

Bryn Mawr

Curriculum 1954-1955

THE undergraduate curriculum is designed to achieve two main purposes: to give a broad and sound education in the liberal arts and sciences, and to provide adequate preparation for advanced study for those students who wish to enter graduate and professional schools.

In the present curriculum the minimum of $15\frac{1}{2}$ units of work for the A.B. degree is distributed as follows: $4-5\frac{1}{2}$ units meet general college requirements, approximately 7 units constitute work in the major subject including allied work and the preparation for the Final Examination in the major subject, which are required of all students. The remaining units ($3-4\frac{1}{2}$) are for courses to be elected freely by the students. Each full year course is the equivalent of one unit of work and each course constitutes one quarter of a student's working time for one year. For the benefit of transfer students, one course is the equivalent of 8 semester hours. In most cases, Freshmen, Sophomores and Juniors take 4 units of work and Seniors $3\frac{1}{2}$ including the unit of preparation for Final Examination in the major field. This preparation usually consists of independent reading and conferences with members of the major department designed to review and correlate the material covered in the major.

The general college requirements which must be met by each candidate for the A.B. degree regardless of her choice of major subject are: (1) Freshman English composition, (2) History of Philosophic Thought, (3) one course in the natural sciences, (4) one course in literature and (5) one course in the social sciences or history. Also each student by passing written examinations must show evidence of her ability to read two foreign languages. A student who elects either Latin or Greek must offer as the second language a modern language.

The major subject, chosen at the end of the sophomore year, is combined with work in allied subjects. The purpose of the major subject is to give each student the kind of training which continuity in the study of one field of knowledge provides. As she progresses toward more complex advanced work she acquires a deeper insight into the fundamental principles and general concepts of her subject. At Bryn Mawr the departments which

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offer major courses of study are: Biology, Chemistry, Classical Archaeology, Economics, English, French, Geology, German, Greek, History, History of Art, Italian, Latin, Mathematics, Music, Philosophy, Physics, Political Science, Psychology, Russian, Sociology and Anthropology, Spanish. There are also departments of Education and History of Religion, in which elective work may be taken although no major is offered.

Each major department offers Honors work to a number of its senior students who have demonstrated unusual ability. Honors work is of a more advanced character than that done in the regular courses and requires more initiative and power of organization than is usually expected of undergraduate students. Such work may be carried on in connection with an advanced course or may be planned especially for individual students. It usually includes independent work of a critical and analytical nature with source material, periodic reports and the preparation of an honors paper. To be eligible, a student must have completed two years of study in the major subject and her candidacy must be approved by the Dean and the Curriculum Committee. The Honors work must be undertaken in addition to at least one full unit of advanced course work.

The plan for the curriculum determines the framework within which each student constructs her own program of courses. The general plan may be outlined as follows:

I. A total of at least $15\frac{1}{2}$ units of work must be presented by all candidates for the A.B. degree. The total is made up of $14\frac{1}{2}$ units of course work and one unit of preparation for the final examination in the major subject.

II. The $14\frac{1}{2}$ units of course work must include the following:

1. The course for Freshmen in English Composition. This course is supplemented by work in English Speech consisting of individual conferences which must be completed before the end of the Sophomore year.
2. A course in Literature to be chosen from courses in English and Biblical Literature, Greek, or Latin.
3. A course in one of the following sciences: Biology, Chemistry, Geology or Physics.
4. The course in History of Philosophic Thought.

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5. A course in social science to be chosen from courses in Economics, History, Political Science or Sociology and Anthropology.

6. Although no specific courses are required, every student must pass two examinations which test her ability to read two foreign languages. In order to meet this requirement for the degree with the greatest efficiency most students include one language course in their college programs. Many students, however, prefer to fulfill this requirement by independent study or summer work.

Language examinations may be taken in any autumn or spring after entrance, up to the beginning of the senior year. A Senior who fails either examination or is conditioned in both in the autumn will not receive her degree the following June. If having passed one examination she is conditioned in the other, she may take a second examination in January.

III. The total number of at least $15\frac{1}{2}$ units of work must include a major subject chosen at the end of the sophomore year. The major subject must consist of:

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1. Six units of work to be distributed as follows:

a. At least three and more usually four courses of work in the major field. Of these one or two must be second year courses, and one must be advanced.

b. The remaining number of courses to make up the required total of six to be chosen among the courses listed by the major departments as acceptable for allied work.

2. One unit of preparation for the Final Examination in the major subject. All students who receive the degree must have passed this examination.

