**BACHELOR OF SCIENCE IN MATHEMATICS (IMPACTED)**  
Option in Applied Mathematics (Suboption II Application in Economics and Management)  
Major Requirements Worksheet  
2013-2014 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</td>
</tr>
<tr>
<td></td>
<td>MATH 247</td>
<td>Introduction to Linear Algebra (3)</td>
<td></td>
<td>MATH 123</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>
</tbody>
</table>

**Take ONE of the following**

| ENGL 101 | Composition (3) OR |
| ENGL 317 | Technical Communication (3) |
| ENL 100  | GE foundation requirements, upper-division standing, and a previous composition course* |

**Take ONE of the following groups (either ECON 100 AND 101, OR take just ECON 300)**

- ECON 100 Principles of Macroeconomics (3) AND MATH 103 or higher and one GE Foundation
- ECON 101 Principles of Microeconomics (3) OR MATH 103 or higher
- ECON 300 Fundamentals of Economics (3) GE Foundation requirements

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

- MATH 323 Introduction to Numerical Analysis (4) MATH 224, and a course in computer programming
- MATH 361A Introduction to Mathematical Analysis I (3) MATH 224, and MATH 233 or 247
- MATH 361B Introduction to Mathematical Analysis II (3) MATH 361A
- MATH 364A Ordinary Differential Equations I (3) MATH 224, and Pre/Corequisite MATH 247
- MATH/STAT 380 Probability and Statistics (3) MATH 224
- MATH 485 Mathematical Optimization(3) MATH 247 and at least one of MATH 323, 347 or 380
- STAT 381 Mathematical Statistics (3) MATH 247 and MATH 380 or STAT 380
- STAT 482 Random Processes (3) MATH 247 and MATH 380 or STAT 380

A minimum of **6 units** from the following: MATH 364B, 423, 463, 470, 473, 474, 479; STAT 410

A minimum of **15 units** from **ONE** of the following groups (for the prerequisites, please see the catalog):

**Group A**

- Take BOTH of the following courses: ECON 310 Microeconomic Theory (3) AND ECON 311 Macroeconomic Theory (3)

- Take 9 units selected from the following: ECON 333, 410, 411, 420, 485, 486

**Group B**

- Take BOTH of the following courses: ECON 333 Managerial Economics (3) AND SCM 410 Logistics Management (3)

- Take 9 units selected from the following: SCM 411, 414; MGMT 412, 413, 426

*See catalog for more detail*