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

1945-1946



ST. NICHOLAS TERRACE AND 139th STREET
NEW YORK 31, N. Y.

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 no 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.

Such students must give satisfactory evidence to the heads of the departments in which they wish to study that they are fully equipped to pursue the work of the courses chosen. Furthermore, in the day session such students are not permitted to register until after the regularly matriculated students have been accommodated.

GRADUATE WORK

The Faculty of the College has recommended the offering of courses leading to the degree Master of Arts in such fields or subjects as may be designated by the President and approved by the Board of Higher Education. A Graduate Administrative Committee (Dean Gottschall, Professors Crane, Dawson, Mead, Murphy, Rhodes, and Zemansky) has been appointed to exercise general supervision over such work and to encourage its development. In 1944 the Board approved the institution of a graduate program in the Department of Psychology (see p. 60). Graduate work has not been organized in other departments, but college graduates may enroll for particular subjects as non-matriculated students.

UNDERGRADUATE COURSES OF STUDY

The College of Liberal Arts and Science offers courses of study leading respectively to the degrees of Bachelor of Arts, Bachelor of Science, and Bachelor of Science in Social Science. 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 60 or 61 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. A candidate for the degree of Bachelor of Arts should be well grounded in languages and literatures and those forms of human activities dealing with the arts or the expressional aspects of human endeavor. This second group of subjects amounts to from 19 to 24 credits.

* 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.

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.

GROUP I—PRESCRIBED WORK COMMON TO ALL DEGREES

This group is composed of the following subjects:

A. Tools

English 1, 2—English Composition	4 credits
Public Speaking 1-4 inclusive—Spoken English	4 credits

The departments of English and Public Speaking may excuse students who are sufficiently proficient in written and spoken English from taking some courses normally prescribed, but such exemption will not carry college credit; and they may withhold credit and require additional work of students who are below standard in the use of English.

Mathematics 1, 2, or 61, 62	6 credits
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Mathematics 1, 2 are for Science students, Mathematics 61, 62 for students in Arts and Social Science. Students who have had either Trigonometry or Advanced Algebra in high school substitute Mathematics 43 or 42, as the case may be, for Mathematics 1. Students who have had neither Trigonometry nor Advanced Algebra in high school may substitute both Mathematics 42, 43 (6 cr.) for Mathematics 1 (3 cr.) if they wish to obtain a more thorough foundation; also Mathematics 7 (5 cr.; see note below under Group II for Science students) may be substituted for Mathematics 2 (3 cr.). Students who have had both Trigonometry and Advanced Algebra are assigned directly to Mathematics 2 or to Mathematics 7.

Arts or Social Science students may, if they so desire, replace Mathematics 61, 62 by the Science requirement as above outlined. Combinations of the two requirements also may be permitted under special circumstances.

A foreign language, viz., Latin in the Arts course (14 credits) or a modern language in Science or Social Science, normally.....	12 credits
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If a student in Science or Social Science elects to continue a modern language which he has studied for two years in high school, he will be assigned courses 1 and 2 in the freshman year (4 hours weekly, 3½ credits per term) and courses 5 and 6 in the sophomore year (3 hours weekly, 2½ credits per term). If the student elects to continue a modern language he has studied for three years in high school, he will be assigned courses 2, 3, and 4 (4 hours weekly, 3½ credits per term), or if his high school work is distinctly superior, courses 3 and 4 only. For Arts students, see the note under Group II.

B. General Knowledge, Physical Education and Recreation

(a) Physical Science.

Two year-courses in laboratory science, 6 credits each or (for non-science students) a four-term sequence in Science.....	12 credits
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Arts and Social Science students may choose their two sciences from among Biology (courses 1, 2), Chemistry (1, 2 or 1a, 2a), Physics (1, 2 or 3, 4) or Geology (course 1 and an approved elective); or they may choose, as an alternative, an integrated four-term sequence in Science, given in collaboration by the four science departments. As explained below under Group II, Science students are required to take one year each of Biology, Chemistry, and Physics and one term of Geology.

(b) Social Science.

(1) Economics 1	3 credits
(2) Government 1	3 credits
(3) History 1, 2	6 credits

These courses are given as distinct courses, but with close co-operation between departments with the view to working out ultimately a survey course in social organization.

(c) Aesthetic studies.

(1) English 3, 4—English Literature	4 credits
(2) Art 1—Appreciation of Art	1 credit
(3) Music 1—Appreciation of Music	1 credit

(d) Physical Education and Recreation.

