

**AEROSPACE ENGINEERING CHECK SHEET**

135 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 (18 hrs.)**

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

1 Introductory <b>Fine Arts Course</b>
1 Introductory <b>Humanities Course</b>
1 Introductory <b>Social and Behavioral Science Course</b>
1 Introductory Course in either <b>Humanities or Social and Behavioral Science</b>
1 Further Studies Course in the <b>Humanities</b>
<b>PHIL 385</b> (required by AE program)

**ENGINEER OF 2020**

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

**MATHEMATICS & NATURAL SCIENCES (34 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 (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)
- Nat Sci Elect (3)  
Choose one course from the following (some are > 3 hrs.):  
Biology – 210, 211, 223, 310, 370, 5\_\_ or above  
Chemistry – 212, 301, 5\_\_ or above  
Geology – 102, 111, 235, 3\_\_ or above  
Physics – 195, 196, 3\_\_ or above

**MAJOR**

Major GPA based upon the courses listed below

**ENGINEERING CORE (13 hrs.)**

- AE 223 (3) – Offered Fall/Spring/Summer  
(PHYS 313, C: MATH 243)
- IME 255 (3)  
(C: MATH 242)
- EE 282 (4)  
(C: MATH 243)
- ME 398 (3)  
(P: MATH 243 with a C or better, PHYS 313 with a C or better)

**REQUIRED COURSES (52 hrs.)**

- IME 222 (2)  
(P: MATH 123 or equiv.)
- IME 222L (1)  
(P: MATH 123 or equiv.)
- AE 227 (3) – Offered Fall/Spring  
(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)
- 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: AE 424)
- AE 512 (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 (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)
- AE 607 (3) – Offered Fall Only  
(P: AE 514)
- AE 625 (3) – Offered Spring Only  
(P: AE 333, AE 525)
- AE 628 (4) – Offered Spring Only  
(P: AE 528)

**TECHNICAL ELECTIVES (9 hrs.)** – Offered Fall/Spring

Technical elective classes allow you to either broaden or to enhance your technical knowledge. These courses must be taken from engineering, math, or science - preferably during your senior year and only after carefully considering career goals and consulting with your faculty advisor. With the exception ENGR 101 (3 credit hours) all technical elective classes must be upper division with MATH 242 or higher as a prerequisite. A maximum of 3 credit hours may be taken outside of aerospace engineering.

### AEROSPACE ENGINEERING CHECK SHEET

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

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

