

AEROSPACE ENGINEERING CHECK SHEET

129 Hours Minimum for Graduation

GENERAL**COMMUNICATIONS (9 hrs.)**

Grades of C- or better are required in all three of the Communications courses below

ENGL 101 (3)
ENGL 102 (3)
COMM 111 (3)

GENERAL EDUCATION (12 hrs.)

All courses must be chosen from the approved General Education Program Course listing in the WSU Undergraduate Catalog.

1 Course in Fine Arts
ECON 201** (required by AE program)
PHIL 385 (required by AE program)
1 Course in Fine Arts or Humanities or Social & Behavioral Sciences*

*Starting fall 2021, first year students must take a First Year Seminar (FYS) during their first two semesters at WSU – the AE program requires that the FYS be in Fine Arts or Humanities or Social & Behavioral Sciences

** ECON 202 or IME 255 are acceptable in place of ECON 201

ENGINEERING+

Students must complete **three** out of the following seven categories: (1) Undergraduate Research; (2) Cooperative Education/Internship; (3) Global Learning/Study Abroad; (4) Service Learning; (5) Leadership; (6) Multi-Disciplinary; (7) Entrepreneurship & Innovation.

MATHEMATICS & NATURAL SCIENCES (33 hrs.)**Math**

MATH 242 (5)
(P: See WSU Catalog)
MATH 243 (5)
(P: MATH 242 with a C or better)
MATH 344 (3)
(P: MATH 243 with a C or better)
MATH 555 (3)
(P: MATH 243 with a C or better)

Natural Science

CHEM 211/L (5)
(P: See WSU Catalog)
PHYS 313 (4)
(C: MATH 243)
PHYS 314 (4)
(P: MATH 243 with a C or better, PHYS 313)
PHYS 315 (1)
(C: PHYS 313)

Elective

Choose one course from the following (some are > 3 hrs.):
Biology – 1__, 2__, 309, 310, 370, 5__ or above
Chemistry – 212, 5__ or above
Geology – 102, 111, 235, 3__ or above
Honors – 153B, 153T
Health Sciences – 290
Physics – 195, 196, 3__ or above
Math or Stat – upper division, with Math 242 or higher prerequisite

MAJOR

Major GPA based upon the courses listed below

ENGINEERING CORE (10 hrs.)

AE 223 (3) – Offered Fall/Spring/Summer
(PHYS 313, C: MATH 243)
ECE 282/L (4)
(C: MATH 243)
ME 398 (3)
(P: MATH 243 with a C or better, PHYS 313 with a C or better)

REQUIRED COURSES (53 hrs.)

IME 222 (2)
(P: MATH 123 or equiv., C: IME 222L or equiv.)
IME 222L (1)
(P: MATH 123 or equiv., C: IME 222 or equiv.)
AE 227/L (3) – Offered Fall/Spring
(P: MATH 242 with a C or better, C: MATH 243)
ME 250 (3)
(P: MATH 242 with a C or better, CHEM 211 with a C or better)
AE 324 (3) – Offered Fall/Spring
(P: AE 223 with a C or better, C: AE 227)
AE 333 (3) – Offered Fall/Spring/Summer
(P: AE 223 with a C or better, C: MATH 344 or MATH 555)
AE 373 (3) – Offered Fall/Spring/Summer
(P: AE 223 with a C or better, MATH 344)
AE 415 (3) – Offered Fall Only
(P: AE 373 with a C or better, AE 227, C: MATH 555)
AE 424 (3) – Offered Fall/Spring
(P: MATH 555, AE 324 with a C or better, AE 373)
AE 502 (3) – Offered Spring Only
(P: AE 227, AE 373, ME 398, C: AE424)
AE 512/L (3) – Offered Fall/Spring
(P: AE 333, AE 424, C: AE 524)
AE 514 (3) – Offered Spring Only
(P: AE 415, C: AE 424)
AE 524 (3) – Offered Fall/Spring
(P: AE 424)
AE 525/L (3) – Offered Fall Only
(P: AE 333 with a C or better, C: MATH 555)
AE 528 (4) – Offered Fall Only
(P: AE 502, AE 514, AE 525, C: PHIL 385; either ECON 201 or 202 or IME255)
AE 607 (3) – Offered Fall Only
(P: AE 514)
AE 625/L (3) – Offered Spring Only
(P: AE 333, AE 525)
AE 628 (4) – Offered Spring Only
(P: AE 528, PHIL 385; either ECON 201 or 202 or IME 255)

AE TECHNICAL ELECTIVES (12 hrs.) - Offered Fall/Spring

Technical elective classes allow you to either broaden or to enhance your technical knowledge. These courses must be taken from aerospace engineering - preferably during your senior year and only after carefully considering career goals and consulting with your faculty advisor.