IV. Elective work. The remaining units of work which make up the required total of $15\frac{1}{2}$ are devoted to elective courses. Students may choose freely any courses which do not have prerequisites or any courses whose prerequisites they can meet.

V. Grades. Numerical grades on the scale of 100 are given in all courses counting for the degree. Each student must attain a grade of 70 or above in at least half of these courses and a grade of at least 60 in the remainder. In all courses in her major subject, she must attain grades of 70 or above. Should she receive a grade below 70 in a second year or advanced course in her major subject, she may be required to change her major.

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VI. The degree of Bachelor of Arts is conferred upon students who have completed the course of study described above. The degree is awarded *cum laude*, *magna cum laude*, and *summa cum laude* to students whose numerical average grades in all their courses is 80-84, 85-89, 90 or above respectively. To students who have completed Honors work in their major subject the degree is awarded with honors in that subject.

VII. Credit for work taken elsewhere:

1. Transfer credit (see page 28.)

2. Co-operation with Neighboring Institutions

Under the three-college plan for co-operation, full-time students at Bryn Mawr may register for courses at Haverford College and Swarthmore College without payment of additional fees. Such registrations must be approved by the Dean and the departments concerned. Credit toward the Bryn Mawr degree will be granted for such courses.

3. Summer School Work

Students desirous of supplementing their work at Bryn Mawr by taking courses in summer school are encouraged to do so. Academic credit is granted for summer school work only under special circumstances. For example, students who have been absent from college because of illness may present summer school work to make up the credits needed for the Bryn Mawr A.B. degree. Summer school work recommended by the major departments as part of the plan of major work may also be presented for credit. No credit will ever be given for work in which a student has received a grade below C. Students who wish to present summer school work for credit should first obtain approval of their plan from the Dean and from the department concerned. Credit given for such work will be calculated on an hour-for-hour basis.

VIII. Supplementary requirements for the Degree:

i. In addition to completing the course of study outlined above, all candidates for the A.B. degree must take the following work:

a. All students must fulfill the requirement in English Speech. This consists of an interview-test at the beginning of the freshman year, to be followed by remedial work (in

conference, without credit), ordinarily throughout the first semester, for those needing it.

b. Hygiene

All students must meet the requirement in Hygiene. This consists of an examination which is based on reading assigned by the College Physician and the Consulting Psychiatrists. In addition, discussion groups are arranged which students may attend if they wish. Students must pass the required examination no later than the spring of the junior year. Hygiene examinations are offered each year in September (for freshmen and transfer students only) and in the spring.

c. Physical Education

All students must meet the requirement in Physical Education, which consists of work taken throughout the freshman and sophomore years (see page 104).

2. Residence—Every candidate for the degree of Bachelor of Arts unless she is a transfer student or is permitted to accelerate her program must attend Bryn Mawr College for a period of four years. Students admitted on transfer from other colleges must study at Bryn Mawr for at least two years.

PREMEDICAL PREPARATION

Bryn Mawr through the curriculum in liberal arts and sciences, provides the opportunity of meeting requirements for admission to the leading medical schools of the country, and each year a number of its graduates enter these schools. The minimal requirements for most medical schools are met by the following courses: Biology 101, Biology 201, Chemistry 101, Chemistry 202, Mathematics 101, Physics 101. Many medical schools require also Chemistry 201a, and reading facility in French and German.

These requirements are fulfilled by a major in Biology, with the election of Mathematics 101 and Physics 101, or by a major in Chemistry with the election of Biology 101 and 201. They can be met by a major in other subjects, such as literature or history, with careful planning of the student's courses during her four years at Bryn Mawr and some work in the summer at an institution giving summer courses acceptable either to Bryn Mawr in substitution for its regular course work, or to the medical school of the student's choice as preparation for its courses of study.

The College is able to award a number of scholarships for medical study from funds given for that purpose by friends interested in the advancement of women in medicine. These may be applied for on the student's admission to medical school and are awarded at the end of her senior year, for use during the first year of medical study with the prospect of renewal for later years if her need and her record in medical school warrant it.

COORDINATION IN THE SCIENCES

In 1935, a gift from the Carnegie Corporation of New York enabled the College to put into operation a plan for coordination in the sciences. Under this plan, the science departments offer an unusual kind of science training, providing instruction in overlapping fields of natural science and related subjects, such as biophysics, geochemistry, psychophysics, etc. This kind of training necessarily demands a thorough grasp of the fundamentals of at least two of the sciences, and usually also of mathematics. This training may be obtained in the first three years of undergraduate study and the inter-related work begun in the senior year and continued in the Graduate School.

