To be eligible for any major, a student must have received grades of C minus or better each semester of the prerequisite course and any other course taken in the sophomore year which is required in the major. A student who falls below this standard may major in this subject only with the approval of the Committee on Academic Standing in consultation with the chairman of the department. A description of the detailed structure of each major precedes the list of courses in each department under "Courses of Instruction".

The Senior Major Course

A central feature of the Williams major is the double-credit course taken in senior year. (Seniors register for only four separate courses including this double-credit course.) This course differs in many ways from other courses in the College. Since it is taken only by majors, the students share a common body of knowledge derived from their earlier sequence courses and since it counts as two courses, the students have extra time for reviewing their earlier work and for writing papers which correlate various aspects of what they have learned. Hence, double credit is allowed for this work because it has a double function: it not only extends the student's knowledge of his major subject, but it also coordinates the material of his earlier courses in the major.

The Major Examination

The success with which the student has achieved an over-all understanding of his major subject is tested by a comprehensive examination on the major, taken at the end of his senior year. The double-credit senior course, providing special opportunities for correlation and review, and the major examination thus work together to assure that the Williams graduate has not merely received passing grades in a number of separate courses, but has organized and assimilated what he has learned.

Completion of the Major

The passing of each major course and of the major examination is necessary for the completion of the major. In addition, the student must obtain a general grade of C minus or higher in the major. This grade is determined by combining the grades attained in all the major courses and the grade attained in the major examination. The latter must count at least one fifth of the total. A student who receives a grade of D in the first semester of the
The Curriculum

Entering freshmen who plan to become architects should take Mathematics 1-2, and are advised to take Art 1-2 (listed as a sophomore course) in their freshman year, and Mathematics 13-14 and another art course, presumably Art 7, 8, in their sophomore year. Art 5-6, the junior course in basic design, is a prerequisite for all senior work in architectural design. The latter (Art 13-14) is conducted by a registered architect to a limited enrollment. In special cases where there is unusual aptitude, a sophomore who established a good record in Art 1-2 in his freshman year may be admitted to Art 5-6 in order to allow two years of architectural study, provided that the second year is on an honors basis.

Grades

The following grade system is used: A, excellent; B, good; C, fair; D, passing; E, failing. These letters with plus and minus value have the following numerical equivalents in calculating grade averages:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Numerical Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>12</td>
</tr>
<tr>
<td>A</td>
<td>11</td>
</tr>
<tr>
<td>A−</td>
<td>10</td>
</tr>
<tr>
<td>B+</td>
<td>9</td>
</tr>
<tr>
<td>B</td>
<td>8</td>
</tr>
<tr>
<td>B−</td>
<td>7</td>
</tr>
<tr>
<td>C+</td>
<td>6</td>
</tr>
<tr>
<td>C</td>
<td>5</td>
</tr>
<tr>
<td>C−</td>
<td>4</td>
</tr>
<tr>
<td>D+</td>
<td>3</td>
</tr>
<tr>
<td>D</td>
<td>2</td>
</tr>
<tr>
<td>D−</td>
<td>1</td>
</tr>
<tr>
<td>E</td>
<td>0</td>
</tr>
</tbody>
</table>

Completion Of Courses

A student must secure a passing mark in the class work of a course in order to be admitted to the final examination. A course is considered completed for any semester when the student has obtained a grade as high as D minus, based on both the daily work and the final examination. If he fails to do this, he must cancel the deficiency in one of these ways:

1. repeat the course;
2. forfeit one semester's credit and take another full year course;
3. in case of a first-semester failure in certain courses, obtain a grade as high as C minus in the work of the second semester;
4. in the case of a failure in the first semester of senior year pass a special re-examination before the middle of the last semester with a grade of C minus or higher. This does not apply, however to a failure in the first semester of the senior major course. In this case the senior is dropped from college at mid-year.

Transfer Credit

No credit is given for courses taken in other institutions in which the grades received were lower than C minus.

Graduation Requirements

The number of year-courses, or their equivalent in semester-courses, required for graduation is twenty. A student must also secure semester grades of C minus or better in at least one half of the total number of courses required for graduation and must attain a major grade of C minus or higher based upon the work in the major courses and in the final general examination.

All courses taken in the senior year must be passed, even though they are not necessary to complete the number of courses required for graduation.

