

ment sections elsewhere in this catalog.)

Art 211.	Western Art I (3).
Art 212.	Western Art II (3).
Business Administration 337.	International Marketing (3).
Business Administration 347.	Management of Multinational Firms (3).
Economics 223.	Economics of Developing Countries (NON-WESTERN) (4).
Economics 319.	International Economics (4).
English 255.	Studies in Non-Western Literature (NON-WESTERN) (4).
All other Modern Language courses at the 200 level or above.	
History 101.	East Asian Civilization I (NON-WESTERN) (4).
History 102.	East Asian Civilization II (NON-WESTERN) (4).
History 103.	Western Civilization I (4).
History 104.	Western Civilization II (4).
History 320.	Germany in the 20th Century (4).
Political Science 328.	Politics in the Third World (NON-WESTERN) (4).
Religion 102.	Religions of the West (3).
Religion 105.	Religions of the East (NON-WESTERN) (3).
Religion 302.	Studies in Eastern Religion (NON-WESTERN) (3).
Sociology 208.	Cultural Anthropology and Ethnography (NON-WESTERN) (4).
Teacher Education 473.	Comparative International Education (3).

Mathematics

Major Program Requirements

Bachelor of Arts in Mathematics

(36 hours of Mathematics)

Mathematics B.A. Core (21 hours)

MATH 135, 205, 215	Calculus I, II, III (4, 4, 4)
MATH 303	Linear Algebra and Matrices (3)
MATH 313	Abstract Algebra (3)
MATH 403	Number Theory (3)
or MATH 405	Real Analysis (3)

Mathematics B.A. Electives (15 hours)

15 hours of mathematics classes numbered above 215

Bachelor of Arts with Teacher Certification in Mathematics

See the Teacher Education section of the catalog.

Minor Program Requirements

For students majoring in other academic disciplines, a mathematics minor can enhance prospects for graduate or professional studies and increase employment opportunities. The minor requires 23 semester hours in the department, including Mathematics 135, 205, 303 and 12 semester hours of electives from mathematics courses numbered 215 or higher.

The highly sequential nature of the mathematics curriculum

makes it essential that prerequisite mathematical knowledge and skills be mastered prior to enrollment in any mathematics course. A student's score on the Mathematics Placement Examination (given during freshman orientation and available at other times in the Academic Services Office), as well as a student's Math ACT or SAT score, are critical in the selection of freshman courses. A grade of C- or better is required for fulfillment of all prerequisite courses.

Each mathematics major must have an assigned faculty member from within the department as an advisor for his or her mathematics program.

The semesters listed after course descriptions indicate when courses are expected to be offered. Schedules are subject to change; students should confirm semester offerings with the department when planning degree programs.

Introductory Courses

099. Developmental Mathematics (3). Topics include the real number system, basic operations, fractions, signed numbers, factoring, exponents, roots, decimals, percent and proportion, topics from plane geometry, and an introduction to algebra. Emphasis is on development of arithmetic skills and mastery of basic algebraic concepts. Use of the mathematics laboratory is required. College credit only; hours will not count toward graduation requirements. (Prerequisite: Mathematics Placement Policy.) (Must be repeated if grade earned is NC, D or F and course is being used as a prerequisite for Math 101.) Fall, spring.

100. Mathematics for the Liberal Arts (MATHEMATICS BASIC SKILLS) (4). Covers the following topics: problem solving, sets, logic (truth tables and symbols), probability (counting techniques and expected value), statistics (measure of central tendency and normal curve), consumer mathematics (percentage, interest, installment buying and annuities), primes, composites, LCM and GCF, and graphing linear equations. Does not satisfy the prerequisite for further mathematics courses. Fall, spring.

101. Intermediate Algebra (MATHEMATICS BASIC SKILLS) (4). Fundamental operations with algebraic expressions, linear and quadratic equations, graphs, systems of equations, applications and functions. (Prerequisite: Mathematics 099 or Mathematics Placement Policy.) Fall, spring.

103. Fundamentals of Modern Mathematics I (3). An introduction to problem solving, logic, set theory, number systems, operations, number theory, and algorithms. (Prerequisite: Mathematics 101 or Mathematics Placement Policy.) Fall.

113. Fundamentals of Modern Mathematics II (3). An introduction to probability and statistics, geometry, measurement and the use of mathematical methods, tools, and technology. (Prerequisite: Mathematics 103.) Spring.

