

AEROSPACE ENGINEERING MAJOR – Focus on Astronautical Engineering

Program Tracking Sheet

Effective for students entering AY 2020-2021

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)

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

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.

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

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).

Exception: May take all six courses in a foreign language

5				1/3
Humanities Elective				
6				1/3

PHYSICAL EDUCATION (4 PE 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

THE INTERACTIVE QUALIFYING PROJECT (1 unit)

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

FREE ELECTIVES (1 unit)

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

MATHEMATICS AND BASIC SCIENCES (10/3 units)

MATHEMATICS (6/3 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

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

22	PH 1110/1111/2201 (Mechanics)			1/3
23	PH 1120/1121 (E&M)			1/3

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

24	CH 1010 (Chem 1) or 1020 (Chem 2)			1/3
----	-----------------------------------	--	--	-----

SPACE ENVIRONMENTS (1/3 unit)

25	PH 2550 Atmospheric and Space Env			1/3
----	-----------------------------------	--	--	-----

ENGINEERING SCIENCE AND DESIGN (20/3 units)

Orbital Mechanics and Space Environments (2/3 unit)

26	AE 2713 Astronautics			1/3
27	ES 2503 Intro to Dynamic Systems			1/3

Attitude Determination and Control (2/3 unit)

28	AE 3713 Intro. to Control Dyn. Sys.			1/3
29	AE 4713 Spacecraft Dyn. & Control			1/3

Telecommunications (1/3 unit)

30	AE 4733 Guidance, Navig., and Comm.			1/3
----	-------------------------------------	--	--	-----

Space Structures (4/3 unit)

31	ES 2001 Intro to Materials			1/3
32	AE 2712 Intro to Aerospace Structures			1/3
33	AE 3712 Aerospace Structures			
34	AE 4712 Structural Dynamics			

Rocket Propulsion (3/3 unit)

35	AE 3602 Incompressible Fluids			1/3
36	AE 3410 Compressible Fluids Dyn.			1/3
37	AE 4719 Rocket Propulsion			1/3
38	ES 3001 Intro to Thermodynamics			1/3

Major Design Experience (1/3 unit)

39	AE 4771 Spacecraft and Mission Design			1/3
----	---------------------------------------	--	--	-----

Aerodynamics (1/3 unit)

40	AE 3711 Aerodynamics			1/3
----	----------------------	--	--	-----

Flight Mechanics, and Stability and Control (1/3 unit)

41	AE 4723 Aircraft Dynamics and Control.			1/3
----	--	--	--	-----

Experimentation (1/3 unit)

42	ME 3901 or ME 3902 Engineering Experimentation			1/3
----	--	--	--	-----

Aerospace Design – Major Qualifying Project (1 unit)

43				1/3
44				1/3
45				1/3