

**University of Massachusetts Lowell
Graduate School of Education
Mathematics and Science Education (Ed.D.)**

REQUIREMENTS:

- Complete a minimum of 36 credits of approved course work (beyond the master's level) and a minimum of 12 credits of dissertation work with a cumulative grade of B (3.0) or better.
- Pass a comprehensive examination.
- Pass a qualifying paper
- Defend a dissertation proposal.
- Defend a dissertation as approved by the student's dissertation committee within (8) years from the date of admission.

Foundations of Education **(min. 6 credits) 6**

- 01.645 Perspectives and Visions of Schooling I
01.646 Perspectives and Visions of Schooling II

Research and Evaluation **(min. 9 credits) 9**

- 07.640** *(Pre-Requisite or Equivalent Graduate Level Research Course)*
07.701 Seminar in Data Analysis
07.702 Seminar in Research Methodology and Design
07.704 Qualitative Research Methodology

Specialization Requirements **(min. 12 credits) 12**

- 04.622 Math, Science & the Educated Mind
04.623 Policy and Practice in Science, Technology, Engineering, & Mathematics
04.626 Development of Concepts in Science

OR

- 04.627 Development of Concepts in Math
04.630 Reasoning and Problem Solving: Math/Sci

Electives **(min. 9 credits) 9**

- 04.728 Research in Mathematics and Science Education
(Qualifying Paper candidates only)

Dissertation Planning **(min. 12 credits) 12**

Note: 07.640 "Introduction to Research Methods" is recommended as a prerequisite for candidates who lack a prior course in statistics. This course does not count as the third research course nor does it count towards the 48 credit hours for the degree.