

Mathematics Education  
Master of Science in Education  
MSEd  
Student Handbook



University of Colorado  
Denver

**School of Education & Human Development**

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## ***Welcome to the MEd Program!***

This handbook is designed to assist you in navigating your program successfully. Please save this handbook to your personal computer and/or print it out to keep as a hard copy.

To help you find the information you need, the handbook is organized into five parts: Program, Degree Requirements, COMPS, Policies & Procedures, and Resources. Make sure you read through the entire handbook.

### **Using Your Program Handbook**

- √ Be sure that you download or print out the handbook in time to take it to your first program information session.
- √ Please take your handbook to all sessions you have with your staff or faculty advisor.
- √ Consult your handbook regularly—it will assist you in completing your program without surprises.
- √ Be sure to note which forms have deadlines for being signed and turned in.

If you have any questions after consulting this handbook, please contact academic advisor Shelley Gomez at [shelley.gomez@ucdenver.edu](mailto:shelley.gomez@ucdenver.edu) or 303-315-6310.

### **Program**

The MEd in mathematics education program incorporates courses in mathematical content, pedagogy and research. This approach will improve the student's knowledge of mathematics and enhance their ability to teach effectively at the K-12 level. The program arises from collaboration between the School of Education and Human Development (SEHD) and the Department of Mathematical and Statistical Sciences in the College of Liberal Arts and Sciences (CLAS). It interweaves both mathematics and education leading to a truly interdisciplinary program.

The MEd core courses provide a sound basis in mathematics education, curriculum theory, teacher inquiry, appreciation of diversity and philosophical foundations.

#### **Master of Science in Education (MEd) in Mathematics Education**

The MEd in Mathematics Education has concentrations in the following areas:

- Elementary Mathematics Education
- Secondary Mathematics Education

## Policies & Procedures

### Time Limit

Students must complete all course work for the MEd within seven (7) years.

Typically, students take two to three years to complete their degrees. We generally recommend that working teachers take no more than one course per semester during the school year while teaching full-time or no more than two courses in any given semester. This will give you time to absorb, consider, apply, and reflect upon the materials.

Classes are scheduled to fit around your professional hours. During fall and spring semesters, most classes are conveniently offered in the late afternoon or evening. These classes usually meet for three hours once a week over a 16-week semester. Some other fall and spring courses may be offered on weekends or online. During the summer, courses are generally offered on an intensive basis at a variety of times.

### School-Based Experiences

Some courses require students to apply what they are learning in an actual classroom. These experiences can often be completed in the teacher's own school and classroom(s) or through volunteer experience.

### LiveText

LiveText is a web-based learning and creative environment designed to assist students, faculty and staff in the process of assessment and accreditation. It consists of a powerful array of tools to enable users to create standards-based assessments, deliverables to satisfy the requirements of assessments, projects, and more. It is recommended that you attend a LiveText training workshop during your first semester. The LiveText training workshop calendar can be found at <http://sehassessment.ucdenver.edu>.

### UCD Email

E-mail is an official means of communication for students at UC Denver. All official university e-mail will be sent to each student's assigned a UC Denver e-mail address. UC Denver will **only** use UC Denver student e-mail accounts if it elects to send e-mail communications to students. UC Denver e-mail accounts are available through IT Services. Students are responsible for reading e-mails received from UC Denver. Information on activating your email and forwarding can be found at: <http://www.ucdenver.edu/about/departments/ITS/Pages/AccountTransition.aspx>.

### Transfer of Credit

Up to 9 credits of graduate-level work from an accredited institution may be transferred. Courses must be of appropriate content, approved by your UC Denver faculty advisor, graded with a B- or better, less than 10 years old at the time you graduate, and not already used to complete another degree. Credit may be formally transferred in, using an official transcript (in its original sealed envelope) and a Transfer of Credit form, after completing one semester in the program as a degree seeking student. The Transfer of Credit form is available at

<http://www.ucdenver.edu/academics/colleges/SchoolOfEducation/CurrentStudents/Resources/Pages/CurrentResources.aspx>.

