Dep't, os Ap't M

Dep't q Pure Math

University of Texas Bulletin
No. 2517: May 1, 1925

CATALOGUE
.OF

THE UNIVERSITY OF TEXAS
1924–1925

With Announcements for
1925–1926

which repeats the work of the preceding term; in the absence of such a section, he is dropped from the course.

Higher Work after Failure.—If a student makes an F or a 0 in a course, he may not take up a higher course in the same subject until the course is taken again. If a student makes an E in a course, he may take up a higher course in the same subject only with the written consent of the chairman of the department concerned, approved by the dean of his college or school.

CLASSIFICATION OF STUDENTS

Students are classified as regular and irregular. Under *Regular Students* are grouped graduate students, candidates for degrees the following June, and all others taking at least four courses (12 hours). Under *Irregular Students* are grouped those taking fewer than four courses (12 hours) who are not candidates for degrees the following June.

Students are divided into freshmen, sophomores, juniors, and seniors. Until the completion of five courses (15 hours) in addition to the full admission requirements, they are freshmen; then, until ten courses (30 hours) are completed, sophomores; then, until fifteen courses (45 hours) are completed, juniors; then seniors until graduation, and graduates thereafter.

*REQUIREMENTS FOR DEGREES

In the College of Arts and Sciences five degrees are offered: Bachelor of Arts, Bachelor of Journalism, Bachelor of Music, Bachelor of Science in Home Economics, Bachelor of Science in Medicine, and Bachelor of Science in Nursing.

Unless application is made to the dean in person or by mail at least ten days before the opening of the session at the end of which the degree is desired, the candidate for the degree will be subject to delay, inconvenience, and expense.

*BACHELOR OF ARTS

To secure the degree of Bachelor of Arts, the student must complete the work prescribed under *A* and satisfy the requirements set down under *B*, below. For the pre-law and pre-medical schemes, see page 101.)

A. Prescribed Work

(1) Two courses in English (English 1, and 2 or 3).
(2) One course in mathematics (Mathematics 1).

*See also "Degrees," page 61.

(3) Two numbered courses in one foreign language, either ancient or modern.

(4) Two courses in the natural sciences, one being in chemistry or physics, the other being Botany 1, or Geology 1, or Zoology 1 or 16. Any one may be taken first.

(5) One course in economics (Economics 1) or government (Government 1); recommended, but not compulsory, for women.

(6) At least a one-third course in philosophy or psychology.

(7) The courses set down in one of the groups below under *C*.

(8) Five advanced courses or three advanced courses and one senior course. (See "Numbers and Letters," page 87.)

(9) Enough other courses to make twenty, chosen by the student subject to the rules set forth in *D*, below.

B. Special Requirements

(1) The student must make at least an average of thirty points per one-third course on the courses taken at the University which are required and counted toward the degree, an A grade on a third of a course counting as 42 points; a B as 36 points; a C as 30 points; a D as 24 points.

Students whose average is at least forty points per one-third course with an A on the general examination shall be graduated "with highest honors"; students whose average is at least thirty-eight points per one-third course with an A on the general examination shall be graduated "with high honors"; students whose average is at least thirty-six points per one-third course with at least a B on the general examination shall be graduated "with honors."

(2) Before May 15 of the spring term of his senior year, at a time and place fixed by the faculty of the department in which the student has elected to major, the student must pass a general four-hour written examination in his major subject. In setting this examination the faculty of the department will take into account the particular courses elected by the student, but will expect a more mature and comprehensive knowledge than is required in the regular term examination. (This paragraph does not apply to students graduating before June, 1925.)

(3) The student must, before May 15 of his senior year, if a June candidate, or August 5 if an August candidate, show such ability to write clear and correct English as to satisfy the Committee on Students' Use of English. To promote the habitual use of clear and correct English, the written work of every student in all his courses (theses, reports, quizzes, examination papers, etc.) is subject to inspection by the committee. It is the duty of each member of the teaching staff to require that his students shall be careful in their use of English, to give due weight in the making up of grades

[handwritten: U Texas 1925-26]
[handwritten: Dep't of Pure Math]
[handwritten: G]

to the student's use of English, and to report promptly to the committee, submitting the evidence, any student whose use of English is seriously defective. If any student be found deficient, the committee will prescribe for him such work as in its judgment is proper, and this work must be done to the satisfaction of the committee before the student can obtain his degree.

