TEACHING, WITH TEACHER CERTIFICATION IN MATHEMATICS (PRESCHOOL-GRAD 12) AND TEACHER OF STUDENTS WITH DISABILITIES (M.A.T.)

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td></td>
<td>Additional Requirements for State Certification</td>
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<tr>
<td></td>
<td>Speech</td>
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<tr>
<td>CMST 101</td>
<td>Fundamentals of Speech: Communication Requirement</td>
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<tr>
<td></td>
<td>Physiology and Hygiene</td>
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<td></td>
<td>Pass the MSU Health Knowledge Test available through the Center of Pedagogy or have the Undergraduate equivalent course approved by advisor</td>
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<td>Additional Requirement</td>
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<td>Select one of the following:</td>
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<tr>
<td>EDFD 582</td>
<td>Learning Theories</td>
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</tr>
<tr>
<td>FSHD 515</td>
<td>Child Development II: Adolescence</td>
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</tr>
<tr>
<td>PSYC 560</td>
<td>Advanced Educational Psychology</td>
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Total Credits: 44

Teaching Field Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td></td>
<td>Mathematics Courses</td>
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<tr>
<td>CSIT 111</td>
<td>Fundamentals of Programming I</td>
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<tr>
<td>MATH 122</td>
<td>Calculus I</td>
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<tr>
<td>MATH 221</td>
<td>Calculus II</td>
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<tr>
<td>MATH 222</td>
<td>Calculus III</td>
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<tr>
<td>MATH 335</td>
<td>Linear Algebra</td>
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<tr>
<td>MATH 340</td>
<td>Probability</td>
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<tr>
<td>MATH 350</td>
<td>College Geometry</td>
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<tr>
<td>MATH 431</td>
<td>Foundations of Modern Algebra</td>
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<td></td>
<td>Mathematics Electives</td>
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<td>Select two of the following:</td>
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<tr>
<td>MATH 271</td>
<td>Selected Topics in Modern Mathematics</td>
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<tr>
<td>MATH 323</td>
<td>Complex Variables</td>
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<tr>
<td>MATH 420</td>
<td>Ordinary Differential Equations</td>
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<tr>
<td>MATH 425</td>
<td>Advanced Calculus I</td>
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<tr>
<td>MATH 426</td>
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<td>MATH 433</td>
<td>Theory of Numbers</td>
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<td>MATH 450</td>
<td>Foundations of Geometry</td>
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<tr>
<td>MATH 451</td>
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<tr>
<td>MATH 463</td>
<td>Numerical Analysis</td>
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<tr>
<td>MATH 464</td>
<td>Operations Research I</td>
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<tr>
<td>MATH 465</td>
<td>Operations Research II</td>
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<tr>
<td>MATH 469</td>
<td>Mathematical Modeling</td>
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<tr>
<td>MATH 475</td>
<td>History of Mathematics</td>
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<tr>
<td>MATH 485</td>
<td>Applied Combinatorics and Graph Theory</td>
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<td>MATH 490</td>
<td>Honors Seminar</td>
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<td>MATH 495</td>
<td>Topics for Undergraduates</td>
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<td>MATH 497</td>
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<td>MATH 498</td>
<td>Mathematics Research II</td>
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<tr>
<td>MATH 574</td>
<td>Problem Analysis in Secondary Mathematics</td>
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<tr>
<td>MATH 575</td>
<td>Selected Topics in Mathematics Education</td>
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<tr>
<td>MTHM 579</td>
<td>Applied Mathematics for the Middle Schools</td>
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<tr>
<td>STAT 441</td>
<td>Statistical Computing</td>
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<tr>
<td>STAT 442</td>
<td>Fundamentals of Modern Statistics II</td>
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Graduate Level Content Area Course

Select one of the following: 3

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>MATH 502</td>
<td>Mathematics for Computer Science II</td>
</tr>
<tr>
<td>MATH 503</td>
<td>Mathematics for Computer Science III</td>
</tr>
<tr>
<td>MATH 510</td>
<td>Workshop in Mathematics Education I</td>
</tr>
<tr>
<td>MATH 511</td>
<td>Workshop in Mathematics Education II</td>
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<tr>
<td>MATH 512</td>
<td>Technology in the Middle Grades Mathematics Curriculum</td>
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<tr>
<td>MATH 513</td>
<td>Educational Technology for School Mathematics</td>
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<td>MATH 514</td>
<td>Advanced Placement Computer Science Concepts</td>
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<td>MATH 515</td>
<td>Intermediate Analysis I</td>
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<td>MATH 516</td>
<td>Intermediate Analysis II</td>
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<td>MATH 518</td>
<td>Foundations of Abstract Algebra</td>
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<td>MATH 521</td>
<td>Real Variables I</td>
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<tr>
<td>MATH 522</td>
<td>Real Variables II</td>
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<tr>
<td>MATH 525</td>
<td>Complex Variables I</td>
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Comprehensive Exam

In the term that you will sit for exam, register for the section which matched your major & advisor. Successfully pass exam.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>GRAD CMP</td>
<td>Comprehensive Examination</td>
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Total Credits: 44
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>MATH 526</td>
<td>Complex Variables II</td>
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<tr>
<td>MATH 530</td>
<td>Mathematical Computing</td>
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<tr>
<td>MATH 531</td>
<td>Abstract Algebra I</td>
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<tr>
<td>MATH 532</td>
<td>Abstract Algebra II</td>
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<tr>
<td>MATH 535</td>
<td>Linear Algebra I</td>
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<tr>
<td>MATH 536</td>
<td>Linear Algebra II</td>
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<td>MATH 540</td>
<td>Probability</td>
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<td>Topology</td>
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<td>Projective Geometry</td>
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<td>Numerical Analysis</td>
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<td>MATH 564</td>
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<td>MATH 566</td>
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<tr>
<td>MATH 568</td>
<td>Applied Mathematics: Continuous</td>
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<td>MATH 569</td>
<td>Applied Mathematics: Discrete</td>
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<tr>
<td>MATH 570</td>
<td>Administration and Supervision of Mathematics</td>
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<tr>
<td>MATH 571</td>
<td>Curriculum Construction in Mathematics</td>
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<tr>
<td>MATH 572</td>
<td>Contemporary Teaching of Mathematics</td>
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<tr>
<td>MATH 573</td>
<td>Mathematics Materials for Teachers of Mathematics</td>
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<td>MATH 574</td>
<td>Problem Analysis in Secondary Mathematics</td>
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<td>MATH 575</td>
<td>Selected Topics in Mathematics Education</td>
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<td>MATH 576</td>
<td>Research Seminar in Mathematics Education</td>
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<td>MTHM 577</td>
<td>Mathematics Education in the Elementary School</td>
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<td>Applied Mathematics for the Middle Schools</td>
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<td>MATH 580</td>
<td>Combinatorial Mathematics</td>
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<td>MATH 581</td>
<td>Graph Theory</td>
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<td>MATH 584</td>
<td>Operations Research</td>
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<td>MATH 585</td>
<td>Fundamentals of Scientific Computing</td>
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<td>MATH 586</td>
<td>Fundamentals of Mathematical Models</td>
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<td>MATH 587</td>
<td>Fundamentals of Optimization</td>
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<td>MATH 588</td>
<td>Professional Science Master Mini-Projects</td>
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<td>MATH 595</td>
<td>Seminar</td>
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*Methods Course*

<table>
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<tr>
<td>MATH 519</td>
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Total Credits: 40