Credits taken as a non-degree seeking student at UC Denver and from UC Denver Continuing and Professional Education, UC Boulder, or UC Colorado Springs are NOT considered transfer work. Please consult with your faculty advisor about applying such course work to your program.

### Course Waivers and Substitutions

Waivers refer to degree requirements that are waived based on classes that students have taken prior to entering the program, including courses transferred from another institution. Course waivers imply that you have sufficient knowledge in a particular area, whereas transfer credit implies that actual credit has been approved decreasing the total number of units needed to graduate. Courses may be waived if it has been determined that the course is redundant to your current degree program. You must submit all necessary documentation (syllabus, transcript, etc.) to prove that you have sufficient knowledge in this area to warrant a waiver. If you feel a course waiver is appropriate, you as the student must approach your faculty advisor, who will decide whether other documentation warrants the waiver. Typically, when a waiver is granted a substitutable course is approved simultaneously. ***A waived course does not mean a reduction in credit hours required, unless the credit is transferrable to your UCD degree program.*** Students must complete the Course Substitution or Waiver Form found on the Academic Service website under Current Students

(<http://www.ucdenver.edu/academics/colleges/SchoolOfEducation/CurrentStudents/Resources/Pages/CurrentResources.aspx>) and submit to Academic Services with appropriate signatures.

Substitutions refer to replacing a course that is required for a degree with another course, generally because of a situation beyond the student's control. The substitution must be approved by your faculty advisor. Students must complete the Course Substitution or Waiver Form found on the Academic Service website under Current Students

(<http://www.ucdenver.edu/academics/colleges/SchoolOfEducation/CurrentStudents/Resources/Pages/CurrentResources.aspx>) and submit it to Academic Services with appropriate signatures.

### **GPA and Grade Requirements**

Maintain an overall grade point average of 3.0 ("B"). No course with a grade lower than B (a B- is not acceptable) may count towards degree, endorsement, or certificate requirements. While a course with a grade of C+ or below will not count towards the degree, **all** coursework taken while a student was enrolled as a graduate student will be included in the GPA calculation. If a student's cumulative GPA falls below a 3.00, s/he will be placed on academic probation. Please see page 12 of the Graduate Student Handbook for information on probation.

### **Incomplete Grades**

Incomplete grades (I) are not given to replace low grades. To be eligible for an incomplete grade, students must (1) have successfully completed 75% of the course requirements, (2) have special circumstances (verification required) that preclude the student from attending classes and/or completing graded assignments, and (3) make arrangements to complete missing assignments with the original instructor before more than one year has elapsed since the end of the semester in which the course was taken.

Students must complete the incomplete application at <http://www.ucdenver.edu/academics/colleges/SchoolOfEducation/CurrentStudents/Resources/Pages/CurrentResources.aspx> in conjunction with the instructor and obtain the instructor's signature BEFORE submission to SEHD Academic Services.

### SEHD Incomplete Process

Faculty may assign students an incomplete grade of "I" to signify that special circumstances beyond the student's control prevented the student from completing a small portion of the course and that a final grade cannot yet be assigned. Upon completion of the missing course work, a Change of Record Form is completed by the original instructor to change the "I" to a letter grade. Faculty should work with the Academic Services Center to complete the Change of Record Form.

The instructor who assigned an "I" sets the conditions under which the course work can be completed and the time limit for completion. Students have one academic year to clear an "I" grade and the student is expected to complete the requirements within the established deadline. If the missing assignments are not completed within the allotted time, the "I" converts to an F on the student's transcript. **Students making up an incomplete should not re-register for the course.**

### Frequently Encountered Situations

1. *Student asks for an incomplete grade to satisfy financial aid requirements.*

Financial aid requires students to successfully complete certain semester hours by the end of the semester. Grades of I, W, NC and F do not satisfy financial aid requirements.

2. *Student asks for an incomplete grade to allow time to complete a course assignment.*

In the absence of special circumstances, extending the semester for a student is a form of extra credit not allowed by school policies.

