

MATHEMATICS EDUCATION

Program Information

The School of Teaching & Learning offers the Master of Education (M.Ed.) and Master of Arts in Education (M.A.E.) degrees in Mathematics Education. More information about the requirements for these degrees can be found in the Graduate Degrees (<http://catalog.ufl.edu/graduate/degrees/>) section of this catalog.

The **Master of Education (M.Ed.) for Mathematics Education program** is designed for individuals interested in teaching mathematics in a middle or high school. This program leads to eligibility for professional certification for teaching mathematics to students in grades 6-12. It typically attracts students who received a bachelor's degree in mathematics or another STEM-related discipline and are seeking to teach middle or high school mathematics. Our faculty will work with students to tailor their program to fit particular needs and specific career goals whether that involves becoming a professor at a research university, a faculty member that primarily teaches future teachers, a specialist for mathematics education at the district level, or last, but certainly not least, a classroom teacher.

Minimum admission requirements include:

- B.A. or B.S. degree in a STEM or related field
- 2.7 overall GPA and 3.0 upper-division undergraduate GPA
- Must have successfully completed Calculus 1 and 2 prior to admission.
- Acceptable GRE scores
- Completed all other admissions requirements

It is also recommended that applicants have passed the Florida Teacher Certification Exam (FTCE) Subject Area test (for Mathematics grades 6-12) and to have completed MAP 2302 Elementary Differential Equations (3 cr.) .

Please visit this website for additional information about the M.Ed. degree program in Mathematics Education: <https://education.ufl.edu/math-education/masters/>.

The **Master of Arts in Education (M.A.E.) in Mathematics Education program** is designed for persons interested in gaining expertise in mathematics education and strengthening their background in mathematics. Students in this program typically take a minimum of 9 credit hours in mathematics at the graduate level. This program of study requires a thesis or project-in-lieu of thesis and does not lead to initial teacher certification.

What kind of students typically are enrolled in the M.A.E. in mathematics education program?

- Practicing teachers who want to strengthen their abilities to teach mathematics in a variety of instructional settings.
- Individuals who plan to teach at the community college level. Requirements to teach at the community college level vary depending on the individual campus. Typically, individuals must have a minimum of 18 credits in graduate mathematics. Candidates are encouraged to consult the community college where they desire employment for the exact employment requirements.
- Experienced teachers who have the eventual goal of earning a doctorate in mathematics education enabling them to work in a

teacher education/mathematics education program at an institution of higher education.

Admission Requirements:

B.A. or B.S. in mathematics, mathematics education, or related field; 2.7 overall GPA and 3.0 upper division GPA; GRE; and completing all other general admission requirements

Graduation Requirements:

3.0 GPA (overall and in major); completion of course requirements; thesis or project-in-lieu of thesis

What might a program of study look like in the M.A.E. in mathematics education?

The program of study form is customized to address the unique needs of each student and is developed in consultation with a mathematics education advisor. There are several categories of requirements for the completion of the M.A.E. in mathematics education including: a mathematics methods core, mathematics education seminar, curriculum & instruction, mathematics content knowledge, cognate/electives, and a thesis or project in lieu of thesis.

Please visit this website for additional information about the M.A.E. degree program in Mathematics Education: <https://education.ufl.edu/math-education/masters/>.

Degrees Offered

Degrees Offered with a Major in Mathematics Education

- Master of Arts in Education
- Master of Education

Requirements for these degrees are given in the Graduate Degrees (<http://catalog.ufl.edu/graduate/degrees/>) section of this catalog.

Courses

School of Teaching and Learning Departmental Courses

Code	Title	Credits
EDE 5940	Integrated Teaching and Learning	3
EDE 6266	Teaching and Learning in Elementary Classrooms	3
EDE 6325	Teacher Inquiry/Action Research	3
EDE 6905	Individual Work	1-5
EDE 6948	Internship in Elementary Schools	3-12
EDE 7047	Issues in Teacher Education	3
EDF 5552	Role of School in Democratic Society	3
EDF 6520	History of Education	3
EDF 6544	Philosophical Foundations of Education	3
EDF 6616	Education and American Culture	3
EDF 6636	Theorizing Race and Racism in Educational Research	3
EDF 6812	Comparative Education	3
EDF 6939	Critical Race Theory in Educational Research	3
EDF 7934	Seminar in Educational Foundations	3
EDG 5666	Knowing and Learning in Secondary Schools	3
EDG 6017	Writing for Academic Purposes	3

