Technical Minor
Department of Mechanical Engineering & Mechanics

Aerospace Engineering

The minor in aerospace engineering provides a foundation for students who intend to pursue a career in the aerospace industry. This minor will also provide sufficient technical background in aerospace studies for undergraduates who plan to enter graduate programs in this field. The minor requires a minimum of 15 credits from the following course selection:

Two Required Courses (total 6 credits):

ME 255 Introduction to Aerospace Eng. Offered Fall & Spring, C elective. An introductory course in the core engineering principles used in the aerospace industry: aerodynamics, controls, propulsion, and structures. The course is designed for any engineering student who may intend to work in the aerospace industry and develops a basic understanding of the technologies used in the design and operation of today's aircraft, rockets, and spacecraft. **Prerequisite: ME 104 Thermodynamics.**

MECH 326 Aerodynamics Offered Fall, B elective. Application of fluid dynamics to flows, past lifting surfaces. Normal force calculations in inviscid flows. Use of conformal mappings in two-dimensional airfoil theory. Kurta condition at a trailing edge; physical basis. Viscous boundary layers. Thin airfoil theory. Section design; pressure profiles and separation. Lifting line theory. Compressible subsonic flows; Prandtl-Glauert Rule. Airfoil performance at supersonic speeds. **Prerequisite: ME 231 Fluid Mechanics.**

Choose at least three Elective Courses (9 credits):

	Course	Name	Prerequisites
Fall Courses	ME 331	Advanced Fluid Mechanics*	ME 231
	ME 343	Control Systems*	ME 242 or 245 or ECE 125
	ME 348	Computer-Aided Design**	ME 10, MECH 12 and 102, and MATH 205
	ME 356	Astrodynamics**	ME 255
	MECH 305	Advanced Mechanics of Materials*	MECH 12 and MATH 205
	MECH 328	Aircraft Design Engineering**	ME 255
Spring Courses	ME 309	Composite Materials**	MECH 3 and MAT 33
	ME 322	Gas Dynamics*	ME 104 and 231
	ME 333	Propulsion Systems**	ME 104 and MECH 326 Mech 326 can be taken concurrently
	ME 354	Automatic Control of Aerospace Vehicles**	MECH 326 and ME 343
	ME 355	Spacecraft Systems Engineering**	ME 255
	MECH 302	Advanced Dynamics*	MECH 102 and MATH 205
	MECH 312	Finite Element Analysis**	MECH 12

***BSME A Tech Elective, **BSME B Tech Elective**

The following online FAA video courses do not count toward the 15 credits needed for the minor, but they do provide a background that can be particularly helpful to those students who are interested in careers in the aviation industry:

ME 141 General Aviation Technology and Operations, offered Fall & Spring, 2 credits
ME 142 Instrument Ground Training, offered Fall & Spring, 2 credits PRE-REQ, ME 141 or Private Pilot Certificate

Minor Chair: Prof. Terry Hart (tjhart@lehigh.edu)

If you would like to join the Lehigh Aerospace Alumni Group on LinkedIn, please contact: Mae Anderson (maa522@lehigh.edu)

Lehigh University
Mechanical Engineering & Mechanics

Aerospace Engineering Minor Declaration Form

Name: _____

LIN: _____ **Email:** _____

Major: _____ **Expected Graduation Date:** _____

Major Advisor: _____

Proposed Minor Courses:

	Course Number (e.g. ME 3XX)	Semester/Year
Required Courses	ME 255 Introduction to Aerospace Engr	
	MECH 326 Aerodynamics	
Elective 1	[Choose one]	
Elective 2	[Choose one]	
Elective 3	[Choose one]	

Remarks:

Student Signature: _____ **Date:** _____

Approved by: _____ **Date:** _____
Terry Hart, Minor Program Chair

Approved by: _____ **Date:** _____
Hannah Dailey, Associate Chair, Major Department