

INTEGRATED DESIGN ENGINEERING *Aerospace Emphasis- Fall 2023*

1	APPM 1350 (4) Calculus 1 For Engineers	GEEN 1400 (3) Engineering Projects	PHYS 1110 (4) General Physics 1 (CR: APPM 1350)	Humanities & Social Science (3)	Example COURSE NUMBER (Cr.) Course Name (PR: Pre-Requisites) (CR: Co-Requisites) (Fall or Spring Only Course)
2	APPM 1360 (4) Calculus 2 For Engineers (PR: APPM 1350)	PHYS 1120 (4) General Physics 2 (PR: PHYS 1110) (CR: APPM 1360)	PHYS 1140 (1) Experimental Physics (CR: PHYS 1120)	ASEN 1320 (4) Aerospace Computing & Engineering Applications (CR: APPM 1350)	ASEN 1022 (3) Materials Science for Aerospace Engineers (CR: APPM 1350, ASEN 1320) Spring Only
3	APPM 2360 (4) Linear Algebra & Differential Equations (PR: APPM 1360)	GEEN 2400 (3) Engineering Projects for the Community (PR: GEEN 1400)	ASEN 2012 (2) Exp & Comp Methods (PR: PHYS 1110, ASEN 1320) (CR: APPM 2360)	ASEN 2701 (3) Intro to Statics, Structures, & Materials (PR: PHYS 1110, APPM 1360) (CR: APPM 2360)	ASEN 2702 (3) Intro to Thermo & Aerodynamics (PR: PHYS 1110, APPM 1360) (CR: APPM 2360)
4	APPM 2350 (4) Calculus 3 For Engineers (PR: APPM 1360)	ASEN 2703 (3) Intro to Dynamics & Systems (PR: ASEN 2701, APPM 2360) (CR: APPM 2350)	ASEN 2704 (3) Intro to Aero Vehicle Design & Performance (PR: ASEN 2702, APPM 2360) (CR: APPM 2350)	ASEN 2803 (1) Dynamics & Controls Lab (PR: ASEN 1320) (CR: ASEN 2012, ASEN 2703)	ASEN 2804 (2) Aero Vehicle Design Lab (PR: ASEN 1320) (CR: ASEN 2012, ASEN 2703)
5	Concentration Course (3)	PHYS 2130 (3) General Physics 3 (PR: PHYS 1120) (CR: APPM 2350) See page 2 for other options	ASEN 3713 (3) Thermo & Heat Transfer (PR: ASEN 2702, APPM 2350, APPM 2360)	ASEN Elective (3) See Page 2 for Options	Writing Requirement(3)
6	Concentration Course (3)	GEEN 3400 (3) Invention & Innovation	ASEN 3300 (4) Aerospace Electronics & Communications (PR: PHYS 1120, APPM 2350, APPM 2360)	Free Elective (4)	Humanities & Social Science (3)
7	Concentration Course (3)		ASEN 4018 (4) Senior Projects 1 Design Synthesis See page 2 for requisites Fall Only	Free Elective (4)	Humanities & Social Science (3) Upper Division
8	Concentration Course (3)		ASEN 4028 (4) Senior Projects 2 Design Practicum (PR: ASEN 4018) Spring Only	Free Elective (3)	Humanities & Social Science (3) Upper Division

Integrated Design Engineering Curriculum

Aerospace Engineering Emphasis

Standard Course Substitutions

- **APPM 1350:** APPM 1345, MATH 1300
- **APPM 1360:** MATH 2300
- **APPM 2350:** MATH 2400
- **APPM 2360:** MATH 2130 and MATH 3430, MATH 2135 and MATH 3430
- **ASEN 1022:** MCEN 1024 and MCEN 2024
- **ASEN 1320:** CSCI 1300, CSCI 1320, CHEN 1310, ECEN 1310
- **ASEN 2701:** MCEN 2023 and MCEN 2063
- **GEEN 1400:** ASEN 1400, ASEN 1403
- **PHYS 2130:** CHEN 1201, CHEN 1211, CHEN 2810, EBIO 1210, EBIO 1220, MCDB 1150, MCDB 2150, MCEN 1024, PHYS 2170

ASEN Electives

- **ASEN 3711:** Aerodynamics
 - PR: ASEN 2002, ASEN 2004, APPM 2350, APPM 2360
- **ASEN 3712:** Structures
 - PR: ASEN 2001, ASEN 2003, APPM 2350, APPM 2360
- **ASEN 3728:** Aircraft Dynamics
 - PR: ASEN 2003, ASEN 2004, APPM 2350, APPM 2360
- **ASEN 3700:** Orbital Mechanics/Attitude Dynamics and Control
 - PR: ASEN 2003, ASEN 2004, APPM 2350, APPM 2360

ASEN 4018 Pre-Requisite Information

- ASEN 1022, ASEN 3713, ASEN 3300
- One of the following ASEN Electives:
 - ASEN 3711, ASEN 3712, ASEN 3728, ASEN 3700
- GEEN 2400, GEEN 3400

Humanities & Social Science Electives/Writing Requirements

Visit the college's [Humanities, Social Sciences, and Writing Requirements](#) webpage for options.

Grade Requirements

The minimum passing grade for a prerequisite or co-requisite course within the Aerospace Engineering Emphasis is a **C-**. This requirement includes courses completed in another program or department (APPM, PHYS, etc.). The minimum grade for all Concentration courses is also a **C-**. The minimum passing grade for standalone classes is a **D-**. In addition, students need to have a cumulative and major GPA of at least 2.000 in order to graduate from the College of Engineering. **Pass/Fail** is only permitted for up to 16 Free Elective credits.