MATHEMATICS, STATISTICS AND DATA SCIENCE

Faculty

- Chairperson: Blake Mellor
- Professors: Anna Bargagliotti, Alissa S. Crans, Christina Eubanks-Turner, Ben G. Fitzpatrick (Clarence J. Wallen, S.J., Chair), Lily S. Khadjavi, Suzanne Larson, Thomas Laurent, Yanping Ma, Blake Mellor, Edward C. Mosteig, Patrick D. Shanahan, Robin Wilson
- Associate Professors: Joshua Hallam, Robert James Rovetti
- Assistant Professors: Junyuan Lin, Rachel Tremaine, Le Wang
- Senior Instructors: Karen Ellis, Mobashera Hallam, Vivian Lezak, Roberto Martinez, Natalie Rivetti-Ortiz

Mathematics Graduate Program

Contact Information

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Mission Statement

The Master of Arts in Teaching Mathematics program provides an opportunity for secondary school teachers to broaden their background in mathematical science and to connect this knowledge with current education practice.

Admission Requirements

Students seeking admission to the Master of Arts in Teaching Mathematics program should have completed an undergraduate program in mathematics or a closely related field. The applicant must have been a mathematics major, mathematics minor, or had equivalent coursework. To be considered for admission, students must submit a Graduate Division application, a statement of intent, transcripts from all colleges/universities attended and the application fee. Two letters of recommendation addressing the student's mathematical background and teaching experience, if any, are also required.

Program Requirements

During the first semester of attendance, the student should prepare a program of study with a faculty advisor. A degree candidate is required to complete, with an average grade of at least 3.0 ("B"), a program of study that may include prerequisite undergraduate-level coursework, and that must include thirty or more semester hours of graduate-level coursework, as deemed appropriate by the advisor in consultation with the department. Of the graduate level coursework, fifteen to eighteen semester hours are to be in Mathematics and twelve to fifteen in Education. The exact number of semester hours in Mathematics and Education will be determined in consultation with the department.

Mathematics Undergraduate Program

Mathematics Placement Examination

The purpose of this examination is to determine the level of preparation of the student and to place them in the appropriate mathematics course. Any student with three years of high school mathematics including two years of algebra and one year of geometry should be adequately prepared to take this examination. However, students may wish to review these areas.

All first-year students with majors in the Frank R. Seaver College of Science and Engineering or the College of Business Administration, or who are Economics majors or Liberal Studies majors, must take the mathematics placement examination.

All students transferring into the Frank R. Seaver College of Science and Engineering or the College of Business Administration, or who are Economics majors or Liberal Studies majors, must take the mathematics placement examination unless they have transferred a college algebra, precalculus, or higher level college mathematics class approved by the Mathematics Department before entering LMU.

Any student, no matter their major, who plans to take MATH 120 Precalculus Mathematics, MATH 112 Calculus for Business, MATH 122 Calculus for the Life Sciences I, MATH 131 Calculus I, or MATH 106 Mathematics for Elementary Teachers I and who has not transferred a college algebra or higher level college mathematics class is required first to take the mathematics placement examination. The mathematics placement examination may only be taken one time.

Biomathematics

Under the direction of an advisor, the student selects courses from the fields of biology, chemistry, computer science, and mathematics and obtains a Bachelor of Science degree through the Individualized Studies Program.

Any deviation from the above programs requires formal approval of the student's advisor and the Department Chairperson.

Secondary Teacher Preparation Program in Mathematics

For information on this program, see the Secondary Education Mathematics Minor section in this Bulletin.

Bachelor Degree Objectives

Mathematics, as an intellectual activity, is both an art and a powerful tool for problem solving and for understanding the physical universe. A mathematics major explores the different facets of the discipline through a broad spectrum of courses in applied, computational, and pure mathematics. In addition to exploring mathematics, a student majoring in mathematics takes classes from other fields (e.g., science and education) that help them prepare for their chosen career. The Department's programs allow a student to focus on different aspects of the discipline and lead to one of four undergraduate degrees:

- Bachelor of Science with a major in Mathematics
- Bachelor of Science with a major in Applied Mathematics
- Bachelor of Science with a major in Statistics and Data Science
- Bachelor of Arts with a major in Mathematics (Mathematics Education Emphasis)
- Bachelor of Arts with a major in Mathematics

The Department offers two minors:

- Mathematics Minor
- Statistics and Data Science Minor

These minors are designed for students majoring in another field (e.g., engineering, physics, business, economics, computer science, or liberal studies) who wish to develop an undergraduate background

in mathematics or statistics and data science that goes beyond the requirements of their degree program. The general Mathematics Minor is designed for maximum flexibility in order to accommodate student interest in pure mathematics, applied mathematics, or mathematics for future teachers. The Statistics and Data Science Minor blends computational science programming, mathematics, and statistics in a program tailored for students interested in working with data. The following courses are excluded from the minors:

Code	Title	Semester Hours
MATH 106	Mathematics for Elementary Teachers I	3
MATH 190	Workshop in Mathematics I	2
MATH 207	Mathematics for Elementary Teachers II	3
MATH 290	Workshop in Mathematics II	1
MATH 307	Teaching Math Practicum	2
MATH 390	Workshop in Mathematics III	1
MATH 492	Workshop in Mathematics IV	1

In addition to its major and minor degree programs, the Mathematics Department serves every department in LMU's four Colleges, the School of Film and Television, and the School of Education through the core curriculum and by providing students in other majors courses designed to serve the mathematical needs of their fields of study.

Programs

- Applied Mathematics, B.S. (https://bulletin.lmu.edu/schools-colleges/science-engineering/mathematics/applied-mathematics-bs/)
- Mathematics for Teaching, M.A.T. (https://bulletin.lmu.edu/schools-colleges/science-engineering/mathematics/mathematics-teaching-mat/)
- Mathematics Minor (https://bulletin.lmu.edu/schools-colleges/science-engineering/mathematics/mathematics-minor/)
- Mathematics, B.A. (https://bulletin.lmu.edu/schools-colleges/science-engineering/mathematics/mathematics-ba/)
- Mathematics, B.A. (Mathematics Education Emphasis) (https://bulletin.lmu.edu/schools-colleges/science-engineering/mathematics/mathematics-ba-education-emphasis/)
- Mathematics, B.S. (https://bulletin.lmu.edu/schools-colleges/science-engineering/mathematics/mathematics-bs/)
- Statistics and Data Science Minor (https://bulletin.lmu.edu/schools-colleges/science-engineering/mathematics/statistics-data-science-minor/)
- Statistics and Data Science, B.S. (https://bulletin.lmu.edu/schools-colleges/science-engineering/mathematics/statistics-data-science-bs/)