Hygiene 1, 2, 3, 4 4 credits

Effective in September, 1945, the requirement will be one term of Informational Hygiene (71 for boys and 81 for girls, 2 cr.) and four terms of Physical Education (1, 2, 3, 4, ½ cr. each term). Students who have already begun work in Hygiene will conform to the old requirement.

GROUP II—BACKGROUND GROUPS FOR THE RESPECTIVE DEGREES

The additional courses prescribed in the curriculum leading to the degree Bachelor of Arts are as follows:

Second language 14 credits

In the Arts course two languages are required. The first language must be Latin; the second language chosen may be Greek, German, French, Spanish, or Italian. The normal requirements presuppose three years of Latin and two years of the second language in high school; the 14 college credits required in Latin are covered by courses 1, 2, 3, 4 (4 hours weekly, 3½ credits each term); similarly the credits in the second language are covered by courses 1, 2, 3, 4 (4 hours weekly, 3½ credits each). The student presenting more than the minimum requirement will be required to take a correspondingly smaller number of language courses in college; and similarly the student presenting less than the minimum requirement will have his language course correspondingly lengthened. A student, however, who is admitted to the Arts course with fewer than two units of Latin will be required to complete in college only three years of Latin, including both preparatory and college work, five hours a week through two years, and four hours a week through a third year.

Philosophy 1—Introduction to Philosophy 3 credits

The additional courses prescribed in the curriculum leading to the degree Bachelor of Science are as follows:

The third science from the group—Physics, Chemistry, Biology—not already selected for the common base 6 credits

Mathematics 3, 4, in continuation of the common base 6 credits

Students may substitute Mathematics 7, 8 (10 credits) for Mathematics 2, 3, 4 (9 credits). This substitution is particularly desirable for students intending to take elective work in either Mathematics or Physics.

Drafting 1—Descriptive Geometry 2 credits

Although discontinued during the war emergency as a general requirement for the Science degree, this course may still be required if deemed necessary by the Departmental Adviser as a background course for the student's elective concentration.

Geology 1—General Geology 3 credits

Philosophy 12—Logic and Scientific Method 3 credits

The additional courses prescribed in the curriculum leading to the degree Bachelor of Science in Social Science are as follows:

Economics 2—American Economic Development 3 credits

Education 20 (unless the student elects Education 21) 3 credits

Sociology 5—Introductory Sociology 3 credits

History 3 or 4 or 5 3 credits

Philosophy 1—Introduction to Philosophy 3 credits

Three courses, of three credits each, to be selected from:

Economics 20

History 3 and either 4 or 5

Either History 4 or History 5, but not both, may be counted among the prescribed subjects in the Social Science course.

Government 31

Psychology 1

Philosophy 12

Anthropological Geography (Unattached 5)

GUIDANCE PROGRAM

To assist students in meeting the somewhat complex problems of the curriculum, a guidance program was instituted in 1944 for the College of Liberal Arts and Science. This program is under the direction of Associate Dean John G. Peatman, assisted by a group of General Advisers: Professors Apfelbaum and Biddle, Drs. Cortell, Fenton, and Riedel. 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 Personnel Bureau 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.

GROUP III—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 described in the *Guide*, those elective courses indicated as *essential* or *especially relevant* ordinarily will form the nucleus for a concentration program. Concentration programs, however, are not limited to the fields described in this *Guide*; rather, the information presented there is offered as suggestive for the purpose of aiding the student to plan his upper college work.

The selection and approval of the elective concentration is part of the guidance program, already referred to, under the general direction of the Associate Dean. Each student, during the second half of the sophomore year, submits to the appropriate Adviser or Advisers a brief statement of the aim or purpose of his prospective concentration program and, in consultation with the Adviser or Advisers outlines the plan of courses to be elected as his concentration sequence, and obtains official approval therefor. Official approval of a concentration program means: (a) in case the majority of the course credits are in one department, the signature of the official Departmental Adviser is necessary; (b) in case the program includes courses in several departments with not more than 12 credits in any one department, the signature of each Departmental Adviser concerned is required if at least three courses in the department are included; in addition the approval of a General Adviser is required. The Associate Dean also may take action in special cases.

NOTE: If a student takes the following sequence of Education courses (Education 11, 16, 17 or 18, 22 or 23, and 41 or 51 or 61), his concentration program may be reduced from 24 to 18 credits. The entire sequence, including the first term of a methods course, must be taken.