EDG 6047	Teacher Leadership for Educational Change	3	EME 6651	Learning Analytics Concepts and Techniques	3
EDG 6207	Transforming the Curriculum	3	EME 6935	Seminar: Distance Education Issues and Applications	1
EDG 6225	Global Studies Methods in K-12 Education	3	EME 6945	Practicum in Educational Media and Instructional Design	3-8
EDG 6226	Foundations of Research in Curriculum & Instruction	3	EME 7345	Implementing Educational Technology Innovations (ETIs)	3
EDG 6305	Multiple Perspectives on Teaching and Learning	3	EME 7938	Seminar in Educational Media and Instructional Design	3
EDG 6348	Instructional Coaching for Enhanced Student Learning	3	ESE 5426	Data-Driven Decision Making for Secondary Teachers	3
EDG 6356	Teaching, Learning and Assessment	3	ESE 6344	Classroom Practices and Assessment in Secondary Education	3
EDG 6378	Learning Science with Technology	3	ESE 6345	Effective Teaching and Classroom Management	3
EDG 6415	Culturally Responsive Classroom Management	3	ESE 6905	Individual Work	1-4
EDG 6445	Meeting the Educational Needs of Students Living in Poverty	3	ESE 6939	Special Topics	3
EDG 6664	Survey of Research on STEM Education	3	ESE 6945	Student Teaching in Secondary School	3-9
EDG 6905	Individual Work	1-6	ETE 6141	K-12 Computer Sc Pedagogy I	3
EDG 6910	Supervised Research	1-5	ETE 6142	K-12 Computer Sc Pedagogy II	3
EDG 6931	Special Topics	1-4	FLE 6165	Bilingual-Bicultural Education	3
EDG 6940	Supervised Teaching	1-5	FLE 6167	Cross-Cultural Communication for Teachers	3
EDG 6953	TLSI Online Portfolio Preparation	1-3	LAE 6298	Literacy & Language Instruction	3
EDG 6971	Research for Master's Thesis	1-15	LAE 6339	Curriculum, Methods, and Assessment in Secondary English Language Arts	3
EDG 6973	Project in Lieu of Thesis	1-9	LAE 6348	Teaching Multiliteracies	3
EDG 7224	Critical Pedagogy	3	LAE 6365	Language Arts: Language and Composition	3
EDG 7252	Perspectives in Curriculum, Teaching, and Teacher Education	3	LAE 6366	Language Arts: Literature	3
EDG 7303	Teacher Learning and Socialization in High Poverty Schools	3	LAE 6407	Early Childhood Children's Literature	3
EDG 7359	Professional Development and Teacher Learning	3	LAE 6446	Multicultural Literature for Children and Adolescents	3
EDG 7941	Field Experience in Curriculum and Instruction	1-4	LAE 6616	Seminar in Children's Literature	3
EDG 7979	Advanced Research	1-12	LAE 6861	Technology and Media Literacy	3
EDG 7980	Research for Doctoral Dissertation	1-15	LAE 6865	Teaching Media Literacy with the Internet	3
EDG 7982	Practitioner Research: Theory & Practice	3	LAE 6869	Teaching Digital Storytelling	3
EME 5054	Foundations of Educational Technology	3	LAE 6939	Literacy, Family, and Culture	3
EME 5207	Designing Technology-Rich Curricula	3	LAE 6945	Practicum and Assessment for Teachers of Secondary School English	3
EME 5403	Instructional Computing I	3	LAE 6946	Children's Literature in Educational Settings	3
EME 5404	Instructional Computing II	3	LAE 7006	Language Acquisition and Education	3
EME 5405	Internet in K-12 Instruction	3	LAE 7519	Language and Inquiry	3
EME 5432	Integrating Technology into Social Science Classroom	3	LAE 7934	Seminar in Composition Theory and Practice	3
EME 6059	Blended Learning Environments	3	LAE 7936	Seminar in English Language Arts	3
EME 6065	Human-Computer Interaction and the Learner	3	LAE 7938	Lit, Cult and Politics	3
EME 6066	Issues and Trends in Educational Technology Research	3	MAE 5327	Middle School Mathematics Methods	3
EME 6074	Mobile Technologies in Education	3	MAE 5332	Secondary School Mathematics Methods and Assessment	3
EME 6156	Games and Simulations for Teaching and Learning	3	MAE 5347	Teaching K-8 Mathematics for Understanding	3
EME 6208	Designing Integrated Media Environments I	3	MAE 5395	Multicultural Mathematics Methods	3
EME 6209	Designing Integrated Media Environments II	3	MAE 5396	Using Formative Assessment to Improve Mathematical Learning	3
EME 6235	Managing Educational Projects	3	MAE 5945	Secondary School Mathematics Practicum	3-6
EME 6236	Distance Education Leadership and Management	3	MAE 6313	Problem Solving in School Mathematics	3
EME 6458	Distance Teaching and Learning	3	MAE 6349	Classroom Contexts that Support Self-Regulated Learning and Mathematical Understanding	3
EME 6480	Quantitative Methods in Educational Technology Research	3	MAE 6916	Inquiry in Mathematics Teaching	3
EME 6606	Advanced Instructional Design	3	MAE 7899	Mathematics Education Seminar	3
EME 6609	Instructional Design	3	MUE 7938	Music Education Seminar	3
EME 6637	Managing and Analyzing Multimodal Educational Data	3	RED 5316	Reading in the Primary Grades	3
EME 6645	Neurotechnologies in Education	3	RED 5337	Reading in the Secondary School	3
			RED 5355	Reading Instruction in the Elementary School	3

