

Courses Required for BS in Aerospace Engineering Degree

Sample Order of Coursework

Notes: The following may be taken anytime:

HUM Electives	6 hrs needed
SOC SCI Electives	6 hrs needed
Free Electives	9 hrs needed

Course Tile KEY

Course No.	Cred Hrs
Course Title	
Pre Prerequisite	Grade
PC Prerequisite with concurrency	Grade
Co Co-Req	Grade

Click on Course No. for catalog description
 For AE courses, click on Course Title for syllabus
 Must be taken before the course
 Must be taken either before or at the same time
 Enter grade earned in yellow box
 Must be taken during the same semester as the course

1st Year

MATH 1551	2
Differential Calculus	
Pre	
PC	
Co	Grade

ENGL 1101 and ENGL 1102 must be completed in the first 30 hours.
 Study abroad programs may have more flexible prereq requirements for a few courses.
 Credit for Math 1551 is often earned before 1st year via AP credits
 But if not, Math 1551 may be taken with Math 1553 in the 1st sem (and Math 1552 taken in 2nd sem)

Course Categories

GT & Engineering Core
Tech Course Req by AE
AE Core Course
AE Option Course
Free Elective
Humanities
Social Sciences

2nd Year

MATH 1552	4
Integral Calculus	
Pre Math 1551	
PC	
Co	Grade

CHEM 1xxx	4
1310 or (1211K & 1212K)	
Pre	
PC	
Co	Grade

CS 1371	3
Computing for Engineers	
Pre	
PC	
Co	Grade

ENGL 1101	3
English Composition I	
Pre	
PC	
Co	Grade

APPH	2
1040 or 1050	
Pre	
Co	
CC	Grade

If CHEM 1211K & 1212K used, additional 4 hours are used as free elective
 ENGL 1101/1102 must be completed in first 30 hours

MATH 1553	2
Intro to Linear Algebra	
Pre Math 1551	
PC	
Co	Grade

PHYS 2211	4
Intro Physics 1	
Pre Math 1552	
PC	
Co	Grade

AE 1601	1
Intro to AE	
Pre Math 1551	
PC	
Co	Grade

ENGL 1102	3
English Composition 2	
Pre ENGL 1101	
PC	
Co	Grade

ME 1670	3
Intro to Eng Graphics	
Pre	
PC	
Co	Grade

SOC SCI	3
HIST 2111, HIST 2112, POL 1101, INTA 1200, or PUBP 3000	
Pre	
PC	
Co	Grade

Credit not allowed for both INTA 1200 & POL 1101

MATH 2551	4
Multivariable Calc	
Pre Math 1552 Math 1553	
PC	
Co	Grade

PHYS 2212	4
Intro Physics 2	
Pre Phys 2211	
PC	
Co	Grade

COE 2001	2
Statics	
Pre Math 1552 Phys 2211	
PC	
Co	Grade

MSE 2001	3
Engineering Materials	
Pre Chem 1xxx	
PC	
Co	Grade

ECON	3
2100, 2101, 2105, or 2106	
Pre	
PC	
Co	Grade

MATH 2552	4
Differential Equations	
Pre Math 1552 Math 1553	
PC	
Co	Grade

AE 2010	4
Thermo and Fluid Fund.	
Pre Math 2551 Phys 2211 Chem 1xxx	
PC	
Co	Grade

AE 2220	3
Dynamics	
Pre COE 2001	
PC Math 2552	
Co	Grade

AE 2610	1
Intro Exp Methods Lab	
Pre AE 1601	
PC Math 2551 Phys 2212 COE 2001	
Co AE 2611	Grade

