing activities designed to meet needs of clients of all ages with major health problems. Emphasis on the nurse's role in assessment and restorative functions. Clinical practice includes hospitalized children and adults. Prerequisites: NUR 34, NUR 35, corequisite: NUR 36.

NUR 38 Management in 2 lect 6 clin 4 cr Nursing, Health Promotion**
Health agency-based learning experience designed to help students learn nursing team membership roles, functions, evaluation, peer review, shared leadership, and delegation; nursing management of small groups of clients; standards, policies and legislation; teaching-learning responsibilities; participation with health teams. NUR 38 must be taken in the final semester. All nursing curriculum requirements must be completed or be in the process of completion by the end of the semester in which NUR 38 is taken. Students must have a 1.95 G.P.A. to enter the final semester of Nursing.

PHM 10 Pharmacology Computations 1 rec 1 cr Symbols, weights and measures, equipment, metric and apothecary systems, preparation of solutions, intravenous fluid administration of drugs and computation of dosages required of nursing personnel. Computer Center modules are an integral adjunct to the course. Prerequisite: MTH 05; also available to R.N., P.N. and pre-pharmacy students.

PHM 11 Pharmacology as it Applies 3 rec 3 cr to Health Sciences Current major drugs utilized in nursing today; need, action, mode of administration, side effects, toxicity, normal range of dosage, drug interactions and contraindications; nursing implications and patient teaching are stressed. Prerequisite: Students need to complete all remediation for admission to nursing; also available to R.N., P.N., pre-pharmacy and health workers authorized to administer medications.

*Courses in Nursing are open only to students with full matriculation status in the Nursing Curriculum.
**The minimum acceptable grade in each semester in the Nursing major is C. Grades of D must be repeated if the student wishes to receive a degree in Nursing. Grades of D may be repeated subject to the following conditions:
1. The course must be repeated before the next higher level course is taken.
2. Both grades received in the same course will be used to calculate the student's cumulative index.
3. The credit for the course may be applied only once toward graduation.
4. Effective Spring 1980, a Nursing student may only attempt (registered in the course for at least 3 weeks, appeared on the roster and received a grade on the roster sheet) a given Nursing course twice, e.g., grades of D and W in NUR 31, no further attempt may be made.
5. Effective Spring 1980, a Nursing student may only repeat two different Nursing courses, e.g., grades of D and C in NUR 31, grades of D and C in NUR 32, grade of D in NUR 33, no further attempt may be made.
PHYSICS

Chairman: Professor Louis DeAcetis
Professors: K. Pomeranz, J. Prince
Associate Professors: D. Sacher, M. Todorovich, E. Weiss
Assistant Professor: R. Gorman

Astronomy

AST 11 Astronomy and Space Science
1 lect 2 rec 3 cr
Elementary study of the solar system, stellar populations, structure of the universe, and other aspects of modern astronomy. Prerequisites: Elementary Algebra or MTH 05, or permission of the department, and RDL 02 if required; corequisite: ENG 02 if required.

AST 12 Astronomy and Space Science
1 lect 2 rec 2 lab 4 cr
Same as AST 11, but includes additional two-hour laboratory. Students who have received credit for AST 11 cannot receive credit for AST 12. Prerequisite and corequisite: Same as AST 11.

AST 21 Intermediate Astronomy
2 lect 1 rec 3 cr
Continuation of Astronomy 11 or 12; more detailed study of astronomical coordinate systems, stellar population, black holes, Hertzsprung-Russell diagrams, eclipses, and other topics of interest to amateur astronomers. Prerequisites: AST 11 or 12, and MTH 06 or equivalent.

Physics

PHY 01 Introduction to College Physics
4 rec 0 cr
Fundamental laws and principles of classical physics; vectors, Newton's Laws, conservation principles, laws of thermodynamics. (Required for Engineering Science and Physics majors who have not had high school physics.) Corequisites: MTH 06 or equivalent, RDL 02 if required.

PHY 11 College Physics I
2 lab 4 cr
Introduction to basic principles and methods of physics. Topics include mechanics, heat and molecular forces, vibrations, wave motion, and electromagnetic theory. Prerequisite: Intermediate Algebra or MTH 06. Corequisite: ENG 02 or RDL 02 if required.

PHY 12 College Physics II*
2 lab 4 cr
Special and general relativity, quantum theory, selected topics in modern atomic and nuclear physics. Prerequisite: PHY 11.

PHY 15 Ideas of Contemporary Physics
3 rec 2 lab 4 cr
Not offered 1980-82.

PHY 16 Ideas of the Life Sciences
3 rec 2 lab 4 cr
Introduction to the concepts, procedures and techniques of physics as applied to the health science professions. Topics include motion of bodies, energy, machines, temperature, electricity, sound, light, and the structure of matter; operating principles of various medical and nursing devices. Intended for those students who do not plan to take more than 4 credits in physics. Prerequisite: MTH 05; corequisite: ENG 02 or RDL 02 if required.

PHY 21 Physics for Engineering Technology I
2 lab 4 cr
Statics, kinematics, dynamics, work and energy, circular motion, and simple harmonic motion with special applications to problems in technology. Prerequisite: Intermediate Algebra or MTH 06; corequisite: ENG 02 or RDL 02 if required.
PHY 22 Physics for Engineering 1 lec 1 rec
Technology II 2 lab 3 cr
Fluid dynamics, thermodynamics, electricity and magnetism, optics, applied nuclear technology. Prerequisite: PHY 21.

