Aerospace Engineering Track Sequences

Catalog Years: 2018, 2019, 2020, 2021

The Undergraduate Bulletin for the catalog years listed above describes required tracks of electives for aerospace engineering students. Courses that enable a student to follow their 8-semester Major Map and complete one of these tracks are shown below.

Aeromechanical Systems Track

Aeromechanics deals with the interactions between air flow and an aerospace structure. This track can be completed with any five of the following courses, which have been approved by the department either in the Undergraduate Bulletin or as a standard course substitution.

AESP 365	Aerodynamics II: Compressible Flow
AESP 415	Aircraft Design Part I Basics
AESP 460	Special Problems: Aerospace
AESP 543	Aerospace Propulsion
ELCT 363	Introduction to Microelectronics
ELCT 221	Circuits (unless used elsewhere)
ELCT 222	Signals and Systems
ELCT 321	Digital Signal Processing
ELCT 331	Control Systems
ELCT 361	Electromagnetics
ELCT 371	Electronics
ELCT 531	Digital Control Systems
ELCT 562	Wireless Communications
ELCT 564	RF Circuit Design for Wireless Com
ELCT 572	Power Electronics
EMCH 308	Intro to Finite Element Stress Analysis
EMCH 327	Machine Design
EMCH 332	Kinematics
EMCH 354	Heat Transfer
EMCH 367	Controls
EMCH 501	Engineering Analysis I
EMCH 508	Finite Element Analysis in Mechanical Engineering
EMCH 332	Kinematics
EMCH 354	Heat Transfer
EMCH 516	Control Theory in Mechanical Engineering
EMCH 530	Intro to Engineering Optimization
EMCH 532	Intermediate Dynamics
EMCH 535	Robotics in Mechanical Engineering

EMCH 544	Compressible Fluid Flow
EMCH 554	Intermediate Heat Transfer
EMCH 560	Intermediate Fluid Mechanics
EMCH 578	Introduction to Aerodynamics
EMCH 585	Introduction to Composite Materials
EMCH 592	Introduction to Combustion

Recommended course sequences for the Aeromechanical Track are shown below.

Aeromechanical Sequence Option A (recommended – includes EMCH 544 Compressible Flow)

Semester	Take Courses	Prereqs
Fall 5. Need 1	EMCH 354	Prerequisites: D or better in EMCH 360 or AESP 265 or ENCP 360.
Spr 6. Need 1	EMCH 308 (S)	Prerequisites: D or better in EMCH 260.
Fall 7. Need 1	EMCH 544 (F)	Prerequisites: D or better in EMCH 354.
Spr 8. Need 2	EMCH 327*	Prerequisites: D or better in EMCH 310 or ENCP 210.
	AESP 415 (S)	Prerequisites: AESP 265. Pre/Corequisite: AESP 350 and AESP 314.

Aeromechanical Sequence Option B

Semester	Take Courses	Prereqs
Fall 5. Need 1	EMCH 327*	Prerequisites: D or better in EMCH 260 or ENCP 260.
Spr 6. Need 1	EMCH 308 (S)	Prerequisites: D or better in EMCH 260.
Fall 7. Need 1	EMCH 585 (F)	Prerequisites: D or better in EMCH 327, EMCH 371, and MATH 242.
Spr 8. Need 2	EMCH 354	Prerequisites: D or better in EMCH 360 or AESP 265 or ENCP 360.
	AESP 415 (S)	Prerequisites: AESP 265. Pre/Corequisite: AESP 350 and AESP 314.

Aeromechanical Sequence Option C

Semester	Take Courses	Prereqs
Fall 5. Need 1	EMCH 327*	Prerequisites: D or better in EMCH 260 or ENCP 260.
Spr 6. Need 1	EMCH 308 (S)	Prerequisites: D or better in EMCH 260.
Fall 7. Need 1	EMCH 585 (F)	Prerequisites: D or better in EMCH 327, EMCH 371, and MATH 242.
Spr 8. Need 2	EMCH 332	Prerequisites: D or better in EMCH 310 or ENCP 210.
	AESP 415 (S)	Prerequisites: AESP 265. Pre/Corequisite: AESP 350 and AESP 314.

Control Systems Track

An electronic control system regulates the behavior of other components in an aerospace system.

Controls Sequence

Semester	Take Courses	Prereqs
Fall 5. Need 1	ELCT 221	Prerequisites: C or better in MATH 142; C or better in ELCT 102; or C or better in AESP 265; or D or better in ELCT 220.
Spr 6. Need 1	ELCT 222	Prerequisites: C or better in ELCT 221 and in MATH 242.

Fall 7. Need 1	ELCT 331	Prerequisites: C or better in ELCT 222.
Spr 8. Need 2	ELCT 371	Prerequisites: C or better in ELCT 222.
	ELCT 531 (S)	Prerequisites: D or better in ELCT 331.

Integrated Information Technology Track
Information technology addresses the support and management of computers and computer networks.

Information Technology Sequence

Semester	Take Courses	Prereqs
Fall 5. Take 1	ITEC 233	none
Spr 6. Take 1	ITEC 245	C or better in ITEC 233.
Fall 7. Take 1	ITEC 445	C or better in ITEC 245.
Spr 8. Take 2	ITEC 493	C or better in ITEC 445.
	ITEC 447	C or better in ITEC 101* and ITEC 245.

Notes
(F) Fall only course
(S) Spring only course
* ITEC 101 prerequisite waiver required. Waiver will be provided by Department of Integrated Information Technology prior to registration.