115. Pre-Calculus Mathematics (4). An introduction to the theory of functions related to exponential, logarithmic, rational, polynomial and trigonometric functions. Theorems

on rational and complex zeros of polynomials and systems of linear equations. (Prerequisite: Mathematics 101 or Mathematics Placement Policy.) Fall, spring.

Analysis

135. Calculus and Analytic Geometry I (4). Topics include mathematical modeling, transcendental functions, parametric equations and functions in parametric form, limits, continuity, differentiation, integration, and related applications. (Prerequisite: Math 115 or Mathematics Placement Policy.) Fall, spring.

205. Calculus and Analytic Geometry II (4). Topics include principles of integral evaluation, applications of the definite integral to geometry, science, and engineering, mathematical modeling with first-order differential equations, sequences, infinite series, and various tests of convergence. (Prerequisite: Math 135 or Mathematics Placement Policy.) Fall, spring.

215. Calculus and Analytic Geometry III (4). Topics include analytic geometry, polar coordinates and curves, three-dimensional space, vectors and vector-valued functions, partial derivatives, multiple integrals, and various topics in vector calculus. (Prerequisite: Math 205.) Spring.

305. Differential Equations (3). Solutions of various types of ordinary differential equations, linear equations with constant coefficients, the Laplace Transform, systems of equations, and series solutions. (Prerequisite: Mathematics 205.) Spring '09.

405. Real Analysis (3). Theory of functions of a real variable; sequences and series, limits, continuity, derivatives, the Riemann integral, and other topics. Students will be required to research a mathematical topic approved by the instructor, with a formal presentation to be given to members of the mathematics department and the campus community. (Prerequisites: Mathematics 215 and 313.) Fall '08.

Applied Mathematics

104. Finite Mathematics (3). An introduction to systems of linear equations, matrix theory, linear programming, set theory, logic, probability, and other topics. (Prerequisite: Mathematics 101 or Mathematics Placement Policy.) Fall, spring.

204. Elementary Statistics (3). An introduction to the basic principles of statistics, computation of statistics, probability distributions, estimation, confidence intervals, hypothesis testing, and correlation and regression. (Prerequisites: Mathematics 104 or 115 or Mathematics Placement Policy.) Fall, spring.

216. Discrete Mathematics (3). An introduction to Boolean algebra, combinatorics, graph theory, recursion, set theory, and trees. (Prerequisite: Mathematics 135.) Spring '09.

304. Theory of Probability (3). Descriptive statistics, probability and counting techniques, discrete and continuous

distributions, moment generating functions, multivariate and conditional distributions, the correlation coefficient, and least squares regression. (Prerequisite: Mathematics 205.) Fall.

314. Theory of Mathematical Statistics (3). Sampling theory, point and interval estimation, order statistics, tests of hypothesis, nonparametric methods, statistical quality control, and experimental design. (Prerequisite: Mathematics 304.) Spring '10.

324. Numerical Analysis (3). An introduction to numerical analysis in finding roots of polynomials, polynomial approximation, finite difference calculus, summation calculus, and selected topics in computer programming. (Prerequisite: Mathematics 205; Mathematics 303 recommended.) Fall '09.

Foundations

303. Linear Algebra and Matrices (3). Matrices, determinants, systems of linear equations, vector spaces, linear transformations, eigenvectors and eigenvalues. (Prerequisite: Mathematics 205.) Fall.

313. Abstract Algebra (3). An introduction to the theory of groups, rings, and fields. (Prerequisite: Mathematics 303.) Spring.

323. Geometry (3). A survey of topics in geometry including historical topics, elements of logic, foundations in Euclidean geometry, and introduction to non-Euclidean geometry using the hyperbolic model. This course emphasizes different methods of proof. (Prerequisite: Mathematics 205.) Spring '10.

403. Number Theory (3). Divisibility, primes, congruences, multiplicative functions, primitive roots, quadratic residues, quadratic reciprocity, and other topics. Students will be required to research a mathematical topic approved by the instructor, with a formal presentation to be given to members of the mathematics department and the campus community. (Prerequisite: Math 313.) Fall '09.

Special and Advanced Courses

199. Exploratory Internship (1-3).

299. Experimental Course (1-3).

309. Topics in Mathematics (1-3). Topics of interest to faculty and students. Sample topics include, but are not limited to, numerical analysis, graph theory, advanced discrete math, advanced multivariable calculus, partial differential equations, history of mathematics. May be repeated for credit if the topic is different. Offered as needed.

