DEGREES AND COURSES
OF STUDY

Vassar College offers a balanced course of study leading to the degree of Bachelor of Arts. To permit flexibility, it offers also an opportunity for a four-year program leading to a combined Bachelor of Arts and Master of Arts or Science degree in a limited number of specified areas. It encourages students to pursue the degree through the development of a coherent and meaningful program of study tailored as far as possible to suit individual needs.

REQUIREMENTS FOR THE DEGREE OF
BACHELOR OF ARTS

Units

Each candidate for the Bachelor of Arts degree is required to complete thirty-four units of work, equivalent to the standard of 120 semester hours recognized by the Board of Regents of the University of the State of New York. The system of units is threefold:
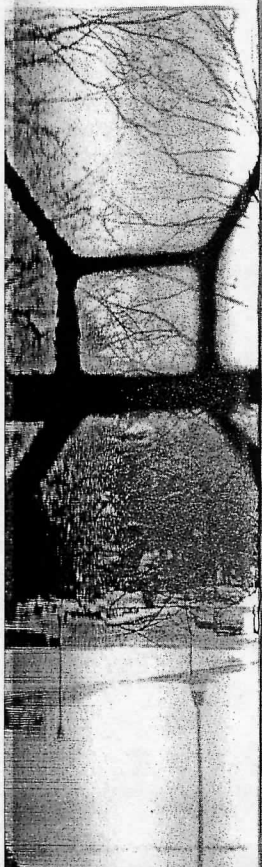
a) The single unit, a course for one semester.

b) The half unit, equivalent to one-half of a semester course taken over an entire semester or for a half semester only.

c) The double unit, consisting of a year sequence of semester courses or the equivalent of two semester courses in one term.

Residence

Undergraduate students are in general required to live on campus except for a few whose homes are in the Poughkeepsie area. Occasionally a limited number of upperclassmen are granted special permission to live off campus. While four years is the usual length of time expected for the baccalaureate degree, students may be permitted to spend

a longer or shorter time. The fact that many students will benefit from a break in the four-year sequence is acknowledged and reflected in the residence requirement. Students are encouraged to move at the pace and in the fashion which suits their needs and those of their chosen program.

Residence Requirement

1. A student choosing a regular four-year program must spend at least three of those years in residence.

2. Students on a three-year program (accelerating students, those entering with a considerable number of Advanced Placement credits, those transferring after one year at another college) would normally be expected to spend two and one-half years in residence. If special one-year off-campus programs — e.g., Junior Year Abroad or academic leave of absence — were deemed *essential* to their studies, the residence requirement would be reduced to two years in those cases by permission.

3. Students entering Vassar as juniors must spend two years in residence and elect at least 17 units — the minimum amount of Vassar work required for a Vassar baccalaureate degree.

4. Any special permissions relating to the residence requirement (academic leaves of absence, part-time senior year arrangements, acceleration) must be sought individually from the Committee on Leaves and Privileges by February 15 of the previous academic year.

Attendance at Class

The educational plan of Vassar College depends upon the effective cooperation of students and teachers. The student bears full responsibility for class attendance, for completing the work on schedule, and for making up work missed because of absence. The instructor may, with the approval of the Dean of Studies, refuse the student the opportunity to make up work or to take the final examination, or may exclude the student from the course.

To protect the integrity of the academic year, students are required to be in residence by 12 noon of the day of Convocation, and again for the opening of the second semester.

THE VASSAR CURRICULUM

Vassar offers students a choice of three ways to proceed toward a degree in the course of their search for an education that is personally

Vassar 1974-75

significant. They are Concentration in a Discipline, the Independent Program, and the Multidisciplinary Concentration.

In these programs the limits on election and standards of expectation are deliberately kept to a minimum to provide the widest possible range from minimal to intensive concentration, and ease of movement from one curriculum into another.

Concentration in a Discipline

The student may select the discipline at any time from the end of the first year until the mid-point of work at the College. The choice must be filed with the Registrar.

Minimum requirements for the concentration vary with the discipline, but they do not exceed approximately one-third of the student's total program toward the degree.

Of the 34 units required for the degree, students may not take more than fifty percent or 17 units in a single field of concentration. At least one-fourth of the 34 units or 8½ units must be in one or more of the divisions of the curriculum outside the one in which the student is concentrating.

It is strongly recommended that the student take work in each of the four divisions at Vassar. Students are also expected to work in more than one discipline each semester.

