

# M.E. PROGRAM

CALIFORNIA STATE UNIVERSITY, SACRAMENTO  
COLLEGE OF ENGINEERING AND COMPUTER SCIENCE

Total Units: 122

|   | Freshman Year            |                              | Sophomore Year               |                                       | Junior Year                          |                            | Senior Year                |                            |
|---|--------------------------|------------------------------|------------------------------|---------------------------------------|--------------------------------------|----------------------------|----------------------------|----------------------------|
|   | 1st Semester<br>14 Units | 2nd Semester<br>14 Units     | 1st Semester<br>17 Units     | 2nd Semester<br>15 Units              | 1st Semester<br>16 Units             | 2nd Semester<br>17 Units   | 1st Semester<br>15 Units   | 2nd Semester<br>14 Units   |
|   | 1                        | 2                            | 3                            | 4                                     | 5                                    | 6                          | 7                          | 8                          |
| A | CHEM 1E (4)<br>A1        | PHYS 11A (4)<br>A2<br>C1, C2 | PHYS 11C (4)<br>A3<br>A2, C2 | ENGR 17 (3)<br>A4<br>A3, C4 or A3, C4 | ENGR 110 (3)<br>A5<br>B4, C3, C4     | ENGR 132 (3)<br>A6<br>A5   | ME 126 (3)<br>A7<br>A6, F5 | ME<br>ELECTIVES<br>6 UNITS |
| B | ENGR 6 (3)<br>B1         | ME 37 (3)<br>B2              | ENGR 45 (3)<br>B3<br>A1, C1  | ENGR 30 (3)<br>B4<br>A2, C2           | ENGR 112 (3)<br>B5<br>B1, B3, B4, C4 | ME 138 (3)<br>B6<br>B2, C5 | ME 128 (3)<br>B7<br>F5     |                            |
| C | MATH 30 (4)<br>C1        | MATH 31 (4)<br>C2<br>C1      | MATH 32 (4)<br>C3<br>C2      | MATH 45 (3)<br>C4<br>C2               | ME 116 (2)<br>C5<br>B1, B2, B5       | ME 117 (2)<br>C6<br>C5     | ME 190 (3)<br>C7<br>C6     | ME 191 (2)<br>C8<br>C7     |
| D | GEN ED (3)               | GEN ED (3)                   | GEN ED (3)                   | GEN ED (3)                            | ME 105 (3)<br>D5<br>A4, B4           | ME 171 (3)<br>D6<br>A5, D5 | ME 172 (3)<br>D7<br>D6     | GEN ED (3)                 |
| E |                          |                              | GEN ED (3)                   | GEN ED (3)                            | ME 108 (2)<br>E5<br>C2               | ME 180 (3)<br>E6<br>B3, B5 | GEN ED (3)                 | GEN ED (3)                 |
| F |                          |                              |                              |                                       | ENGR 124 (3)<br>F5<br>A1, A2, C3     | GEN ED (3)                 |                            |                            |

The course sequence shown insures all prerequisites are completed prior to taking a course.  
Prerequisites are listed in red; concurrent enrollment listed in green.  
Please see reverse side for course titles.

If you have any questions or concerns, please contact us at:  
**(916)278-7081** or  
[me-department@ecs.csus.edu](mailto:me-department@ecs.csus.edu)

## Mechanical Engineering Course Titles

| Course   | Course Title  |
|----------|---|
| CHEM 1E  | General Chemistry for Engineers                         |
| PHYS 11A | General Physics: Mechanics                              |
| PHYS 11C | General Physics: Electricity and Magnetism              |
| MATH 30  | Calculus I  |
| MATH 31  | Calculus II   |
| MATH 32  | Calculus III  |
| MATH 45  | Differential Equations                                  |
| ENGR 6   | Engineering Graphics and CADD                           |
| ENGR 17  | Circuit Analysis  |
| ENGR 30  | Analytic Mechanics: Statics                             |
| ENGR 45  | Engineering Materials                                   |
| ENGR 110 | Analytic Mechanics: Dynamics                            |
| ENGR 112 | Mechanics of Materials                                  |
| ENGR 124 | Thermodynamics  |
| ENGR 132 | Fluid Mechanics   |
| ME 37    | Manufacturing Processes                                 |
| ME 105   | Introduction to Technical Problem Solving               |
| ME 108   | Professional Topics in Mechanical Engineering           |
| ME 116   | Machinery Design I                                      |
| ME 117   | Machinery Design II                                     |
| ME 126   | Heat Transfer   |
| ME 128   | Thermal-Fluid Systems                                   |
| ME 138   | Concurrent Product and Process Design                   |
| ME 171   | Modeling & Simulation of Mechatronics & Control Systems |
| ME 172   | Control System Design                                   |
| ME 180   | Mechanical Properties of Materials                      |
| ME 190   | Project Engineering I                                   |
| ME 191   | Project Engineering II                                  |

## Mechanical Engineering Electives\*

| Course  | Course Title  |
|---------|---|
| ME 114  | Vibrations  |
| ME 115  | Dynamics of Machinery and Multi-Body Systems                |
| ME 121  | Solar Thermal & Energy Storage Systems                      |
| ME 122  | Geo-Thermal & Bio-Energy Systems                            |
| ME 123  | Wind, Hydro and Ocean Energy                                |
| ME 136  | Numerical Control Programming                               |
| ME 137  | Product Design for Manufacturing & Automation               |
| ME 140  | Introduction to Motors and Actuators                        |
| ME 141  | Introduction to Tolerance Analysis                          |
| ME 143  | Vehicle Dynamics & Design                                   |
| ME 152  | Turbomachinery Design                                       |
| ME 153  | Thermodynamics of Combustion Engines                        |
| ME 155  | Gas Dynamics  |
| ME 156  | Heating and Air Conditioning Systems                        |
| ME 159  | High Efficiency HVAC  |
| ME 164  | Introduction to Test Automation                             |
| ME 165  | Introduction to Robotics                                    |
| ME 173  | Application of Finite Element Analysis                      |
| ME 176  | Product Design and Pro/Engineer                             |
| ME 177  | 3-D Parametric Modeling                                     |
| ME 182  | Introduction to Composite Materials                         |
| ME 184  | Corrosion and Wear  |
| ME 186  | Fracture Mechanics in Engineering Design                    |
| ME 196A | Motion & Dynamic Analysis of Solid Modeling                 |
| ME 196B | Engineering System Approach to Product Design               |
| ME 196C | Computer Programming for Mechanical Engineering Application |
| ME 196D | Ground Vehicle Aerodynamics                                 |
| ME 196E | Vehicle Crash Reconstruction                                |
| ME 196F | Materials Selection for Engineering Design                  |

\*See Department Chair for other approved electives