BS MECHANICAL ENGINEERING

2017-2019

Units Required 196-202

NOTE: This document can be used as a compact display of courses and other curricular requirements at the time of publication of the 2017-2019 catalog. The Degree Progress Report must be used to track students' progress in all degree requirements, throughout their Cal Poly career.

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| Note: No major, support, or concentration courses may be selected as credit/no cre | | |
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| SUPPORT | COURSES | (76-80) |
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| BIO 213 and | 2 |
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| BMED 213 (B2) ² | 2 |
| CE 204 Mechanics of Materials I | 3 |
| CE 207 Mechanics of Materials II | 2 |
| CHEM 124 General Chem for Engineering I (B3/B4) ² | 4 |
| CHEM 125 General Chem for Engineering II | 4 |
| CSC 231 or CSC 234 | 2/3 |
| EE 201 Electric Circuit Theory | 3 |
| EE 251 Electric Circuits Laboratory | 1 |
| EE 321 Electronics | 3 |
| EE 361 Electronics Laboratory | 1 |
| ENGL 149 Technical Writing for Engineers (A3) ² | 4 |
| IME 142 Manufacturing Processes: Materials Joining | 2 |
| IME 143 Manufacturing Processes: Material Removal | 2 |
| MATE 210 Materials Engineering | 3 |
| MATE 215 Materials Laboratory I | 1 |
| MATH 141 Calculus I (B1) ² | 4 |
| MATH 142 Calculus II (B1) ² | 4 |
| MATH 143 Calculus III (Add'l Area B) ² | 4 |
| MATH 241 Calculus IV | 4 |

| MATH 244 Linear Analysis I | 4 |
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| MATH 344 Linear Analysis II (B6) ² | 4 |
| PHYS 131 or 141 General Physics (Add'l Area B) ² | 4 |
| PHYS 132 General Physics II | 4 |
| PHYS 133 General Physics III | 4 |
| Manufacturing Processes Elective | 1-4 |
| Select from: IME 141 or ITP 341 | |
| × | |
| GENERAL EDUCATION (GE) | 4 |

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| 72 units required, 32 of which are specified in Major/Support | |
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| Refer to <u>current schedule</u> or <u>http://www.ge.calpoly.edu</u> to choose GE courses. | |
| You will <u>not</u> receive credit for courses not on the approved lists. | |
| Minimum of 8 units required at the 300 level. | |
| Area A Communication | 8 |
| A1 Expository Writing | 4 |
| A2 Oral Communication | 4 |
| A3 Reasoning, Argu & Writing (4 units in Support) ² | |
| Area B Science and Mathematics (no add'l units req'd) | |
| 28 units are listed in Support | |
| Area C Arts and Humanities | 16 |
| C1 Literature | 4 |
| C2 Philosophy | |
| C3 Fine/Performing Arts | 4 |
| C4 Upper-division elective | 4 |
| Area D/E Society and the Individual | 16 |
| D1 The American Exp (40404) | 4 |
| D2 Political Economy | 4 |
| D3 Comp Social Institutions | 4 |
| D4 Self Dev (CSU Area E) | 4 |
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| FREE ELECTIVES | 0 |

 1 ME 228 and ME 229 are required in lieu of ME 128, ME 129, ME 130, and ME 163 for transfer students.

² Required in Support; also satisfies GE

OTHER DEGREE REQUIREMENTS:

- Cal Poly, Higher Ed, and Major GPA must all be at least 2.00
- Y For students admitted Fall 2016 and after, a grade of C- or higher is required in GE A1, A2, A3, and one GE B1 course

All students must complete:

- United States Cultural Pluralism Requirement
- Graduation Writing Requirement
- 60 units Upper Division (any 300-400 level classes)
- Upper Division units in the Major: 27
- Residency Requirements: See Degree Progress Report for details

CONCENTRATIONS (select one)

General (21-22)

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|---|-------|
| ME 428 Senior Design Project I | 2 |
| ME 429 Senior Design Project II | 2 |
| ME 430 Senior Design Project III | 2 |
| EE 255 Energy Conversion Electromagnetics | 3 |
| EE 295 Energy Conversion Electromagnetics Laboratory | 1 |
| Technical Electives ^{1,2,3} Select from the following: | 11-12 |
| Select at least 8 units from the following ME courses: | |
| ME 305, 359, 401, 402, 405, 410, 412, 415, 416, 423, 431, | |
| 434, 435, 436, 441, 442, 443, 444, 450, 456, 457, 458, 488, | |
| 506, 507, 517, 518, 540, 541, 542, 552, 553, 554, 556, 579; | |
| ME/CE 404; ME 501/CE 511; ME 503/CE 513; ME/CE 504; | |
| ENGR 311 | |
| Select 3 to 4 units of non-ME courses from: | |
| Any upper division or graduate level course in the College of Engineering with the exception of GE Area F, senior project, thesis appaied problems and soon sources | |
| thesis, special problems, and coop courses. | |

Heating, Ventilating, Air-Conditioning and Refrigerating (21)

| ME 359 Fundamentals of HVAC Systems | 4 |
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| ME 456 HVAC Air and Water Distribution System Design | 4 |
| ME 457 Refrigeration Principles and Design | 4 |
| ME 458 Building Heating and Cooling Loads | 4 |
| ME 459 HVAC Senior Design Project I | 3 |
| ME 460 HVAC Senior Design Project II | 2 |

Mechatronics (21-22)

| ME 305 Introduction to Mechatronics | 4 |
|--|-----|
| ME 405 Mechatronics | 4 |
| ME 423 Robotics: Fundamentals and Applications | 4 |
| ME 428 Senior Design Project I | 2 |
| ME 429 Senior Design Project II | 2 |
| ME 430 Senior Design Project III | 2 |
| Select from ⁵ : IME 356, 416; ME 506, 507 | 3-4 |

¹ Consultation with advisor is recommended prior to selecting technical electives; bear in mind your selections may impact pursuit of post-baccalaureate studies and/or goals.

² ME 470, ME 471, ME 570 and ME 571 are variable topics courses and may or may not count as ME electives. Please contact instructor for additional information. A course substitution form is required.

 3 ME 400 and ME 500 are independent study classes and may be acceptable for technical elective credit. A course substitution form is required.

⁴ If not taken as part of the emphasis area. Courses cannot be double counted.

⁵ Elective based on interests of students.

Manufacturing (21-23)

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