(4) The student must show such ability to read one foreign language as to satisfy the Committee on Foreign Language Requirement. To meet this requirement, he may present himself to the committee at the end of his sophomore year, or at the beginning or end of his junior year, and unless he has previously satisfied the committee must present himself at the beginning of his senior year. If at that time he fails to satisfy the committee, he shall have one further opportunity the following spring before March 15.

It is the intent of this requirement that the student should have such control of the language chosen by him that he can understand and translate prose of moderate difficulty, preferably, in the case of the modern languages, in the field of his major subject.

C. Degree Groups

The courses laid down in one of these groups must be included in the twenty required for the B.A. degree.

The student is advised to choose his group as early as possible in his college career, but is not required to do so until the beginning of his junior year.

The student will note that it is possible so to arrange his minors and electives as to take in effect two majors, belonging either to the same or to different groups. Such an arrangement is especially desirable for those who wish to teach two subjects.

Courses in education, law, engineering, and business administration do not count either as majors or minors, except that business administration may be used as a minor when either economics or government is a major.

Courses taken to meet the "A. Prescribed Work" count also toward satisfying the requirements laid down in that subject in these groups.

Classical, or Greek and Latin Group

Major Subject: Four and two-thirds courses in Greek or Latin.
Minor Subject: Two and two-thirds courses in the ancient language not chosen for the major subject.
Not more than eleven courses may be counted in foreign language.

English, Comparative Literature, and Public Speaking Group

Major Subject: Three advanced courses in English or comparative literature, or in English and comparative literature together.

Minor Subjects: Two numbered courses in Latin or German or Greek or French. Students who present three courses in comparative literature may offer two numbered courses in Spanish as a minor subject.
One course in history.
A third numbered course in foreign language (either ancient or modern), or three courses in social science (besides the required history), or two courses in social science (besides the required history) and one course in journalism or in public speaking.

Pure and Applied Mathematics Group

Major Subject: Five courses in mathematics, of which at least two shall be advanced.
Minor Subjects: Three courses in a second subject, preferably physics or philosophy or chemistry or economics.
One course in philosophy.

French, German, and Spanish Group

Major Subject: Four numbered courses in French or German or Spanish.
Minor Subjects: Three numbered courses in a second foreign language (either ancient or modern), or three numbered courses in two foreign languages (either ancient or modern).
One course in history.
Not more than eleven courses may be counted in foreign language.

Natural Science, or Botany, Chemistry, Geology, Physics, and Zoology Group

Major Subject: Four courses in one natural science.
Minor Subjects: Two courses in a second natural science, unless the major subject be physics, in which case there must be two courses in mathematics (Mathematics 1 and 33) and one course in chemistry; unless the major subject be chemistry, in which case there must be either two courses in another natural science or Mathematics 1 and 33 and Physics 1 or 38.
In meeting the degree requirement in foreign language, German or French is advised.
Not more than eleven courses may be counted in the natural sciences.

Social Science, or Anthropology, Economics and Sociology, Government, History, and Philosophy and Psychology Group

Major Subject: Four courses in one social science.
Minor Subjects: Two courses in a second social science, or in another subject if the major subject be philosophy and psychology.

Dep't. of Pure Math

If the major subject be economics or government, business administration may be chosen as a minor.

One course in a third social science.

Not more than eleven courses may be counted in the social sciences.

D.   Rules Governing the Order and Choice of Work

Freshman Year

(1)   The following work is prescribed for the freshman year:
  (a)   English 1.
  (b)   One course in mathematics (Mathematics 1).
  (c)   A foreign language, either ancient or modern.
  (d)   A natural science or a second foreign language, ancient or modern, or history.
  (e)   One other course, if needed to make five. (See "Amount of Work, pages 89–91.)
  (f)   Physical training.

(2)   Two foreign languages may not be begun by freshmen.

(3)   Only courses marked with a capital letter *F* following the course number are open to freshmen, unless they secure higher standing.