PHY 24 Technical Physics 3 rec 3 lab 4 cr
Not offered 1980-82.

PHY 31 Physics I 2 lec 2 rec 2 lab 4 cr
Statics and dynamics of particles and rigid bodies; force and motion; energy and momentum; rotational motion; elasticity and simple harmonic motion. First semester of a three-semester sequence for students in Engineering or Computer Science (PHY 31, 32, and 33). Also recommended for Science or Mathematics majors in a Liberal Arts and Sciences transfer program. Corequisite: MTH 31 and ENG 02 and RDL 02 if required.

PHY 32 Physics II 2 lec 2 rec 2 lab 4 cr
Hydrostatics and hydrodynamics; properties of gases; thermodynamics and kinetic theory of matter; wave motion; sound; electrostatics. Prerequisite: PHY 31; corequisite: MTH 32.

PHY 33 Physics III** 3 lec 2 rec 3 lab/alt wks 4 cr
Electromagnetic theory; direct and alternating currents; electromagnetic waves; geometrical and physical optics; modern physics. Prerequisite: PHY 32; corequisite: MTH 33.

PHY 34 Engineering Mechanics 1 lec 3 rec 4 cr
Principles of mechanics and development of logical procedures of analysis in problem solving. Statics and kinematics of rigid bodies, dynamics of particles and rigid bodies, and mechanical vibrations. Prerequisites or corequisites: PHY 33; MTH 33.

PHY 40 Physics of Photography and Optics 2 rec 2 lab 3 cr
The physical nature of light, optics, and photochemistry are discussed to acquaint students with principles of photography and optics. Access to a camera with a variable shutter, diaphragm and interchangeable optical systems is provided. Prerequisite: MTH 05; corequisite: ENG 02 or RDL 02 if required.

PHY 41 Electricity 2 lec 2 rec 3 cr
and Magnetism
Electrostatics and magnetostatics; Maxwell's equations; basic principles of stationary and moving electric and magnetic fields and their effect on charged particles. (Recommended for students planning to major in Electrical Engineering or Physics.) Prerequisites: PHY 33, MTH 33; corequisite: MTH 34.

PHY 51 Atomic and Nuclear Physics 2 rec 2 lab 3 cr
Deflection of charged particles by electric and magnetic fields; special relativity; Bohr model of the atom; quantum numbers; radioactive decay schemes; detection and measurement of radiation; uses of radioisotopes. (Recommended for students planning to major in Mechanical Engineering; Civil Engineering, Chemistry or Physics.) Prerequisite: PHY 33.

PHY 61 Computer Methods 2 lec 2 rec 3 cr
and Programming for Applied Scientific Purposes
Algorithms; introduction to computer systems and computer logic; programming languages (e.g., FORTRAN); data representation; computer solutions to problems in Engineering Science, Physics, and Mathematics, using numerical methods to include numerical integration, numerical differentiation, method of least squares; random number generation and probability. Required for students in Engineering or Computer Science. Prerequisites: MTH 18 or MTH 31 and one semester of college physics, or permission of the department.

RAD 71 Radiation Physics 2 rec 2 lab 3 cr
and Dosimetry I
Elements of atomic and nuclear physics; the Geiger counter; resolving time; radioactivity; elements of health-physics; the roentgen. Prerequisite: PHY 22 or permission of the department.

RAD 72 Radiation Physics 2 rec 2 lab 3 cr
and Dosimetry II
Elements of nuclear physics; the conservation laws; the neutrino; alpha, beta and gamma decay; the REM, REP and RAD; calibration of radiation survey meters. Prerequisite: RAD 71.

*Offered during Day Session, Fall Semester; and Evening Session, Spring Semester.
**Offered during Day Session, Spring Semester, and Evening Session, Fall Semester.
SECRETARIAL STUDIES

Chairperson: Professor Kazuye Takei
Professor: B. Ettinger
Associate Professors: D. Bluth, R. Quinn, M. Wise
Instructors: M. Kassab, D. LaBlanc

COM 31 Business Communications 3 rec 3 cr
Effective listening, reading, speaking, and writing in and for business, including composition at the typewriter of memoranda, letters, and reports, research necessary for such writing. Prerequisites: ENG 13 and TYP 12; corequisite: TYP 13.

SEC 34 Medical Office Practice and Management I 1 rec 3 lab 2 cr
Efficient management of offices of physicians, hospitals, and medical laboratories. Cultivation of desirable personal traits and attitudes of the medical office assistant. Office projects include case records, medical reports, special filing systems, and record keeping. Development of skill in the use of transcribing and duplicating machines. Prerequisites for SEC 34: BIO 18, BIO 22; corequisites: COM 31, TYP 13, BIO 46. Prerequisite for SEC 35: SEC 34; corequisites: BIO 47, LAW 45.

