



# Course Request for Fall 2024

Instructions for Rising Seniors in AOE

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# Course Request Basics

- Fall 2024 Course Request Dates:
  - March 19 - April 2
- Request courses at any point in this window:
  - No priority for early course request.
  - But...don't wait till the last minute!
- Changes can later be made during Add/Drop:
  - 4/19/24 - 5/24/24
  - 8/5/24 - 8/30/24

More Information From Engineering Education:

<https://eng.vt.edu/academics/undergraduate-students/resources-support/course-registration.html>

# Fall 2024 Timetable

**Virginia Tech Timetable of Classes**

- Select Campus, Term, Subject, Section Type and optionally enter course number or CRN then press "Find".
- Limit your search with the course number to speed up download time.  
**Example:** MATH 1 will give you all 1xxx MATH sections. MATH 12 will give you all MATH 12xx sections, MATH 120 will give you all MATH 120x sections and MATH 1205 will give you only MATH 1205 sections.
- **Textbook ISBN and pricing information**

**Important Dates and Registration Information**  
(opens in a new window)

- [Academic Calendar](#)
- [View Exam Schedules](#)
- [Free Time and Lunch CRNs](#)
- [View Building Abbreviations](#)
- [Universal Access Campus Map](#)

**Prerequisite Checking Enforced during Registration!**  
[Participating Departments enforcing Prerequisite Checking](#)

**Campus**  
Blackburg

**Term**  
Select Term  
Spring 2021  
Summer 2021

**The Curriculum for Liberal Education Area or Pathway to General Education**  
Show All Areas  
Previously known as Core Curriculum

**Section Type**  
Show All Types

**Display**  
ALL Sections (FULL and OPEN)

**Comments:**  2

**Subject**  
AOE - Aerospace and Ocean Engineering

**Course Number**  
(Optional)

**Course Request Number (CRN)**  
(Optional) - must be at least 3 digits

**Course Modality**  
ALL Modalities  
(Optional)

**FIND class sections**      **Reset**

- Once the Fall 2024 Timetable becomes available, go to [www.hokiespa.vt.edu](http://www.hokiespa.vt.edu) and select “Timetable of Classes” at the bottom of the page to access it.
- Find the CRNs for the courses you plan to request.
- Access course request through Hokie SPA.



# AE: Typical Senior Fall Courses

## Typical Senior Fall Courses

FALL SEMESTER FOURTH YEAR		Credits
AOE 4105 <sup>(1,4)</sup> Experiments for Aerospace Design <i>Pre: 3054; Co: 4065 or 4165</i>	1 <sup>(F)</sup>	
AOE 4065 <sup>(1,4)</sup> Air Vehicle Design, <i>Pre: 2104, 3054, 3114, 3124, 3134, 3164; Co: 4105</i> <b>or</b> AOE 4165 <sup>(1,4)</sup> Space Vehicle Design, <i>Pre: 2104, 3054, 3114, 3124, 3144, 3154, 3164; Co:4105</i>	3 <sup>(F)</sup>	
MATH Elective <sup>(4)</sup> <i>Choice of: MATH 4574<sup>(4)</sup>, MATH 4404 (AOE 4404)<sup>(4)</sup>, or STAT 4705<sup>(4)</sup></i>	3	
Track Technical Elective	3	
Technical Elective	3	
Pathways <sup>(2)</sup> 6a and/or 7*	3	
<b>TOTAL</b>	<b>16</b>	

## Keep in Mind:

- MATH 4574 and STAT 4705 are offered both Fall and Spring. MATH/AOE 4404 is only offered in Spring.
- Sign up for the senior design course that matches your current vehicle dynamics course.