Through this gift, the College is also able to offer both undergraduate and graduate scholarships to students who wish to prepare themselves for future work in these relatively new and extremely fruitful areas of scientific investigation. The chairmen of the Departments included in this plan (Biology, Chemistry, Geology, Mathematics, Physics, Psychology) will be glad to see students interested in it and to advise them about their courses of study. Such students should consult with the chairmen of the Departments in which their special interests lie as early in their course as it is possible to do so.

INTERDEPARTMENTAL COURSES

Each year, certain courses are offered which cut across well defined areas of knowledge and emphasize relationships among them. Such courses are taught by two or more members of the faculty working in close cooperation. Since the material considered requires some background in at least two disciplines, the interdepartmental courses are usually offered at the advanced level. For students who have progressed to the more complex aspects of their major subjects, the interdepartmental courses

provide opportunities to apply their training to new and broader problems, and to benefit from the experience of seeing their own subject from the points of view of several specialists. To facilitate free discussion registration is generally restricted to a limited number of well qualified students.

LANGUAGE HOUSES

East House and Wyndham are small residences open to upperclassmen who wish to speak Spanish or French respectively. Residence in the language houses requires adequate preparation in the necessary language, and students accepted agree not to speak English at any time while living in either the French House or the Spanish House. Residence in a language house provides an excellent opportunity to gain fluency in the speaking of a foreign language and is highly advisable for students planning to spend the junior year abroad.

THE JUNIOR YEAR ABROAD

Qualified students may apply for admission to the various groups spending the junior year in Europe. Bryn Mawr students may study in Paris under the Junior Year in France Plan sponsored by Sweet Briar College, or in Geneva, Florence, or Madrid with groups organized by Smith College. Applicants must have excellent academic records and must give evidence of competence in the language of the country in which they plan to study. In general, two years of study of the language at the college level are necessary to provide adequate preparation. The junior year groups are not limited to language majors; they often include majors in, for example, History of Art, History or the social sciences. All students who plan to study abroad should consult with the chairman of their major Departments in order to be certain that the work done in Europe may be coordinated with the general plan for the major subject.

SCHOLARSHIPS AND OTHER STUDENT AID

With the purpose of its founders continually in mind, to provide opportunity for education in liberal arts and sciences to those best qualified for it, Bryn Mawr has always kept its fees as low as possible and offered scholarship help to those unable

to meet them. The College has been able to do this because of the wisdom and generosity of its founders and of later friends and of alumnae who have contributed to its endowment and to its scholarship funds. While all the students are, strictly speaking, on scholarships in that their tuition fees do not wholly cover the cost of their instruction, about one-third are holders of additional scholarship help, awarded to them, upon their application for it, on the basis of academic standing and of need. Full information about the scholarships available and other forms of help in meeting the expenses of college education will be found on pages 105-121.

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[302a. Cicero and Caesar: Mr. Broughton.]

[302b. Lucretius and Vergil's Georgics.]

FINAL EXAMINATION: The final examination for students majoring in Latin consists of three three-hour papers in the following fields:

1. Latin Sight Translation.
2. An examination on one of the following subjects:
 - a. Latin Literature of the Republic
 - b. Latin Literature of the Empire
 - c. Latin Literature of the Ciceronian and Augustan Age
 - d. Roman History from the Sources (100 B.C. to 70 A.D.).
3. An examination on one of the following subjects:
 - a. An allied subject (Students are advised if possible to take the third paper in Greek)
 - b. A second subject from Group 2 (Choice must avoid duplication of material)
 - c. The development in Latin literature of an important literary type
 - d. An important period or type in Medieval Latin Literature
 - e. Latin Prose Style.

HONORS WORK: Honors work either in classical or in medieval Latin is offered to qualified seniors. The subject will be determined by the interests of the student. The work is carried out under the direction of one member of the Department and the results are presented in a paper.

Mathematics

PROFESSOR: JOHN CORNING OXTOBY, M.A.,
Chairman
 ASSOCIATE PROFESSOR: MARGUERITE LEHR, PH.D.
 ASSISTANT PROFESSOR: HAROLD W. KUHN, PH.D.

Appointment to be announced

The major is designed to provide a balanced introduction to the subject, emphasizing its nature both as a deductive and as an applied science, at the same time providing the technical foundation for more advanced study. The courses in calculus are basic for all applications of mathematical analysis and for more advanced work in function theory. The courses in algebra and geometry introduce the student to some of the unifying ideas and postulational methods that are characteristic of much of modern mathematics.