RED 5399	Practices in Beginning Reading Instruction	3
RED 6346	Seminar in Reading	3-6
RED 6520	Classroom Literacy Assessment and Instruction	3
RED 6546C	Diagnosis of Reading Difficulties	3
RED 6548C	Remediation of Reading Difficulties	3
RED 6647	Trends in Reading	3
RED 6941	Practicum in Diagnosis and Remediation of Reading Difficulties	3
RED 7019	Foundations of Literacy	3
SCE 5140	Science Curriculum Development	3
SCE 5316	Inquiry-Based Science Teaching	3
SCE 5695	Diversity and Equity in Science Teaching	3
SCE 5765	Data-Driven Science Instruction	3
SCE 6117	Science Education in the Elementary School	3
SCE 6337	Secondary Science Methods and Assessment	3
SCE 6947	Practicum in Secondary Science Teaching and Assessment	3
SSE 5945C	Practicum in Secondary Social Studies Teaching and Assessment	3
SSE 6046	Perspectives in Social Studies Education	3
SSE 6117	Social Studies Education--Elementary School	3
SSE 6133	Secondary School Social Studies Methods and Assessment	3
SSE 6478	Global Studies Methods for Social Studies	3
TSL 5142	ESOL Curriculum, Methods, and Assessment	3
TSL 5325	Secondary ESOL Teaching Strategies	3
TSL 6145	Curriculum and Materials Development for ESOL K-12	3
TSL 6245	Language Principles for ESOL Teachers	3
TSL 6373	Methods of Teaching ESOL K-12	3
TSL 6440	Testing and Evaluation of ESOL	3
TSL 6700	Issues in ESOL for School Counselors and Psychologists	3

General Courses

Code	Title	Credits
EDG 6047	Teacher Leadership for Educational Change	3
EDG 6207	Transforming the Curriculum	3
EDG 6226	Foundations of Research in Curriculum & Instruction	3
EDG 6356	Teaching, Learning and Assessment	3
EDG 6905	Individual Work	1-6
EDG 6910	Supervised Research	1-5
EDG 6931	Special Topics	1-4
EDG 6940	Supervised Teaching	1-5
EDG 6971	Research for Master's Thesis	1-15
EDG 6973	Project in Lieu of Thesis	1-9
EDG 7224	Critical Pedagogy	3
EDG 7252	Perspectives in Curriculum, Teaching, and Teacher Education	3
EDG 7303	Teacher Learning and Socialization in High Poverty Schools	3
EDG 7326		
EDG 7941	Field Experience in Curriculum and Instruction	1-4
EDG 7979	Advanced Research	1-12
EDG 7980	Research for Doctoral Dissertation	1-15
EME 6076		

