**BACHELOR OF SCIENCE IN MATHEMATICS**

**Option in Applied Mathematics (Suboption I Application in Science and Engineering)**

Major Requirements Worksheet

2012-2013 Catalog

Name: ____________________________  Student ID: ____________________________

Note: This checklist is not intended to replace advising from the major department. Students should consult with the major advisor to determine the appropriate sequence of courses. This checklist is to inform students of major requirements and course prerequisites only. CSULB Enrollment Services prepares the Academic Requirements Report, which is the official graduation verification.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Course #</th>
<th>Course Title</th>
<th>Semester</th>
<th>Prerequisites (All prerequisite courses must have a “C” or better)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MATH 122</td>
<td>Calculus I (4)</td>
<td></td>
<td>Appropriate MDPT placement* or MATH 111 and 113 or MATH 117</td>
</tr>
<tr>
<td></td>
<td>MATH 123</td>
<td>Calculus II (4)</td>
<td></td>
<td>MATH 122</td>
</tr>
<tr>
<td></td>
<td>MATH 224</td>
<td>Calculus III (4)</td>
<td></td>
<td>MATH 123 or 222</td>
</tr>
<tr>
<td></td>
<td>MATH 247</td>
<td>Introduction to Linear Algebra (3)</td>
<td></td>
<td>MATH 123 or 222</td>
</tr>
<tr>
<td></td>
<td>CECS 174</td>
<td>Introduction to Programming and Problem Solving (3)</td>
<td></td>
<td>CECS 100 and MATH 113 (or equivalent)</td>
</tr>
<tr>
<td></td>
<td>PHYS 151</td>
<td>Mechanics and Heat (4)</td>
<td></td>
<td>MATH 122 (pre/Corequisite)</td>
</tr>
<tr>
<td></td>
<td>PHYS 152</td>
<td>Electricity and Magnetism (4)</td>
<td></td>
<td>PHYS 151; MATH 123 (pre/Corequisite)</td>
</tr>
</tbody>
</table>

**Take ONE of the following**

- ENGL 101  Composition (3) OR
- ENGL 317  Technical Communication (3)

ENGL 100  GE foundation requirements, upper-division standing, and a previous composition course*

**Take ONE of the following courses**

- PHYS 254  Applied Modern Physics (3) OR
- EE 211  Electric and Electronic Circuits (3) OR
- CE 205  Analytical Mechanics I (Statics) (3)

PHYS 152 or EE 210; Pre/Corequisite: MATH 224

PHYS 210/210L or PHYS 152 and MATH 123 or equivalent

PHYS 151; MATH 123 (pre/Corequisite)

**Upper Division:** (see major advisor for all upper-division advising).  **Take ALL of the following courses:**

- MATH 323  Introduction to Numerical Analysis (4)  MATH 222 or 224, and a course in computer programming
- MATH 361A  Introduction to Mathematical Analysis I (3)  MATH 222 or 224, and MATH 233 or 247
- MATH 361B  Introduction to Mathematical Analysis II (3)  MATH 361A
- MATH 364A  Ordinary Differential Equations I (3)  MATH 222 or 224, and Pre/Corequisite MATH 247
- MATH 364B  Ordinary Differential Equations II (3)  MATH 364A or 370A
- MATH 380  Probability and Statistics (3)  MATH 222 or 224
- MATH 470  Introduction to Partial Differential Equations (3)  MATH 364 A or 370A

A minimum of **9 units** from the following: MATH 423, 461, 463, 472, 473, 474, 479, 485; STAT 381, 482

**A minimum of 9 units from ONE of the following groups (see catalog for the prerequisites* for the courses below):**

- **Group A**
  - PHYS 310, 340A, 340B, 350, 410, 422, 450

- **Group B**
  - EE 310, 370, 382, 411, 460, 482

- **Group C**
  - CE 335, 359, 437 438, 458; MAE 371, 373

*See catalog for more detail  Updated 7/10/12 LM