AE 2611	1
Technical Comm for AE	
Pre	
PC	
Co AE 2610	Grade

ECE 3710	2
Circuits and Electronics	
Pre Phys 2212	
PC	
Co	Grade

3rd Year

17 hrs.	<table border="1"> <tr><td>MATH Option</td><td>3</td></tr> <tr><td>See list here</td><td></td></tr> <tr><td>Pre</td><td></td></tr> <tr><td>PC</td><td></td></tr> <tr><td>Co</td><td>Grade</td></tr> </table>	MATH Option	3	See list here		Pre		PC		Co	Grade	<table border="1"> <tr><td>COE 3001</td><td>3</td></tr> <tr><td>Deformable Bodies</td><td></td></tr> <tr><td>Pre COE 2001</td><td></td></tr> <tr><td>PC Math 2552</td><td></td></tr> <tr><td>Co</td><td>Grade</td></tr> </table>	COE 3001	3	Deformable Bodies		Pre COE 2001		PC Math 2552		Co	Grade	<table border="1"> <tr><td>AE 3030</td><td>4</td></tr> <tr><td>Aerodynamics</td><td></td></tr> <tr><td>Pre AE 2010</td><td></td></tr> <tr><td>PC</td><td></td></tr> <tr><td>Co</td><td>Grade</td></tr> </table>	AE 3030	4	Aerodynamics		Pre AE 2010		PC		Co	Grade	<table border="1"> <tr><td>AE 3330</td><td>3</td></tr> <tr><td>AE Vehicle Performance</td><td></td></tr> <tr><td>Pre Math 2552</td><td></td></tr> <tr><td>PC AE 3030</td><td></td></tr> <tr><td>Co</td><td>Grade</td></tr> </table>	AE 3330	3	AE Vehicle Performance		Pre Math 2552		PC AE 3030		Co	Grade	<table border="1"> <tr><td>AE 3530</td><td>3</td></tr> <tr><td>System Dynamics and Vib</td><td></td></tr> <tr><td>Pre AE 2220 Math 2552</td><td></td></tr> <tr><td>PC</td><td></td></tr> <tr><td>Co</td><td>Grade</td></tr> </table>	AE 3530	3	System Dynamics and Vib		Pre AE 2220 Math 2552		PC		Co	Grade	<table border="1"> <tr><td>ECE 3741</td><td>1</td></tr> <tr><td>Circuits/Electronics Lab</td><td></td></tr> <tr><td>Pre ECE 3710</td><td></td></tr> <tr><td>PC</td><td></td></tr> <tr><td>Co</td><td>Grade</td></tr> </table>	ECE 3741	1	Circuits/Electronics Lab		Pre ECE 3710		PC		Co	Grade
MATH Option	3																																																																	
See list here																																																																		
Pre																																																																		
PC																																																																		
Co	Grade																																																																	
COE 3001	3																																																																	
Deformable Bodies																																																																		
Pre COE 2001																																																																		
PC Math 2552																																																																		
Co	Grade																																																																	
AE 3030	4																																																																	
Aerodynamics																																																																		
Pre AE 2010																																																																		
PC																																																																		
Co	Grade																																																																	
AE 3330	3																																																																	
AE Vehicle Performance																																																																		
Pre Math 2552																																																																		
PC AE 3030																																																																		
Co	Grade																																																																	
AE 3530	3																																																																	
System Dynamics and Vib																																																																		
Pre AE 2220 Math 2552																																																																		
PC																																																																		
Co	Grade																																																																	
ECE 3741	1																																																																	
Circuits/Electronics Lab																																																																		
Pre ECE 3710																																																																		
PC																																																																		