(4)   Freshmen may not take more than one and one-third course in one department.

Sophomore Year

(5)   The following work is prescribed for the sophomore year:
  (a)   Any unabsolved freshman requirements.
  (b)   English 2 or 3.
  (c)   A foreign language, either ancient or modern. If a modern language was begun in the freshman year, it must be continued here.
  (d)   A natural science.
  (e)   Enough other courses to make five.
  (f)   Physical training.

Junior Year

(6)   The following work is prescribed for women for the junior year:

  Physical training.

Senior Year

(7)   If any term of a course prescribed for freshmen is finished after fifteen courses have been completed or during the session of graduation, that term will not count toward the required twenty courses.

(8)   If a condition in a course open to freshmen is removed during the session of graduation, that course will count for one-third less than its value.

(9)   If a course open to freshmen is taken after fifteen courses have been completed or during the session of graduation, it will count for one-third of a course less than its value.

General Limitations

(10)   Not more than six courses may be counted in one subject, or more than six in English and comparative literature together; not more than four courses may be counted in business administration or home economics or journalism or library science or music, not more than five in any combination of business administration, home economics, journalism, and library science with one another or with education, engineering, and law, except in the combination of home economics and education, or of library science and education, where six courses may be counted.

(11)   As many as four courses may be counted from outside the College of Arts and Sciences.

WORK PREPARATORY TO LAW

LEADING TO THE DEGREE OF BACHELOR OF ARTS

A student who completes the following courses before he is admitted to the School of Law, and who completes the requirements for the LL.B. degree, shall be entitled at the time he receives the LL.B. degree to receive also the B.A. degree.

Freshman Year: English 1; a foreign language; History 74; Mathematics 1; a natural science.

Sophomore Year: Economics 1 or 6; English 2 or 3; a second course in the foreign language begun in the freshman year; Government 1; History 5.

Junior Year: Business Administration 411, Economics 2 or 11; two elective advanced courses; Government 15 or 22; a one-third course in philosophy or psychology.

The student must make an average of at least C in his sophomore and junior years, and must satisfy requirements B (3) and (4) and C as laid down in the requirements for the Bachelor of Arts degree.

WORK PREPARATORY TO MEDICINE

SCHEME I. LEADING TO THE DEGREE OF BACHELOR OF ARTS

This scheme fulfills the admission requirements of medical schools whose demands in this respect are highest.

u Texas 1925-26

Dep't. of Pure Math

117s. I. Forms of Public Address.—Study and preparation of addresses for special occasions, including a critical analysis of masterpieces. Prerequisite: Sophomore standing and Public Speaking 105, or special permission of the instructor. Section 1, MWF 10 (V); Section 2, TTS 10 (VI); Section 3, MWF 11 (VII).

209fw. I. Extempore Speaking.—Theory and methods. Training in thinking before an audience; class exercises in speaking extemporaneously on assigned topics. Prerequisite: Public Speaking 105, or special permission of the instructor. Section 1, MWF 10 (V); Section 2, TTS 10 (VI); Section 3, MWF 11 (VII).

210ws. I. Debate.—Study of principles of argumentation—analysis, evidence, proof, and refutation. Critical study of masterpieces in argumentative oratory; briefs and forensics; class exercises in debating. Prerequisite: Sophomore standing and Public Speaking 105. Section 1, MWF 11 (VII); Section 2, TTS 11 (VIII).

208ws. Oratory.—Rhetoric of persuasive speech. Study of oratorical masterpieces. Practice in writing and delivery of various types of public addresses. Prerequisite: Junior standing. TTS 1 (IV). Associate Professor GRISCOM.

For Undergraduates and Graduates

15. A. Seminary in Public Speaking.—Special study of subjects for the University and intercollegiate public speaking and essay contests. Class exercises in the discussion of assigned topics in the field of the subject studied. Open to students who have completed two full courses in public speaking. Associate Professor GRISCOM.

DEPARTMENT OF PURE MATHEMATICS

PROFESSORS PORTER, DODD, MOORE; ASSOCIATE PROFESSORS BENNETT, ETTLINGER; ADJUNCT PROFESSORS DECHERD, *BATCHELDER, VANDIVER; INSTRUCTORS HORTON, HOLMES, LUBBEN, STAFFORD, MULLINGS, †ROBERSON

The College of Arts and Sciences' degree requirement of a full course in mathematics may be satisfied by any three thirds of Pure Mathematics 1 for which the student may properly register.

