

EDUCATION: APPLIED MATHEMATICS (MAED)

Award: Master of Arts in Education
 Program of Study: Applied Mathematics
 Program Code: 8241

This program is no longer accepting new students.

The Master of Arts in Education, Applied Mathematics is a 33-hour program.

Important information about this program:

- A bachelor's degree from an accredited college is required, prior to beginning the program.
- A fully completed application including official transcripts is required prior to beginning the program.
- Acceptance into the Applied Mathematics graduate certificate program.
- 33 semester hours and capstone presentation are required for the Master of Arts in Education Degree in Applied Mathematics.
- It is recommended that students work closely with a faculty advisor when selecting courses and scheduling classes prior to registration.

As a component of this program, students will earn an Graduate Certificate in Applied Mathematics prior to beginning coursework specific to the Master of Arts in Education in Applied Mathematics degree. Upon completion of the Graduate Certificate in Applied Mathematics, graduates will be able to:

1. Employ mathematical, computational and/or statistical methods to address topics in applied mathematics (specialized knowledge/applied learning, quantitative fluency);
2. Create oral and written arguments, well-grounded in theories and methods of applied mathematics (communication fluency, quantitative fluency);
3. Formulate and evaluate hypotheses related to applied problems, issues, concepts, and perspectives (critical thinking, quantitative fluency).

All CMU masters-level graduates are expected to demonstrate proficiency in specialized knowledge/applied learning, quantitative fluency, communication fluency, critical thinking, information literacy, and ethical reasoning. In addition to these campus-wide student learning outcomes, a graduate of this program will be able to:

1. Create and deliver oral and written communication based on sound educational theory and research for public education. (Communication Fluency)
2. Evaluate and formulate education plans based on research, current issues, and public education stakeholders. (Critical Thinking and Specialized Knowledge)
3. Synthesize, evaluate, and refine information from an information base of scholarly resources. (Information Literacy)
4. Evaluate and articulate responses to moral, ethical, legal, and professional challenges for instruction. (Ethical Reasoning)
5. Employ statistically valid processes to analyze assessment data to evaluate student learning with respect to district, state, and federal goals. (Quantitative Fluency)

6. Work individually and collaboratively on research based change and innovation in education. (Specialized Knowledge and Applied Learning).

Requirements

Each section below contains details about the requirements for this program. Select a header to expand the information/requirements for that particular section of the program's requirements.

To print or save an overview of this program's information, including the program description, learning outcomes, requirements, suggested course sequencing (if applicable), and advising and graduation information, scroll to the bottom of the left-hand navigation menu and select "Print Options." This will give you the options to either "Send Page to Printer" or "Download PDF of This Page." The "Download PDF of This Page" option prepares a much more concise presentation of all program information. The PDF is also printable and may be preferable due to its brevity.

Institutional Graduate Degree Requirements

The following institutional requirements apply to all CMU graduate-level degrees. Specific programs may have different requirements that must be met in addition to institutional requirements.

- Graduate certificates consist of a minimum of 5 credit hours. Master's degrees consist of a minimum of 30 credit hours. Doctoral degrees consist of a minimum of 60 credit hours.
- All credits in a graduate program must be minimally at the 500-level.
- At least fifty percent of the credit hours must be taken at CMU.
- Students must achieve a 3.00 cumulative GPA or higher in all CMU coursework.
- Students may not apply coursework with a grade lower than a "B" toward graduation requirements.
- A course may only be used to fulfill one requirement for each degree/certificate.
- Capstone exit assessment/projects (e.g., Major Field Achievement Test) requirements are identified under Program-Specific Requirements.
- The Catalog Year determines which program sheet and certificate requirements a student must fulfill in order to graduate. Visit with your advisor or academic department to determine which catalog year and program requirements you should follow.
- See "[Graduate Degree Requirements](#)" in this catalog for a complete list of graduation requirements.
- All policies for graduate degrees are outlined in the [Graduate Policies and Procedures Manual](#), [Capstone Guidelines Manual](#), and [Thesis and Dissertation Guidelines Manual](#), all of which are provided on the [Graduate Studies website](#).

