COLLEGE OF ARTS AND SCIENCES
AND COLLEGE OF EDUCATION

Catalogue Number: Part VI

1941–1942, 1942–1943,
1943–1944, and 1944–1945

With Announcements for
1945–1946 and 1946–1947

(Issued March 12, 1946)

at the Main University with an average grade of *C* or better will be regarded as having satisfied this requirement. Those taking their last required course of six semester hours *in residence* at the Main University during the senior year will be regarded as having satisfied the requirement if they secure a grade of *C* or better in the Winter Semester of this course. Students failing to meet these conditions will be required to take a written examination, which may be taken at the beginning of the senior year by students who have already completed their language work; at the beginning of the Spring Semester by seniors who are completing their language work at that time. A student who fails to pass at either of these periods may take the examination the following June. For August seniors, the examination will be given in July. In no case will a special examination be given.

Applications for the examination should be filed with the registrar in accordance with the dates announced in the official calendar.

C. Degree Groups

The courses laid down in one of these seven groups must be included in the 120 semester hours 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.

All students intending to major in any subject are strongly advised to consult with the chairman of their major department well in advance of their registration for an advanced course.

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 business administration, education, engineering, fine arts, law, and naval science do not count either as majors or minors, except that business administration may be used as a minor when economics or goverment or pure and applied mathematics is a major.

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

At least eighteen semester hours of advanced courses, including six semester hours of advanced courses in the major subject, must be completed in residence at the Main University.

Students who wish to major in subjects which by their nature involve the work of more than one department may follow special majors programs which have been approved by appropriate committees. These committees are appointed by the Dean and are made up of faculty representatives from those departments whose work is involved.

1. Classical (Greek or Latin) Group

Major Subject: Twenty-four semester hours in Greek or twenty-eight semester hours in Latin. In either case at least twelve semester hours must be in advanced courses.

DEPARTMENT OF APPLIED MATHEMATICS
AND ASTRONOMY

PROFESSOR CLEVELAND, Chairman

Professors Calhoun, Cooper, Cleveland, Craig; Associate Professors Titt, Haskell; Assistant Professor Coburn; Instructors Andrews, Bortle, Chambers, Cude, Dalton, Farr, Greenwood, Hale, Heyer, Hodges, Hurt, La Salle, Mood, Nance, Osborn, Overton, Prouse, Roberts, Townsend, Worthington; Tutors Arnold, Avdan, Cuellar, Darling, d'Hemecourt, Evans, Goldsmith, Hausman, Keown, Lebeaux, Lyle, McCarter, Mickle, Wright.[2]

APPLIED MATHEMATICS

For Undergraduates

[*2K. Applied Statistics.*—Collection and presentation of data, computation of statistical parameters, curve fitting, probability, significance tests. Designed for students of biology, economics, education, psychology, and sociology. Emphasis on applications of methods developed. Prerequisite: Two years of high-school algebra. Three lectures a week for two semesters. Mr. Mood. (Given only in 1941–1942.)]

303. Mathematics for Home Economics Students.—May not be used to satisfy the mathematics requirement for any degree in the College of Arts and Sciences except the degree of Bachelor of Science in Home Economics. Three lectures a week for one semester.

204. Plane Trigonometry.—Applied Mathematics 204 and Pure Mathematics 301 may not both be counted. A two-hour course designed especially for engineers. Degrees in the College of Arts and Sciences require six hours of mathematics. Two lectures a week for one semester.

305. Analytic Geometry.—Applied Mathematics 305 and Pure Mathematics 302 may not both be counted. Prerequisite: Applied Mathematics 204 and 309. Three lectures a week for one semester.

[*306K. Spherical Trigonometry and Applications to Navigation.*—Prerequisite: Applied Mathematics 204 or Pure Mathematics 301. Three lectures a week for one semester. (Beginning with 1945–1946, to be given as a sophomore course, Applied Mathematics 316.)]

307. Mathematics of Investment.—Applied Mathematics 307 and Pure Mathematics 307 may not both be counted. Designed for students in the College of Business Administration. Three lectures a week for one semester.

208. Mathematics of Investment.—Designed for students in the College of Business Administration. Three lectures a week for one semester.

[2]This list of staff members covers a four-year period: the sessions of 1941–1942, 1942–1943, 1943–1944, 1944–1945. For information in regard to dates of appointments, resignations, leaves of absence, etc., see the section "Officers of Instruction," pp. 5–47 of this catalogue.

309. College Algebra.—Applied Mathematics 309 and Pure Mathematics 304 may not both be counted. Three lectures a week for one semester.

310. Elementary Cryptanalysis.—Transposition and substitution ciphers with methods for solving elementary types. Prerequisite: Six hours of mathematics, including three hours of algebra. Three lectures a week for one semester. (Given for the first time in 1941–1942; not given in 1942–1943, 1943–1944, or 1944–1945.)

