

The City College Bulletin

ONE HUNDRED AND EIGHTH SERIES

SEPTEMBER 1, 1955

COLLEGE OF LIBERAL ARTS AND SCIENCE FOR THE FALL AND SPRING SESSIONS

1955-1956



CONVENT AVENUE AT 139th STREET
NEW YORK 31, N. Y.

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tuition charge of \$30.00, plus appropriate laboratory fees, will be charged for a course that counts for not more than 4 credits.

Special students may subsequently become matriculated students with advanced standing as candidates for a baccalaureate degree provided they complete the first 30 or more credits in the Evening Division with at least a B average in an approved program of courses, or complete the first 30 or more credits with an average midway between C and B, or complete the first 60 credits with at least a C average. The course of study followed must be approved by the Director of the School of General Studies, Evening Division, and so far as possible, should include courses in foreign languages, mathematics, and science.

ADMISSION WITH ADVANCED STANDING

Students who are graduates of accredited high schools and who meet the entrance requirements may be admitted on the basis of at least one full year's work (3 credits) at a recognized college or university with an average grade of B or its equivalent in percentage, or better. Alternatively, if they meet the high school average requirement for admission and have the required entrance units, they may be admitted provided that the average rating in their college work is at least C.

The precise number of credits allowed for work taken at an accredited college is determined after consultation with representatives of the various departments of study concerned. The student should present an official transcript of his record, listing in detail the subjects taken and the grades attained, together with a certificate of honorable dismissal, and also original credentials of his high school or preparatory work. The high school record should be certified on forms provided for this purpose by the college; college records should be certified on the forms in use at the institution from which the student is transferring.

Courses completed with the grade of D at other institutions ordinarily will not be credited for advanced standing (certain exceptions may be made in the case of students transferring from the other city colleges), but the student may be excused from repeating such courses. Students who have completed certain courses in high school which are the equivalent of courses offered by the college are excused from repeating such courses and are allowed to continue those subjects in advanced courses; but a college credit is allowed for work completed in an American non-degree-granting institution.

Students dropped from other institutions for poor scholarship or for other reasons are not eligible for admission to The City College.

NON-MATRICULATED STUDENTS

Under certain limitations, persons who are not candidates for a degree may be enrolled in the College as non-matriculated students and admitted to particular courses which they desire. In general, non-matriculated students are permitted to enroll only in the Evening Division.

Such students must give satisfactory evidence to the heads of the departments to which they wish to study that they are fully equipped to pursue the work of the courses chosen.

GRADUATE WORK

The Faculty of the College has long recognized the need and value of Graduate Studies for the students, for the College, and for the community, and it has recommended the offering of courses leading to the degree of Master of Arts in such fields or subjects as may be designated by the President and approved by the Board of Higher Education. The desire to maintain high standards, however, has occasioned a policy of caution in introducing graduate programs. A course of study leading to a Master's degree in Psychology was introduced in 1944. Subsequently, a comprehensive survey confirmed the need for the expansion of graduate work, and a Division of Graduate Studies was established in 1951.

Graduate programs leading to the M.A. degree are now offered in the fields of *International Relations, New York Area Studies, Psychology, and Sociology (including Public Welfare)*.

For a description of graduate work currently offered in the College of Liberal Arts and Science, see the Bulletin of the Graduate Division.

UNDERGRADUATE COURSES OF STUDY

The College of Liberal Arts and Science offers courses of study leading respectively to the degree of Bachelor of Arts and Bachelor of Science. The curriculum leading to the Bachelor of Arts degree has four subdivisions, stressing foreign language, art, music, and social studies, respectively. The fundamental aims of these various courses of study are, however, the same throughout: first to develop the students of the college as broadly cultivated and intelligent citizens of the world in which they live, and, second, to train them so that each may be able to perform some particular function in the community in a worthy manner.

Under the present curriculum the courses leading to the degree are divided into the four following groups:

1. A group of studies or "common core" prescribed for candidates for all degrees, including courses calculated to provide the tools of the scholar of collegiate standing and to impart broad, general knowledge essential and basic to a liberal education. The subjects of this group normally amount to approximately 64 credits.*
2. A group of studies forming a background for the particular degree sought. Students contemplating a degree in Science should have a broad and thorough preparation in all the basic sciences, considerable training in mathematics, and special training in scientific technique and procedure. Students of the social sciences, in like manner, should have an especially ample background of history, the social sciences, and methods of social investigation, etc. This second group of subjects ranges from 16 to 24 credits.
3. A specialization or concentration group of 24 credits calculated to make the student competent in some particular field of endeavor.
4. Free electives to stimulate interest in diverse fields of intellectual endeavor, sufficient in number to enable the students to complete the total of 128 credits required for graduation.