These are the curricular divisions:

Arts	Foreign Languages and Literatures	Social Sciences	Natural Sciences
Art	French	Anthropology	Astronomy
Drama	German	Economics	Biology
English	Greek	Education	Chemistry
Music	Hispanic Studies	Geography	Geology
Physical Education	Italian	History	Mathematics
	Latin	Philosophy	Physics
	Russian	Political Science	Psychology
		Religion	
		Sociology	

Courses in Black Studies; Science, Technology, and Society; East Asian Studies; and Changing American Culture fall into the appropriate curricular division.

The Independent Program

The Independent Program is offered for students wishing a high degree of independence and creativity in a combination of fields and methods of study on and off campus.

A student may apply for admission to the Independent Program no earlier than the second semester of the freshman year and normally no later than the end of the sophomore year.

A student wishing to apply for the Independent Program will plan an individual program of courses for the remainder of the college years and provide a statement of the program's focus, rationale, and goal. When the plan is drawn up, it should be presented to a faculty member. If the faculty member approves the program and agrees to serve as advisor, the student submits the program to the Office of the Dean of Studies. The student's program will be considered for approval by the Committee on the Independent Program. The Committee will approve the advisor or recommend an alternate if it seems more appropriate. In some programs, two faculty advisors would not only be appropriate but advisable. After approval of the program, the Committee will supervise the student's plans and grant any special permissions required.

An appropriate amount of the student's work must be in the advanced level (usually four units), and normally the student will elect no more than three-quarters of his work in one division of the curriculum.

The college residence requirements will apply.

The student's Independent Program will culminate in a final exercise, its nature to be designed by the student and approved by the advisor and the Independent Program Committee. In case of a question of failure or distinction in the performance, the Committee will appoint a second faculty member to review it.

It should be noted that students wishing to develop programs in such fields as Medieval Studies or Latin American Studies might think of doing so through the medium of the Independent Program. Students who are interested in Urban Studies should consult the Multidisciplinary Program on Science, Technology, and Society.

Multidisciplinary Program

Each Multidisciplinary Program concentrates on a single problem or series of problems that cannot be approached by one discipline alone. The integration and coherence of the programs is achieved through work of ascending levels of complexity. At the present time, Vassar has four fully developed multidisciplinary programs — Black Studies; East Asian Studies; Science, Technology, and Society; and

Changing American Culture. The regulations and requirements of these programs are specified under course listings.

Students electing to concentrate in a multidisciplinary program must take at least one fourth of their 34 units, or 8½ units, outside their program.

The Double Major

Students wishing to apply to the Committee on Leaves and Privileges for permission to take a double major, in which they fulfill all the requirements of each field of concentration concerned, may do so after obtaining the permission of the appropriate advisors and department chairmen. A student who has been permitted to so concentrate may not graduate unless all requirements are fulfilled.

LEAVES OF ABSENCE

Vassar offers its students two kinds of leaves of absence: academic and non-academic. Both kinds of leaves are granted upon application through the Office of the Dean of Studies before appropriate deadlines announced annually so that space and residential arrangements can be kept in order. Applications for leave, except when of an emergency nature, should be made before February 15 of the academic year before the one for which they are sought.

An academic leave of absence will be granted to a student for a semester or a year within the general framework of sensible and promising academic purpose. It may be granted to a student who wishes to take course work of a particular kind at another institution, or to a student who wishes to have a fresh kind of academic experience. Departmental advisors help students in planning programs which include academic work elsewhere. In certain departments, leaves in sophomore year may be far more desirable than leaves in junior year, and vice versa.

Any student seeking such an academic leave should consult the appropriate advisor in the Office of the Dean of Studies in sufficient time to allow for conferences with academic advisors, followed by submission of an application to the Committee on Leaves and Privileges before the February 15th deadline.

Leaves of a non-academic nature generally fall into two categories — leaves for medical reasons (granted upon recommendation to the Dean of Studies from the Health Department) and leaves for students who want a year off to do something quite different from academic work. These may be leaves for employment, or merely for personal

III. Advanced

Prerequisite for all advanced courses: 2 units in Grade II; or by permission.

300a. Senior Thesis (1)

The Department.

301b. Senior Seminar (1)

Correlation and review. Mrs. Welles.