SEC 35 Medical Office Practice and Management II 1 rec 3 lab 2 cr
Development of effective written communication skills for the medical secretarial assistant. Composition of medical case records from X-ray reports, laboratory analyses, and doctors' diagnoses; letters and reports to patients, private health agencies and others; editing and rewriting medical reports and manuscripts. Prerequisites: ENG 13 and TYP 12; corequisite: TYP 13.

SEC 37 Medical Office Communication 3 rec 2 cr
Integration of secretarial skills and cultivation of desirable personal traits and attitudes of the executive secretary. Realistic secretarial office assignments, including theory and practice of filing; operation and use of duplicating and transcription machines. Prerequisites: COM 31, SHO 13 or 17, TYP 13; corequisites: SHO 14, 18 or SHO 32.

SEC 41 Secretarial Practice 4 rec 2 cr
School Records and Accounts 2 rec 2 cr
Responsibilities of the school secretary; preparation of accident reports, organization and payroll; records of school personnel, supplies and textbooks; accounts of school monies; school headquarters forms; filing. Corequisite: ENG 02 or RDL 02 if required.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>SEC 47</td>
<td>Educational Problems of School Secretaries I</td>
<td>2 rec 2 cr</td>
<td>Public relations in modern public education; organization of New York City school system according to by-laws, manuals, directives; problems related to mental hygiene, student welfare and public guidance, health and safety; simple methods of research and educational statistics. Corequisite: ENG 02 or RDL 02 if required.</td>
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<tr>
<td>SEC 48</td>
<td>Educational Problems of School Secretaries II</td>
<td>2 rec 2 cr</td>
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Electronic Keyboarding 3 rec 3 cr
Basics of magnetic keyboard technology and operation of electronic keyboarding equipment. Emphasis on preparing high-level production work both in content and design for input into the system and ultimate retrieval. Prerequisite: TYP 13.

WPR 11 Machine Transcription I 5 rec 3 cr
Development of the ability to operate and transcribe simple dictated material from transcription machines in preparation for employment as a machine transcriber. Minimum level of performance is 14 words per minute on mailable copy. Prerequisite: TYP 11; corequisites: TYP 12, ENG 13.

WPR 12 Machine Transcription II 5 rec 3 cr
Development of the ability to transcribe complex dictated material for extended time periods in preparation for employment as a correspondence secretary. Minimum level of performance is 20 words per minute on mailable copy. Prerequisites: TYP 12, WPR 11 or SHO 12 or 16; corequisite: TYP 13.

WPR 21 Word Processing Administration 3 rec 3 cr
Administrative processes involved in the operation of a word processing center. Emphasis on understanding the work flow and multiple tasks required in a word processing center. Prerequisites or corequisites: TYP 13, WPR 11 or SHO 12 or 16.

WPR 22 Word Processing Office Simulation 3 rec 3 cr
Application of the knowledge learned in WPR 21 in a word processing center which simulates an actual business operation. Each student will perform a particular role and experience various positions, thereby learning the total operation of a word processing center and its function in business or professional organizations. Prerequisites: WPR 21, WPR 11 or SHO 12 or 16; corequisites: TYP 14, WPR 12.

ORI 43 Secretarial Senior Orientation 1 rec 0 cr
Orientation
For students in Secretarial curricula. Seminar on continuing education; career planning; survey of employment opportunities and techniques of job seeking.
Economics

ECO 11 Microeconomics 3 rec 3 cr
Study and analysis of economic principles and policies; theory of pricing and distribution under various market conditions. Government intervention in the market and policy problems. Corequisite: ENG 02 or RDL 02 if required.

ECO 12 Macroeconomics 3 rec 3 cr
Study and analysis of factors underlying economic growth and determining the aggregate levels of employment, prices and income. Counter-cyclical measures and international trade relations are examined. Corequisite: ENG 02 or RDL 02 if required.

ECO 15 History of Economic Thought 3 rec 3 cr
Study of evolution of economic ideas basic problems of economics: factor allocation, distribution and growth. Major schools of economic thought (primitive, feudal, classical, marginalist, Keynesian, "Neo-classical synthesis," modern socialism) are emphasized. Prerequisite: ECO 11 or 12, or permission of the instructor.

ECO 31 Economics of Labor 3 rec 3 cr
Study of all labor resources, their utilization, allocation, and compensation; unionism, government regulation, and other factors affecting the labor resource. Corequisite: ENG 02 or RDL 02 if required.

Philosophy

PHIL 11 Introduction to Philosophy 3 rec 3 cr
Fundamental questions of human experience, and basic problems of philosophy; survey of major philosophers, classical and modern. Corequisite: ENG 02 or RDL 02 if required.

PHIL 31 Philosophy, Science and Human Values 3 rec 3 cr
The crisis of values in modern technological cultures. Relationship to values and nature of physical and human sciences. Analysis of major formative movements that have pervaded and characterized contemporary cultures: Positivism, Marxism, Freudianism, Existentialism and Neo-Christianity. Corequisite: ENG 02 or RDL 02 if required.

Political Science

POL 11 American National Government 3 rec 3 cr
Survey of structure and activities of the national government: bases of present political system, pressure groups, political parties, elections, Congress, the President, the Supreme Court, and the protection and deprivation of individual rights. Corequisite: ENG 02 or RDL 02 if required.

POL 31 Comparative Government 3 rec 3 cr
A study of the governments and politics of some important political systems in the modern world, especially those of Great Britain, the Soviet Union and the non-western world. Prerequisite: POL 11.