In previous issues of this bulletin, a single list of the Group I or "common core" subjects was introduced at this point, followed by separate lists of the Group II or background subjects for the several degrees. As originally set up the subjects of Group I were identical for all degrees, but in the course of time a number of alternatives (in science, mathematics, foreign language, etc.) have been introduced. In the following presentation the Group I and Group II subjects have been combined for each of the degrees; such a presentation is more convenient, but the official pattern of the curriculum should be understood in connection with it.

GROUPS I AND II—PRESCRIBED WORK FOR THE DEGREE BACHELOR OF ARTS

- (a) The subdivision stressing foreign language.

Art 1	1 cr.	History 1, 2	6 cr.
Economics 1	3	Hygiene 1, 2, 3, 4 (men) or 51, 52, 53, 54 (women)	2
English 1, 2—Composition	4 ¹	71 (men) or 81 (women)	4 ⁴
3, 4—Literature	4	Mathematics 61	1
Foreign language		Music 1	3
Latin, normally	13 ²	Philosophy 1	16 ⁶
A second language, normally ..	12 ³	Science	41
Government 1	3	Speech 1, 2, 3, 4	

- (b) The subdivision with specialization in Art.

The requirements are the same as in (a) except that Art 10, 2 cr., is prescribed instead of Art 1, 1 cr., and in place of one of the two foreign languages the following group of courses in Art is prescribed:

Art 11, 12, 14, 15, or 18, 16 or 19, 21, 22, 24, 25.1, 25.2, 31.1, 32.1 24 cr.

- (c) The subdivision with specialization in Music.

The requirements are the same as in (a) except that Art 10, 2 cr., is prescribed instead of Art 1, 1 cr., and in place of one of the two foreign languages the following group of courses in Music is prescribed:

Music 3, 4, 9, 13, 14, 16, 21, 22, 23, 26, 27 24 cr.

* A credit is defined as normally representing work that calls for three hours per week per term of a student's time including home preparation as well as class attendance.

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(d) The subdivision with specialization in the social studies. The requirements are the same as in (a) except that Economics 101, 3 cr., is prescribed instead of Economics 1, 3 cr., and in place of Latin the following courses totaling 5 credits are required:

Economics 102	3 cr.	History 3 or 4 or 5	3 cr.
Education 20 or 30	3	Sociology 5	3

and three courses, of 3 credits each, to be chosen from

Economics 20	Philosophy 12
History 3 or 4 or 5 ⁸	Psychology 1
Government 41	Unattached 5
Mathematics 63	

GROUPS I AND II—PRESCRIBED WORK FOR THE DEGREE BACHELOR OF SCIENCE

Art 1	1 cr.	History 1, 2	6 cr.
Biology 3, 4	8	Hygiene 1, 2, 3, 4 (men) or 51, 52, 53, 54 (women)	2
Chemistry 1a, 2a, or 1, 2	8 ⁷	71 (men) or 81 (women)	2
Economics 1	3	Mathematics 5, 6	8 ⁸
English 1, 2—Composition	4 ¹	or 7, 8	10 ⁹
3, 4—Literature	4	Music 1	1
Foreign language, normally	12 ³	Philosophy 12	3
Geology 1	4	Physics 1, 2 or 3, 4	8 ¹⁰
Government I	3	Speech 1, 2, 3, 4	4 ¹¹

NOTES:

1. The departments of English and Speech may excuse students who are sufficient proficient in written and spoken English from taking some courses normally prescribed but such exemptions will not carry college credit; and they may withhold credit as require additional work of students who are below standard in the use of English.

2. In the B.A. curriculum, in the subdivision stressing foreign language, two languages are required. The first language must be Latin. The second language chosen may be French, German, Greek, Hebrew, Italian, Russian, or Spanish.