**[307a/308b. Italian Literary, Social, and Political Trends
in the 1960's]** (½)

A study of the literary *avant garde* and its relation to the economic boom, the political structure, and the revolution in the universities. Mr. Sera.
Not offered in 1974-75.
One 75-minute period.

[320a-321b. Dante and His Times] (1)

A critical study of *The Divine Comedy* and other works in relation to the life, religion, and philosophy of the late Middle Ages. Mrs. Welles.
Two 75-minute periods.
Not offered in 1974-75.

330a. The Early Renaissance (1)

A study of Italian literature from Petrarch to Lorenzo. The course will also deal with men and movements of primarily historical and intellectual rather than literary significance, such as Leon Battista Alberti, and the Florentine Academy. Mrs. Welles.
Two 75-minute periods.

331b. The High Renaissance (1)

A study of Italian literature and civilization from Machiavelli to Tasso. Especial emphasis will be given to Machiavelli, Guicciardini, the decline of the Florentine republic, and to the beginnings of the Counter-Reformation in Italy. Mrs. Welles.
Two 75-minute periods.

370a/371b. Practice in Writing and Discussion (1)

Content to be determined by the needs and interests of the students. The aim is to develop a critical sense and to give methodological training in research in Italian literature. The Department.
Unscheduled.

MATHEMATICS

Professors: Winifred A. Asprey, David M. Merriell[ab]; **Associate Professor:** Donald Z. Spicer; **Assistant Professors:** Thomas E. Cecil, John A. Feroe, Deborah Rebhuhn.

Requirements for Concentration: 11 units including 120, 121 or 122, 200, 224, 225, 301, 326, 361, and 335 or 355. Freshman seminars, 116, 117 and reading courses are not counted among the required 11 units.

[ab] Absent on leave for the year.

Vassar 1974-75

Senior Year Requirements: At least 1 unit each semester of Grade III work in addition to 301b. This requirement may be satisfied by 399 if the student has already completed 6 units of Grade III work in regular classes.

Recommendations: Majors are strongly urged to elect at least two units in applications of mathematics to other fields. A reading knowledge of French, German, or Russian is advised for those contemplating graduate study.

Sequence of Courses for Concentration: Students will normally elect 120a, 121b, 200a or b, 224a, 225b, but freshmen eligible for advanced placement should confer with the Department. Election of advanced courses should be made in consultation with a departmental advisor.

Advisors: Miss Asprey, Mr. Cecil, Mr. Merriell, Miss Rebhuhn, Mr. Spicer.

I. Introductory

115b. Introduction to Calculus (1)

A short course intended for students not majoring in mathematics or the physical sciences who need a working knowledge of calculus. The course emphasizes techniques and applications with relatively little attention to the rigorous foundations.

Prerequisite: At least three years of high school mathematics. Three 50-minute periods.

116a. Mathematics for Elementary Teaching (1)

Foundations of the mathematics taught in elementary schools. Numeration systems, properties of sets, structure of the real number system and its subsystems, mathematical justification of computational procedures, elements of number theory. Not a course in methods of teaching.

Also listed under Education 116a.

Not open to freshmen. Two 75-minute periods.

117b. Excursions in Mathematics (1)

An investigation of several solved and unsolved problems in mathematics aimed at developing an appreciation of the spirit of mathematics and mathematical thought processes. The course may not serve as a prerequisite for other courses in the department.

Three 50-minute periods.

120a. Elementary Calculus I (1)

Calculus of functions of one variable. Limits, continuity, derivatives, mean value theorem, applications of derivatives, definite integral, transcendental functions.

Prerequisite: A minimum of three years of high school mathematics, preferably including trigonometry.

Three 50-minute periods.

121b. Elementary Calculus II (1)

Continuation of 120. Techniques of integration, applications of definite integrals, approximation methods, parametric equations, polar coordinates.

Prerequisite: 120 or equivalent.

Three 50-minute periods.

Vassar 1974-75

122a. Foundations of Calculus (1)

Calculus of functions of one variable. A logical development of the ideas of calculus. Knowledge of the basic operations (differentiation and integration) is assumed.

Offered for those receiving one semester of advanced placement.
Four 50-minute periods.

125a. Topics in Calculus (1)

A continuation of 115. Topics may include partial differentiation, linear programming, probability distributions, vector functions, and differential equations. Emphasis will be on techniques and applications, which will be chosen mainly from social sciences.