POL 41 The National Government & Civil Rights since 1954 3 rec 3 cr
Analysis of roles played by the three branches of the national government in enacting and enforcing civil rights laws. Focus on governmental activity concerning Black rights in voting and desegregation of schools from 1954 to the present, and other areas of civil rights concerning Puerto Ricans, Chicanos, and American Indians. Prerequisite: POL 11 or permission.
POL 42  Civil Rights 3 rec 3 cr
Throughout the World
Past and present comparison of governmental civil rights activities throughout the world, including civil rights and color (Blacks, Latins and Indians in the U.S., West Indians in Great Britain, Eastern Jews in Israel, and Blacks in South Africa); civil rights and religion (Catholics and Protestants in Northern Ireland, Moslems and Hindus in India, and Moslems and Jews in Israel); women's rights in various countries. Prerequisite: POL 11 or permission.

POL 51  Urban Politics 3 rec 3 cr
Politics and government of the American city: municipal political institutions, suburban and metropolitan government, relations with the state and federal governments, racial and ethnic politics, planning, crime and the police, public education. Prerequisite: POL 11 or permission of instructor.

POL 61  Solving Social Problems 3 rec 3 cr
Through the Political Process
Practical course showing how to work through existing channels for a more meaningful life. Focus on formal and informal responsibilities of officials in all levels of government. How to solve social problems and use of political channels. Prerequisite: POL 11 or permission.

POL 81  Field Work and Seminar in Political Science 3 rec 6 hrs field work
Supervised field work in local government agencies and in offices of local legislators. Related seminars develop understanding of political and governmental problems of urban communities. Prerequisites: 9 credits in the social sciences, including POL 11, and/or permission of the department.

Psychology

PSY 11  Psychology 3 rec 3 cr
Scientific method in the understanding of human behavior. Introductory study of growth and development, motivation, emotions and mental health, learning, intelligence and personality evaluation. Corequisite: ENG 02 or RDL 02 if required.

PSY 22  Social Psychology 3 rec 3 cr
Introduction to social psychology, focusing upon the nature of aggression and violent behavior; role of social influence in determination of deviant and conformist behavior, attitude change and decision making, affiliation, primary and group relationships, social norms and interrelationship of personality and culture. Prerequisite: PSY 11.
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>PSY 31</td>
<td>Abnormal Psychology</td>
<td>3 rec 3 cr</td>
<td>PSY 11</td>
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<td></td>
<td>Major forms of psychological disorders, such as neuroses, psychoses, psychosomatic disturbances and character disorders; their origin, development and treatment.</td>
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<td>PSY 35</td>
<td>Dynamics of Human Motivation</td>
<td>3 rec 3 cr</td>
<td>PSY 11</td>
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<td>Introduction to complex human motivation; emphasis on interaction of conscious and unconscious motives, inner conflict, and adaptive and maladaptive coping techniques. Applications to relevant contemporary problems, such as child rearing, psychotherapy, education and drug addiction.</td>
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<tr>
<td>PSY 36</td>
<td>Workshop in Interpretation of Human Motivations</td>
<td>3 rec 3 cr</td>
<td>PSY 11</td>
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<td>Explores the underlying reasons for human behavior as they emerge in actual and/or simulated life situations. Introduction to methods for detecting conflicts, unconscious thought processes, and “games people play,” as signaled by verbal and nonverbal communications in everyday situations, e.g., husband-wife interaction, parent-child interchanges, dating behavior, approaches to school learning.</td>
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<tr>
<td>PSY 41</td>
<td>Psychology of Infancy and Childhood</td>
<td>3 rec 3 cr</td>
<td>PSY 11</td>
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<td>Major factors in psychological development from infancy through childhood; influence of the family. Biological, cultural, and socio-economic factors in producing normal and abnormal intellectual and emotional growth.</td>
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<td>PSY 42</td>
<td>Psychology of Adolescence and Adulthood</td>
<td>3 rec 3 cr</td>
<td>PSY 11</td>
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<td>Study of development from adolescence to adulthood with regard to implications for self-realization, love, marriage, vocation, parenthood, retirement and aging. Changing attitudes and values about sex, drugs, aging and politics are explored in regard to different stages of adult development.</td>
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<tr>
<td>PSY 43</td>
<td>Psychological Development During Maturity and Aging</td>
<td>3 rec 3 cr</td>
<td>PSY 11</td>
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<td>Normal and abnormal psychological development during adulthood and old age. Emphasis on dynamics of the life cycle; theories of the mature personality; forces affecting continuing growth of the adult personality and intellect; biological, social and cultural determinants of aging, and influence of normal and abnormal aging processes on perception, psychomotor skills, learning, intelligence, and personality.</td>
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<tr>
<td>PSY 44</td>
<td>Psychology of Women</td>
<td>3 rec 3 cr</td>
<td>PSY 11</td>
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<td>Development, personality characteristics, and needs of women; similarities to and differences from men. Psychological aspects of uniquely feminine experiences. Issues are examined from a theoretical as well as an empirical perspective.</td>
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<tr>
<td>PSY 51</td>
<td>Principles of Group Dynamics</td>
<td>3 rec 3 cr</td>
<td>PSY 11</td>
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<td></td>
<td>Introduction to theory of group behavior, including analysis of the psychological structure of groups, cohesive and disruptive forces, conflict and adjustment in group relationships and relationship of groups to society.</td>
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<tr>
<td>PSY 52</td>
<td>Workshop in Group Dynamics: Leadership Training</td>
<td>3 rec 3 cr</td>
<td>PSY 11</td>
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<td>Focus upon developing skills needed to lead or direct group interaction within human services settings. Channeling psychodynamics of group process toward constructive ends. Techniques for facilitating group interaction and insight. Application of role-playing, psychodrama, etc., in a variety of settings.</td>
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<tr>
<td>PSY 61</td>
<td>Laboratory in Group Experience for Applied Settings</td>
<td>3 rec 3 cr</td>
<td>PSY 11</td>
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<td>Student’s interaction within groups studied as a means of increasing effectiveness in human service, educational, and industrial settings. Effects of role changes (such as going from student-in-class to authority-in-institution). Impact of subtle group pressures in various structures: authority conflicts among professionals in a school, hospital or office. Role-playing, field reports and class interaction.</td>
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</table>
**PSY 62** Workshop in Group Interaction: Personal Growth Group Settings

