MISSION STATEMENT
The Master of Arts in Teaching Mathematics (MAT) program provides an opportunity for secondary school teachers to broaden their background in mathematical science and to implement this knowledge to current education practice.

EDUCATION COURSES
Students completing the MAT program will also take five education courses. Students have several options: those with at least three years of secondary teaching experience and a Credential in Mathematics may select their five courses in such a way to obtain their Math and Science Teaching (MAST) Leadership Certificate from the School of Education. Another option is to take five Education courses from the Elementary & Secondary Education Department.
For course descriptions of all EDUR courses, please visit the School of Education webpage at http://bulletin.lmu.edu/specialized-programs-in-urban-education.htm

COST/FINANCIAL AID
Information about tuition cost can be found at: http://www.lmu.edu/about/services/controller/osfs/studentaccounts.htm

Please contact the financial aid office to discuss possible options for scholarships, aid, and grants specifically for teachers. Perspective MAT students may qualify for federal programs and state programs specifically geared towards increasing highly qualified individuals to teach in math and science.

http://financialaid.lmu.edu/

The Department of Mathematics is housed within LMU’s Seaver College of Science and Engineering which offers a limited amount of Graduate Assistant (GA) positions each year. Information about these positions and how to apply can be found at the following website.

http://cse.lmu.edu/about/graduateeducation/

Please contact the Department of Mathematics for further information
http://cse.lmu.edu/departments/math/

Loyola Marymount University
**PROGRAM REQUIREMENTS**
The MAT program, developed by the Department of Mathematics in collaboration with the School of Education, includes five mathematics courses and five education courses. The program is designed to be completed by full-time teachers in two years.

The first mathematics course, Math 548 Methods of Proofs for Teachers, is offered each summer. Normally it meets for three to four weeks beginning in mid-June. Summer courses typically meet four days a week, for approximately three hours each day. Academic year courses meet one evening a week for approximately three hours each meeting.

The mathematics courses are listed and described below.

**COURSE DESCRIPTIONS**

**MATH 548 • Methods of Proofs for Teachers**
This course introduces basic number theory proofs, analysis proofs with limits and functions, cardinality, geometry, logic and language, and set theory proofs. The importance of proof writing and explanation in mathematics are emphasized in this course.

**MATH 593 • Seminar for Mathematics Teachers**
Topics in high school mathematics are examined from an advanced standpoint by exploring extensions and generalizations of typical high school problems, by making explicit connections between these problems and upper division mathematics courses, and by providing historical context. Current issues in secondary mathematics education are discussed. Written and oral presentations are required.

**SPECIAL TOPICS I • Analysis for Teachers**
This course surveys topics that touch upon calculus, measure theory, and analysis. Calculus concepts are explored from an advanced perspective so as to reveal connections between high-school level analysis and calculus and more advanced collegiate mathematics.

**SPECIAL TOPICS II • Algebra/Geometry for Teachers**
This course addresses topics in algebra and geometry. Topics may include Euclidean and non-Euclidean planar geometries, axiomatic systems, synthetic and analytic representations, relationships between geometry and algebra, linear systems of equations, Gauss elimination and iterative methods, eigenvalues and eigenvectors.

**SPECIAL TOPICS III • Statistics/Modeling for Teachers**
This course selects from topics in statistics and modeling, such as basic descriptive statistics, hypothesis testing, regression analysis, ANOVA/ANCOVA, and modeling relationships. The use of statistics in the media and in educational studies is also a focus.

**EDUCATION COURSES**
Participants completing the MAT program also take five education courses. Participants have several options. Those with at least three years of secondary teaching experience and a Credential in Mathematics may select their five courses in such a way to obtain their Math and Science Teaching (MAST) Leadership Certificate from the School of Education. Those working toward a Credential will work with an advisor in the School of Education to select courses from the Elementary & Secondary Education Department.

For course descriptions of all EDUR courses, please visit the School of Education webpage at [http://bulletin.lmu.edu/specialized-programs-in-urban-education.htm](http://bulletin.lmu.edu/specialized-programs-in-urban-education.htm)

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Please contact the financial aid office to discuss possible options for scholarships, aid, and grants specifically for teachers. Prospective MAT participants may qualify for federal and state programs aimed at encouraging highly qualified individuals to teach mathematics and science.

Each year LMU’s Seaver College of Science and Engineering offers a limited number of Graduate Assistant positions. MAT participants are eligible to apply for these. For information about these positions and how to apply see: [http://cse.lmu.edu/about/graduateeducation/](http://cse.lmu.edu/about/graduateeducation/)

Please visit the Department of Mathematics’ website for further information: [http://cse.lmu.edu/department/math/](http://cse.lmu.edu/department/math/)