Prerequisite: 115 or equivalent.
Three 50-minute periods.

II. Intermediate

200a or b. Infinite Series (½)

Improper integrals, sequences, series, convergence tests, power series.
Prerequisite: 121, 122, or one year of calculus.
Two 50-minute periods.

201b. Differential Equations (½)

Emphasis on methods of solution of ordinary differential equations. First and second order equations, linear equations, power series methods.
Prerequisite: 200 or equivalent; may be taken concurrently.
Two 50-minute periods.

224a. Multivariable Calculus I (1)

Calculus of functions of several variables. Elements of linear algebra, differential calculus of vector functions.
Prerequisite: 121, 122, or equivalent.
Three 50-minute periods.

Vassar 1974-75

225b. Multivariable Calculus II   (1)

Continuation of 224. Implicit function theorem, extreme values, multiple integrals, vector field theory.

Prerequisite: 224.

Three 50-minute periods.

265b. Statistics   (1)

Probability spaces; random variables; random samples; laws of large numbers; estimation of parameters; central limit theorem; confidence intervals and tests of hypotheses; regression.

Prerequisite: Two years of high school algebra. Two 75-minute periods.

275b. Numerical Analysis I   (1)

Error and its propagation. Numerical approximation, interpolation, differentiation, integration. Solution of algebraic equations, systems of linear equations. Extensive use will be made of the 360 computer. Miss Asprey. (Also listed under Computer Science Studies.)

Prerequisite: 121 or 122; ability to program in FORTRAN, PL/I, or APL. Two 75-minute periods.

298. Junior Independent Work   (½ or 1)

Election should be made in consultation with a departmental advisor.

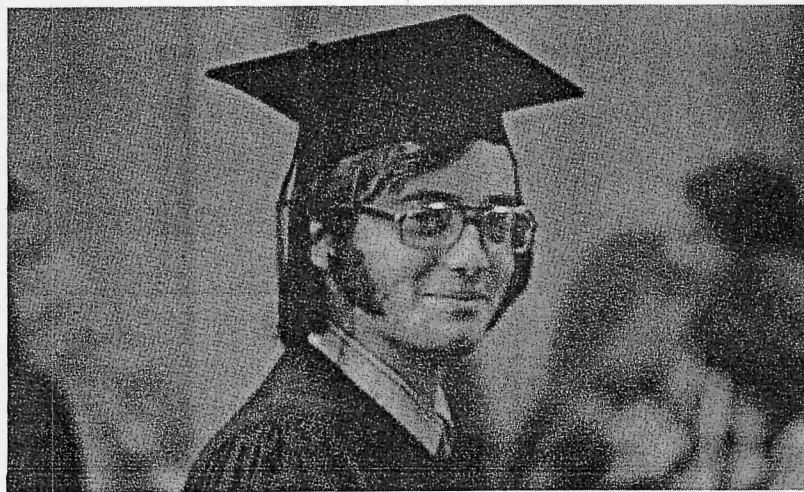## Reading Courses

Prerequisite: 121 or 122 or equivalent, and permission of the instructor.

297.01 Elementary Number Theory   (½)

The Department.

297.02 Evolution of Mathematical Concepts   (½)

Mr. Spicer.

297.04 Non-Euclidean Geometry   (½)
  Mr. Cecil.

297.05 Philosophy of Mathematics   (½)
  The Department.

297.06 History of Mathematics   (½)
  The Department.

297.07 Set Theory   (½)
  Mr. Spicer.

297.09 Mathematical Discovery   (½)
  Miss Rebhuhn.

298. Junior Independent Work   (½ or 1)
  Election should be made in consultation with a departmental advisor.

III. Advanced

  Prerequisite for all advanced courses: 225, unless otherwise indicated.
  For students planning graduate study in mathematics, 327, 355 and 362
are strongly recommended.

301b. Senior Seminar   (½ or 1)
  Areas of study and units of credit will vary from year to year.
  Open only to seniors whose major is mathematics.

326a. Real Analysis I   (1)
  A rigorous treatment of topics in the classical theory of functions of a real
variable from the point of view of metric space topology; limits, continuity,
sequences and series of functions, and the Riemann-Stieltjes integral.
  Three 50-minute periods.

327b. Real Analysis II   (1)
  Lebesgue measure and integration on the real line. The Lp spaces.
  Prerequisite: 326. Three 50-minute periods.

