

INTEGRATED DESIGN ENGINEERING *Aerospace Emphasis- Fall 2024*

1	APPM 1350 (4) Calculus 1 For Engineers	GEEN 1400 (3) Engineering Projects	ASEN 1320 (4) Aerospace Computing & Engineering Applications (CR: APPM 1350)	PHYS 1110 (4) General Physics 1 (CR: APPM 1350)		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)		MCEN 1024 (3) Chemistry for Energy and Materials Science	PHYS 1120 (4) General Physics 2 (PR: PHYS 1110) (CR: APPM 1360)	PHYS 1140 (1) Experimental Physics (CR: PHYS 1120)	Humanities & Social Science (3)
3	APPM 2360 (4) Linear Algebra & Differential Equations (PR: APPM 1360)	GEEN 2400 (3) Engineering Projects for the Community (PR: GEEN 1400)	GEEN 2851 (3) Statics for Engineers (PR: PHYS 1110, APPM 1360)	GEEN 3852 (3) Thermodynamics for Engineers (PR: PHYS 1110)		Humanities & Social Science (3)
4	APPM 2350 (4) Calculus 3 For Engineers (PR: APPM 1360)		ASEN 2501 (3) Intro to Astronautics (PR : PHYS 1110, APPM 1360, ASEN 1320)	ASEN 2502 (3) Intro to Aeronautics (PR : PHYS 1110, APPM 1360, ASEN 1320)	ASEN 2403 (3) Intro to Dynamics (PR: ASEN 2401 & ASEN 1320) (CR: APPM 2350)	Humanities & Social Science (3)
5	Concentration Course (3)	GEEN 3400 (3) Invention & Innovation	Emphasis Elective #1- (1 of 2) (3) See Page 2 for Options and Requisites	ASEN 3404 (3) Aerodynamics & Controls (PR: ASEN 2403, APPM 2350, APPM 2360)		Writing Requirement(3)
6	Concentration Course (3)	Free Elective (3)	Emphasis Elective #1- (2 of 2) (3) See Page 2 for Options and Requisites	Emphasis Elective #2 (3) See Page 2 for Options and Requisites	Free Elective (3)	Humanities & Social Science (3) Upper Division
7	Concentration Course (3)	Free Elective (3)	ASEN 4018 (4) Senior Projects 1 Design Synthesis See page 2 for requisites Fall Only	Emphasis Elective #3 (3) See Page 2 for Options and Requisites		Free Elective (4)
8	Concentration Course (3)	Free Elective (3)	ASEN 4028 (4) Senior Projects 2 Design Practicum (PR: ASEN 4018) Spring Only	Math or Science Electives (3) See page 2 for other options		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 1320:** CSCI 1300, CSCI 1320, CHEN 1310, ECEN 1310, MCEN 1030
- **ASEN 2403:** MCEN 2043, CVEN 3111
- **GEEN 1400:** ASEN 1400, ASEN 1403
- **GEEN 2851:** ASEN 2401, MCEN 2023, CVEN 2121
- **GEEN 3852:** ASEN 2402, MCEN 3012, ASEN 2110, EVEN 3012
- **MCEN 1024:** CHEN 1201, CHEN 1211, CHEM 1113, CHEM 1400

Emphasis Elective #1 Options (choose 2)

- **ASEN 3401:** Aerospace Structures
 - PR: GEEN 2851
 - RPR: APPM 2350, APPM 2360
- **ASEN 3402:** Aerospace Heat Transfer
 - PR: GEEN 3852, APPM 2360
- **ASEN 3403:** Aerodynamics
 - PR: GEEN 3852, APPM 2350, APPM 2360
- **ASEN 3503:** Aerospace Electronics
 - PR: GEEN 2851, APPM 2360, PHYS 1120

ASEN 4018 Pre/Co-Requisite Information

- Pre-Requisites:
 - ASEN 3501 or ASEN 3502
 - Two of the following Emphasis Electives:
 - ASEN 3401, ASEN 3402, ASEN 3403, ASEN 3404, ASEN 3503
- GEEN 2400, GEEN 3400

Grade Requirements

The minimum passing grade for a course that is a prerequisite or corequisite for another required course is a C-. If a grade of D+ or lower is received in a course which is a prerequisite to another, the student may not register for the subsequent course until the first grade has been raised to a C- or higher. If a grade of D+ or lower is received in a course which is a corequisite to another, the course must be repeated until a grade of C- or higher is achieved.

The minimum passing grade for all required engineering core, disciplinary emphasis, and concentration courses is a C-. The minimum passing grade for a course that is not specifically a prerequisite or corequisite for another required course is D-, if not otherwise noted above.

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 6 Free Elective credits.

Math or Science Electives

Must reach 30 total math/science credits

Visit the [IDE Advising](#) webpage for options.

Humanities & Social Science Electives/Writing Requirements

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

Concentration

IDE majors are required to officially declare a [Concentration](#) by the end of their second year at the latest. Students who transfer into the IDE major after their second year must declare a Concentration by the end of their first semester in IDE. Students who have not declared a Concentration before those deadlines will receive a hold on their registration until they declare. Students can initiate the declaration process by emailing or meeting with an IDE Academic Advisor.

Emphasis Elective #2 Options (choose 1)

- **ASEN 3501:** Aerospace Experimental Methods
 - PR: GEEN 2851, GEEN 3852, ASEN 2403, APPM 2360
 - RPR: ASEN 2501, ASEN 2502
- **ASEN 3502:** Aerospace Computational Methods
 - PR: GEEN 2851, GEEN 3852, APPM 2350, APPM 2360
 - RPR: ASEN 2501, ASEN 2502

Emphasis Elective #3 Options (choose 1)

- **ASEN 3405:** Astrodynamics (Astro Focus)
 - PR: ASEN 2501
- **ASEN 3406:** Aircraft Dynamics (Aero Focus)
 - PR: ASEN 2502, ASEN 3404

Helpful Links

- [IDE Emphasis Areas](#)
- [IDE Concentrations](#)
- [IDE Core Courses](#)
- [IDE Projects](#)
- [FE Exam](#)
- [H&SS Requirements](#)
- [CEAS Forms](#) (including Petition, Incomplete Grade, and Independent Study)
- [Study Abroad](#)