Science, Technology, Engineering and Mathematics (EDUTL-ES, STE)

Specialization leading to an Education Specialist in Teaching and Learning

Core Requirements (17 hours)

Teaching & Learning Required Courses (8 hours)

EDUTL 8003	Theorizing and Researching Teaching and Learning (4)
EDUTL 8015	Diversity and Equity in Education (4)

Multicultural Education and Diversity in Education Requirement (3 hours)

Alternative courses may be available, consult your advisor

EDUTL 6808	Multicultural and Global Perspectives on Teaching and Learning (3)

Research Methods (6 hours)

More advanced courses may be taken, consult your advisor

ESQREM 6625	Introduction to Educational Research (3)
EDUTL 6052	Classroom-Based Inquiry: MA (3)

Specialization Requirements (15 hours)

Students must meet with a faculty advisor within the first two semesters to plan a program of study. With the approval of a faculty advisor and the Graduate Studies Committee, the program of study may deviate from the curriculum below depending on scholarly and research interests.

Required Courses (15 hours)

EDUTL 8711	Current Issues and Trends in STEM Education (3)
EDUTL 8721	Advanced Study of Thinking, Learning, and Assessment in Mathematics Education (3)
EDUTL 8731	Teaching and Teacher Education in STEM Education (3)
EDUTL 8741	History of Curriculum in STEM Education (3)
EDUTL 8751	Survey and Critical Analysis of Research in STEM Education (3)

Apprenticeship (3-6 hours)

Consult your faculty advisor

EDUTL 8998	Research Apprenticeship in Teaching and Learning (3-6)

Applied Project (1-15 hours)

Consult your faculty advisor

EDUTL 8999	Research (1-15)

Minimum hours post MA/MS: 36

For More Information:
Office of Academic Services
Department of Teaching and Learning
227 Arps Hall
1945 North High Street
Columbus, OH 43210
614-292-2332
tl-academicservices@osu.edu

Note: Students exact curriculum may vary depending upon program of study determined by student and advisor, and approved by the Graduate Studies Committee.

Elective Courses (not required)

EDUTL 7701	Mathematics Teaching and Learning in Elementary and Middle Schools (3)
EDUTL 7706	Science and Early Childhood Education (3)
EDUTL 7711	K-6 Number and Algebra (2)
EDUTL 7712	K-6 Measurement and Geometry (2)
EDUTL 7713	K-6 Data Analysis and Probability (2)
EDUTL 7715	Learning Progressions in Mathematics Education (3)
EDUTL 7716	Conceptual and Procedural Knowledge in Mathematics Education: Theory, Research, and Controversy (3)
EDUTL 7717	Teaching Mathematics (3)
EDUTL 7718	Student Learning Processes in Mathematics (3)
EDUTL 7719	Providing Professional Development in Mathematics Education (2)
EDUTL 7723	Learning Progressions in Science Education (3)
EDUTL 7724	Teaching Evolution in Schools (3)
EDUTL 7725	The Nature of Science and Implications for Science Teaching (3)
EDUTL 7726	STEM Education in Informal Settings (3)
EDUTL 7731	Multimedia Tools For STEM Education (3)
EDUTL 7732	Robotics and Automation for STEM Educators (3)
EDUTL 7741	Advanced Study of Learning and Cognition in STEM (3)
EDUTL 7744	Problem Solving in STEM (3)
EDUTL 7745	Classroom Discourse in STEM Learning (3)
EDUTL 7749	History, Future, and Practical Applications of Concept Inventories in STEM Education (3)
EDUTL 8890	Advanced Seminar (1-4)
FABENG 7220	(Food, Agricultural, & Biological Engineering) College Teaching in Engineering (2)