Program Specific Requirements

(33 semester hours, must pass all courses with a grade of "B" or better.)

- 33 semester hours *and* capstone presentation are required for the Master of Arts in Education Degree in Applied Mathematics.
- It is recommended that students work closely with a faculty advisor when selecting courses and scheduling classes prior to registration.

Code	Title	Semester Credit Hours
Required Courses		
MATH 500	Introduction to Graduate Studies in Applied Mathematics	3
MATH 510	Applied Probability and Statistics	3
MATH 520	Applied Numerical Methods	3
Restricted Elective Courses		
Select 9 credits from the following courses:		9
MATH 530	Applied Mathematical Modeling	
MATH 540	Applied Audio and Image Processing	
MATH 550	Mathematical Logic and Foundations in Mathematics	
MATH 560	Applied Number Theory	
MATH 570	Applied Cryptography	
MATH 596	Topics	
Master of Arts in Education Core Courses		
EDUC 500	Culture and Pedagogy	3
EDUC 501	Educational Technology	2
EDUC 502	Theory, Design & Assessment of Curriculum	3
EDUC 503	Introduction to Educational Research and Design	3
EDTL 513	Information Based Educational Practice and Statistics	3
EDUC 600	Master's in Education Capstone	1
Total Semester Credit Hours		33

Suggested Course Plan

First Year		Semester Credit Hours
Summer Semester		
EDUC 502	Theory, Design & Assessment of Curriculum	3
MATH 500	Introduction to Graduate Studies in Applied Mathematics	3
Semester Credit Hours		6
Fall Semester		
EDUC 501	Educational Technology	2
MATH 510	Applied Probability and Statistics	3
Semester Credit Hours		5
Spring Semester		
EDTL 513	Information Based Educational Practice and Statistics	3
MATH 520	Applied Numerical Methods	3
Semester Credit Hours		6
Second Year		
Summer Semester		
EDUC 500	Culture and Pedagogy	3
EDUC 503	Introduction to Educational Research and Design	3
Restricted Elective		3
Semester Credit Hours		9
Fall Semester		
EDUC 600	Master's in Education Capstone	1
Restricted Elective		3
Semester Credit Hours		4

Spring Semester	
Restricted Elective	3
Semester Credit Hours	
3	
Total Semester Credit Hours	
33	

Advising and Graduation Advising Process and DegreeWorks

Documentation on the pages related to this program is intended for informational purposes to help determine what courses and associated requirements are needed to earn a degree. Some courses are critical to complete in specific semesters while others may be moved around. Meeting with an academic advisor is essential in planning courses and discussing the suggested course sequencing. It is ultimately the student's responsibility to understand and fulfill the requirements for their intended degree.

DegreeWorks is an online degree audit tool available in MAVzone. It is the official record used by the Registrar's Office to evaluate progress towards a certificate and determine eligibility for graduation. Students are responsible for reviewing their DegreeWorks audit on a regular basis and should discuss questions or concerns with their advisor or academic department head. Discrepancies in requirements should be reported to the Registrar's Office.

Graduation Process

Students must complete the following in the first two months of the semester prior to completing their degree requirements:

- Review their DegreeWorks audit and create a plan that outlines how unmet requirements will be met in the final semester.
- Meet with their advisor and modify their plan as needed. The advisor must approve the final plan.
- Submit the "Intent to Graduate" form to the Registrar's Office to officially declare the intended graduation date and commencement ceremony plans.
- Register for all needed courses and complete all requirements for each degree sought.

Submission deadlines and commencement details can be found on the [Graduation](#) web page.

If a student's petition for graduation is denied, it will be their responsibility to apply for graduation in a subsequent semester. A student's "Intent to Graduate" does not automatically move to a later graduation date.