13. Calculus.—Applied Mathematics 13 and Pure Mathematics 13 may not both be counted. Prerequisite: Applied Mathematics 305. If before taking Applied Mathematics 13 the student has credit for nine or twelve hours in mathematics, Applied Mathematics 13 will count as three or six advanced hours. Three lectures a week for two semesters.

316. Spherical Trigonometry and Applications to Navigation.—Prerequisite: Applied Mathematics 204 or its equivalent and sophomore standing. Three lectures a week for one semester. Mr. Prouse. (Prior to 1945–1946, given as a freshman course, Applied Mathematics 306K.)

For Undergraduates and Graduates

22. Differential Equations and Applications.—Same as Pure Mathematics 22. Counts in the same manner as Pure Mathematics 22. Prerequisite: Applied Mathematics 13. Three lectures a week for two semesters. Mr. Ettlinger.

325. Advanced Calculus.—Prerequisite: Applied Mathematics 13. Three lectures a week for one semester.

[*325Q. Advanced Calculus.*—For chemical and petroleum engineering students only. Prerequisite: Applied Mathematics 13. Three lectures a week for one semester. Mr. Coburn. (Not given after 1941–1942.)]

326. Differential Equations.—Prerequisite: Applied Mathematics 13. Three lectures a week for one semester.

[*326Q. Differential Equations.*—For chemical and petroleum engineering students only. Prerequisite: Applied Mathematics 13. Three lectures a week for one semester. Mr. Coburn. (Not given after 1941–1942.)]

28. Dynamic Meteorology.—Application of the laws of thermodynamics and hydrodynamics to the study of the atmosphere and its motions with regard to applications to weather forecasting. Prerequisite: Applied Mathematics 13. Three lectures a week for two semesters. Mr. Coburn. (Given for the first time in 1941–1942; not given in 1942–1943, 1943–1944, or 1944–1945.)

361. Theory of Functions of a Complex Variable.—Prerequisite: Applied Mathematics 325 and 326, or the equivalent. Three lectures a week for one semester. Mr. Cooper.

62. Potential Theory.—Prerequisite: Pure Mathematics 21 or 22, or Applied Mathematics 325 and 326. Three lectures a week for two semesters. Mr. Haskell, Mr. Greenwood.

64. Vector and Tensor Analysis.—Prerequisite: Applied Mathematics 325 and 326, or Pure Mathematics 21 or 22. Three lectures a week for two semesters. Mr. Craig. (Not given in 1941–1942.)

65. Advanced Applied Mathematics.—Prerequisite: Applied Mathematics 325 and 326. Three lectures a week for two semesters. Mr. Titt.

69. Mathematical Analysis for Advanced Physical Chemistry.—Prerequisite: Applied Mathematics 22, or 325 and 326. Three lectures a week for two semesters. Mr. Haskell, Mr. Coburn, Mr. Prouse. (Not given in 1942–1943.)

70. Fluid Dynamics.—For engineers only. (1) Perfect fluids; conformal mapping, Schwarz-Christoffel transformation, Kutta-Joukowsky profiles, vortex motion; (2) viscous fluids; boundary layers, the Karman trail; (3) dimensional analysis. Prerequisite: Applied Mathematics 325 and 326, or Applied or Pure Mathematics 22. Three lectures a week for two semesters. Mr. Coburn. (Given for the first time in 1943–1944; not given in 1944–1945.)

371. Vibration Problems.—Same as Civil Engineering 374. Fundamental principles of vibration theory and their application to technical problems. Free, damped, and forced vibrations; vibration measuring instruments; dampers and absorbers; vibration isolation. Vibration of strings, shafts, and beams; critical speeds. Prerequisite: Applied Mathematics 326. Three lectures a week for one semester. (Given for the first time in 1942–1943.)

For Graduates

380. Dynamics.—Prerequisite: Twelve hours of advanced mathematics, including Applied Mathematics 325 and 326; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Haskell. (Not given in 1941–1942.)

81. Applications of Tensor Analysis.—Prerequisite: Applied Mathematics 64; graduate standing or consent of instructor. Three lectures a week for two semesters. Mr. Craig. (Not given in 1941–1942, 1942–1943, or 1943–1944.)

83. Integrating Factor Methods in Linear Partial Differential Equations.—Waves (both interior and exterior formulae) and heat flow in two- and three-space dimensions; Laplace's equation in three dimensions; computation of boundary values. Prerequisite: Applied Mathematics 65. Three lectures a week for two semesters. Mr. Titt. (To be offered for the first time in 1945–1946.)

387. Group Theory of Differential Equations.—Prerequisite: Graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Cooper. (Not given in 1942–1943 or 1943–1944.)

92. Partial Differential Equations.—Same as Pure Mathematics 92. Prerequisite: Applied Mathematics 22; graduate standing or consent of instructor. Three lectures a week for two semesters. Mr. Ettlinger. (Not given in 1941–1942 or 1942–1943.)

98. Thesis Course for the Master's Degree.—Prerequisite: Graduate standing in applied mathematics. Mr. Cooper, Mr. Craig, Mr. Titt, Mr. Coburn.