2011-13 Cal Poly Catalog

Aerospace Engineering Department

BS Aerospace Engineering

60 units upper division  GWR
2.0 GPA  USCP

* = Required in Support; also satisfies GE

Note: No major, support or concentration courses may be taken as credit/no credit.

Major Courses

AER 121 Aerospace Fundamentals ....................... 2
AER 215 Introduction to Aerospace Design ............. 2
AER 300 Aerospace Engineering Analysis ............... 5
AER 299 or 301, and 302, and 303
Aerothermodynamics (2/21/17) ......................... 4,4,4
AER 304 Experimental Aerothermodynamics ........... 2
AER 306 Aerodynamics and Flight Performance ........ 4
AER 307 Experimental Aerodynamics .................. 2
AER 320 Fundamentals of Guidance and Control ...... 4
AER 331 Aerospace Structural Analysis I .............. 4
AER 401 Propulsion Systems .......................... 4
AER 420 Stability/Control of Aerospace Vehicles ...... 4
AER 431 Aerospace Structural Analysis II ............. 4
AER 433 Experimental Stress Analysis ................. 1
AER 446 Introduction to Space Systems ............... 4
AER 461, 462 Senior Project I, II or
AER 463, 464 Senior Project Laboratory I, II ......... 2,3
CE 204 Mechanics of Materials ....................... 3
CE 207 Mechanics of Materials II ...................... 2-3
EE 201, 251 Electric Circuit Theory and Lab .......... 3,1
Concentration courses (see below) .................... 22

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Support Courses

BIO 213 and ENGR/BRAE 213 (B2) ...................... 2,2
CHEM 124 Gen Chem for Engineering (B3/B4) ....... 4
EE 321, 361 Electronics and Lab ...................... 3,1
ENGL 149 Technical Writing for Engineers (A3) ...... 4
IME 144 Intro Design and Manufacturing .............. 4
MATE 210 Materials Engineering ..................... 3
MATH 141, 142 Calculus I, II (B1)* ................. 4,4
MATH 143 Calculus III (Add’l Area B)* .............. 4
MATH 241 Calculus IV ................................ 4
MATH 244 Linear Analysis I .......................... 4
ME 211 Engineering Statics ........................... 3
ME 212 Engineering Dynamics ....................... 3
PHYS 131 General Physics I or PHYS 141 General
Physics IA (Add’l Area B) (5/23/12) ................. 4
PHYS 132, 133 General Physics II, III ............... 4,4
STAT 312 Statistical Methods for Engineers (B6)* ... 4

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General Education (GE)

72 units required; 32 of which are specified in Support.

Area A Communication (8 units)

A1 Expository Writing .................................... 4
A2 Oral Communication .................................. 4

Area A Communication (8 units)

AER 461, 462 Senior Project I, II or
AER 463, 464 Senior Project Laboratory I, II ......... 2,3
CE 204 Mechanics of Materials ....................... 3
CE 207 Mechanics of Materials II ...................... 2-3
EE 201, 251 Electric Circuit Theory and Lab .......... 3,1
Concentration courses (see below) .................... 22

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Support Courses

BIO 213 and ENGR/BRAE 213 (B2) ...................... 2,2
CHEM 124 Gen Chem for Engineering (B3/B4) ....... 4
EE 321, 361 Electronics and Lab ...................... 3,1
ENGL 149 Technical Writing for Engineers (A3) ...... 4
IME 144 Intro Design and Manufacturing .............. 4
MATE 210 Materials Engineering ..................... 3
MATH 141, 142 Calculus I, II (B1)* ................. 4,4
MATH 143 Calculus III (Add’l Area B)* .............. 4
MATH 241 Calculus IV ................................ 4
MATH 244 Linear Analysis I .......................... 4
ME 211 Engineering Statics ........................... 3
ME 212 Engineering Dynamics ....................... 3
PHYS 131 General Physics I or PHYS 141 General
Physics IA (Add’l Area B) (5/23/12) ................. 4
PHYS 132, 133 General Physics II, III ............... 4,4
STAT 312 Statistical Methods for Engineers (B6)* ... 4

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Area B Science and Mathematics (no add’l units req’d)

B1 Mathematics/Statistics * 8 units in Support ....... 0
B2 Life Science * 4 units in Support .................. 0
B3 Physical Science * 4 units in Support .......... 0
B4 One lab taken with either a B2 or B3 course
B5 (not required for Engineering students)
B6 Upper-division Area B * 4 units in Support .... 0
Additional Area B units* 8 units in Support ..... 0

Area C Arts and Humanities (16 units)

C1 Literature ............................................. 4
C2 Philosophy .......................................... 4
C3 Fine/Performing Arts ............................. 4
C4 Upper-division elective ............................ 4

Area D/E Society and the Individual (16 units)

D1 The American Experience (40404) ............... 4
D2 Political Economy .................................. 4
D3 Comparative Social Institutions ................. 4
D4 Self Development (CSU Area E) ................. 4

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Free Electives ............................................. 0

195 - 196

Concentrations (select one)

Aeronautics Concentration

AERO 405 Supersonic/Hypersonic Aerodynamics .... 4
AERO 443, 444, 445 Aircraft Design I, II, III ....... 4,3,3

Aeronautics approved electives .......................... 8
Select 8 units from the following:
AERO 311, 407, 409, 416, 419, 425, 432, 434,
435, 450, 452, 470, 510, 511, 512, 515, 517,
519, 520, 521, 522, 523, 524, 525, 526, 530,
532, 533, 534, 535, 540, 541, 550, 551, 552,
553, 555, 557, 560, 561, 562, 565, 566, 567.
AERO 360, 570, 571 require a petition.
(5/2/11)(10/30/15)

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Astronautics Concentration

AERO 451 Spaceflight Dynamics I ..................... 4
AERO 447, 448, 449 Spacecraft Design I, II, III .... 4,3,3

Astronautics approved electives ........................ 8
Select 8 units from the Aeronautics approved
electives list, above.

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

2 If CE 207 is taken for 2 units the department waives the third unit.
(7/27/15)