Students without credit for trigonometry who register for Pure Mathematics 1 in the (fall) term are required to take Pure Mathematics (1abc); students with credit for trigonometry take Pure Mathematics 1bcd.

Students should take three thirds of Mathematics 1 consecutively in natural order—otherwise, difficulty may be experienced.

*Absent on leave for the session of 1924-1925.
†Appointment effective only for the fall term of the session of 1924-1925.

Entrance credits in trigonometry and in solid geometry will each be counted as one-third degree credits, provided (1) the credits so counted are in excess of those required for unconditional admission, and (2) an average grade of at least C is made on three-thirds of Pure Mathematics 1.

The Department of Pure Mathematics will not recommend for high-school positions in mathematics persons who have credit for less than three full courses in the subject.

Students who plan to major in mathematics have a choice of several lines of progress, corresponding to the different subdivisions of the subject. In addition to Pure Mathematics 3 (calculus), which should be included in every group of courses, the student interested in analysis should take Pure Mathematics 11, followed by 14, 24, 29, 8 or 22 followed by 17; in algebra, 205, 106, 206, 136, and 236; in geometry, 10, 225, 115, and 107; in actuarial mathematics, 19 and 20; in foundations of mathematics, 26 and 27.

Students who plan to major in physics or chemistry should take Pure Mathematics 3 or 33, 12, 22, 17, and 221; in business administration or the social sciences, 8, 9, 19, and 20.

The attention of students planning to teach mathematics is called to Education 27.

For Undergraduates

1abc. F. Plane Trigonometry, Algebra, and Analytic Geometry.

1bcd. F. Algebra and Analytic Geometry.—Prerequisite: Trigonometry.

1d. F. Analytic Geometry.—The third term of Pure Mathematics 1bcd.

3. Calculus.—Calculus is recommended to students of physics and chemistry and to students intending to continue mathematics. Prerequisite: Pure Mathematics 1. If before taking Pure Mathematics 3 the student has four, five, or six thirds of mathematics, Pure Mathematics 3 will count as one, two, or three thirds advanced. Section 1, MWF 11 (VII); Section 2, TTS 11 (VIII). Professor PORTER, Associate Professor ETTLINGER.

9. The Mathematics of Finance.—Compound interest, annuities, amortization, sinking funds, depreciation, mortality tables, life annuities, and pensions. Prerequisite: Pure Mathematics 1 with grade of C or above. TTS 9 (IV). (Given also as a course in the School of Business Administration.) Professor DODD.

115. I. Solid Analytic Geometry.—Prerequisite: Pure Mathematics 225fw or 1d. MWF 10 (V). Associate Professor ETTLINGER.

205ws. I. Algebra.—Elementary theory of equations, determinants, symmetric functions, theory of polynomials, etc. Recommended to prospective teachers. Prerequisite: Mathematics 1. MWF 9 (III). Adjunct Professor VANDIVER.

A course stretching over 3 terms is characteristic of a quarter system

C

Dep't. of Pure Math

225fw. I. Descriptive Geometry.—Methods of representing the objects of space by drawings in the plane and the solution of the problems of space geometry by plane constructions. Prerequisite: Three thirds of Pure Mathematics 1. MWF 10 (V). Associate Professor ETTLINGER.

For Undergraduates and Graduates

8. A. Mathematical Statistics.—Theory of classes, frequency distributions, simple and partial correlation—with applications. Prerequisite: Two courses in mathematics. MWF 11 (VII). Associate Professor BENNETT.

10. A. Introduction to Modern Analytic Geometry.—Space transformations and invariants. The methods will be largely analytic. Prerequisite: Pure Mathematics 1 (including 1cd) and 3, the latter of which may be taken in parallel.

[*19. A. Actuarial Mathematics.*—(a) Graduation of mortality tables; premiums for life insurance and annuities; (b) insurance upon several lives; (c) varying benefits; valuation. Prerequisite: Pure Mathematics 3 or 9. (Given also as a course in the School of Business Administration.) Professor DODD. (Alternates with Pure Mathematics 20; omitted in 1925-1926.)]