Assuming that the student presents three years of Latin for admission, he is required to take 13 college credits in Latin in the Day Session (courses 54, 3, and 4) or 12 credits in the Evening Division (courses 71, 72, 73, and 74). The student presenting four years of Latin for admission is required to take only 8 credits in the Day Session (courses 3 and 4) or 6 credits in the Evening Division (courses 73 and 74). The student presenting less than three years for admission will have his language course corresponding lengthened. If he does not present Latin for admission, he is required to take five terms in the Day Session amounting to 23 credits (courses 51, 52, 54, 3, and 4) or 24 credits in the Evening Division (courses 41 through 44, 71 through 74).

3. The second language requirement is based on the assumption that the student presents two years of the language for admission, and corresponds to the language requirement for the other subdivisions of the B.A. degree and for the B.S. degree.

Students in Science and Social Science may choose their foreign language from among French, German, Hebrew, Italian, Russian, and Spanish. However, for those students intending to undertake graduate work, attention is called to the special importance of French and German; many graduate schools, particularly in the sciences, require a working knowledge of these languages. Students specializing in Art or Music under the B.A. curriculum may select any of the languages offered by the college, including Latin and Greek in addition to those above listed.

The normal 12 credit requirement is based on the assumption that the student had two years of the language in high school; such students are assigned courses 1 and 2 in the freshman year (with credit values varying from 6 to 8, depending on the particular language), followed by more advanced courses in the sophomore year and at least 12 credits have been completed.

If the student elects to continue a language he has studied for three years in high school, the requirement is less: courses 2, 3, and 4 in the department of Romance Languages and also in Hebrew; courses 3 and 4 in German.

If the student begins a new language instead of continuing a language he has studied in high school, the requirement is increased, ranging from 16 to 18 credits: courses 1 and 2, five hours weekly, 5 credits per term, followed by two additional terms, normally courses 1 and 2.

In the Evening Division, courses 41 to 44 (four terms, 3 hours, 3 credits each) correspond to courses 51 and 52 in the Day Session; and courses 71 to 74 (four terms, 3 hours, 3 credits each) correspond to courses 1 to 4 of the Day Session.

4. Arts students may substitute the Science requirement in Mathematics, provided they include at least one course in calculus. Also where desirable, and if approved by the Office of Curricular Guidance, Arts students may be permitted to take Mathematics 62 (3 credits) in lieu of one of the four terms of science. Students who entered prior to September, 1954, and who have completed Mathematics 61 may be excused from Mathematics 62 provided the number of credits earned in Mathematics and Science combined totals at least 19.

5. For B.S. students, the Mathematics prescription varies according to the vocational objective. Students seeking careers in medicine, dentistry, psychology, biology, or geology take the Mathematics sequence 5, 6, (8 credits). For students who intend to major in physics, chemistry, or mathematics the required sequence is Mathematics 7, 8 plus 42, 43 if necessary (10-16 credits). Students taking more than 10 credits of mathematics may be excused from one term of laboratory science where desirable (on the basis of conference between student and adviser).

6. In Arts, the science requirement may be fulfilled either by two year-courses in laboratory science or by a four-term sequence in Science. The two year-courses must be chosen from among Biology (course 1, 2), Chemistry (1a, 2a or 1, 2), Physics (1, 2 or 3, 4) and Geology (course 1 and an approved elective, except Geology 4). The four-term sequence is given in collaboration by the four science departments.

7. Chemistry 1a, 2a is for students who have not had Chemistry in high school; 1, 2 for those who have had the subject in high school. Similarly Physics 1, 2 is for those who have not had Physics in high school, 3, 4 for those who have. It is also possible for Science students to substitute Physics 5, 6, or 7, 8 (10 credits, required of Engineering students) for 1, 2 or 3, 4 (8 credits).

8. Students specializing in social studies must take at least one of the three courses, History 3, 4, 5; they may offer a second course under the optional prescription; but the third course, if taken, counts as a free elective, not a prescribed subject.

