# Bachelor of Science in Mathematics (Impacted)

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

### Major Requirements Worksheet

**2013-2014 Catalog**

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.

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

### Take ONE of the following

| Grade | Course # | Course Title | Semester | Prerequisites (All prerequisite courses must have a “C” or better)
---|---|---|---|---
**ENGL 101**  | Composition (3) OR  |  |  | ENGL 100
**ENGL 317**  | Technical Communication (3) |  |  | GE foundation requirements, upper-division standing, and a previous composition course*

### Take ONE of the following courses

| Grade | Course # | Course Title | Semester | Prerequisites (All prerequisite courses must have a “C” or better)
---|---|---|---|---
**PHYS 254**  | Applied Modern Physics (3) OR  |  |  | PHYS 152 or EE 210; Pre/Corequisite: MATH 224
**EE 211**  | Electric and Electronic Circuits (3) OR  |  |  | EE 210/210L or PHYS 152 and MATH 123 or equivalent
**CE 205**  | Analytical Mechanics I (Statics) (3) |  |  | PHYS 151; MATH 123 (Pre/Corequisite)

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

| Grade | Course # | Course Title | Semester | Prerequisites (All prerequisite courses must have a “C” or better)
---|---|---|---|---
**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 364B**  | Ordinary Differential Equations II (3) |  | MATH 364A or 370A
**MATH 380**  | Probability and Statistics (3) |  | MATH 224
**MATH 470**  | Introduction to Partial Differential Equations (3) |  | MATH 364A 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):

| Grade | Course # | Course Title | Semester | Prerequisites (All prerequisite courses must have a “C” or better)
---|---|---|---|---
**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"