



Aeronautics and Astronautics Graduation Requirements

University of Washington

www.aa.washington.edu

Requirement Sheet Key

- ◆ = Upper Admission Requirements
- + = Must be taken by the end of Autumn Qtr of the junior year

Mathematics (24 Credits)

- ◆ Math 124 (5cr) – Calculus I
- ◆ Math 125 (5cr) – Calculus II
- ◆ Math 126 (5cr) – Calculus III
- ◆ Math 307(3cr) – Differential Equations [pr: Math 125]
- ◆ Math 308 (3cr) – Matrix Algebra [pr: Math 126]
- + Math 324 (3cr) – Multivariable Calculus [pr: Math 126]

Sciences (25 Credits)

- ◆ Chem 142 (5cr) – General Chemistry with lab
- Chem 152 (5cr) – General Chemistry with lab
-or- other Natural World (NW) course
- ◆ Phys 121 (5cr) – Mechanics with lab [pr: Math 124]
- ◆ Phys 122 (5cr) – Electro/Oscillatory with lab [pr: Math 125]
- ◆ Phys 123 (5cr) – Waves with lab [pr: Math 126]

Written & Oral Communications (12 Credits)

- ◆ English Comp (5cr) – English Composition
7 writing credits (W) are built into A&A courses.

Areas of Knowledge (24 credits)

- 10 credits of Visual, Literary & Performing Arts (VLPA)
- 10 credits of Individuals & Societies (I&S)
- 4 additional credits can be either VLPA or I&S
- 3 diversity credits (DIV) are required and can overlap with other areas of knowledge requirements.

Engineering Fundamentals (16 credits)

- ◆ A A 210 (4cr) – Engineering Statics [pr: Math 126, Phys 121]
- ◆ CEE 220 (4cr) – Mechanics of Materials [pr: A A 210]
- ◆ M E 230 (4cr) – Kinematics & Dynamics [pr: A A 210]
- ◆ A A 260 (4cr) – Thermodynamics [pr: Math 126, Phys 121, Chem 142]

A&A Core Courses (50 Credits)

- + A MATH 301 (4cr) – Scientific Computing [pr: Math 125]
- A A 301 (4cr) – Compressible Aerodynamics
- A A 302 (4cr) – Incompressible Aerodynamics
- A A 310 (4cr) – Orbital & Space Flight Mechanics
- A A 311 (4cr) – Atmospheric Flight Mechanics
- A A 312 (4cr) – Structural Vibrations
- A A 320 (3cr) – Aerospace Instrumentation
- A A 321 (3cr) – Aerospace Laboratory I
- A A 322 (3cr) – Aerospace Laboratory II
- A A 331 (4cr) – Aerospace Structures I
- A A 332 (4cr) – Aerospace Structures II
- A A 360 (4cr) – Propulsion
- A A 447 (4cr) – Control in Aerospace Systems
- A A 496 (1cr) – Undergraduate Seminar

A&A Capstone Design Courses (8 credits)

- Students must complete one of the two following options:
- A A 410 (4cr) – Aircraft Design I
 - A A 411 (4cr) – Aircraft Design II
 - or-
 - A A 420 (4cr) – Spacecraft and Space Systems Design I
 - A A 421 (4cr) – Spacecraft and Space Systems Design II

A&A Technical Electives (15 Credits)

Refer to the A&A website for a list of specific courses.

Free Electives (13 Credits)

Additional coursework in any subject area not used elsewhere in degree.

Total Credits Required for Graduation (180 Credits)

Early Admission Requirements

1. Early Admission is an option for Autumn Quarter Only.
2. Students must be enrolled at UW-Seattle.
3. Math 124, 125 & 126 or equivalent.
4. 10 credits of physical sciences courses plus the accompanying lab at the level of Chem 142, 152; Phys 121, 122, 123.
5. 5 credits of English Composition.
6. 15 credits must have been completed at UW.

Application Deadline

Both Early and Upper Division applications are due July 1st.



Aeronautics and Astronautics Sample Curriculum

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Freshman – Autumn Quarter		Freshman – Winter Quarter		Freshman – Spring Quarter	
◆ MATH 124 – Calculus I	5	◆ MATH 125 – Calculus II	5	◆ MATH 126 – Calculus III	5
◆ CHEM 142 – Chem & Lab I	5	^ CHEM 152 – Chem & Lab II	5	◆ PHYS 121 – Mechanics & Lab I	5
◆ English Composition	5	VLPA/I&S	5	VLPA/I&S	5
Quarter Total	15	Quarter Total	15	Quarter Total	15
Sophomore – Autumn Quarter		Sophomore – Winter Quarter		Sophomore – Spring Quarter	
◆ MATH 307 – Diff. Equations	3	◆ MATH 308 – Matrix Algebra	3	◆ A A 260 – Thermodynamics	4
◆ PHYS 122 – Electro & Lab I	5	◆ PHYS 123 – Waves & Lab I	5	◆ CEE 220 – Mechanics of Materials	4
◆ A A 210 – Statics	4	◆ M E 230 – Kinematics & Dynamics	4	+ MATH 324 – Multivariable Calculus	3
VLPA/I&S	2	VLPA/I&S	4	VLPA/I&S/DIV	3
Quarter Total	14	Quarter Total	16	Quarter Total	14
Junior – Autumn Quarter		Junior – Winter Quarter		Junior – Spring Quarter	
A A 310 –Space Flight Mech.	4	A A 301 – Compressible Aerodynamics	4	A A 302 – Incompressible Aerodynamics	4
A A 311 – Flight Mechanics	4	A A 312 – Structural Vibrations	4	A A 322 – Aerospace Laboratory II	3
A A 320 – Aerospace Instrumentation	3	A A 321 – Aerospace Laboratory	3	A A 332 – Aerospace Structures II	4
+ A MATH 301 – Scientific Computing	4	A A 331 – Aerospace Structures I	4	A A 360 – Propulsion	4
		A A 496 – Undergraduate Seminar	1		
Quarter Total	15	Quarter Total	16	Quarter Total	15
Senior – Autumn Quarter		Senior – Winter Quarter		Senior – Spring Quarter	
A A 447 – Control in Aerospace	4	A A 410 or 420 – Capstone Design I	4	A A 411 or 421 – Capstone Design II	4
A A Technical Elective	3	A A Technical Elective	3	A A Technical Elective	3
A A Technical Elective	3	A A Technical Elective	3	VLPA/I&S	5
Free Elective	5	Free Elective	5	Free Elective	3
Quarter Total	15	Quarter Total	15	Quarter Total	15

◆ **Bold face** courses are required for Upper Division admission.

^CHEM 152 recommended for students considering multiple engineering programs.

+Must be taken by the end of Autumn Quarter of the junior year.

For more information contact:

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