Class members analyze their interactions as a group to facilitate self-understanding and enhance effectiveness in personal life situations. Operation of the unconscious, use of psychological defenses, and strategies for dealing with various conflicts. Prerequisite: PSY 11.

**PSY 71** Clinical Techniques of Assessment: The Interview

Interpersonal approach in assessing psychological problems of individuals and minigroups. Practical experience with clinical interview techniques; psychological evaluation of data and case history write-ups. Methods of referral to appropriate professional and community resources are discussed. Prerequisite: PSY 11.

**PSY 72** Clinical Techniques of Assessment: Psychological Testing

Not offered 1980-82.

**PSY 81** Field Work and Seminar in Psychology I

Supervised field work or independent research. Required seminar integrates practical experience with course work. Prerequisites: 9 credits in the social sciences (Economics, Political Science, Psychology, Sociology) and/or permission of the department; 6 of these credits must be in Psychology.

**PSY 82** Field Work and Seminar in Psychology II

Continuation of supervised field work or independent research for an additional semester at either the same or a different facility. Prerequisites: PSY 81 and/or permission of the department.

**Sociology**

**SOC 11** Sociology

Introduction to the scientific study of human life as group life. Culture and personality; courtship, marriage and family; religious behavior; education and communication; theories of social stratification and social change. Corequisite: ENG 02 or RDL 02 if required.

**SOC 31** Race and Ethnic Relations

Characteristics of American ethnic minorities and religious groups, including theories explaining prejudice and discrimination. Intergroup relations, with particular reference to the New York metropolitan area, and techniques for relieving and eliminating problems in this field of human relations. Prerequisite: SOC 11.

**SOC 32** The Sociology of the City

Sociological concepts of urbanism and community; current patterns of urban stratification and group life. History, spatial patterning, and social organization of urban areas related to different groups making up the city and its suburbs and to the processes and impact of change affecting them. Effect of urban living on personality and culture. Prerequisite: SOC 11.

**SOC 33** The Family

Introduction to the study of the family as a social institution. Evolution of the form and functions of the family and how its structure is shaped by forces in society. Significance of the family as a socialization agent, courtship and the romantic love complex, women's roles and changing family structure, minority culture families in American society and consideration of the future of the family. Prerequisite: SOC 11.
SOC 34 Social Deviance 3 rec 3 cr
Explores what is regarded as deviant within a society, with emphasis on criminality and mental illness. Deviance from the perspective of the deviant, e.g., the process by which his initial deviance becomes a career or master status. Deviance from the perspective of society, its social structure, norms and sanctions relevant to deviance, and functions or dysfunctions served by those committing acts of deviance. Prerequisite: SOC 11.

SOC 35 Introduction to Social Work 3 rec 3 cr
Nature of social work and its functions; family casework, child welfare, psychiatric and medical social work, correctional services, public welfare and community welfare organizations. Prerequisite: SOC 11 or PSY 11 or permission of instructor.

SOC 36 Female and Male in American Society 3 rec 3 cr
The nature of women's and men's participation in the family, at school, at work, at play, and in government. Comparative study of various classes and races of contemporary American women and their historical and international counterparts. Analysis of the impact of the sexual revolution and the movement for sexual equality. Prerequisite: SOC 11.

SOC 37 Class and Power in American Society 3 rec 3 cr
Introduction to the issue and prevalence of social inequality in various societies; documentation of economic, political and status differences and preview of theories of social stratification; examination of key issues such as the consequences of inequality, education and social mobility, and inequality and race; analysis of historical and contemporary changes in stratification systems. Prerequisite: SOC 11.

SOC 81 Field Work and Seminar in Sociology 3 rec 6 hrs field work
Supervised field work in community agencies. Related seminars develop understanding of social problems of urban communities as well as rudimentary skills in sociological research. Prerequisites: 9 credits in the social sciences, including SOC 11, and/or permission of the department.