106f. A. Elementary Number Theory.—Divisibility; linear congruences, quadratic residues, quadratic forms. Prerequisite: Pure Mathematics 3 or 33. Associate Professor BENNETT. (Given in alternate years; given in 1925-1926.)

107f. A. Ruler and Compass Constructions.—Critical study of the constructions of plane geometry, with numerous applications. Recommended to prospective teachers. Prerequisite: Two courses in mathematics. MWF 9 (III). Associate Professor BENNETT.

126s. A. Introduction to Foundations of Geometry.—Examination of the postulates of Euclidean and of other types of geometry. Prerequisite: Two courses in mathematics. Professor MOORE.

206ws. A. Linear Transformations.—Invariants and the abstract theory of matrices with applications to analytical projective geometry. Prerequisite: Pure Mathematics 3 or 33 and consent of the instructor. Associate Professor BENNETT. (Given in alternate years; given in 1925-1926.)

11. S. Advanced Calculus.—Rigorous treatment of the foundations of the calculus. The convergence of infinite series, improper integrals, differential equations, and other topics. Prerequisite: Pure Mathematics 3. TTS 11 (VIII). Professor DODD.

12. S. Analytical Mechanics.—Equilibrium and motion of a particle and rigid body in two or three dimensions. Prerequisite: Pure Mathematics 3. TTS 10 (VI). Associate Professor ETTLINGER.

20. S. Probability.—Theory of probability. Certain applications in least squares, statistics, correlation, and life insurance. Extra work will be required of those who take both Mathematics 20 and 19 because of some duplication in the two courses. Prerequisite: Three courses in Mathematics, including Pure Mathematics 3. (Given also as a course in the School of Business Administration.) Professor DODD. (Alternates with Pure Mathematics 19; given in 1925-1926.)

22. S. Differential Equations and Applications.—Solutions of differential equations of physics, chemistry, and engineering, and study of the properties of the solutions. Prerequisite: Pure Mathematics 3. MWF 11 (VII). Associate Professor ETTLINGER.

136f. S. Finite Groups.—Substitution groups and the abstract theory of finite groups with applications. Prerequisite: One advanced course in Pure Mathematics. Associate Professor BENNETT. (Given in alternate years; omitted in 1925-1926.)]

236ws. S. Algebraic Solvability.—Algebraic solution of algebraic equations. Discussion of the quintic. Theory of algebraic fields. Prerequisite: Pure Mathematics 205 and 136 and consent of the instructor. Associate Professor BENNETT. (Given in alternate years; omitted in 1925-1926.)]

For Graduates

13. G. Advanced Mathematics.—To be given occasionally to meet some special need of candidates for advanced degrees. Adjunct Professor VANDIVER.

14. G. Introduction to Modern Analysis.—Designed to give the student some idea of the scope and power of function-theoretic methods and some insight into the leading ideas of modern mathematics. Prerequisite: Pure Mathematics 11. Professor PORTER. (Omitted in 1924-1925.)

[*17. G. Partial Differential Equations; Fourier's Series; the Newtonian Potential Function.*—Recommended for advanced students of physics and engineering. Prerequisite: Pure Mathematics 22 or its equivalent. Associate Professor ETTLINGER. (Omitted in 1925-1926.)]

18. G. Analytic Functions.—Prerequisite: Pure Mathematics 11 and consent of the instructor. Professor PORTER.

26. G. Foundations of Mathematics.—Critical study of the foundations of mathematics. Prerequisite: Senior or graduate standing and consent of the instructor. Professor MOORE.

27. G. Point-sets and Continuous Transformations.—Critical study of point-sets, curves, regions, etc. Prerequisite: Senior or graduate standing and consent of the instructor. Associate Professor MOORE.

Dep't of
Pure
Math

29. *G. Analytic Probability.*—Foundation of probability from the standpoint of modern analysis. Prerequisite: Pure Mathematics and consent of the instructor. Professor DODD.

38. *G. Theory of Functions of Real Variables.*—Prerequisite: A senior or graduate course and consent of the instructor. Professor MOORE.