Bachelor Of Arts

The degree of Bachelor of Arts is conferred, by vote of the Trustees at Commencement, upon students who have completed the requirements as to courses and grades to the satisfaction of the
American History And Literature

English 12 Modern Drama
Junior course. Prerequisite, English 1-2.
Hour L Exam M

O'Neill

English 13 The English Novel: Richardson to Meredith
Junior course. Prerequisite, English 1-2.
Hour A Exam E

Bushnell

[English 14 The English Novel: Hardy to the Present Day
Junior course. Prerequisite, English 1-2.
Hour A Exam

Latin (Div. I)
(For description of courses see under Classics)

Mathematics (Div. III)
Chairman, Professor D. E. Richmond

Professor Richmond, Professor Wells, Associate Professor Jordan, Assistant Professor Oliver, Assistant Professor Mead.

Major—Sequence courses: Mathematics 1-2, 3-4, 5-6, 9-10. Parallel course: Mathematics 7-8.

The departmental sequence gives the student an understanding of the principles and processes of the calculus and their applications to physical and geometrical problems. The parallel course continues his study of algebra and geometry. The major examination will be concerned principally with these courses. The major aims to develop the student's mathematical power and insight and to prepare him to appreciate the place of mathematics in the modern world.

The Degree with Honors in Mathematics

The candidate for this degree carries the departmental sequence and the parallel course. He undertakes one or two consecutive years of independent work suited to the student's interest and aptitude, under the direction of a member of the department. This work culminates in a senior thesis. The department is prepared to direct work in actuarial mathematics, analysis, geometry, algebra, statistics, mathematical physics, and mathematical foundations. While the thesis need not contribute to the existing knowledge of mathematics, it will require the exercise of individual initiative.

This degree should be taken by students who intend to pursue graduate study in mathematics and by those who enjoy independent work.
1-2 Elementary Calculus and Analytic Geometry

Numbers, functions and graphs, derivatives, integration, logarithmic and exponential functions, complex numbers and the trigonometric functions, analytic geometry of the conics.

Freshman course.
Hours A, B, C, D, J, K, M Exam F RICHMOND, JORDAN, OLIVER, MEAD

3-4 Calculus


Sophomore course. Prerequisite, Mathematics 1-2.
Hours A, B, K, M Exam F RICHMOND, JORDAN, OLIVER, MEAD

5-6 Advanced Calculus

An introduction to the more rigorous methods of calculus, including the theory of limits, derivatives, definite integrals, infinite series and improper integrals. Functions of two variables, partial differentiation and multiple integration.

Junior course. Prerequisite, Mathematics 3-4.
Hours C, J First semester: OLIVER Second semester: JORDAN
Exam F

7-8 Algebra and Geometry

General introduction to modern developments.

Junior course. Prerequisite, Mathematics 3-4.
Hours L Exam M Members of the Department

9-10 Advanced Differential Equations and Special Topics


Vector calculus. Theory of functions of a complex variable.

Senior course. Required course in the major. Single credit course for non-mathematics majors. Double credit course with supplementary meetings for mathematics majors. Prerequisite, Mathematics 5-6.
Hours C Exam L RICHMOND, OLIVER, MEAD

12 Foundations of Mathematics


Junior course. Prerequisite, Mathematics 3-4.
Hour L Exam M RICHMOND

13.14 Engineering Drawing and Descriptive Geometry

Principles of orthographic and auxiliary projections; isometric, oblique, perspective and section drawings, freehand and with the use of instruments; space visualization; American Standard Association conventions and symbols. Fundamental concepts concerning lines, planes, and curved surfaces, including analytic representation; intersection and development of surfaces; applications to engineering problems.

Junior course. Prerequisite, Mathematics 1-2. Students must provide themselves with a set of drawing instruments, architect's scale, and triangle.
Hour M Exam R WELLS

Statistics I Introduction to Mathematical Statistics

Elements of probability. Probability and frequency distributions. Sampling theory, with application to problems of statistical inference such as determining confidence limits, making elementary significance tests, testing for randomness. Analysis of pairs of measurements, including least squares methods.

Junior course. Prerequisite, Mathematics 3-4.
Hour D Exam C JORDAN

Music (Div. 1)

Chairman, Professor R. G. BARROW

Professor BARROW, Assistant Professor SHAINMAN, Assistant Professor NOLLNER.

Major—(with historical emphasis)—Sequence courses: Music 1-2, 3-4, 19-20 (Section A.) Parallel courses: Any four semesters of Music 5, 6, 9, 10, 11 or 12.

Major (with theory emphasis) Sequence courses: Music 1-2, 3-4, 19-20 (Section B.) Parallel courses: Music 7-8 and any two semesters of Music 5, 6, 9, 10, 11 or 12.

A fee of $6 a year will be required for all students taking a course in music.