The Departmental Advisers are: Professors d'Andrea (Art), Dawson (Biology), Prager (Chemistry), Newton (Classical Languages), Liptzin (Comparative Literature), Messrs. Taffet (Economics), Epstein (Education), Professors Gordon (English), O'Connell (Geology), Dr. Sumberg (German), Professors Haley (Government), Janowsky (History), Purcell (Hygiene), Fagerstrom (Mathematics), Neidlinger (Music), Bronstein (Philosophy), Marcus (Physics), Peatman (Psychology), Schulz (Public Speaking), Bergeron (Romance Languages), Joseph (Sociology).

Failure of Upper Sophomore students to file an officially approved Elective Concentration Card at the Registrar's office may result in debarment from registration in any elective courses for the beginning of the junior year. Any changes to be made in the concentration program, once it has been filed, require official approval, to be indicated in the same way as the original approval.

1945 City Coll. N.Y. LAW

Professor: Mayers (Chairman).

The courses of this Department are offered by the School of Business and Civic 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 machinery of justice. Typical proceedings, civil and criminal, are examined in detail, as well as the jurisdiction and organization of our tribunals, state and federal, judicial and administrative.
2 hrs. wk.; 3 cr. Spring

101. Introduction to Business Law: Contracts.

3 hrs. wk.; 3 cr.

102. The Law of Business Organization.

3 hrs. wk.; 3 cr.

103. The Law of Negotiable Instruments.

2 hrs. wk.; 2 cr.

104. The Law of Mercantile Transactions.

3 hrs. wk.; 3 cr.

Of the courses listed above, Law 100 is offered at the Uptown Center as well as downtown; the others are offered at the Downtown Center only. For description of these courses, consult the bulletin of the School of Business and Civic Administration.

MATHEMATICS

Professors: M. Philip (Chairman), Linehan, Gill, Wright; *Associate Professors:* Hubert, Post; *Assistant Professors:* Wirth, Grove, Fagerstrom, Boeker,¹ Hardy,¹ MacEwen; *Instructors:* Barber,¹ Cortell, Frary, Garrison, Hill, Hinman, Ingram, Kennedy, Loucks, McCarthy, Malin, Nathan, Powell, Reber,¹ S. L. Robinson, Shiffman,¹ Stranathan, Uplike; *Tutors:* Reynolds, D. D. Robinson.

PRESCRIBED COURSES

For a statement of the specific courses in Mathematics which are required for the several degrees in the College of Liberal Arts and Science, see pages 9 and 10 above.

1. Topics in College Algebra and Trigonometry.

3 hrs. wk.; 3 cr.

2. Analytic Geometry.

3 hrs. wk.; 3 cr. Prereq.: Mathematics 1 or Mathematics 42 and Mathematics 43. (A prerequisite will be waived if the corresponding high school course is presented for entrance credit.)

3. Calculus, Part I.

3 hrs. wk.; 3 cr. Prereq.: Mathematics 2.

4. Calculus, Part II.

3 hrs. wk.; 3 cr. Prereq.: Mathematics 3.

7. Analytic Geometry and Calculus.

5 hrs. wk.; 5 cr. Prereq.: Mathematics 42 and Mathematics 43. (A prerequisite will be waived if the corresponding high school course is presented for entrance credit.)

8. Calculus.

5 hrs. wk.; 5 cr. Prereq.: Mathematics 7.

¹ Absent for war service.**42. Plane Trigonometry.**

3 hrs. wk.; 3 cr.

43. College Algebra.

3 hrs. wk.; 3 cr.

43-53. Intermediate and Advanced Algebra.

5 hrs. wk.; 3 cr.

53. Intermediate Algebra.

Prescribed for students who do not present Intermediate Algebra for admission. 3 hrs. wk.; no credit.

61. Fundamentals of Mathematics I.

3 hrs. wk.; 3 cr.

62. Fundamentals of Mathematics II.

3 hrs. wk.; 3 cr. Prereq.: Mathematics 61.

77. Analytic Geometry.

4 hrs. wk.; 4 cr. Prereq.: Same as for Mathematics 7. (Ev)

78. Differential Calculus.

3 hrs. wk.; 3 cr. Prereq.: Mathematics 77. (Ev)

79. Integral Calculus.

3 hrs. wk.; 3 cr. Prereq.: Mathematics 78. (Ev)

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

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.: Mathematics 4, 8, or 79.

Professor Gill and Dr. Malin
Fall**12. History of Mathematics.**

3 hrs. wk.; 3 cr. Prereq.: Completion of prescribed Mathematics.