328b. Theory of Differential Equations   (1)
  Existence and uniqueness theorems for ordinary differential equations;
general theory and eigenvalue methods for first order linear systems.
  Prerequisite: 326 or permission of the instructor: 201 will also be helpful
but is not essential.
  Alternate years: offered in 1974-75. Two 75-minute periods.

335b. Topics in Differential Geometry and Topology   (1)
  Aspects of the elementary geometry and topology of differentiable
manifolds. Topics will vary from year to year.
  Prerequisite: 326. Two 75-minute periods.

350b. Foundations of Mathematics   (1)
  Axiom systems, set theory, cardinal numbers, well-ordering, real numbers,
controversies in mathematical philosophy.
  Alternate years: offered in 1974-75. Two 75-minute periods.

Vassar 1974-75

355a. Topology   (1)

An introduction to point set topology; a study of topological spaces with emphasis on continuous mappings, connectedness, compactness, separation properties, metric and product spaces.

Prerequisite: 326. Three 50-minute periods.

360a. Linear Algebra   (1)

Vector spaces, inner product spaces, linear transformations, matrices, determinants, eigenvalues, bilinear forms.

Prerequisite: 224 or equivalent. Three 50-minute periods.

361a. Modern Algebra I   (1)

Groups, rings, and fields.

Prerequisite: 224. Two 75-minute periods.

[362b. Modern Algebra II]   (1)

Advanced treatment of topics studied in 361.

Alternate years: not offered in 1974-75. Prerequisite: 361. Two 75-minute periods.

[365a. Complex Analysis]   (1)

Integration and differentiation in the complex plane. Topics include: holomorphic (differentiable) functions; power series as holomorphic functions; Taylor series and their singularities; complex integration and in particular Cauchy's theorem and its consequences; Laurent series; representation theorems for meromorphic functions by Mittag-Leffler's theorem and for entire functions by the Weierstrass factor theorem.

Prerequisite: 326. Two 75-minute periods.

Alternate years: not offered in 1974-75.

[368b. Probability Theory]   (1)

Prerequisite: 326.

Alternate years: not offered in 1974-75. Two 75-minute periods.

Vassar 1974-75

375a. Numerical Analysis II (1)

Advanced topics in numerical analysis, especially matrix theory and linear algebra. Miss Asprey. (Also listed under Computer Science Studies.) Prerequisite: 275. Two 75-minute periods.

385b. Special Studies in Numerical Analysis (1)

Topics will vary from year to year. Miss Asprey. (Also listed under Computer Science Studies.)

399. Senior Independent Work (½ or 1)

Election requires the approval of a departmental advisor and of the instructor who will supervise the work.

Special Studies

One or more special studies in algebra, analysis, numerical analysis, or topology may be offered according to the interests of students. For numerical analysis see Computer Science Studies. Permission required. Each such course will be offered for 1 unit.

MUSIC

Professors: Earl W. Groves, Janet Knapp[ab], Robert Middleton (Chairman), Donald M. Pearson, Edward Reilly, Albert van Ackere; **Associate Professor:** Richard Wilson; **Assistant Professors:** Todd Crow[ab], Jameson Marvin, Blanca Uribe; **Instructor:** Merellyn Gallagher*; **Lecturers:** Catherine Aspinall*, Ralph Froelich*, Luis Garcia-Renart*, Thomas Nyfenger*, Matthew Raimondi*.

Requirements for Concentration: 12½ units, including 105a/106b, 150a/151b; at least 7 additional units from history and theory courses, 3 of which are to be in Grade III; 1½ units of performance.

Recommendations: A reading knowledge of at least one of the following foreign languages: German, French, Italian. German is strongly recommended. Students planning to concentrate in music will normally elect 105a/106b in the freshman year and 150a/151b in the sophomore year. Majors are encouraged to audition for membership in one of the department musical organizations:

The Vassar College Choir, director: Jameson Marvin.
The Vassar College Chorus, director: Jameson Marvin.
The Vassar College Madrigal Singers, director: Albert van Ackere.
The Vassar College Orchestra, director: Luis Garcia-Renart.

Advisors: The Department.

I. Introductory

[015a/016b. Exercises in Basic Musicianship] (0)

Ear training, sight singing, dictation, and clef reading. Not offered in 1974-75.

Intended for music majors; open to non-music majors by permission.

---

*Part time.
[ab] Absent on leave for the year.