

<b>Semester 1</b> 15 Credits	* Calculus I MATH 1650 4 Credits	Chem for Engineers CHEM 1670 or 1770 & 1770L 4 Credits	Engineering Problem Solving AERE 1600/H 3 Credits	Intro to College Research LIB 1600 1 Credit	* English Composition I ENGL 1500 3 Credits	Engineering Orientation ENGR 1010
<b>Semester 2</b> 15 Credits	* Calculus II MATH 1660 4 Credits	Classical Physics I PHYS 2310 & 2310L 5 Credits	Num., Graph., & Lab Techniques AERE 1610/H 3 Credits	GenEd from Dept List 3 Credits	Aerospace Seminar AERE 1920/H	
<b>Semester 3</b> 18 Credits	Calculus III MATH 2650 4 Credits	Classical Physics II PHYS 2320 & 2320L 5 Credits	Intro to Material Sci & Engr MATE 2730 3 Credits	Statics for Engineers CE 2740 3 Credits	* English Composition II ENGL 2500 3 Credits	
<b>Semester 4</b> 16 Credits	Differential Equations MATH 2670 4 Credits	Dynamics ME 3450 3 Credits	* Intro to Performance & Design AERE 2610 3 Credits	Mechanics of Materials EM 3240 3 Credits	* Technical Comm ENGL 3090 or 3140 3 credits	
<b>Semester 5</b> 17 Credits	Flight Structures AERE 3210 3 Credits	Structures Lab AERE 3220 2 Credits	Thermodynamics ME 2310 3 Credits	Aero-dynamics I AERE 3100 3 Credits	Astro-dynamics I AERE 3510 3 Credits	Flight Dynamics & Control AERE 3550 3 Credits
<b>Semester 6</b> 18 Credits	Advanced Flight Structures AERE 4210 3 Credits	Comp. Techniques for Aero. Design AERE 3610 3 Credits	Aerospace Systems AERE 3620 3 Credits	Aerodynamics/Propulsion Lab AERE 3440 3 Credits	Aero-dynamics II AERE 3110 3 Credits	Flight Control Systems AERE 3310 3 Credits
<b>Semester 7</b> 15 Credits	TechElec from Dept List 3 Credits	Astronautics Requirement 3 Credits <small>(see chart, page 2)</small>	Design Methodology AERE 4610 3 Credits	Aerospace Vehicle Propulsion AERE 4110 3 Credits	GenEd from Dept List 3 Credits	
<b>Semester 8</b> 15 Credits	TechElec from Dept List 3 Credits	TechElec from Dept List 3 Credits	Design of Aerospace Systems AERE 4620 3 Credits	GenEd from Dept List 3 Credits	GenEd from Dept List 3 Credits	


**Course Groups**

<i>Basic Program</i>	<i>Aerospace Requirement</i>	<i>Technical Elective</i>	<i>Engineering Fundamentals</i>
<b>Mathematics</b>	<b>Chemistry &amp; Physics</b>	<b>General Education</b>	<b>Seminars</b>


\* See back for specific grade requirements

## Basic Program - 24 credits

Must be completed (Basic Program GPA  $\geq$  2.0 and Cumulative GPA  $\geq$  2.0) before 200-Level Engineering courses

	Calculus I	MATH 1650	4	Calculus II	MATH 1660	4
	Chemistry	CHEM 1670	4	Physics I	PHYS 2310/2310L	5
	Engr. Prob Solving	AERE 1600/H	3	English Composition I	ENGL 1500	3
	Engr. Orientation	ENGR 1010	R	Intro to College Research LIB	1600	1

## English Proficiency - 9 credits

	English Comp I	ENGL 1500	3
	English Comp II	ENGL 2500	3
	Technical Comm	ENGL 3090/3140	3

Grade of C or higher is required in ENGL 1500, ENGL 2500 and ENGL 3090/3140.


## General Education - 12 credits

	GenEd
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Visit <https://www.aere.iastate.edu/forms/> for the approved GenEd List. Must include U.S. Diversity (3 credits) and International Perspective (3 credits) requirement.


Two semester sequence in a single world language may be applied per ISU World Language Requirements.


## Aerospace Engineering - 50 credits in 8 areas of study

	Aerodynamics	Aerodynamics I - Incompressible Flow	AERE 3100	3
		Aerodynamics II - Compressible Flow	AERE 3110	3
		Aerodynamics/Propulsion Lab	AERE 3440	3
Propulsion	Aerospace Vehicle Propulsion	AERE 4110	3	
Structures	Flight Structures	AERE 3210	3	
	Aero Structures Lab	AERE 3220	2	
	Adv Flight Structures	AERE 4210	3	
Controls	Flight Dynamics & Control	AERE 3550	3	
	Flight Control Systems	AERE 3310	3	
Astrodynamics	Astrodynamics I	AERE 3510	3	
Systems and Design	Performance and Design	AERE 2610	3	
	Aerospace Systems	AERE 3620	3	
	Design Methodology	AERE 4610	3	
	Design of Aero Systems	AERE 4620	3	
Software and Numerics	Num., Graph., & Lab Techniques	AERE 1610/H	3	
	Comp. Techniques for Aero. Design	AERE 3610	3	
Astronautics Requirement	One of:			
	(a) Rocket Propulsion	AERE 4150	3	
	(b) Spacecraft Dynamics	AERE 4330	3	

## Technical Electives - 9 credits

	Make to Innovate/ Undergrad Research	AERE 2940 - Freshman and Sophomores (credits do not count towards graduation). AERE 4940 - Juniors and Seniors (maximum of 6 credits may count towards graduation).
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	Technical Electives	Group A Aerospace Electives (3 credits), Group B Technical/Engineering Electives (3 credits) and Group C Career Electives (3 credits). Group A electives can be used for Group B and C. Group B electives can be used for Group C. Visit <a href="https://www.aere.iastate.edu/forms/">https://www.aere.iastate.edu/forms/</a> for the approved Technical Electives List.
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	Grade Requirements for Courses	Grade of C or higher is required in ENGL 1500, 2500, and 3090/3140. Grade of C- or higher in MATH 1650 and 1660. Grade of C or higher in AERE 2610.
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