REQUIREMENTS IN THE MAJOR SUBJECT: Mathematics 101, 201, 202c, 301, 303a, and at least one other advanced half course.

ALLIED SUBJECTS: Chemistry, Economics, Philosophy, Physics, and Psychology.

101. *Analytic Geometry and Calculus*: Miss Lehr, Mr. Kuhn.

Plane analytic geometry, including the necessary elements of trigonometry; Differential Calculus of both algebraic and transcendental functions; an introduction to integration. The interplay between mathematical ideas and applications is stressed.

201. *Second Year Calculus*: Mr. Oxtoby.

The definite and indefinite integral, infinite series, partial derivatives, multiple integrals, differential equations, with applications to geometry, physics, and chemistry.

202c. *Solid Analytic Geometry and Algebra*: Mr. Kuhn.

Determinants, vectors, matrices, and selected topics from the Theory of Equations; linear algebra motivated by and applied to space geometry; classification and transformation of planes and quadric surfaces.

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301. *Advanced Calculus*: Mr. Oxtoby.

The classical theory of real functions, based on Cantor's construction of the real number system; the Riemann integral; functions defined by power series, Fourier series, functions of several variables. Prerequisite: Mathematics 201.

302b. *Introduction to Geometric Theories*: Miss Lehr.

Analytic generalizations and group-theoretic classification, as related to postulational methods and the problem of introducing coordinates. Development motivated from the basic projective, Euclidean, and non-Euclidean space theories. Prerequisite: Mathematics 202c.

303a. *Introduction to Abstract Algebra*: Miss Lehr.

Permutations, linear transformations, abstract groups, rings, and fields; postulational characterization of number systems. Prerequisite: Mathematics 202c.

304a. *Theory of Probability and Statistics*: Instructor to be announced.

Mathematical formulation of problems of statistical inference, exhibiting the inherent probability aspect. Probability distributions for discrete and continuous ranges; sampling theory; central limit theorems; tests of hypotheses. Prerequisite: Mathematics 201.

310. *Theory of Functions of a Complex Variable*: Mr. Kuhn.

Special functions, conformal mapping, the general theory according to Cauchy, singular points, Laurent series, series of partial fractions, infinite products, elliptic functions. Prerequisite: Mathematics 301.

[311b. *Differential Equations*: Mr. Oxtoby.]

General methods, existence theorems, linear equations and Wronskians, oscillation and separation theorems, partial differential equations and boundary-value problems. Prerequisite: Mathematics 301 (may be taken concurrently).

204.* *Introduction to Statistical Inference*: Miss Lehr.

A course designed to develop the mathematical vocabulary necessary for study of quantitative data. Descriptive methods for frequency distributions and time series; correlation. Elements of probability, sampling, and tests of significance.

FINAL EXAMINATION: The final examination consists of three parts: (a) an examination in analysis, (b) an examination in algebra and geometry, and (c) an examination in some particular branch of advanced analysis or geometry, or in an allied field.

HONORS WORK: Qualified students are admitted to Honors work on recommendation of the Department.

Music

PROFESSOR:

HORACE ALWYNE, F.R.M.C.M.,
Chairman

ASSOCIATE PROFESSOR:

ROBERT L. GOODALE, A.B., B.MUS.,
A.A.G.O.

DIRECTOR OF ORCHESTRA

AND ENSEMBLE GROUPS: WILLIAM H. REESE, PH.D.

ASSISTANT:

ELIZABETH E. BOOTH, M.A.

Appointment to be announced

The purpose of the Music major is to enable the student to appreciate the significance of music from an historical and sociological as well as from an aesthetic point of view and to develop a technique of intelligent listening, a faculty of critical judgment, and the ability to use the materials of music as a means of expression for creative talent.

Students in the courses in History and Appreciation of Music must devote two hours or more a week to listening to gramophone records assigned by the Department.

The College Chorus of eighty members, which also takes part in the College Chapel Services, and the Orchestra and Ensemble groups are organized under the direction of the Department of Music. On several occasions during the year the chorus of Bryn Mawr College and the choruses of various men's colleges, as well as the instrumental groups of Bryn Mawr College and Haverford College collaborate in performances of special works.

Lessons in Pianoforte and Organ may be taken at the student's own expense, with no academic credit. Membership is recommended in the Chorus or Orchestra, also with no academic credit.

REQUIREMENTS IN THE MAJOR SUBJECT: Music 101, 102, 201, and at least one and one-half units of additional work, the selection