GUIDANCE PROGRAM

To assist students in meeting the somewhat complex problems of the curriculum, the Office of Curricular Guidance, Room 111, Shepard Hall, was instituted in 1944 for the College of Liberal Arts and Science. This program is under the direction of Assistant Dean Barber, assisted by a group of General Advisers: Professors Apfelbaum, Biddle, Chaikelis, Cortell, Fenton, Firestone, Hendel, Hoffman, Riedel, and Woodruff. Each department of study also has a designated representative to advise students regarding its elective offerings and special objectives. Conferences are regularly scheduled with students, beginning in the Lower Freshman term, for the purpose of discussing possible objectives, vocational or otherwise, and the appropriate sequence of prescribed courses in the light of such objectives. Reference is made wherever necessary to the Division of Testing and Guidance of the Department of Student Life in connection with changes of course, aptitude tests, and allied matters, and to the special Departmental Advisers, who are directly concerned with the elective concentration work of the upper class years.

Students interested in a career in teaching or in pupil personnel services (school psychologist or attendance officer) should consult a member of The Advisory Committee, School of Education, Room 112, Shepard Hall.

GROUP II—ELECTIVE CONCENTRATION

Each student is required to select a group of elective courses amounting to 24 credits; these courses are normally to be taken during the junior and senior years and should form a well-rounded, coherent group calculated to lead to a definite objective. The courses need not be selected in one department, nor need they be confined to one of the three major divisions of the college elective work; the essential features of the plan are that the group of courses shall form an interrelated whole, that they shall all serve a definite purpose, and that they shall render the student competent in some particular field of endeavor.

The Faculty Committee on Elective Concentration has prepared a *Guide to Elective Courses, according to Cultural and Vocational Interests*. The student should find it helpful in focalizing his objectives. For a given cultural or vocational field, as de-

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The Law Department is one of the departments of the Baruch School of Business and Public Administration. The following courses, however, may be chosen by students of the College of Liberal Arts and Science and are freely creditable towards Liberal Arts degrees:

100. **The American Legal System.** The administration of justice; distribution of judicial power between federal government and states, and among the states; functions and procedure of civil, criminal, and administrative tribunals. 2 hrs. wk.; 2 cr.
101. **Introduction to Business Law: Contracts.** 3 hrs. wk.; 3 cr.
102. **The Law of Business Organization.** 3 hrs. wk.; 3 cr. Prereq.: Law 101.
103. **The Law of Negotiable Instruments.** 2 hrs. wk.; 2 cr. Prereq.: Law 101.
104. **The Law of Mercantile Transactions.** 3 hrs. wk.; 3 cr. Prereq.: Law 101.
106. **The Law of Creditors' Rights.** 2 hrs. wk.; 2 cr. Prereq.: Law 101.
202. **The Law of Real Estate Transactions.** 2 hrs. wk.; 2 cr. Prereq.: Law 101.
203. **Legal Aspects of Advertising.** 2 hrs. wk.; 2 cr.
204. **The Law of Insurance.** 2 hrs. wk.; 2 cr.
211. **The Law of Labor Relations.** 2 hrs. wk.; 2 cr.
270. **Advanced Problems in Business Law.** 2 hrs. wk.; 2 cr.

Law 100 is offered at both centers; the other courses are offered at the Downtown center only. For description of these courses, consult the bulletin of the Baruch School of Business and Public Administration.

MATHEMATICS

PRESCRIBED COURSES

For a statement of specific courses in Mathematics required for the several degrees in the College of Liberal Arts and Science, see pages 21 and 22 above.

5. **Elementary Mathematical Analysis I.** 4 hrs. wk.; 4 cr. Prescribed for B.S. students not majoring in Mathematics, Chemistry, or Physics.
6. **Elementary Mathematical Analysis II.** 4 hrs. wk.; 4 cr. Prescribed for B.S. students not majoring in Mathematics, Chemistry, or Physics. Prereq.: Math. 5.
7. **Analytic Geometry and Calculus.** 5 hrs. wk.; 5 cr. Prereq.: Trig. and Adv. Alg. of high school or in college.
8. **Calculus.** 5 hrs. wk.; 5 cr. Prereq.: Math. 7.
9. **Elementary Mathematical Analysis III.** 4 hrs. wk.; 4 cr. Prereq.: Math. 6.
42. **Plane Trigonometry.** 3 hrs. wk.; 3 cr.
403. **Advanced Algebra (Review Course).** 3 hrs. wk.; no cr.
43. **College Algebra.** 3 hrs. wk.; 3 cr.
53. **Intermediate Algebra.** Prescribed for students who do not present Int. Alg. admission. 3 hrs. wk.; no cr.
61. **Fundamentals of Mathematics I.** 4 hrs. wk.; 4 cr.
62. **Fundamentals of Mathematics II.** 3 hrs. wk.; 3 cr. Prereq.: Math. 61.
63. **Elementary Statistics.** Probability, frequency, dispersion, means, correlation, sampling, and related topics. 3 hrs. wk.; 3 cr. Prereq.: Math. 61.