Co	Grade																																																																	
17 hrs.	<table border="1"> <tr><td>AE 3140</td><td>3</td></tr> <tr><td>Structural Analysis</td><td></td></tr> <tr><td>Pre COE 3001</td><td></td></tr> <tr><td>PC</td><td></td></tr> <tr><td>Co</td><td>Grade</td></tr> </table>	AE 3140	3	Structural Analysis		Pre COE 3001		PC		Co	Grade	<table border="1"> <tr><td>AE 4451</td><td>3</td></tr> <tr><td>Jet & Rocket Propulsion</td><td></td></tr> <tr><td>Pre AE 2010</td><td></td></tr> <tr><td>PC</td><td></td></tr> <tr><td>Co</td><td>Grade</td></tr> </table>	AE 4451	3	Jet & Rocket Propulsion		Pre AE 2010		PC		Co	Grade	<table border="1"> <tr><td>AE 3610</td><td>2</td></tr> <tr><td>Exp Fluids/Solids Lab</td><td></td></tr> <tr><td>Pre AE 2610 AE 2010 COE 3001</td><td></td></tr> <tr><td>PC</td><td></td></tr> <tr><td>Co</td><td>Grade</td></tr> </table>	AE 3610	2	Exp Fluids/Solids Lab		Pre AE 2610 AE 2010 COE 3001		PC		Co	Grade	<table border="1"> <tr><td>AE 3531</td><td>3</td></tr> <tr><td>Control Sys Analysis/Desn</td><td></td></tr> <tr><td>Pre AE 3530</td><td></td></tr> <tr><td>PC</td><td></td></tr> <tr><td>Co</td><td>Grade</td></tr> </table>	AE 3531	3	Control Sys Analysis/Desn		Pre AE 3530		PC		Co	Grade	<table border="1"> <tr><td>SOC SCI Elect (Hrs 1-3)</td><td>3</td></tr> <tr><td>See list here</td><td></td></tr> <tr><td>Pre</td><td></td></tr> <tr><td>PC</td><td></td></tr> <tr><td>Co</td><td>Grade</td></tr> </table>	SOC SCI Elect (Hrs 1-3)	3	See list here		Pre		PC		Co	Grade	<table border="1"> <tr><td>Free Elect (Hrs 1-3)</td><td>3</td></tr> <tr><td>Enter Course No.</td><td></td></tr> <tr><td>Pre</td><td></td></tr> <tr><td>PC</td><td></td></tr> <tr><td>Co</td><td>Grade</td></tr> </table>	Free Elect (Hrs 1-3)	3	Enter Course No.		Pre		PC		Co	Grade
AE 3140	3																																																																	
Structural Analysis																																																																		
Pre COE 3001																																																																		
PC																																																																		
Co	Grade																																																																	
AE 4451	3																																																																	
Jet & Rocket Propulsion																																																																		
Pre AE 2010																																																																		
PC																																																																		
Co	Grade																																																																	
AE 3610	2																																																																	
Exp Fluids/Solids Lab																																																																		
Pre AE 2610 AE 2010 COE 3001																																																																		
PC																																																																		
Co	Grade																																																																	
AE 3531	3																																																																	
Control Sys Analysis/Desn																																																																		
Pre AE 3530																																																																		
PC																																																																		
Co	Grade																																																																	
SOC SCI Elect (Hrs 1-3)	3																																																																	
See list here																																																																		
Pre																																																																		
PC																																																																		
Co	Grade																																																																	
Free Elect (Hrs 1-3)	3																																																																	
Enter Course No.																																																																		
Pre																																																																		
PC																																																																		
Co	Grade																																																																	