SPECIAL EDUCATIONAL SERVICES

Chairman: Assistant Professor Harriet Shenkman
Professor: J. Rempson
Associate Professors: D. Davidson, J. Stuchin
Assistant Professors: P. Lanier, S. O'Neill, A. Simon
Lecturers: E. Calandro, I. Dutra, H. Rand, H. Richardson, B. Wilson

EDU 10 Child Study 3 rec 3 cr
A competency-based course enabling students to acquire teaching abilities. Classroom management; discipline and control; writing a case history and a life space description of a child; analyzing and interpreting child study data; planning educational activities based on child study data; and knowledge of useful references. Minimum of 15 hours of practicum experience required. Required for all Education majors. Prerequisite: RDL 02 and ENG 02 or ESL 11 or equivalent. Prerequisite or corequisite: PSY 41.

EDU 12 Contemporary Urban Education 3 rec 3 cr
A competency-based course enabling students to acquire teaching abilities. Structure of American public education; historical overview of education of minorities; profile of the urban public school student; problems and issues in urban education; urban education programs; factors that affect teaching-learning in an urban setting; and knowledge of references. An elective course. Prerequisite: RDL 02 and ENG 02 or ESL 11 or equivalent.

EDU 15 Reading and Other Language Arts for the Early Childhood and Elementary Years 3 rec 3 cr
A competency-based course enabling students to acquire teaching abilities. Various approaches to teaching reading and other language arts, e.g., handwriting, spelling, listening, composition, and literature. Minimum of 20 hours of tutoring and practicum experience required. Provisions made to meet the needs of students who take this course as an alternative to EDU 40. Required upon advisement. Prerequisite: EDU 10; prerequisite or corequisite: ENG 13.
EDU 16 Teaching Reading in the Primary Grades (N-3)
A competency-based course enabling students to acquire teaching abilities. Word recognition skills; comprehension skills; various approaches to teaching reading; phonemic and morphemic elements; phonic and structural analysis skills; reading achievement tests; reading interests of children; oral and silent reading; reading in the content areas; and knowledge of useful references. Minimum of 20 hours of tutoring and practicum experience required. Required, depending on curriculum pattern and advisement. Prerequisite: EDU 10.

EDU 17 Teaching Reading in the Middle Grades (4-6)
A competency-based course enabling students to acquire teaching abilities. Word recognition skills; comprehension skills; various approaches to teaching reading; phonemic and morphemic elements; phonic and structural analysis skills; reading achievement tests; reading interests of children; oral and silent reading; reading in the content areas; and knowledge of useful references. Minimum of 20 hours of tutoring and practicum experience required. Required, depending on curriculum pattern and advisement. Prerequisite: EDU 10.

EDU 24 Child Care Seminar I 3 rec 3 cr
A competency-based course enabling students to acquire teaching abilities. Interaction among parents, staff, and children; historical and philosophical background; planning an educational program; physical environment of the classroom; instructional materials and activities; handling transition time; child and parent adjustment to a new school situation; handling negative child behavior. Required for Child Care students. Prerequisite: EDU 10.

EDU 25 Child Care Seminar II 3 rec 3 cr
A competency-based course. Continuation of EDU 24. Enables students to acquire teaching abilities. Play activities; devising activities to meet children’s growth needs; involving parents in the school program; planning and conducting parent conferences and meetings; examining own feelings as they affect relationship with children and school personnel; working as part of a group; evaluation of own performance and of class performance; child care services and resources; and knowledge of useful references. Required for Child Care students. Prerequisite: EDU 24.

EDU 26 Human Relations in Urban Schools 3 rec 3 cr
A competency-based course. Norms, values, and roles; observation of human behavior; principles that govern human change; activities that aid social and emotional growth; effective principles and practices of communication through written messages, teacher-parent conferences, telephone calls, and group presentations; handling conflict and criticism; codes of ethics; and knowledge of useful references. Required of all Education Majors. Prerequisites: RDL 02 and ENG 02 or ESL 11 or equivalent.

EDU 31 Introduction to Learning Problems 3 rec 3 cr
A competency-based course enabling students to acquire teaching abilities. Diagnostic-prescriptive teaching; learning modalities; organization and management of the learning environment; materials and procedures; evaluation of learning activities; and knowledge of useful references. Minimum of 20 hours of tutoring required. An elective course. Prerequisite: EDU 10.

EDU 32 Nature and Needs of the Handicapped 3 rec 3 cr
A competency-based course enabling students to acquire teaching abilities. Legal definitions of categories of the handicapped; representative programs and approaches in teaching the handicapped; medical, psychological, and sociological factors associated with being handicapped and their educational implications; services and resources for the educational treatment of the handicapped; current issues; problems, and research regarding the handicapped. An elective course. Prerequisite: EDU 10.
EDU 40 Field Work Seminar 3 rec 3 cr
A competency-based field experience course. Individual and small-group teaching experiences under professional supervision in an accredited school or agency. Periodic meetings with BCC faculty supervisor. Students must demonstrate competencies as they pertain to general knowledge expected of those who completed the Education sequence; planning, execution, and evaluation of own teaching behavior and skill; meeting individual needs of children; goals of education; curriculum views of John Dewey; national and local curricula; and teaching-learning principles. Required upon advisement. Prerequisite: Completion of all other required courses in the Education Specialization sequence.

