## Suggested Course Plan for a UC Riverside Major in Mechanical Engineering

### Catalog Year: 2011

#### Fall Quarter | Units | Winter Quarter | Units | Spring Quarter | Units
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**FIRST YEAR**

| ENGL 001A | 4 | ENGL 001B | 4 | ENGL 001C or Alternate* | 4 |
| **Beginning Composition** | **Intermediate Composition** | **Applied Intermediate Composition** |
| MATH 009A | 4 | MATH 009B | 4 | MATH 009C | 4 |
| **First Year Calculus** | **First Year Calculus** | **First Year Calculus** |
| Breadth | 4 | ME 002 | 4 | ME 009 | 4 |
| **Humanities/Social Sciences** | **Intro to Mechanical Engineering** | **Engineering Graphics & Design** |
| PHYS 040A | 5 | PHYS 040B | 5 | **Physics (Mechanics)** | **Physics (Heat/Waves/Sound)** |

**SECOND YEAR**

| CHEM 001A & CHEM 01LA | 5 | BIOL 005A & BIOL 05LA | 5 | EE 001A and EE 01LA | 4 |
| **General Chemistry & Lab** | **Cell & Molecular Biology & Lab** | **Engineering Circuit Analysis I & Lab** |
| MATH 046 | 4 | CHEM 001B & CHEM 01LB | 5 | MATH 010B | 4 |
| **Differential Equations** | **General Chemistry & Lab** | **Multivariable Calculus** |
| ME 018 | 3 | MATH 010A | 4 | STAT 100A | 5 |
| **Intro to Engineering Computations** | **Multivariable Calculus** | **Introduction to Statistics** |
| PHYS 040C | 5 | ME 010 | 4 | Breadth | 4 |
| **Physics (Electricity/Magnetism)** | **Statics** | **Humanities/Social Sciences** |

**THIRD YEAR**

| ME 100A | 4 | ME 110 | 4 | ME 116A | 4 |
| **Thermodynamics** | **Mechanics of Materials** | **Heat Transfer** |
| ME 103 | 4 | ME 113 | 4 | ME 170A | 4 |
| **Dynamics** | **Fluid Mechanics** | **Experimental Techniques** |
| ME 114 | 4 | ME 118 | 4 | ME 174 | 4 |
| **Intro to Materials Science & Engr.** | **Mechanical Engr. Modeling & Analysis** | **Machine Design** |
| Breadth | 4 | ME 120 | 4 | **Humanities/Social Sciences** |

**FOURTH YEAR**

| ME 135 | 4 | ME 175B | 3 | ME 175C | 3 |
| **Transport Phenomena** | **Mechanical Engineering Design** | **Mechanical Engineering Design** |
| ME 170B | 4 | Technical Elective** | 4 | Technical Elective** | 4 |
| **Experimental Techniques** | **Technical Elective** | **Technical Elective** |
| ME 175A | 2 | Technical Elective** | 4 | Technical Elective** | 4 |
| **Professional Topics** | **Technical Elective** | **Technical Elective** |
| Breadth | 4 | Breadth | 4 | **Humanities/Social Sciences** | **Humanities/Social Sciences** |

**Total Units:** 186  
**Maximum units:** 223

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To earn a B.S., you must complete all College and University requirements. For a full list of requirements, go to www.catalog.ucr.edu.

**ENGLISH COMPOSITION**

A C or better is required in all English Composition courses to satisfy the graduation requirement. Please consult with your Academic Advisor for ENGL 1C alternatives.

**BREADTH REQUIREMENTS**

For an approved list of Breadth courses, go to http://student.engr.ucr.edu/policies/requirements/breadth.html.

**Humanities:** (3 courses)

A. World History:

B. Fine Arts, Lit., Phil. or Rlst:

C. History of Science:

**Social Sciences:** (3 courses)

A. Econ. or Posc.:

B. Anth., Psyc, or Soc.:

C. Additional Social Science:

**Ethnicity:** (1 course)

1. 

**ABET Upper Division Depth:** (2 courses)

1. 

2. 

**TECHNICAL ELECTIVES **

Please note that Technical Electives may be offered throughout the Academic Year. Consult with your Academic Advisor about potential offerings. See approved technical electives on back.

Course Plan is subject to change.
Mechanical Engineering Technical Electives and Focus Areas

You must complete 4 courses (at least 16 units) of Technical Elective coursework from one Focus Area. Units are listed in () Select from the list below:

### General Mechanical Engineering
- ME 100B: Thermodynamics (4)
- ME 116B: Heat Transfer (4)
- ME 121: Feedback Control (4)
- ME 122: Vibrations (4)
- ME 130: Kinematic and Dynamic Analysis of Mechanisms (4)
- ME 131: Design of Mechanisms (4)
- ME 133: Introduction to Mechatronics (4)
- ME 137: Environmental Fluid Mechanics (4)
- ME 138: Transport Phenomena in Living Systems (4)
- *ME 197: Research for Undergraduates

### Energy and Environment
- ME 100B: Thermodynamics (4)
- ME 116B: Heat Transfer (4)
- ME 137: Environmental Fluid Mechanics (4)
- ME 138: Transport Phenomena in Living Systems (4)
- *ME 197: Research for Undergraduates

### Design and Manufacturing
- ME 121: Feedback Control (4)
- ME 122: Vibrations (4)
- ME 130: Kinematic and Dynamic Analysis of Mechanisms (4)
- ME 131: Design of Mechanisms (4)
- ME 133: Introduction to Mechatronics (4)
- ME 135: Finite Element Methods (4)
- ME 153: Mechanical Behavior of Materials (4)
- ME 176 Sustainable Product Design (4)
- ME 180 Optics and Lasers in Engineering (4)
- *ME 197: Research for Undergraduates

### Materials and Structures
- ME 100B: Thermodynamics (4)
- ME 116B: Heat Transfer (4)
- ME 121: Feedback Control (4)
- ME 122: Vibrations (4)
- ME 153: Finite Element Methods (4)
- ME 156: Mechanical Behavior of Materials (4)
- ME 180: Optics and Lasers in Engineering (4)
- *ME 197: Research for Undergraduates

*To enroll in and earn Technical Elective credit for ME 197, students must complete a project abstract using a standard template. The abstract must be signed by the project faculty advisor and submitted to the Undergraduate Program Committee chair at least one week prior to the start of the quarter of enrollment. A final project report is required. For format details, please go to: [http://www.me.ucr.edu/undergrad/opportunities.html](http://www.me.ucr.edu/undergrad/opportunities.html).