Modify free elective hours & course no. after copy/paste into schedule

4th Year

15 hrs.	<table border="1"> <tr><td>AE 4311/21/31</td><td>3</td></tr> <tr><td>Air/Space/Rotor Design I</td><td></td></tr> <tr><td>Pre AE 3330</td><td></td></tr> <tr><td>PC</td><td></td></tr> <tr><td>Co</td><td>Grade</td></tr> </table> <p><i>Choose one Design I: 4311 (Aircraft), 4321 (Space) or 4331 (Rotorcraft)</i></p>	AE 4311/21/31	3	Air/Space/Rotor Design I		Pre AE 3330		PC		Co	Grade	<table border="1"> <tr><td>AE Option (Hrs 1-3)</td><td>3</td></tr> <tr><td>See list here</td><td></td></tr> <tr><td>Pre</td><td></td></tr> <tr><td>PC</td><td></td></tr> <tr><td>Co</td><td>Grade</td></tr> </table>	AE Option (Hrs 1-3)	3	See list here		Pre		PC		Co	Grade	<table border="1"> <tr><td>AE 4531</td><td>3</td></tr> <tr><td>Aircraft Flight Dynamics</td><td></td></tr> <tr><td>Pre AE 3030</td><td></td></tr> <tr><td>PC AE 3531</td><td></td></tr> <tr><td>Co</td><td>Grade</td></tr> </table> <p><i>Choose one flight dyn: AE 4531 (Aircraft) or AE 4532 (Spacecraft)</i></p>	AE 4531	3	Aircraft Flight Dynamics		Pre AE 3030		PC AE 3531		Co	Grade	<table border="1"> <tr><td>AE 4532</td><td>3</td></tr> <tr><td>Spacecraft Flt Dynamics</td><td></td></tr> <tr><td>Pre AE 3330 AE 3530</td><td></td></tr> <tr><td>PC</td><td></td></tr> <tr><td>Co</td><td>Grade</td></tr> </table>	AE 4532	3	Spacecraft Flt Dynamics		Pre AE 3330 AE 3530		PC		Co	Grade	<table border="1"> <tr><td>HUM Elect (Hrs 1-3)</td><td>3</td></tr> <tr><td>See list here</td><td></td></tr> <tr><td>Pre</td><td></td></tr> <tr><td>PC</td><td></td></tr> <tr><td>Co</td><td>Grade</td></tr> </table>	HUM Elect (Hrs 1-3)	3	See list here		Pre		PC		Co	Grade	<table border="1"> <tr><td>Free Elect (Hrs 4-6)</td><td>3</td></tr> <tr><td>Enter Course No.</td><td></td></tr> <tr><td>Pre</td><td></td></tr> <tr><td>PC</td><td></td></tr> <tr><td>Co</td><td>Grade</td></tr> </table> <p><i>Modify free elective hours & course no. after copy/paste into schedule</i></p>	Free Elect (Hrs 4-6)	3	Enter Course No.		Pre		PC		Co	Grade
AE 4311/21/31	3																																																																	
Air/Space/Rotor Design I																																																																		
Pre AE 3330																																																																		
PC																																																																		
Co	Grade																																																																	
AE Option (Hrs 1-3)	3																																																																	
See list here																																																																		
Pre																																																																		
PC																																																																		
Co	Grade																																																																	
AE 4531	3																																																																	
Aircraft Flight Dynamics																																																																		
Pre AE 3030																																																																		
PC AE 3531																																																																		
Co	Grade																																																																	
AE 4532	3																																																																	
Spacecraft Flt Dynamics																																																																		
Pre AE 3330 AE 3530																																																																		
PC																																																																		
Co	Grade																																																																	
HUM Elect (Hrs 1-3)	3																																																																	
See list here																																																																		
Pre																																																																		
PC																																																																		
Co	Grade																																																																	
Free Elect (Hrs 4-6)	3																																																																	
Enter Course No.																																																																		
Pre																																																																		
PC																																																																		
Co	Grade																																																																	
