# Mathematics Education

at Arcadia University

***Global Perspectives…Personal Attention…Real-World Integrative Learning Experiences***

## Coordinator

Peter Appelbaum, Ed.D.

## Master's Degrees and Teacher Certification

**Master of Education**

**Master of Arts in Education**

**Certification**

Instructional
Supervisory

## About the Mathematics Education Program

This program enables teachers, administrators, and other formal and non-formal educators at all grade levels to enact meaningful mathematics teaching and learning in all possible learning environments. Interdisciplinary and trans-disciplinary approaches are used to support rich mathematical investigations and to implement challenging curricular structures that exceed state and local standards and objectives.

The program is suitable for elementary, middle and high school teachers and administrators who want to specialize in mathematics education, those who work in educational agencies and curriculum development, community college instructors, and others who are interested in the best mathematics education practices for all students.

## Master of Education Degree Requirements (M.Ed.)

(a minimum of 30 credits)

**Mathematics Education Concentration**

1. Foundation Courses (6–9 credits) chosen in consultation with the adviser from the following:
   ED 501–510
2. Concentration Courses (15 credits)

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|---|---|---|
| ED | 526A | Learning and Assessment in Elementary Mathematics |
| ED | 526B | Learning and Assessment in Secondary Mathematics |
| ED | 527 | Topics in Mathematics Education:<br>A) Professional Content Development for Elementary Mathematics<br>B) Teaching Algebra<br>C) Teaching Geometry<br>D) Teaching Calculus<br>E) Teaching Discrete Mathematics<br>F) Teaching Probability and Statistics<br>G) Mathematics in the Middle School<br>H) Teaching Developmental Mathematics |
| ED | 528A | Problem-Solving and Problem-Posing Workshop |
| ED | 528B | Clinical Mathematics Education |
| ED | 529 | Mathematics and the Curriculum (Required Course) |
| ED | 534 | Topics in Mathematics Curriculum Development |
| ED | 558B | Seminar for Mathematics Educators |

3. Electives (6–9 credits) chosen with the adviser
4. Culminating Activity ED596 – 3 credits
   Arranged in consultation with the adviser at the time of completing the Degree Candidacy Application. A Practicum or Field Experience may not be used as the Culminating Activity for master's degrees in Secondary Education.

## Master of Arts in Education Degree Requirements (M.A.Ed.)

(a minimum of 30 credits)

This program is individualized and planned with the program Coordinator.

1. Mathematics Concentration

2. Education Foundation Courses (6 credits)

3. Concentration Courses (Mathematics) (15 credits)

4. Electives in Education (9 credits)

5. Culminating Activity (3 credits)

The foundation courses (ED 501–510) provide knowledge basic to all aspects of education. A minimum of 15 credits of the degree program must be taken in Mathematics; the remaining credits must be in Education.

# Teacher Certification

Pennsylvania Instructional Teacher Certification (variable credit depending on previous academic credentials)

**Mathematics Education 7–12**

| | | |
|---|---|---|
| ED | 503 | General Foundations of Education in the United States |
| ED | 513 | Meeting the Needs of Diverse Learners |
| ED | 523 | The Teacher and the Classroom, Secondary |
| ED | 526B | Learning and Assessment in Secondary Mathematics |
| ED | 565B | Computers and Technology in the Mathematics Curriculum |
| ED | 471 | Graduate Student Teaching Practicum: Secondary 7–12 (6 credits; credits not applicable to master's degree or culminating activity) |
| or ED | 583B | Fieldwork (for students holding a valid Pennsylvania Instructional I or II certificate) (3 credits; credits not applicable to the master's degree) |

Additional Certification Requirements

1. Completion of all subject area coursework required to meet the general and specific certification standards of the Pennsylvania Department of Education. This will be determined by the program Coordinator.
2. A grade of "**B**" or better in the Graduate Student Teaching Practicum
3. Completion of all Praxis examinations is required prior to enrolling for the Student Teaching Practicum.

   Praxis I
   Passing scores on Reading, Writing and Mathematics tests are required for admission to the program.

   Praxis II
   Mathematics Content Knowledge (10061)
   Qualifying Score: 136