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Freshman		Sophomore		Junior		Senior	
Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
ENGL 101 (3) College English I	ENGL 102 (3) College English 2 ENGL 101	COMM 111 (3) Public Speaking	IME 222/L (3) Engineering Graphics & Lab Math 123	GE - ECON 201 (3) Principles of Macroeconomics (counts as Gen Ed in Social & Behavior Sciences)			
GE Elective (3) In Fine Arts or Humanities or Social & Behavior Science* *1 st year students must take FYS		GE Core (3) In Fine Arts	AE 373 (3) Dynamics (Fall/Spring/Summer) MATH 344, AE 223 w/C or better	GE - PHIL 385 (3) Engineering Ethics (counts as Gen Ed in Humanities) Junior or senior standing	AE 502 (3) Aero Propulsion I (<i>Spring only</i>) AE 227, 373, ME 398 C: AE 424	ECE 282/L (4) Circuits I C: Math 243	Math or Sci Elect (3)
	AE 227/L (3) Engr. Digital Computations (Fall/Spring) MATH 242 w/C or better; C: MATH 243	ME 250 (3) Materials Engineering MATH 242 w/C or better; CHEM 211 w/C or better	AE 333 (3) Mech. of Materials (Fall/Spring/Summer) AE 223 w/C or better C: MATH 344 OR MATH 555		AE 512/L (3) Exper. Methods in Aerospace (Fall/Spring) AE 333, 424 C: AE 524	AE Tech Elect (3) (Fall/Spring)	AE Tech Elect (3) (Fall/Spring)
MATH 242 (5) Calculus I See catalog	MATH 243 (5) Calculus II MATH 242 w/C or better	MATH 344 (3) Calculus III MATH 243 w/C or better	MATH 555 (3) Differential Equations MATH 243 w/C or better	AE 415 (3) Intro. to Space Dyn (<i>Fall only</i>) AE 373 w/C or better, AE 227 C: MATH 555	AE 514 (3) Flight Dynamics & Control (<i>Spring only</i>) AE 415 C: AE 424	AE 607 (3) Flight Control Systems (<i>Fall only</i>) AE 514	
CHEM 211/L (5) General Chemistry I See catalog	PHYS 313 (4) Physics for Scientist I C: MATH 243	PHYS 314 (4) Physics for Scientist II MATH 243 w/C or better, PHYS 313	ME 398 (3) Thermodynamics I MATH 243 w/C or better, PHYS 313 w/C or better	AE 424 (3) Aerodynamics I (Fall/Spring) AE 324 w/C or better, AE 373, MATH 555	AE 524 (3) Aerodynamics II (Fall/Spring) AE 424	AE Tech Elect (3) (Fall/Spring)	AE Tech Elect (3) (Fall/Spring)
	PHYS 315 (1) University Physics Lab I C: PHYS 313	AE 223 (3) Statics (Fall/Spring/Summer) PHYS 313 C: MATH 243	AE 324 (3) Fundamentals of Atmospheric Flight (Fall/Spring) AE 223 w/C or better C: AE 227	AE 525/L (3) Flight Structures I (<i>Fall only</i>) AE 333 w/C or better C: MATH 555	AE 625/L (3) Flight Structures II (<i>Spring only</i>) AE 525	AE 528 (4) Aerospace Design I (<i>Fall only</i>) AE 502, 514, 525, C: PHIL 385; ECON 201 or 202 or IME 255	AE 628 (4) Aerospace Design II (<i>Spring only</i>) AE 528, PHIL 385; ECON 201 or 202 or IME 255
16 hrs.	16 hrs.	19 hrs.	18 hrs.	15 hrs.	15 hrs.	17 hrs.	13 hrs.

Notes: 1) AE 415, 525, 528, and 607 are only offered during the Fall and AE 502, 514, 625, and 628 are only offered during the Spring

2) A C-minus grade does not meet AE or ME department "C or better" prerequisite requirements 3) ECON 202/IME 255 are acceptable in place of ECON 201

Aerospace Engineering Curriculum Flow Chart (Including pre- & co-requisites)

