MAT in Mathematics Education

Administration

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The Master of Arts in Teaching (MAT) Program is designed for graduates who majored in mathematics or who have taken a minimum of seven mathematics courses beyond Calculus I who wish to teach in middle or secondary schools and who have not completed a professional licensure program.

Students in this degree program prepare for Massachusetts initial teacher licensure and further strengthen their chosen academic fields. Program graduates complete courses in professional education, additional graduate courses in their content fields, and a student-teaching experience.

The Master of Arts in Teaching Program is a 12-month program for full-time students seeking initial licensure for teaching at the middle, junior, or senior high school levels in accordance with requirements in the state of Massachusetts. Licensure reciprocity exists with many states, but students should investigate specifics in the state of anticipated residence.

The program begins in July each year, though in some cases students may begin in September. It is also possible to complete the degree over a longer time period as a part-time student.

Students complete four courses in their chosen field of study in the School of Education focused on pedagogical content knowledge or in the Graduate School of Arts & Sciences focused on advanced content knowledge.

The professional education component consists of the study of curriculum and methods of instruction, adolescent development and learning, topics in special education, urban education, and foundations of education. Students complete a two-semester practicum experience culminating in student teaching. This combination ensures strength in the field of study combined with a comprehensive set of teaching skills appropriate to adolescents.

Curriculum

Core Education Coursework (12 cr)

• SED ED 502 Professional Teaching Seminar: Analyzing Foundations of Teaching (2 cr)
• SED DS 502 Adolescent Development and Learning (2 cr)
• SED SE 510 Special Education: Curriculum and Instruction (2 cr)
• SED SE 534 Classroom and Behavior Management (2 cr)
• SED TL 525 Teaching English Learners in the Middle/High School (4 cr)
Mathematics Education and Mathematics Coursework (16 cr)

Students complete 16 credits (approximately four courses) in mathematics education and/or mathematics in consultation with their advisors. A sampling of coursework is listed below.

- SED ME 525 Assessment in Mathematics (2 cr)
- SED ME 530 Equitable Pedagogies in STEM Education (2 cr) *(required for Noyce scholars)*
- SED ME 559 Mathematics for Teaching: Geometry (4 cr)
- SED ME 560 Mathematics for Teaching: Algebra (4 cr)
- SED ME 563 Problem Solving in Mathematics (4 cr)
- SED ME 565 Mathematics for Teaching: Calculus (4 cr)
- CAS MA 547 Topics in Number Theory (PROMYS Program) (4 cr)
- CAS MA 548 Problem Solving in Number Theory (PROMYS Program) (4 cr)

Methods and Practicum (14 cr)

In conjunction with the *Methods of Teaching Mathematics* course, students are involved in a pre-practicum experience in the fall semester. Then students participate in a 300-hour student-teaching experience in the spring semester, supervised by a trained classroom teacher and Boston University faculty. All students take a methods course and a student teaching practicum.

- SED ME 547 Methods of Teaching Mathematics: High School (6 cr) or SED ME 546 Methods of Teaching Mathematics: Middle School (6 cr)
- SED ME 508 Student Teaching Practicum: Mathematics 8–12 (8 cr) or SED ME 507 Student Teaching Practicum: Mathematics 5–8 (8 cr)

Scholarships

There are a number of scholarships available to graduate students in mathematics education. For example, Math for America Boston: Noyce Scholars Program provides full scholarships to MAT candidates in collaboration with Math for America. This scholarship is designed for graduate students with strong mathematics backgrounds who are interested in secondary teaching in high-need districts. Noyce Scholars complete the described MAT program. In addition, they enroll in a two-credit course (*Equitable Pedagogies in STEM Education*), tutor Boston Public School students, and receive individual mentoring and support. Students should contact Dr. Chapin about specific scholarship opportunities.