Dr. S. L. Robinson
Spring**13. Introduction to Higher Analysis, I.**

3 hrs. wk.; 3 cr. Prereq.: Mathematics 4, 8, or 79.

Professors Gill, Hubert, Wirth, Post; Dr. Nathan; Mr. Frary

14. Introduction to Higher Analysis, II.

3 hrs. wk.; 3 cr. Prereq.: Mathematics 13.

Professors Gill, Hubert, Post; Dr. Nathan

15. Ordinary Differential Equations.

3 hrs. wk.; 3 cr. Prereq.: Mathematics 4, 8, or 79.

Professors Linehan and Gill

16. Vector Analysis.

3 hrs. wk.; 3 cr. Prereq.: Mathematics 4, 8, or 79.

Professor Hubert
Fall**17. Differential Geometry.**

3 hrs. wk.; 3 cr. Prereq.: Mathematics 14.

Professor Linehan
Spring**18. Calculus of Variations.**

3 hrs. wk.; 3 cr. Prereq.: Mathematics 14 and 15

Professor Wirth
Spring**20. Mathematical Theory of Investment.**

2 hrs. wk.; 2 cr. Prereq.: Completion of the prescribed mathematics.

Professors Philip and Hubert
Fall**21. Mathematical Statistics, I.**

3 hrs. wk.; 3 cr. Prereq.: Mathematics 4, 8, or 79.

Professor Linehan, Dr. S. L. Robinson
Fall

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22. **Mathematical Statistics, II.** *Professor Linehan, Dr. S. L. Robinson*
3 hrs. wk.; 3 cr. Prereq.: Mathematics 21. Spring
- Students who have completed Mathematics 217 and 218 in the School of Business may not receive credit for Mathematics 21 and 22.
31. **Introduction to Modern Geometry.** *Professor Gill*
3 hrs. wk.; 3 cr. Prereq.: Mathematics 14. Fall
32. **Theory of Functions of a Complex Variable.** *Professors Gill, Post*
3 hrs. wk.; 3 cr. Prereq.: Mathematics 14. Spring
33. **Introduction to Modern Algebra.** *Professor Gill*
3 hrs. wk.; 3 cr. Prereq.: Mathematics 14. Spring
34. **Theory of Functions of Real Variables.** *Professor Post*
3 hrs. wk.; 3 cr. Prereq.: Mathematics 14. Fall
41. **Solid Geometry.**
3 hrs. wk.; 3 cr.
44. **Spherical Trigonometry with Applications to Navigation.**
3 hrs. wk.; 3 cr. Prereq.: Mathematics 42 or a high school course in Trigonometry.

MILITARY SCIENCE AND TACTICS

Professor of Military Science and Tactics: Major Newman. *Military Property Custodian:* Major Holton. *Instructional Staff:* Major Monroe, Captain Martin, and First Lieutenants Maier, Smith, Brown, and Hittinger.

The Reserve Officers' Training Corps was instituted by Act of Congress for the purpose of providing two years' basic training to such students as desire it. The work is conducted through the cooperation of the Federal Government and the College.

Students who complete the basic course are given a Military Training Certificate but do not thereby become a part of the Army of the United States.

Students who elect Military Science must complete the basic course of two years' training to receive credit for any part of it. *The course, when entered upon by any student, is prerequisite to his graduation and must be completed in four consecutive semesters.* Drops and postponements must be arranged with the Professor of Military Science & Tactics.

The Military Science Department also offers an elective advanced course (21-24) to students who complete the basic course (11-14). Students who are accepted in the elective advanced course receive two academic credits per semester for such time as they are enrolled in this course.

Students who have the necessary musical qualifications may elect to serve in the Military Band of the College. Members of the Band are required to attend concerts, ceremonies, and formations at College functions.

Basic course students may, in addition to taking the basic course, receive instruction in the Military Band, or students who have completed the basic course may continue instruction in the Military Band and receive credit from the Department of Music. For credit and requirements, see note under Music 31, 32, 33 and 34, on page 54.

11-14. Basic Course, Infantry.

Orientation, citizenship and military policy of the United States, military discipline, courtesies and customs of the Service, wearing of the uniform, organization, rifle marksmanship, National Defense Act, equipment, clothing and supply procedure, map reading, safeguarding military information, tent pitching, combat self-aid, field sanitation, mechanical training, technique of rifle fire and its application, interior guard duty, cover and movement, scouts,