EME 6156	Games and Simulations for Teaching and Learning	3
EME 6235	Managing Educational Projects	3
EME 6236	Distance Education Leadership and Management	3

Curriculum, Teaching, and Teacher Education Courses

Code	Title	Credits
EDE 5940	Integrated Teaching and Learning	3
EDE 6225		3
EDE 6266	Teaching and Learning in Elementary Classrooms	3
EDE 6325	Teacher Inquiry/Action Research	3
EDE 6905	Individual Work	1-5
EDE 6948	Internship in Elementary Schools	3-12
EDE 7047	Issues in Teacher Education	3
EDE 7935		
EDG 6356	Teaching, Learning and Assessment	3
EDG 7224	Critical Pedagogy	3
EDG 7252	Perspectives in Curriculum, Teaching, and Teacher Education	3
EDG 7303	Teacher Learning and Socialization in High Poverty Schools	3
EDG 7326		
EDG 7982	Practitioner Research: Theory & Practice	3

Educational Technology Courses

Code	Title	Credits
EME 5054	Foundations of Educational Technology	3
EME 5207	Designing Technology-Rich Curricula	3
EME 5315		
EME 5316		
EME 5403	Instructional Computing I	3
EME 5404	Instructional Computing II	3
EME 5405	Internet in K-12 Instruction	3
EME 5431		
EME 5432	Integrating Technology into Social Science Classroom	3
EME 5433		
EME 6066	Issues and Trends in Educational Technology Research	3
EME 6208	Designing Integrated Media Environments I	3
EME 6209	Designing Integrated Media Environments II	3
EME 6405		
EME 6458	Distance Teaching and Learning	3
EME 6505		
EME 6602		
EME 6606	Advanced Instructional Design	3
EME 6609	Instructional Design	3
EME 6716		
EME 6935	Seminar: Distance Education Issues and Applications	1
EME 6945	Practicum in Educational Media and Instructional Design	3-8
EME 7938	Seminar in Educational Media and Instructional Design	3

ESOL/Bilingual Education Courses

Code	Title	Credits
FLE 6165	Bilingual-Bicultural Education	3
FLE 6167	Cross-Cultural Communication for Teachers	3

FLE 6636		
FLE 6337		
FLE 6946		
TSL 5142	ESOL Curriculum, Methods, and Assessment	3
TSL 5325	Secondary ESOL Teaching Strategies	3
TSL 6145	Curriculum and Materials Development for ESOL K-12	3
TSL 6171		3
TSL 6172		3
TSL 6245	Language Principles for ESOL Teachers	3
TSL 6373	Methods of Teaching ESOL K-12	3
TSL 6440	Testing and Evaluation of ESOL	3
TSL 6700	Issues in ESOL for School Counselors and Psychologists	3

Language and Literacy Education Courses

Code	Title	Credits
LAE 6298	Literacy & Language Instruction	3
LAE 6339	Curriculum, Methods, and Assessment in Secondary English Language Arts	3
LAE 6348	Teaching Multiliteracies	3
LAE 6365	Language Arts: Language and Composition	3
LAE 6366	Language Arts: Literature	3
LAE 6407	Early Childhood Children's Literature	3
LAE 6446	Multicultural Literature for Children and Adolescents	3
LAE 6455		
LAE 6616	Seminar in Children's Literature	3
LAE 6635		
LAE 6714		
LAE 6861	Technology and Media Literacy	3
LAE 6865	Teaching Media Literacy with the Internet	3
LAE 6869	Teaching Digital Storytelling	3
LAE 6939	Literacy, Family, and Culture	3
LAE 6945	Practicum and Assessment for Teachers of Secondary School English	3
LAE 6946	Children's Literature in Educational Settings	3
LAE 7006	Language Acquisition and Education	3
LAE 7519	Language and Inquiry	3
LAE 7934	Seminar in Composition Theory and Practice	3
LAE 7936	Seminar in English Language Arts	3