## **Graduation and COMPS Procedures**

### **Project or Thesis**

Comprehensive exam (COMPS) consisting of a comprehensive project or research thesis, with faculty advisor's guidance and approval, is required for successfully graduating from the program.

### **COMPS: Project**

Take two additional elective courses (6 credits) and complete a comprehensive project (COMPS) with your Faculty Advisor. The comprehensive project is a body of evidence to demonstrate that you have acquired the knowledge, skills, capacities, and dispositions described in the Program Rationale.

Throughout your program, you gather artifacts to serve as evidence that you meet the five Standards for Accomplished Teachers. The 24 indicators in Matrix I (below) should guide your choice of artifacts.

The project should include:

- A statement of your philosophy of teaching and learning.
- Your resume.
- A table of contents listing the numbered artifacts.



- A copy of Matrix I showing which artifact pertains to each standard and indicator. Some artifacts may pertain to more than one indicator.
- The artifacts, each preceded by a one-page annotation explaining to the reader why the artifacts are evidence.
- An annotated bibliography of books and articles from which you learned something in the course of your studies. Five to ten of the most useful sources are sufficient. Each annotation should be around 150 words.

Evidentiary artifacts can take many forms, such as papers and projects completed in your courses, photos of you making presentations to peers, videotapes of you in action in your classroom, etc. Examples include, but are not limited to:

1. Samples of your students' work along with an explanation why they did it (what was your purpose in the context of the indicator), accompanied by your analysis of how well the students achieved the purpose and what you did about those who excelled or failed. This is a good way to display your knowledge of disciplinary content.
2. Some samples of assessments to indicate that you use various traditional and non-traditional assessment techniques; e.g., interactive interviews, writing, projects, oral presentations, and other performance assessments. The assessment samples can also reveal the quality of the feedback you provide (something more helpful than a check mark or "Great!").
3. Videos of you working with your students in large and small group settings that show you using good questioning skills, appropriate wait time, and stimulating feedback.
4. Papers and projects you completed in your courses.
5. Photos of your classroom, a field trip, or a presentation made to your peers.
6. Certificates of attendance at professional conferences.
7. Original curriculum materials.

Avoid commercial materials, such as worksheets and textbook pages, unless you provide descriptions of how you customized them. A single artifact can be used as evidence of more than one indicator of your accomplishments. There is no need to enclose each page of your portfolio in plastic—it will be handled carefully.

Information about registering for the comprehensive culminating experience and the graduation application process, including deadlines, can be found at:

<http://www.ucdenver.edu/academics/colleges/SchoolOfEducation/CurrentStudents/Pages/COMPSandGraduation.aspx>.

### **COMPS: Thesis**

Thesis Option: Required Course - SECE 5950 - Master's Thesis. 6 credits

**Matrix I: Standards and Indicators for Accomplished Teachers**

<p>Accomplished teachers are <b>life-long learners</b> who have in-depth knowledge of the subjects they teach and the associated pedagogy</p> <p>1. Knows relevant disciplinary content</p> <p>2. Knows significant themes within disciplines</p> <p>3. Grasps relationships among disciplines</p> <p>4. Knows how disciplinary knowledge has been shaped by political and cultural forces</p> <p>5. Distinguishes between superficial and authentic understanding</p> <p>6. Has a broad conceptualization of curriculum</p>	<p>Accomplished teachers ensure their practices are consistent with <b>sound, informed pedagogy</b></p> <p>7. Creates and organizes a stimulating learning environment</p> <p>8. Employs a wide range of instructional strategies</p> <p>9. Plans and coordinates group and individual activities</p> <p>10. Uses a variety of instructional materials</p> <p>11. Integrates assessment and instruction</p> <p>12. Understands how learning occurs</p>	<p>Accomplished teachers strive for <b>continuous improvement</b> in their efforts to educate their students</p> <p>13. Reflects upon practices and policies</p> <p>14. Engages in self-criticism</p> <p>15. Displays an eagerness to explore new ideas and methods</p> <p>16. Improves over time</p>	<p>Accomplished teachers <b>lead by example</b>, share their expertise and collaborate with colleagues</p> <p>17. Maintains collegial relationships</p> <p>18. Analyzes educational issues and displays sound judgment</p> <p>19. Works with other professionals to clarify goals and improve practice</p>	<p>Accomplished teachers <b>encourage mutual respect</b> and help their students develop a sense of citizenship in our democratic society</p> <p>20. Respects diversity and displays tolerance for values of others</p> <p>21. Knows the various roles of schools in society</p> <p>22. Knows the developmental and sociocultural needs of students</p> <p>23. Knows how to help students work together</p> <p>24. Supports and models democratic values in the classroom</p>
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It is assumed that accomplished teachers meet these standards at a level above that of novice teachers.