EDU 50 Survey of Creative Experiences for the Early Childhood and Elementary Years 3 rec 3 cr
A competency-based course enabling students to acquire teaching abilities. Objectives; materials and activities; lesson planning; teaching a song; use of creative experiences in teaching the content subjects; organization of a systematic classroom environment; cultural resources for children's visits; and knowledge of useful references. Required, depending on curriculum pattern. Prerequisite: EDU 10.

ESL 01 English as a Second Language - Basic 3 workshop* 0 cr
For students whose native language is not English. Individualized program for basic level students for development of English language skills. Builds oral and written control of basic grammatical structures, and listening and reading comprehension. Audio laboratory practice. Registration only with permission of department.

ESL 02 English as a Second Language - Intermediate 6 rec 0 cr
For students whose native language is not English. Individualized program for intermediate students for development of English oral and writing skills. Builds oral control of grammatical structures and conversation, listening comprehension, and the ability to write grammatically acceptable, well-constructed paragraphs. Prerequisite: ESL 01 or placement on the 02 level.
ESL 11  English as a Second Language  2 rec 2 lab 2 workshop* 3 cr
For students whose native language is not English. Individualized program for development of English language skills. Grammatical structures, pronunciation, conversation; reading for comprehension and interpretation; dictation and composition. Audio laboratory practice. Credit granted upon achievement of satisfactory proficiency level as determined by written and oral examinations. Registration only with permission of department.

RDL 01  Basic Reading Skills  5 rec 0 cr
Individualized program in fundamental reading skills with emphasis on phonics and syllabication, word structure, and sentence and paragraph analysis on student's instructional level. Required for those students who do not reach designated levels on a reading placement test. Upon successful completion, students are required to enroll in RDL 02.

RDL 02  Reading and Study Skills  3 rec 2 cr 2 workshop* 0 cr
Individualized program designed to develop reading and study skills necessary for success in college-level work. Vocabulary development, comprehension skills, textbook techniques, and library and research techniques. Prerequisite: RDL 01 or placement test.

RDL 11  College Reading and Study Skills**  2 rec 2 cr
Elective course to increase proficiency in reading and study skills. Student and instructor jointly develop an individual program based on the student's expressed interests and diagnosed needs. The program might focus on any combination of the following: rate of reading; test-taking techniques; reading in the content areas; textbook reading and study techniques; critical and interpretive reading. Prerequisite: RDL 02 or a reading grade level at or above the exit reading grade level for RDL 02.

*Students are expected to spend additional hours in the workshop if necessary.
**Course not recommended for students who do not have fluency in reading English.

Certificate Program

AUTOMOTIVE MECHANICS

ACS 11  Engine  3 rec 6 lab 6 cr (Internal Combustion)
Operation service procedures, diagnostic methods of an internal combustion engine. An internal combustion engine will be completely disassembled, inspected, precision measured, repaired, reassembled and tuned up.

ACS 12  Electrical Systems  2 rec 2 lab 3 cr
Operation, service and repair of automotive electrical starting, lighting, generating and ignition systems.

ACS 13  Fuel Systems  2 rec 2 lab 3 cr
Fundamentals of design, operation and assembly of the automotive system, integrated into repair service and overhaul of the essential components of the fuel systems.

ACS 14  Manual Transmission  1 rec 4 lab 3 cr and Rear Axle
Operation and service procedures for the automotive manual transmission and rear axle. A manual transmission and rear axle will be completely disassembled, inspected and reassembled.

ACS 21  Front Ends  2 rec 4 lab 4 cr
Diagnostic and service procedure, inspection, repair and alignment of the automobile's front end. The rear suspension system and steering gears will be developed and related to the front end system.

ACS 22  Automatic Transmission  1 rec 6 lab 4 cr
Operation and service of most conventional automatic transmissions. An automatic transmission will be completely disassembled, inspected and reassembled. Prerequisite: ASC 14.

ACS 23  Heating and Air-Conditioning  2 rec 4 lab 4 cr
Heating and air-conditioning system of an automobile. Emphasis on troubleshooting and servicing the climate control system (heating and air-conditioning) of an automobile.

ACS 24  Brakes  1 rec 4 lab 3 cr
Construction, servicing and repair of both disc and drum brakes of the automobile.
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M.A., Columbia University

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James A. Colston, Ph.D., L.H.D., LL.D., Litt. D.,  
President Emeritus  
Bernard P. Corbm, Ed.D.,  
Professor Emeritus of Business and Commerce;  
Dean of Academic Affairs  
Milton Doroshkin, Ph.D.,  
Professor Emeritus of Social Sciences  
Mark D. Hirsch, Ph.D.,  
Professor Emeritus of History  
Richard L. Loughlin, Ph.D.,  
Professor Emeritus of English  
Daniel S. McGrath, Jr., M.A.,  
Professor Emeritus of Health  
and Physical Education;  
Dean of Administration  
Vera F. Minkin, Ed. D.,  
Professor Emeritus of Student Development;  
Dean of Students  
Charles R. Monticone, Ph.D.,  
Professor Emeritus of Modern Languages  
Burton R. Pollin, Ph.D.,  
Professor Emeritus of English  
Clement M. Thompson, Ph.D.,  
Professor Emeritus of Student Development;  
Dean of Students

