Required Certification Sequence for UABTeach Candidates Majoring in Materials Engineering

**Program:** GENERAL SCIENCE

**Total Hours:** *

*This certification requires a minimum of 120-hours for a degree in materials engineering plus 18 hours of UABTeach courses.

<table>
<thead>
<tr>
<th>Institution: UNIVERSITY OF ALABAMA AT BIRMINGHAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Approved: 7/8/2014</td>
</tr>
<tr>
<td>Date Expires: 5/31/2021</td>
</tr>
<tr>
<td>Revisions:</td>
</tr>
</tbody>
</table>

### General Studies

Shall include courses and/or experiences in written composition, humanities, social studies, mathematics, and science.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EH 101</td>
<td>English Composition I</td>
<td>3</td>
</tr>
<tr>
<td>EH 102</td>
<td>English Composition II</td>
<td>3</td>
</tr>
</tbody>
</table>

**Humanities:**
Humanities/Fine Arts (See AGSC List) 6-9

**Social Science:**
*History (See AGSC List) 3
Non-History Social Science (See AGSC List) 6-9

**Science:**
Natural Sciences (lab required with each course)
BY 1115-499 (Any course BY 115 or above) 3
CH 115/116 Chemistry I with Lab 4
CH 117/118 Chemistry II with Lab 4
PH 221 General Physics I and Lab 4
PH 222 General Physics II and Lab 4
AST 101/111 Astronomy of the Universe with Lab OR
AST 102/112 Astronomy of Stellar Systems with Lab OR
ES 101/102 Physical Geology with Lab OR
ES 103/104 History of the Earth with Lab 4

**Mathematics:**
MA 125 Calculus I 4
MA 126 Calculus II 4
EGR 265 Math Tools for Engineers OR
MA 227 Calculus II and MA 252 Differential Equations 4-7

**Other:**
PHL 275 or HY 275 Perspectives on Science and Mathematics 3

### Professional Studies

**These courses must be taken prior to admission to TEP.**
- EHS 125 Step 1: Inquiry Approaches to Teaching 1
- EHS 126 Step 2: Inquiry-Based Lesson Design 1
- EHS 325 Knowing and Learning in Science and Mathematics 3

**These courses require admission to TEP before they can be taken.**
- EHS 326 Classroom Interactions 3
- EHS 327 Project-Based Instruction 3

**Internship:**
- Students must take EHS 425 and EHS 426 in the same term. EHS 425 Apprentice Teaching 6
  - EHS 426 Apprentice Teaching Seminar 1

### Teaching Field

Must include an academic major of at least 32 semester hours with a minimum of 19 hours in the upper division. (List all courses required for the teaching field.)

See Attached Requirements

### SPECIAL NOTES:

*To be eligible for Class B certification in general science, candidates will need to complete all courses on this checklist, meet Teacher Education Program requirements for certification, AND complete all degree requirements for Materials Engineering.*

Prospective and admitted students should NOT begin any coursework without seeking advisement from the Office of Student Services (call: 205-934-7530) each term. Students who ignore this admonition assume responsibility for their own mistakes.

Date: 7-18-15

Dean of Education: [Signature]

*Signature:* [Signature]
Teaching Field Courses

BY 115-499 (Any course BY 115 or above) 3

**Lower Division Courses (All of the Courses Below are Required)**

- CH 115/116 Chemistry I with Lab 4
- CH 117/118 Chemistry II with Lab 4
- PH 221 General Physics I with Lab 4
- PH 222 General Physics II with Lab 4
- AST 101/111 Astronomy of the Universe with Lab OR
- AST 102/112 Astronomy of Stellar Systems with Lab OR
- ES 101/102 Physical Geology with Lab OR
- ES 103/104 History of the Earth with Lab 4
- CE 210 Statics 3
- CE 220 Mechanics of Solids with Lab 3

**Upper Division Courses (All of the Courses Below are Required)**

- MSE 380 Thermodynamics of Materials 3
- MSE 381 Physical Materials 3
- MSE 382 Mechanical Behavior of Materials 3
- MSE 413 Composite Materials 3
- MSE 430 Polymeric Materials and Lab 4
- PH 494 Research Methods 3