399. Professional Internship (1-12).

410. Advanced Topics in Mathematics (1-3). Advanced topics of interest to faculty and students. Sample topics include, but are not limited to, complex analysis, topology, op-

erations research, advanced topics in linear algebra, abstract algebra, geometry and statistics. May be repeated for credit if the topic is different. Offered as needed.

451. Independent Study (1-3). Advanced topics for students planning further study in mathematics. (Prerequisites: B average in mathematics and department chairperson's written permission.)

499. Advanced Experimental Course (1-3).

Modern Languages and Cultures

The Department of Modern Languages and Cultures offers the Bachelor of Arts degree with majors in French, German, Spanish and Japanese Studies. First-and second-semester courses are also available in American Sign Language (ASL) and Arabic. Students may minor in French, German, Spanish and Japanese. The basic skills requirement in language is met for students who place in French, German or Spanish III or higher. Students placing into a 300-level course will be awarded 4 hours of credit for the level IV course (MLC 224, 244, 264) at the completion of the 300-level course and having earned a grade of C or better.

The skills and sensitivities developed through study of modern languages, cultures and literatures offer significant enrichment for the individual student. In addition, such skills, combined with competencies in other areas, are of ever-increasing importance in a variety of career choices, including international business and banking, government service at home and abroad, law and law enforcement, medicine, social work, tourism, bilingual teaching and interpreting. Language skills are also helpful in gaining admission to and completing requirements at many graduate schools. Language majors are encouraged to take appropriate cognate courses and to earn a second major or a minor in fields such as business, English, political science or sociology, or to study additional languages.

Study Abroad. All language majors, as well as minors in the Teacher Education program, are required to improve their language competencies through a relevant College-approved foreign study program. The faculty offers close guidance to students in planning such an experience. Members of the language faculty occasionally conduct study/travel trips to foreign countries. Upon their return from the study abroad experience, language majors shall complete a minimum of eight (8) additional hours of course work in the target language to include the 491-492 senior research courses. Majors and Minors in the Teacher Education program are also required to take MLC 490 (Study Abroad Capstone Seminar) after their return from abroad.

Other Opportunities. Course work and off-campus experiences, including internships in related practical experience programs, are supplemented by on-campus opportunities such as language clubs, guest native speakers and foreign films and publications.

Major Program Requirements

Bachelor of Arts in French

(36 hours)

French Core (18 hours)

MLC 223 French III (4)

MLC 224 French IV (4)
MLC 338 Advanced French Language (4)
MLC 339 Advanced French Conversation (2)
MLC 491, 492 Senior Research (2,2)

French Electives (18 hours)

2 courses from 333, 334, 335, 337

10 additional hours of French courses at the 200 level or above

Bachelor of Arts with Teacher Certification in French

See the Teacher Education section of the catalog.

Bachelor of Arts in German

(36 hours)

German Core (18 hours)

MLC 243 German III (4)
MLC 244 German IV (4)
MLC 358 Advanced German Language (4)
MLC 359 Advanced German Conversation (2)
MLC 491, 492 Senior Research (2,2)

German Electives (18 hours)

2 courses from 353, 354, 355, 357

10 additional hours of German courses at the 200 level or above

Bachelor of Arts with Teacher Certification in German

See the Teacher Education section of the catalog.

Bachelor of Arts in Japanese Studies

(36 hours)

Japanese Studies Core (20 hours)

HIST 102 East Asian Civilization II (4)
HIST 339 Cultural History of Japan (4)
 or HIST 355 History and Memory of Hiroshima (4)
MLC 253 Japanese III (4)
MLC 254 Japanese IV (4)
MLC 491, 492 Senior Research (2,2)

Japanese Studies Electives (16 hours)

The Japanese Studies electives will be completed during a semester at Kansai Gaidai

1 course in spoken Japanese above the Japanese IV level (5)

1 course in reading and writing Japanese (3)

8 additional hours of Japanese studies courses at the 300 or 400 level

Bachelor of Arts in Spanish

(36 hours)

Spanish Core (18 hours)

MLC 263 Spanish III (4)
MLC 264 Spanish IV (4)
MLC 378 Advanced Spanish Language (4)
MLC 379 Advanced Spanish Conversation (2)
MLC 491, 492 Senior Research (2,2)