College Laboratory Technicians

Rudolph Arroyo, Senior College Laboratory Technician, Physics  
A.A.S., Bronx Community College  
Joseph Bosone, College Laboratory Technician, Engineering Technologies  
Joseph Cagnez, College Laboratory Technician, Chemistry  
A.A.S., Bronx Community College  
James Campbell, College Laboratory Technician, Duplicating  
Frances Caruso, College Laboratory Technician, Biology  
A.A.S., Bronx Community College  
Arthur DeMatteo, Senior College Laboratory Technician, Library  
B.A., Fairleigh Dickinson University  
Richard Fucci, College Laboratory Technician, Library  
James Hughes, College Laboratory Technician, Computer Center  
Nikolai Lopuchin, Senior College Laboratory Technician, Engineering Technologies  
Alice Netburn, College Laboratory Technician, Chemistry  
Ronald Perrine, College Laboratory Technician, Duplicating  
Armstead Ransom, College Laboratory Technician, Health and Physical Education  
Leonard Rinaldi, College Laboratory Technician, Biology  
A.A.S., Bronx Community College  
Angelina Scimia, Senior College Laboratory Technician, Biology  
A.A.S., Bronx Community College  
Leonard S. Silverman, College Laboratory Technician, Library  
John Tiffany, College Laboratory Technician, Chemistry  
Umberto Trentin, College Laboratory Technician, Library  
Neville Trotman, College Laboratory Technician, Engineering Technologies
BRONX COMMUNITY COLLEGE AND THE COMMUNITY

Bronx Community College is vitally concerned with the well-being of its community. To foster greater cooperation and interaction with neighboring community agencies, the College enjoys the support and participation of Friends of Bronx Community College which includes representatives of community organizations, local business groups, labor leaders and sister educational institutions. The “Friends” promote and encourage cultural and civic programs aimed at greater articulation of the mission of the College. Its activities have benefited students in many areas including job placement, scholarship contributions and the support of recruitment efforts.

Bronx Community College, in expanding the traditional role of community relations, is one of the many promoters of community revitalization throughout the Bronx. The College works with such organizations as the Bronx Chamber of Commerce, Bronx Council on the Arts, Friends of Public Education, Fordham Road Merchants Association, Citizens Advice Bureau and Burnside Area Merchants Association to assist Bronx citizen groups in building stronger social institutions and improving services in the borough.

The College has taken a direct interest in the needs of its immediate neighborhood by founding and sponsoring the University Heights Development Corporation, a public non-profit corporation in partnership with community and College representatives. The corporation is seeking the redevelopment of former surplus college properties and other deteriorating housing in the area. Through the UHDC, the College has created an effective model for positive intervention for other colleges and institutions to emulate.

Recognizing its commitment to the agencies serving the community, Bronx Community College has provided office space and services to the North Bronx Family Service Center, a church-sponsored agency and Community Planning Board No. 5, sponsored by the City of New York. The College also maintains a close working relationship with political representatives in all levels of government to keep them aware of the needs and opinions of BCC, its students and the community in general.
A diversified program of cultural activities is sponsored by the College as a supplement to the educational programs of the College, as well as a service to residents of the community. Merging the efforts of the College, community, and professional artists, BCC endeavors to promote cultural activities that are artistically diversified and multifaceted.

In 1978, the College initiated a writer-in-residence program open to members of the community as well as students. Participants have the opportunity to work with John Oliver Killens, one of the foremost Black writers of the sixties and seventies. Moreover, the College's Lecturers Series include speakers in the fields of science, humanities, and the social sciences, and special seminars in contemporary subject matter not covered in the regular curriculum.

Professional Performing Arts span orchestral and choral concerts, opera, ballet, modern or ethnic dance, jazz and folk music. Dramatic events are produced by both campus groups and professional theatre companies. Special effort is made to bring a variety of outstanding artists and lecturers to campus. In the past these have included James Baldwin, The Murray Louis Dance Company, Ballet Hispanico, James Earl Jones, Phyllis Hyman, Maya Angelou, Marv Albert, Piri Thomas and Ray Barretto and his Orchestra. In 1978, the College opened a small but elegant emporium co-sponsored by Friends of Bronx Community Art Gallery.

The Bronx Community and College Symphony Orchestra is composed of students, faculty members and members of the community. Since its inception in 1964, under the direction of Professor Louis F. Simon, the orchestra has become a major force in the cultural life of the Bronx, having already established a reputation for performing far above the norm.

The Bronx Community and College Choir includes BCC students and interested singers of the community. Under the direction of Professor John C. Hamell, the choir presents three major concerts a year at the College, and also performs in the greater metropolitan area.
<table>
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<th>Building and Offices</th>
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<td>DEANS' OFFICES:</td>
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<td>HALL OF FAME FOR GREAT AMERICANS</td>
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<td>HAVEMEYER ANNEX</td>
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</tr>
</tbody>
</table>
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HAVEMEYER LABORATORY ........ 32
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Mail Room — Community Hall .. 6
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IND Sixth Ave. “D” train to 183rd St.
No. 38 University Ave. bus to 181st St.
No. 40 Tremont Ave. Crosstown or
No. 36 180th St. Crosstown to
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