## Elementary Middle Level Education Major (122 sh)

### Math/Science (Biology) Concentration

**For Students entering LIU Fall 2014**

### Intellectual Foundation

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Written Communication</td>
<td>3 sh</td>
</tr>
<tr>
<td>ENGL100: Composition (3 sh)</td>
<td></td>
</tr>
<tr>
<td>WC Competencies: ELML493</td>
<td></td>
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<td>WC Competencies: ELML494</td>
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### First Year Student Seminar

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ELML119: Freshmen Seminar for Elementary &amp; Middle Level Education Students (1 sh)</td>
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### Major Area and Cognate Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ELML200: Introduction to LA Methods (1 sh)</td>
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<tr>
<td>ELML210: Learning Theory (3 sh)</td>
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<tr>
<td>ELML250: Assessment and Differentiation (3 sh)</td>
<td></td>
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<tr>
<td>MATH102: Number Systems (3 sh)</td>
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<tr>
<td>Critical Thinking</td>
<td></td>
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<tr>
<td>CT Competencies: ELML493</td>
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<tr>
<td>CT Competencies: ELML494</td>
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</table>

### Major Courses

- ELML320: Science Methods II (2 sh)
- ELML333: Language Acquisition Theory and Writing Instruction (3 sh)
- ELML322: Mathematics for the Elementary and Middle Level Learner (3 sh)
- ELML335: Effective Instructional Strategies (3 sh)
- ELML405: Interventions and Classroom Management Strategies (3 sh)
- ELML412: Science Methods II (2 sh)
- ELML441: Social Studies Methods I (1 sh)
- ELML493: Student Teaching I (6 sh)
- ELML494: Student Teaching II (6 sh)

### Knowledge and Inquiry

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Natural Science Inquiry</td>
<td>6 sh</td>
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<tr>
<td>GEOS101: Earth Science (3 sh)</td>
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<tr>
<td>BIOL106: Principles of Biology I (3 sh)</td>
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</tr>
</tbody>
</table>

### Cognate Courses

- MATH107: Basic Statistics (3 sh)
- MATH113: Precalculus (3 sh)
- MATH115: Statistics and Geometry (3 sh)
- MATH205: Foundations of Mathematics (3 sh)
- BIOL107: Principles of Biology II (3 sh)
- BIOL309: Ecology (3 sh)
- ELML320: Science for the Ele. and Mid. (3 sh)
- ELML333: Language Acquisition Theory and Writing Instruction (3 sh)
- ELML322: Mathematics for the Elementary and Middle Level Learner (3 sh)
- ELML335: Effective Instructional Strategies (3 sh)
- ELML405: Interventions and Classroom Management Strategies (3 sh)
- ELML412: Science Methods II (2 sh)
- ELML441: Social Studies Methods I (1 sh)
- ELML493: Student Teaching I (6 sh)
- ELML494: Student Teaching II (6 sh)

### Personal and Social Responsibility

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Global Awareness and Citizenship</td>
<td>9 sh</td>
</tr>
<tr>
<td>HIST101 or HIST102: World History 1 or 2 (3 sh)</td>
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<tr>
<td>POLI105: American National Government (3 sh)</td>
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<tr>
<td>GEOG200: World Regional Geography (3 sh)</td>
<td></td>
</tr>
<tr>
<td>Wellness</td>
<td>3 sh</td>
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<tr>
<td>Wellness (3 sh)</td>
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### Experiential Learning

<table>
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<td>EL Competencies: ELML494</td>
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Lock Haven University  
Pre K-Grade 8 Education and Professional Studies Department  
Elementary Middle Level Education Track
Math/Science (Biology) Concentration

**Fall Freshman**
- ENGL100 Composition (3)
- HIST101/102 World Hist. 1/2 (3)
- MATH102: Number Systems (3)
- BIOL106 Principles of Biology I (3)
- Art/Music/Theater/Dance (3)
- ELM119 Freshman Seminar (1)
  Credit Total: 16

**Fall Sophomore**
- HIST150 American History (3)
- MATH107 Basic Statistics (3)
- Speech (3)
- PHYS101 Matter and Energy (3)
- PSYC 201 Educational Psychology (3)
- ELM210 Learning Theory (3)
  Credit Total: 18

**Fall Junior**
- MATH141 Calculus (3)
- POLI105 American National Government (3)
- BIOL309 Ecology (3)
- SPEC309 Eff Instructional Strategies (3)
- Art/Music/Theater/Dance (3)
  Credit Total: 15

**Fall Senior**
- ELM135 Effect. Instruct. Lit. Strat. (3)
- ELM132 Mathematics for the Ele. & Mid. (3)
- ELM432 Mathematics Methods II (2)
- ELM142 Science Methods II (2)
- ELM441 Social Studies Methods I (1)
- ELM405 Inter. and Class. Manage. Strat. (3)
- ELM4—Language Arts Methods (1)
  Credit Total: 15

**Spring Freshman**
- ENGL110 Introduction to Literature (3)
- MATH115 Statistics and Geometry (3)
- BIOL107 Principles of Biology II (3)
- GEOS101 Earth Science (3)
- PSYC 103 Adolescent Psychology (3)
- ELM200 Introduction to Lang. Arts Meth. (1)
  Credit Total: 16

**Spring Sophomore**
- CHEM101 Chemistry in the Environment (3)
- Wellness (3)
- MATH113 Precalculus (3)
- SPEC204 Cog. Develop. of Div. Learners (3)
- ELM250 Assess. and Differ. In 4-8 Class. (3)
  Credit Total: 15

**Spring Junior**
- MATH205 Foundations of Mathematics
- GEOG 260 World Regional Geography
- Philosophy (3)
- ELM320 Science for the Ele. & Mid. (3)
- ELM330 Lang. Acq. and Writ. Instruct. (3)
  Credit Total: 15

**Spring Senior**
- ELM493 Student Teaching I (6)
- ELM494 Student Teaching II (6)
  Credit Total: 12

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**Lock Haven University**

**PreK-Grade 8 Education and Professional Studies Department**

**Bachelor of Science**