221fw. *G. Theory of Relativity.*—Study of the recent theory of space and time developed by Einstein, Minkowski, and others, with applications to dynamics and other branches of physics. Prerequisite: Pure Mathematics 11 and Physics 422, or their equivalent. Adjunct Professor BATCHELDER.

DEPARTMENT OF ROMANCE LANGUAGES

PROFESSORS CASIS, VILLAVASO; ASSOCIATE PROFESSORS *MONTGOMERY, SIMS, GLASCOCK; ADJUNCT PROFESSORS WEISINGER, SCHAFFER, PFLUEGER, WHEATLEY, SWANSON, PHILLIPS; INSTRUCTORS KRESS, SCHONS, SPELL, HAYNES, QUALIA, WESTER, BRECK, †WELLER, KELLY, JOSEPH, ELLIOTT, GARZA, PHIPPS; TUTORS DANNELLEY, ‡THROOP, WHATLEY, ‡WILLIAMS

The admission requirement of three units is represented in both French and Spanish, by courses A and 1; the admission requirement of two units is represented by course A and the (fall) term of course 1.

Students credited on admission with two units in French or Spanish should take course 1 in that language. The fall term will not, however, count toward a degree unless a grade of at least b is made.

Students presenting three admission units in French should take French 2. Those presenting three units in Spanish should take Spanish 2 or 22, only one of which may be counted toward a degree.

For students presenting two admission units in a modern language, course A in that language will not count toward a degree; for those presenting three units, neither course A nor course 1.

Students intending to teach French in secondary schools are expected to take French A, 1, 2, 8, 101f, 102w, and 103s; those intending to teach Spanish are expected to take Spanish A, 1, 2, Education 12, and two other courses in Spanish.

FRENCH

For Undergraduates

A. *F. Beginners' French.*—Nine sections.

1. *F. Composition and Reading.*—Prerequisite: French A. Seven sections.

*Absent on leave for the session of 1924–1925.
†Resigned January 1, 1925.
‡Appointment effective January 1, 1925.

1. *Composition and Reading.*—Continuation of French 1. Composition and reading of representative modern French authors. Prerequisite: French 1. Seven sections.

For Undergraduates and Graduates

The following courses are not open to students who have completed more than two numbered courses in French.

8. *A. Outline History of French Literature.*—Survey of the history of French literature. MWF 12 (IX). Adjunct Professor PFLUEGER.

9. *A. Advanced Composition.*—Conversation and grammatical drill for advanced students. Formal study of grammar, reproduction, and original composition. MWF 9 (III). Adjunct Professor WHEATLEY.

[95. *A. History of the French Drama since 1636.*—Adjunct Professor SCHAFFER. (Given in alternate years; omitted in 1925–1926.)]

96. *A. History of the French Novel.*—Emphasis will be on the modern period. MWF 10 (V). Adjunct Professor SCHAFFER. (Given in alternate years; given in 1925–1926.)

97. *A. History of French Literary Criticism.*—Survey of origin and development of French literary theory, with selected readings from the critics of the nineteenth century. TTS 9 (IV). Adjunct Professor SWANSON. (Given in alternate years; given in 1925–1926.)

[98. *A. History of French Lyric Poetry.*—Emphasis will be on the modern period. Adjunct Professor WHEATLEY. (Given in alternate years; omitted in 1925–1926.)]

101f. *A. Phonetics.*—Description of French sounds, with practice in their pronunciation. MWF 11 (VII). Professor VILLAVASO.

102w. *A. History of the French Language.*—Introduction to the history of the sounds and forms of French, with some attention to the external history of the language. MWF 11 (VII). Professor VILLAVASO.

103s. *A. Methods and Books.*—Discussion of the methods now used in teaching French, and a critical examination of some of the books commonly employed in teaching French in this country. MWF 11 (VII). Professor VILLAVASO.

For Graduates

110w. *G. Old French Literature.*—Professor VILLAVASO.

111s. *G. Molière.*—Adjunct Professor SCHAFFER.

114. *G. Voltaire.*—Adjunct Professor PFLUEGER.

115f. *G. Old French Language.*—Professor VILLAVASO.