## Resources

### Advising

Your graduate program will keep you busy. Keep a file folder with all your transcripts, your program advising sheet, and notes from each advising session. Use a yearly program planner to help track your progress through the program. **Talk to your academic and faculty advisor regularly.** If you need assistance in developing your written, verbal, or quantitative skills, please talk to your faculty advisor early in your program for recommendations on appropriate sources of help.

### Financial Aid

The Financial Aid Office for the University of Colorado Denver is in the North Classroom, Room 1030, 303-556-2886. Details about how to apply for financial aid can be found at <http://www.ucdenver.edu/academics/colleges/SchoolOfEducation/Aid/Pages/FinancialAid.aspx>.

## Degree Plans

### **Master of Science in Education (MSEd): Math Education**

For the Master of Science in Education (MSEd): Math Education there are 4 required courses (12 credits hours). In consultation and with approval from your faculty advisor, select 3 courses in mathematics content relevant to the grade-level with which you work (9 credits). Take a research course (3 credits) and take two Elective courses (6 credits), for a total of 30 credits. Finally, complete a comprehensive project (COMPS).

<b>Degree Components</b>	<b>Courses</b>	<b>Credits</b>	<b>Semester Completed</b>
<b>Concentration Core; 12 credits required</b>			
Core Course 1	MTED 5030 Theories of Mathematical Learning	3	
Core Course 2	MTED 5040 Mathematics Teaching - Theory and Practice	3	
Core Course 3	MTED 5050 Math Ed Critique Research	3	
Core Course 4	MTED 5060 Students' Math Thinking Paths	3	
<b>Total Core</b>		<b>12</b>	
<b>Choice of 3 courses in Math in consultation with Faculty Advisor, 9 credits</b>			
Course 1		3	
Course 2		3	
Course 3		3	
<b>Total Math Course Credits</b>		<b>9</b>	
<b>Choice of 2 Elective courses in consultation with Faculty Advisor, 6 credits</b>			
Course 1		3	
Course 2		3	
<b>Total Elective Course Credits</b>		<b>6</b>	
Research Course	RSEM 5080 Research in Schools	3	
<b>Total Credit Hours</b>		<b>30 minimum</b>	

### Master of Science in Education (MSEd): Math Education (Thesis Option)

For the Master of Science in Education (MSEd): Math Education there are 4 required courses (12 credits hours). In consultation and with approval from your faculty advisor, select 3 courses in mathematics content relevant to the grade-level with which you work (9 credits). Take a research course (3 credits). Finally, complete 6 credits of thesis for a total of 30 credits.

Degree Components	Courses	Credits	Semester Completed
<b>Concentration Core; 12 credits required</b>			
Core Course 1	MTED 5030 Theories of Mathematical Learning	3	
Core Course 2	MTED 5040 Mathematics Teaching - Theory and Practice	3	
Core Course 3	MTED 5050 Math Ed Critique Research	3	
Core Course 4	MTED 5060 Students' Math Thinking Paths	3	
<b>Total Core</b>		<b>12</b>	
<b>Choice of 3 courses in Math in consultation with Faculty Advisor, 9 credits</b>			
Course 1		3	
Course 2		3	
Course 3		3	
<b>Total Math Course Credits</b>		<b>9</b>	
Research Course	RSEM 5080 Research in Schools	3	
Thesis	Thesis Credits	6	
<b>Total Credit Hours</b>		<b>30 minimum</b>	