

ENGINEERING MECHANICS: AEROSPACE ENGINEERING

REQUIREMENTS

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The following curriculum applies to students admitted to the engineering mechanics degree program and declare the aerospace option.

SUMMARY OF REQUIREMENTS

Code	Title	Credits
Mathematics and Statistics ¹		22
Science ¹		10
Engineering Science		28
Engineering Mechanics/Aerospace Engineering Core		40
Technical Electives		5
Communication Skills		8
Liberal Studies		15
Total Credits		128

¹ If the Mathematics and Statistics and the Science requirements are fulfilled with fewer than 30 credits combined, additional math/science credits will be needed to meet the math/science auxiliary credit condition.

MATHEMATICS AND STATISTICS

Code	Title	Credits
MATH 221	Calculus and Analytic Geometry 1	5
MATH 222	Calculus and Analytic Geometry 2	4
MATH 234	Calculus--Functions of Several Variables	4
MATH 320	Linear Algebra and Differential Equations	3
MATH 321	Applied Mathematical Analysis 1: Vector and Complex Calculus	3
STAT 324	Introduction to Statistics for Science and Engineering	3
Total Credits		22

SCIENCE

Code	Title	Credits
Select one of the following:		5-9
CHEM 109	Advanced General Chemistry ¹	
CHEM 103 & CHEM 104	General Chemistry I and General Chemistry II	
PHYSICS 202	General Physics	5
Total Credits		10-14

¹ It is recommended that students take CHEM 109 Advanced General Chemistry (5 cr). However, depending on their high school chemistry experience, students may substitute CHEM 103 General Chemistry I and CHEM 104 General Chemistry II for a total of 9 credits.

ENGINEERING SCIENCE

Code	Title	Credits
E M A 200	Introduction to Aerospace Engineering	3
or M E 201	Introduction to Mechanical Engineering	
M E 231	Geometric Modeling for Design and Manufacturing	3
COMP SCI 220	Data Science Programming I ¹	4
M E 361	Thermodynamics	3
M E 363	Fluid Dynamics	3
or CIV ENGR 310	Fluid Mechanics	
E C E 376	Electrical and Electronic Circuits	3
or PHYSICS 321	Electric Circuits and Electronics	
or E C E 230	Circuit Analysis	
M E 364	Elementary Heat Transfer	3
M E 446	Introduction to Feedback Control	3
or E C E 332	Feedback Control Systems	
Computing Elective (select one)		3
E M A/E P 471	Intermediate Problem Solving for Engineers (preferred, only offered in the Spring)	
or COMP SCI 41	Introduction to Numerical Methods	
or M E 459	Computing Concepts for Applications in Engineering	
or COMP SCI 32	Data Science Programming II	
or E P/	Introduction to Scientific Computing for	
E M A 476	Engineering Physics	
Total Credits		28

¹ COMP SCI 220 Data Science Programming I is the preferred required computer science course. If a student needs to take COMP SCI 300 Programming II to satisfy requirements for another major or certificate, COMP SCI 300 Programming II can count for this computer science requirement.

ENGINEERING MECHANICS/AEROSPACE ENGINEERING CORE

Code	Title	Credits
E M A 201	Statics (with a grade of C or better) ¹	3
E M A 202	Dynamics	3
E M A 303	Mechanics of Materials	3
E M A/M E 307	Mechanics of Materials Lab	1
E M A 405	Practicum in Finite Elements	3
E M A 469	Design Problems in Engineering	3
E M A 506	Advanced Mechanics of Materials I	3
Experimental Mechanics Elective (select one)		3

