

Proposed Program Revisions to Masters in Mathematics – Mathematics Education  
(Elementary/Middle Level Option)

Rationale:

The changes for the program are precipitated by a number of factors-

- A new course (MAT 5409) is being added to required set of courses. Course proposal is attached.
- The title of MAT 5410 needs to be changed to better reflect the course content and to not conflict with the title of MAT 5409. A separate executive action request for this title change (along with listing MAT 5409 as a prerequisite for MAT 5410) is attached.
- The new MAT 5409 adds 1 credit hour to the program. This increase will be offset by reducing the number of required credit hours for graduate level education course by 1 credit.
- For the last few years we have been requiring two independent study courses for the implementation and evaluation of an action research project, substituting the hours for elective courses. This proposal formalizes the requirement. Including these projects explicitly in the program listing will make this clear to candidates.
- There were some catalog errors/omissions that needed updated/corrected.
- A number of course name changes took place last summer. The revisions reflect these course name changes.
- Need to clarify the required number of and type of credit hours for content courses.

Masters in Mathematics – Mathematics Education  
(Elementary/Middle Level Option)

CURRENT CATALOG LISTING

Degree Requirements

Candidates for the Master of Arts in Mathematics with Elementary/Middle School Education option must complete a minimum of 32 semester hours without a thesis or 30 semester hours with a thesis selected and approved by the Mathematics Department as outlined below.

**Curriculum for the 32 Hour Option Without a Thesis**

Total. Credits: 32

- Basis Education Courses Total. Credits: 8

Contact the department of education for current list of appropriate courses.

Specific Requirements in Mathematics are as follows:

- MAT 4800 - Diagnosis, Remediation, and Technology in Teaching Mathematics, K-12. Credits: 2
- MAT 5400 - The Teaching of Mathematics in Grades K-6. Credits: 3  
or MAT 5500 -Methods of Teaching Mathematics at Middle Level
- MAT 5410 - Introduction to Research in Mathematics Education. Credits: 3  
6 Semester Hours Chosen From:  
6 Semester Hours Chosen From:
- MAT 4920 - Concepts of Algebra for Elementary and Middle Level Teachers. Credits: 3

**Curriculum for the 30 Hour Option With a Thesis**

Total. Credits: 30

Same as Non-Thesis option with the following changes:

No Independent Study required

MAT 5950 - Thesis. Credits: 3 to 6 required

5 Semester Hours Chosen From:

- MAT 4920 - Concepts of Algebra for Elementary and Middle Level Teachers. Credits: 3

REVISED CATALOG LISTING

~Changes are in red~

Degree Requirements

Candidates for the Master of Arts in Mathematics with Elementary/Middle School Education option must complete a minimum of 32 semester hours without a thesis or 30 semester hours with a thesis selected and approved by the Mathematics Department as outlined below.

**Curriculum for the 32 Hour Option Without a Thesis**

Total. Credits: 32

~~• Basis Education Courses Total. Credits: 8~~

- **Graduate Education Courses. Credits: 7**

~~Contact the department of education for current list of appropriate courses.~~

Specific Requirements in Mathematics are as follows:

- MAT 4800 - Diagnosis, Remediation, and Technology in Teaching Mathematics, K-12. Credits: 2
- MAT 5400 - The Teaching of Mathematics in Grades K-6. Credits: 3  
or MAT 5500 -Methods of Teaching Mathematics at Middle Level
- **MAT 5409 – Teachers as Researchers in Mathematics Education. Credits: 1**
- ~~• MAT 5410 – Introduction to Research in Mathematics Education. Credits: 3~~
- **MAT 5410 – Action Research in Mathematics Education. Credits: 3**
- **MAT 59901 – Independent Study 1. Credits: 2**
- **MAT 59902 – Independent Study 2. Credits: 2**

6 Semester Hours Chosen From:

**Note: Topics taken from MAT 5810 must not have been previously completed as a topic from MAT 4810.**

- **MAT 5810A - Topics in Geometry for Elementary/Middle School Teachers. Credits: 1 to 4**
- **MAT 5810B - Topics in the History of Mathematics for Elementary/Middle School Teachers. Credits: 1 to 4**

- MAT 5810D - Topics in Probability for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 5810E - Topics in Statistics for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 5810F - Topics in Number Theory for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 5810H - Topics in Computer Science for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 5810I - Topics in Mathematics for Elementary/Middle School Teachers I. Credits: 1 to 4
- MAT 5810J - Topics in Mathematics for Elementary/Middle School Teachers II. Credits: 1 to 4

6 Semester Hours Chosen From:

Note: Topics taken from MAT 4810 must not have been previously completed as a topic from MAT 5810.

- MAT 4810A - Topics in Geometry for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 4810B - Topics in the History of Mathematics for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 4810D - Topics in Probability for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 4810E - Topics in Statistics for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 4810F - Topics in Number Theory for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 4810H - Topics in Computer Science for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 4810I - Topics in Mathematics for Elementary/Middle School Teachers I. Credits: 1 to 4
- MAT 4810J - Topics in Mathematics for Elementary/Middle School Teachers II. Credits: 1 to 4
- MAT 4920 - Concepts of Algebra for Elementary and Middle Level Teachers. Credits: 3
- MAT 5810A - Topics in Geometry for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 5810B - Topics in the History of Mathematics for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 5810D - Topics in Probability for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 5810E - Topics in Statistics for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 5810F - Topics in Number Theory for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 5810H - Topics in Computer Science for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 5810I - Topics in Mathematics for Elementary/Middle School Teachers I. Credits: 1 to 4

- MAT 5810J - Topics in Mathematics for Elementary/Middle School Teachers II. Credits: 1 to 4

### Curriculum for the 30 Hour Option With a Thesis

Total. Credits: 30

Same as Non-Thesis option with the following changes:

No Independent Study required

MAT 5950 - Thesis. Credits: 3 to 6 required

5 Semester Hours Chosen From:

Note: Topics taken from MAT 4810 must not have been previously completed as a topic from MAT 5810.

- MAT 4810A - Topics in Geometry for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 4810B - Topics in the History of Mathematics for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 4810D - Topics in Probability for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 4810E - Topics in Statistics for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 4810F - Topics in Number Theory for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 4810H - Topics in Computer Science for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 4810I - Topics in Mathematics for Elementary/Middle School Teachers I. Credits: 1 to 4
- MAT 4810J - Topics in Mathematics for Elementary/Middle School Teachers II. Credits: 1 to 4
- MAT 4920 - Concepts of Algebra for Elementary and Middle Level Teachers. Credits: 3
- 5810A - Topics in Geometry for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 5810B - Topics in the History of Mathematics for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 5810D - Topics in Probability for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 5810E - Topics in Statistics for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 5810F - Topics in Number Theory for Elementary/Middle School Teachers. Credits: 1 to 4
- MAT 5810H - Topics in Computer Science for Elementary/Middle School Teachers. Credits: 1 to 4

- MAT 5810I - Topics in Mathematics for Elementary/Middle School Teachers I. Credits: 1 to 4
- MAT 5810J - Topics in Mathematics for Elementary/Middle School Teachers II. Credits: 1 to 4

*Effective Fall 2013*

Date approved by the Mathematics and Computer Science Department: \_\_April 23, 2012\_\_

Date Approved by the College of Sciences Curriculum Committee: September 14, 2012

Date Approved by the Council on Teacher Education: \_\_\_\_\_

Date Approved by Council on Graduate Studies: \_\_\_\_\_