17 hrs.	<table border="1"> <tr><td>AE 4312/22/32</td><td>3</td></tr> <tr><td>Air/Space/Rotor Design II</td><td></td></tr> <tr><td>Pre AE 4311/21/31</td><td></td></tr> <tr><td>PC</td><td></td></tr> <tr><td>Co</td><td>Grade</td></tr> </table> <p><i>Choose one Design II: 4312 (Aircraft), 4322 (Space) or 4332 (Rotorcraft)</i></p>	AE 4312/22/32	3	Air/Space/Rotor Design II		Pre AE 4311/21/31		PC		Co	Grade	<table border="1"> <tr><td>AE Option (Hrs 4-6)</td><td>3</td></tr> <tr><td>See list here</td><td></td></tr> <tr><td>Pre</td><td></td></tr> <tr><td>PC</td><td></td></tr> <tr><td>Co</td><td>Grade</td></tr> </table>	AE Option (Hrs 4-6)	3	See list here		Pre		PC		Co	Grade	<table border="1"> <tr><td>AE 4610</td><td>2</td></tr> <tr><td>Dynamics & Controls Lab</td><td></td></tr> <tr><td>Pre AE 3531 AE 2610 AE 2010</td><td></td></tr> <tr><td>PC</td><td></td></tr> <tr><td>Co</td><td>Grade</td></tr> </table>	AE 4610	2	Dynamics & Controls Lab		Pre AE 3531 AE 2610 AE 2010		PC		Co	Grade	<table border="1"> <tr><td>HUM Elect (Hrs 4-6)</td><td>3</td></tr> <tr><td>See list here</td><td></td></tr> <tr><td>Pre</td><td></td></tr> <tr><td>PC</td><td></td></tr> <tr><td>Co</td><td>Grade</td></tr> </table>	HUM Elect (Hrs 4-6)	3	See list here		Pre		PC		Co	Grade	<table border="1"> <tr><td>Free Elect (Hrs 7-9)</td><td>3</td></tr> <tr><td>Enter Course No.</td><td></td></tr> <tr><td>Pre</td><td></td></tr> <tr><td>PC</td><td></td></tr> <tr><td>Co</td><td>Grade</td></tr> </table> <p><i>Modify free elective hours & course no. after copy/paste into schedule</i></p>	Free Elect (Hrs 7-9)	3	Enter Course No.		Pre		PC		Co	Grade	<table border="1"> <tr><td>SOC SCI Elect (Hrs 4-6)</td><td>3</td></tr> <tr><td>See list here</td><td></td></tr> <tr><td>Pre</td><td></td></tr> <tr><td>PC</td><td></td></tr> <tr><td>Co</td><td>Grade</td></tr> </table>	SOC SCI Elect (Hrs 4-6)	3	See list here		Pre		PC		Co	Grade
AE 4312/22/32	3																																																																	
Air/Space/Rotor Design II																																																																		
Pre AE 4311/21/31																																																																		
PC																																																																		
Co	Grade																																																																	
AE Option (Hrs 4-6)	3																																																																	
See list here																																																																		
Pre																																																																		
PC																																																																		
Co	Grade																																																																	
AE 4610	2																																																																	
Dynamics & Controls Lab																																																																		
Pre AE 3531 AE 2610 AE 2010																																																																		
PC																																																																		
Co	Grade																																																																	
HUM Elect (Hrs 4-6)	3																																																																	
See list here																																																																		
Pre																																																																		
PC																																																																		
Co	Grade																																																																	
Free Elect (Hrs 7-9)	3																																																																	
Enter Course No.																																																																		
Pre																																																																		
PC																																																																		
Co	Grade																																																																	
SOC SCI Elect (Hrs 4-6)	3																																																																	
See list here																																																																		
Pre																																																																		
PC																																																																		
Co	Grade																																																																	

Other Programs	
Enter Course No.	
Pre	
PC	
Co	Grade

*May use this tile to represent as many courses as needed for optional programs beyond the BSAE degree requirements.
Examples: Minor, ROTC, Double-Major, ...
Modify credit hours & course no. after copy/paste into schedule
These courses do not count toward 131 credit hours used for BSAE degree*

Notes: 1 Total credit hours = 131

- 2** A grade of C or better is required in each 1000- and 2000-level mathematics and physics course
- 3** Math or physics course with a D or F grade must be repeated next semester student is in residence
- 4** A cumulative GPA of 2.0 or higher is required to schedule COE 2001 or AE 2010
- 5** A grade of C or better must be attained in all required 2000-level AE and COE courses
- 6** At the 3000-level and above, no more than two D grades are permitted in required AE (core & AE options) and required COE courses. Additional D grades must be repeated
- 7** Only free electives may be taken pass/fail. All other courses must be taken on a letter grade basis
- 8** Minimum cumulative GPA to graduate is 2.0