Mathematics Education Courses

Code	Title	Credits
MAE 5327	Middle School Mathematics Methods	3
MAE 5332	Secondary School Mathematics Methods and Assessment	3
MAE 5395	Multicultural Mathematics Methods	3
MAE 5396	Using Formative Assessment to Improve Mathematical Learning	3
MAE 5347	Teaching K-8 Mathematics for Understanding	3
MAE 5945	Secondary School Mathematics Practicum	3-6
MAE 6313	Problem Solving in School Mathematics	3
MAE 6615		
MAE 6641		
MAE 7899	Mathematics Education Seminar	3

Reading Education Courses

Code	Title	Credits
RED 5046		
RED 5316	Reading in the Primary Grades	3

RED 5337	Reading in the Secondary School	3
RED 5355	Reading Instruction in the Elementary School	3
RED 5399	Practices in Beginning Reading Instruction	3
RED 6346	Seminar in Reading	3-6
RED 6520	Classroom Literacy Assessment and Instruction	3
RED 6546C	Diagnosis of Reading Difficulties	3
RED 6548C	Remediation of Reading Difficulties	3
RED 6647	Trends in Reading	3
RED 6941	Practicum in Diagnosis and Remediation of Reading Difficulties	3
RED 7019	Foundations of Literacy	3
RED 7817		

Science Education Courses

Code	Title	Credits
SCE 5140	Science Curriculum Development	3
SCE 5316	Inquiry-Based Science Teaching	3
SCE 5825		3
SCE 5695	Diversity and Equity in Science Teaching	3
SCE 5765	Data-Driven Science Instruction	3
SCE 6045		
SCE 6117	Science Education in the Elementary School	3
SCE 6246		3
SCE 6337	Secondary Science Methods and Assessment	3
SCE 6647		3
SCE 6947	Practicum in Secondary Science Teaching and Assessment	3

Secondary Education Courses

Code	Title	Credits
EDM 6005		
EDM 6235		
ESE 6215		
ESE 6344	Classroom Practices and Assessment in Secondary Education	3
ESE 6345	Effective Teaching and Classroom Management	3
ESE 6905	Individual Work	1-4
ESE 6939	Special Topics	3
ESE 6945	Student Teaching in Secondary School	3-9

Social Foundations of Education Courses

Code	Title	Credits
EDF 5552	Role of School in Democratic Society	3
EDF 6520	History of Education	3
EDF 6544	Philosophical Foundations of Education	3
EDF 6606		
EDF 6616	Education and American Culture	3
EDF 6630		
EDF 6812	Comparative Education	3
EDF 6820		
EDF 7555		
EDF 7934	Seminar in Educational Foundations	3

Social Studies Education Courses

Code	Title	Credits
SSE 5320		
SSE 5945C	Practicum in Secondary Social Studies Teaching and Assessment	3

SSE 6046	Perspectives in Social Studies Education	3
SSE 6117	Social Studies Education--Elementary School	3
SSE 6133	Secondary School Social Studies Methods and Assessment	3
SSE 6478	Global Studies Methods for Social Studies	3

Teacher Leadership for School Improvement Courses

Code	Title	Credits
EDE 6325	Teacher Inquiry/Action Research	3
EDG 6047	Teacher Leadership for Educational Change	3
EDG 6207	Transforming the Curriculum	3
EDG 6415	Culturally Responsive Classroom Management	3
EDG 6953	TLSI Online Portfolio Preparation	1-3

College of Education Courses

Student Learning Outcomes

Mathematics Education (MAE)

SLO 1 Knowledge

The student will identify, describe, and explain current research on teaching and learning of mathematics

SLO 2 Skills

The student will investigate a significant problem or original question within the field of study.

SLO 3 Professional Behavior

The students will critically evaluate their own effectiveness to plan future lessons and improve the teaching of all students over time.

Mathematics Education (MEd)

SLO 1 Knowledge

The student will identify, describe, and explain research on teaching and learning of mathematics.

SLO 2 Skills

The student will create, select and implement: (1) specific learning goals, (2) appropriate teaching methods and instructional materials, and (3) evaluation strategies aligned with goals, using knowledge of subject matter, learners and classroom management.

SLO 3 Professional Behavior

The student will collaborate with other professionals, such as peers and mentor teachers, to reflect upon his or her mathematics teaching. Students will communicate high expectations for all PK-12 students.