

AEROSPACE ENGINEERING MAJOR – Focus on Astronautical Engineering

Program Tracking Sheet

Effective for students entering AY 2024-2025

Name:	Class Year:
Advisor:	2 nd Major:

NOTES: Minimum total academic credit = 15 units
Residency Req.: Min. of 8 units must be completed at WPI

HUMANITIES AND ARTS (6/3 unit)

Depth Component

Students must complete at least three thematically-related courses prior to the culminating Inquiry Seminar or Practicum in the same thematic area. At least one of the three courses should be at the 2000-level or above.

Breadth Component

Students must take at least one course outside the grouping in which they complete their depth component. To identify breadth, courses are grouped in the following manner.

- i. art/art history, drama/theatre, and music (AR, EN/TH, MU);
- ii. foreign languages (AB, CN, EN, GN, SP);
- iii. literature and writing rhetoric (EN, WR, RH);
- iv. history and international studies (HI, HU, INTL);
- v. philosophy and religion (PY, RE).

All 5 HUA courses must be completed before beginning the Inquiry Seminar or Practicum.

Exception: May take all six courses in a foreign language

	Course	Term	Grade	Units
1				1/3
2				1/3
3				1/3
4				1/3
5				1/3
6	HU 3900 or HU 3910			1/3

WELLNESS AND PHYSICAL EDUCATION (4 WPE classes = 1/3 unit)

7				1/12
				1/12
				1/12
				1/12

SOCIAL SCIENCE (2/3 unit) ECON, ENV, GOV, PSY, SD, SOC, SS, STS, DEV, and ID2050

8				1/3
9				1/3

INTERACTIVE QUALIFYING PROJECT (3/3 unit)

10	IQP			1/3
11	IQP			1/3
12	IQP			1/3

FREE ELECTIVES (3/3 unit)

13				1/3
14				1/3
15				1/3

MATHEMATICS AND BASIC SCIENCES (10/3 units)

MATHEMATICS (7/3 unit) Courses with prefix: MA

16	MA 1021 (Calc 1)			1/3
17	MA 1022 (Calc 2)			1/3
18	MA 1023 (Calc 3)			1/3
19	MA 1024 (Calc 4)			1/3
20	MA 2051 (Diff Eqs)			1/3
21	MA 2071 Matrices and Linear Algebra			1/3
22	MA 2611 Applied Statistics I			1/3

PHYSICS (2/3 unit) Courses with prefix: PH

23	PH 1110/1111 (Mechanics)			1/3
24	PH 1120/1121 (E&M)			1/3

CHEMISTRY (1/3 unit) Course with prefix: CH

25	CH 1010 (Chem 1) or 1020 (Chem 2)			1/3
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Core Aerospace Engineering (11/3 units)

FLUID DYNAMICS (2/3 unit)

26	AE 2110 Intro to Incompressible Fluid Dynamics			1/3
27	AE 3110 Fund of Compressible Fluid Dynamics			1/3

PROPULSION AND ENERGY (1/3 units)

28	AE 2210 Intro to Thermal Engineering			1/3
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FLIGHT DYNAMICS AND CONTROLS (2/3 units)

29	ES 2503 Intro to Dynamic Systems			1/3
30	AE 2310 Intro to Control of Aerospace Systems			1/3

MATERIALS AND STRUCTURES (4/3 units)

31	ES 2001 Intro to Materials Science			1/3
32	AE 2410 Intro to Aerospace Structures			1/3
33	AE 3420 Fund of Aerospace Structures			1/3
34	AE 4410 Fund of Structural Dynamics			1/3

GENERAL ENGINEERING (2/3 unit)

35	AE 3010 Experimentation and Data Science with Aerospace Engineering Applications or ME 3901 Engineering Experimentation or ME 3902 Project-Based Engineering Experimentation			1/3
36	PH 2550 Atmospheric and Space Env			1/3

Astronautics Track (9/3 units)

PROPULSION AND ENERGY (1/3 unit)

37	AE 4220 Fund of Rocket Propulsion			1/3
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FLIGHT DYNAMICS and CONTROLS (3/3 units)

38	AE 2320 Intro to Orbital Mechanics			1/3
39	AE 3310 Fund of Navigation and Communication			1/3
40	AE 4320 Fund of Spacecraft Dynamics and Control			1/3

AEROSPACE DESIGN (4/3 unit)

41	AE 4520 Spacecraft and Mission Design			1/3
42	AE MQP			1/3
43	AE MQP			1/3
44	AE MQP			1/3

AERONAUTICS ELECTIVE (1/3 units)

45				1/3
Selected from one of the following courses: AE 3120 Fund of Aerodynamics AE 4210 Fund of Air-breathing Propulsion AE 3430 Fund of Composite Materials AE 4310 Fund of Aircraft Dynamics and Controls				