

# MINOR PROGRAMS

## AERONAUTICS AND ASTRONAUTICS MINOR

The Aero/Astro minor introduces undergraduates to the key elements of modern aerospace systems. Within the minor, students may focus on aircraft, spacecraft, or disciplines relevant to both. The course requirements for the minor are listed in the following table.

### COURSES FULFILLING THE MINOR IN AERONAUTICS AND ASTRONAUTICS<sup>†</sup>

<i>Core:</i>		<b>Units</b>
ENGR 14*	Applied Mechanics: Statics	3
ENGR 15*	Dynamics	3
ENGR 30*	Engineering Thermodynamics	3
AA 100	Introduction to Aero/Astro	3
ME 70	Introductory Fluids Engineering	4
ME 131A	Heat Transfer	3-4
	<i>Core total</i>	12-25
<i>Upper division electives:</i>		
2 courses from one of the elective areas below		6
1 course from a second elective area below		3
	<i>Program total</i>	21-34
<i>Elective areas:</i>		
<i>Dynamics and Controls:</i>		
ENGR 105	Feedback Control Design	3
ENGR 205	Introduction to Control Design Techniques	3
AA 242A	Classical Dynamics	3
AA 271A	Dynamics and Control of Spacecraft/Aircraft	3
AA 279	Space Mechanics	3
<i>Aerospace Systems Synthesis/Design:</i>		
AA 236A,B	Spacecraft Design, Spacecraft Design Laboratory	5, 3
AA 241A,B	Introduction to Aircraft Design, Synthesis, and Analysis	3, 3
<i>Fluids:</i>		
AA 200A	Applied Aerodynamics	3
AA 210A	Fundamentals of Compressible Flow	3
AA 214A	Numerical Methods in Fluid Mechanics	3
AA 283	Aircraft and Rocket Propulsion	3
ME 131B	Fluid Mechanics: Compressible Flow and Turbomachinery	4
<i>Structures:</i>		
AA 240A	Analysis of Structures	3
AA 240B	Analysis of Structure II	3
AA 256	Mechanics of Composites	3
Notes	* ENGR 14, 15, or 30 are waived as minor requirements if already taken as part of the major. * Courses cannot be double-counted within a major and a minor, or within multiple minors: if any of the core classes are an integral part of the student's major or of another minor program, the Aero/Astro advisor can help select substitute courses to fulfill the Aero/Astro requirements.	