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

## Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMST 101</td>
<td>Fundamentals of Speech: Communication Requirement</td>
<td>3</td>
</tr>
</tbody>
</table>

**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:

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

### Graduate Professional Sequence I

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

### Graduate Professional Sequence II

- SASE 543 Advanced Seminar in Inclusive Pedagogies
- SASE 529 Clinical Practice II
- SPED 680 Selected Topics in Special Education

### Comprehensive Exam

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

### Total Credits

| 44 |

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## Teaching Field Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 120</td>
<td>General Chemistry I</td>
<td>4</td>
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<tr>
<td>CHEM 121</td>
<td>General Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 230</td>
<td>Organic Chemistry I</td>
<td>3</td>
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<tr>
<td>CHEM 231</td>
<td>Organic Chemistry II</td>
<td>3</td>
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<td>CHEM 232</td>
<td>Experimental Organic Chemistry I</td>
<td>2</td>
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<tr>
<td>CHEM 233</td>
<td>Experimental Organic Chemistry II</td>
<td>2</td>
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<td>CHEM 310</td>
<td>Analytical Chemistry</td>
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<tr>
<td>CHEM 311</td>
<td>Instrumental Analysis</td>
<td>4</td>
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<tr>
<td>CHEM 340</td>
<td>Physical Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 341</td>
<td>Physical Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 370</td>
<td>Biochemistry I</td>
<td>3</td>
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</tbody>
</table>

### Required Mathematics Courses

- MATH 122 Calculus I
- MATH 221 Calculus II

### Required Physics Courses

- PHYS 191 University Physics I
- PHYS 192 University Physics II

### Graduate Content Area Elective

Select one of the following with advisor approval:

- CHEM 510 Hazardous Materials Management
- CHEM 520 Advanced Inorganic Chemistry
- CHEM 525 Bioinorganic Chemistry
- CHEM 530 Advanced Organic Chemistry
- CHEM 532 Organic Synthesis
- CHEM 533 Biosynthesis of Natural Products
- CHEM 534 Separation and Analysis
- CHEM 536 Nuclear Magnetic Resonance: Theory and Practice
- CHEM 538 Drug Design in Medicinal Chemistry
- CHEM 540 Advanced Physical Chemistry
- CHEM 542 Quantum Chemistry and Spectroscopy
- CHEM 544 Chemical Thermodynamics and Electrochemistry
- CHEM 546 Chemical Spectroscopy
- CHEM 548 Chemical Kinetics
- CHEM 550 Organometallic Chemistry
- CHEM 570 Advanced Biochemistry
- CHEM 574 Protein Structure
- CHEM 575 Enzyme Kinetics and Mechanisms
- CHEM 576 Lipid Biochemistry
- CHEM 577 Nucleic Acid Biochemistry
- CHEM 578 Biochemistry Laboratory Techniques
- CHEM 579 Biomolecular Assay Development
- CHEM 582 Biochemical Pharmacology
- CHEM 590 Selected Topics-Advanced Chemistry

### Methods Course

- BIOL 503 Teaching Science in Secondary Schools

### Total Credits

| 59 |