

Mathematics

Bachelor of Arts

College of Liberal Arts and Sciences

Definition of the field. Students majoring in mathematics become well versed in the conceptual models and quantitative methods that are of fundamental importance in our age of science, technology, and information. In addition, they develop reasoning skills that enhance self-expression and improve chances for advancement in a variety of careers, some not ordinarily identified as mathematical. Mathematicians solve problems within their discipline and also provide techniques and models of importance in the physical, biological, computer, and decision sciences and their many applications in contemporary society.

Career opportunities in the field. Mathematics graduates find employment as actuaries, statisticians, operations researchers, scientific computing professionals, applied mathematicians, teachers, and researchers. Especially in combination with a concentration in a related field, a mathematics background provides a variety of opportunities in industry, government, management, and academia. As more and more careers require a command of quantitative methods, persons qualified in mathematics will hold a favorable edge in the competition for job opportunities.

Uniqueness of the ASU program. The Department of Mathematics offers the Bachelor of Arts and the Bachelor of Science degrees as well as a major teaching field with the College of Education. The B.A. provides for study in mathematics and related fields and offers flexibility for students with varied interests. The major teaching field prepares students for secondary school mathematics teaching.

High school or college preparation. High school students intending to study mathematics or a related area should take four years of mathematics culminating in a precalculus course such as Mathematical Analysis or in an Advanced Placement calculus course. A full college preparatory program, with good preparation in English and the sciences, helps to provide the background needed for academic success.

Applying to the major. Persons desiring to major in mathematics should be regularly admitted to the university and to the College of Liberal Arts and Sciences.

Contacts. For more information call 480/965-7195 or write:

Associate Chair for Undergraduate Studies
Department of Mathematics
Arizona State University
Tempe, Arizona 85287-1804

See also the Department of Mathematics web page at: <http://math.la.asu.edu>.

2001-2002 Catalog

REQUIREMENTS FOR A MAJOR IN MATHEMATICS

GENERAL STUDIES REQUIREMENTS. Students must satisfy the university General Studies requirements and the proficiency and distribution requirements of the College of Liberal Arts and Sciences. Proficiency requirements must be met in English, a second language, and mathematics. Distribution requirements must be met by taking courses in the areas of humanities and fine arts, social and behavioral sciences, and natural sciences and mathematics. The university General Studies requirements consist of introductory and advanced courses selected from an approved menu of courses. There are five "core" areas (literacy and critical inquiry, numeracy, humanities and fine arts, social and behavioral sciences, and natural sciences) and three "awareness" areas (global, historical, and cultural diversity in the United States). With careful advisement, students can select courses that simultaneously meet university, college, and departmental major requirements.

MAJOR REQUIREMENTS. The Bachelor of Arts degree in Mathematics consists of a minimum of 36 semester hours in mathematics and additional course work in closely related fields, for a total of at least 51 semester hours. Required courses include: MAT 270, 271, 272, 300, 342, and 370 (or 371); and CSE 100 or 183 or 200. Five additional courses in mathematics and statistics are also required as indicated on the curriculum check sheet.

Recommended electives. Electives should include appropriate course work approved by the advisor in the field in which mathematics is used. Examples include computer science, economics, finance, physics, and quantitative business analysis.

For information about requirements of the College of Liberal Arts and Sciences, call 480/965-6506 or write:

Student Advisement Office
College of Liberal Arts and Sciences
Arizona State University
Tempe, Arizona 85287-1701

Profile of ASU. Established in 1885, ASU is a multi-campus state-supported university with a student enrollment of 42,000 at ASU Main, 4,800 at ASU West, 1000 at ASU East, and 2,500 at other locations. Ten

colleges and one school offer 108 programs leading to bachelor's degrees and 150 programs leading to graduate degrees. The University Honors College provides exceptional students with opportunities spanning the spectrum of undergraduate program offerings. ASU offers diversity in academic, athletic, cultural, and social activities and prepares students for a wide range of careers.

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Uniqueness of the ASU program. The Department of Mathematics offers the Bachelor of Arts and the Bachelor of Science degrees as well as a major teaching field with the College of Education. The B. S. program provides more intensive preparation requiring more advanced courses in mathematics and computer science than the B.A. program.

The Concentration in Computational Mathematical Sciences. Students in the Bachelor of Science program optionally may choose the concentration in Computational Mathematical Sciences. The concentration combines a strong core of mathematics courses with a broad interdisciplinary core of courses in computer science, physics, and another scientific area of the student's choosing. The concentration is a good choice for students with a wide range of scientific interests.

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MAJOR REQUIREMENTS. The Bachelor of Science program requires a minimum of 42 semester hours of coursework in mathematics and statistics, plus 13 semester hours of coursework in closely related fields. Required courses include: MAT 270, 271, 272, 300, 342, 371, and CSE 200. The concentration in Computational Mathematical Sciences requires in addition CSE 210, 310; PHY 121, 131; and another one-year sequence in a science field of the student's choosing. See the curriculum checksheets for more details.

Recommended electives. Electives should include appropriate course work approved by the advisor in the field in which mathematics is used. Examples include computer science, economics, finance, physics, and quantitative business analysis.

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