77. **Analytic Geometry.** 4 hrs. wk.; 4 cr. Prereq.: Same as for Math. 7. (Ev)
78. **Differential Calculus.** 3 hrs. wk.; 3 cr. Prereq.: Math. 77. (Ev)
79. **Integral Calculus.** 3 hrs. wk.; 3 cr. Prereq.: Math. 78. (Ev)

The sequence Mathematics 77, 78, 79, given in the Evening Division, is equivalent to Mathematics 7, 8 given in the Day Session.

216. **Arithmetic Analysis.** The solution of typical business problems by purely arithmetical methods. 3 hrs. wk.; 3 cr. in the School of Education; no cr. in the College of Liberal Arts and Science.

ELECTIVE COURSES

Students desiring electives should consult the Chairman of the Department. Continued privilege of electives is dependent upon attaining a minimum final grade of C in each prerequisite course taken, beginning with Mathematics 13.

Students planning to take electives in Mathematics are advised to acquire, as early in their college course as possible, a reading knowledge of French and of German.

11. **Theory of Numbers.** 3 hrs. wk.; 3 cr. Prereq.: Math 8 or 79. Fall.
12. **History of Mathematics.** 3 hrs. wk.; 3 cr. Prereq.: Completion of prescribed Math. Spring.
13. **Introduction to Higher Analysis I.** 3 hrs. wk.; 3 cr. Prereq.: Math. 8 or 79.
14. **Introduction to Higher Analysis II.** 3 hrs. wk.; 3 cr. Prereq.: Math. 13.
15. **Ordinary Differential Equations.** 3 hrs. wk.; 3 cr. Prereq.: Math. 8 or 79.
16. **Vector Analysis.** 3 hrs. wk.; 3 cr. Prereq.: Math. 8 or 79. Spring.
17. **Differential Geometry.** 3 hrs. wk.; 3 cr. Prereq.: Math. 14. Fall.
18. **Calculus of Variations.** 3 hrs. wk.; 3 cr. Prereq.: Math. 14 and 15. Spring.
19. **Actuarial Mathematics I.** 3 hrs. wk.; 3 cr. Prereq.: Math. 13. Fall.
21. **Mathematical Statistics, I.** 3 hrs. wk.; 3 cr. Prereq.: Math 8 or 79. Fall.
22. **Mathematical Statistics, II.** 3 hrs. wk.; 3 cr. Prereq.: Math. 21. Spring.
- Students who have completed Mathematics 218 in the School of Business may not receive credit for Mathematics 21.
23. **Introduction to Modern Geometry.** 3 hrs. wk.; 3 cr. Prereq.: Math. 14. Spring.
32. **Theory of Functions of a Complex Variable.** 3 hrs. wk.; 3 cr. Prereq.: Math. 14. Spring.
33. **Introduction to Modern Algebra.** 3 hrs. wk.; 3 cr. Prereq.: Math. 11; prereq. or coreq.: Math. 14. Fall.
34. **Theory of Functions of Real Variables.** 3 hrs. wk.; 3 cr. Prereq.: Math. 14. (Not offered in 1955-56.)
35. **Partial Differential Equations, Integral Equations, Boundary Value Problems.** 3 hrs. wk.; 3 cr. Prereq.: Math. 14 and 15 (or equivalent courses). (Not offered in 1955-56.)
41. **Solid Geometry.** 3 hrs. wk.; 3 cr. (Not offered in 1955-56.)
44. **Spherical Trigonometry with Applications to Navigation.** 3 hrs. wk.; 3 cr. Prereq.: Math. 42 or a high school course in Trig. (Not offered in 1955-56.)
113. **Topics in Advanced Calculus for Students of Applied Sciences, Part I.** 3 hrs. wk.; 3 cr. Prereq.: Math. 15 or 115.
114. **Topics in Advanced Calculus for Students of Applied Sciences, Part II.** 3 hrs. wk.; 3 cr. Prereq.: Math. 113.