TEACHING, WITH TEACHER CERTIFICATION IN EARTH SCIENCE (PRESCHOOL-GRADE 12) AND TEACHER OF STUDENTS WITH DISABILITIES (M.A.T.)

Program Requirements

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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**Additional Requirements for State Certification**

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</table>

**Speech**

CMST 101  Fundamentals of Speech: Communication Requirement 3

**Physiology and Hygiene**

Pass the MSU Health Knowledge Test available through the Center of Pedagogy or have the Undergraduate equivalent course approved by advisor

**Additional Requirement**

Select one of the following: 3

- EDFD 582  Learning Theories
- FSHD 515  Child Development II: Adolescence
- PSYC 560  Advanced Educational Psychology

**Program Requirements**

**Required Courses**

- SASE 680  Selected Topics in Curriculum and Teaching 1
- SASE 509  Sociocultural Perspectives on Curriculum and Assessment 3
- SPED 579  Special Education for Students with Disabilities 3
- SPED 586  Educational Planning for Adolescents with Disabilities 3
- SPED 566  Creating Curricular Access for Adolescents with Disabilities 3
- SPED 568  Teaching Methods for Inclusive Education 3
- SPED 588  Positive Behavior Supports for Diverse Learners 3

**Graduate Professional Sequence I**

- SASE 526  Seminar in Inclusive Pedagogy 3
- SASE 527  Clinical Practice I 3
- SPED 584  Assessment in Special Education and Classroom Practice 3

**Graduate Professional Sequence II**

- SASE 543  Advanced Seminar in Inclusive Pedagogy 3
- SASE 529  Clinical Practice II 6
- SPED 680  Selected Topics in Special Education 1

**Comprehensive Exam**

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

GRAD CMP  Comprehensive Examination 0

Total Credits 44

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Teaching Field Requirements

**Earth Science Core**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>EAES 105</td>
<td>Physical Geology</td>
<td>4</td>
</tr>
<tr>
<td>EAES 220</td>
<td>Mineralogy</td>
<td>4</td>
</tr>
<tr>
<td>EAES 240</td>
<td>Historical Geology</td>
<td>4</td>
</tr>
<tr>
<td>EAES 302</td>
<td>Structural Geology</td>
<td>3</td>
</tr>
<tr>
<td>EAES 320</td>
<td>Igneous Metamorphic Petrology</td>
<td>4</td>
</tr>
<tr>
<td>EAES 441</td>
<td>Stratigraphy</td>
<td>4</td>
</tr>
</tbody>
</table>

**Additional Earth Science Courses**

- EAES 201  Understanding Weather and Climate 4
- EAES 250  Introduction to Marine Sciences 4
- PHYS 280  Astronomy 4

**Collateral Science Courses**

- BIOL 113  Principles of Biology II 4
- CHEM 120  General Chemistry I 4
- CHEM 121  General Chemistry II 4
- MATH 116  Calculus A 4
- PHYS 193  College Physics I 4
- PHYS 194  College Physics II 4
- MATH 111  Applied Precalculus 3-4

or MATH 112  Precalculus Mathematics

**Graduate level content course**

Select one of the following: 3

- EAES 502  The Dynamic Earth
- EAES 503  Advanced Physical Geology
- EAES 504  Landscapes in Transition
- EAES 505  Environmental Geoscience
- EAES 507  Tectonics
- EAES 508  Field Geology
- EAES 511  Fundamentals of Remote Sensing of the Environment 4
- EAES 520  Advanced Mineralogy
- EAES 521  Optical Mineralogy
- EAES 522  Igneous Metamorphic Petrology
- EAES 523  Sedimentary Petrography
- EAES 524  Igneous and Metamorphic Geology
- EAES 525  X-ray Microanalysis
- EAES 526  Geochemistry
- EAES 527  Organic Geochemistry
- EAES 528  Environmental Forensics
- EAES 529  Instrumental Environmental Analysis
- EAES 532  Applied Groundwater Modeling
- EAES 533  Water Resource Management
- EAES 535  Geophysics
- EAES 540  Advanced Historical Geology
- EAES 541  Stratigraphy
- EAES 542  Advanced Invertebrate Paleobiology
- EAES 543  Vertebrate Paleobiology
- EAES 545  Paleocoeology
- EAES 546  Micropaleobiology
- EAES 547  Paleobotany
<table>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>EAES 548</td>
<td>Biostratigraphy of New Jersey</td>
</tr>
<tr>
<td>EAES 550</td>
<td>Advanced Marine Geology</td>
</tr>
<tr>
<td>EAES 562</td>
<td>Waste Management</td>
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<tr>
<td>EAES 569</td>
<td>Air Resource Management</td>
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<tr>
<td>EAES 593</td>
<td>Research Seminar</td>
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<tr>
<td>EAES 594</td>
<td>Research in Geoscience Literature</td>
</tr>
<tr>
<td>EAES 599</td>
<td>Special Problems in Earth and Environmental Studies</td>
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<tr>
<td>EAES 612</td>
<td>Seminar in Environmental Graphics</td>
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</table>

**Methods Course**

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<tr>
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<tbody>
<tr>
<td>BIOL 503</td>
<td>Teaching Science in Secondary Schools</td>
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<tr>
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<tbody>
<tr>
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