# OE: Typical Senior Fall Courses

## Typical Senior Fall Courses

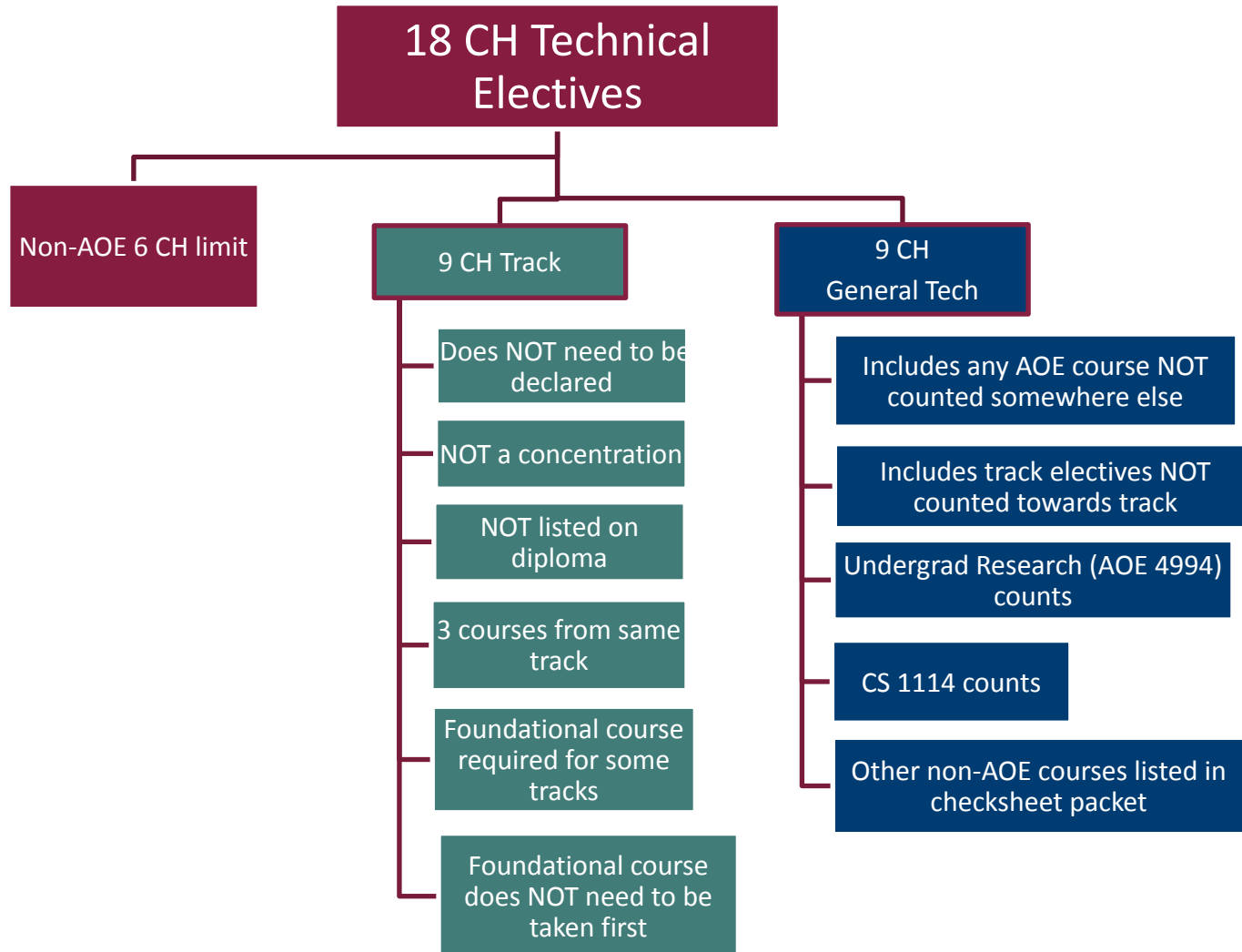
FALL SEMESTER FOURTH YEAR		Credits
AOE 4205 <sup>(1,4)</sup> Experiments for Ocean Vehicle Design <i>Pre: 3054; Co: 4265</i>	1 <sup>(F)</sup>	
AOE 4265 <sup>(1,4)</sup> Ocean Vehicle Design <i>Pre: 2204, 3214, 3224, 3234, 3264; Co: 4205</i>	3 <sup>(F)</sup>	
STAT 4705 <sup>(4)</sup> Probability and Statistics for Engineers <i>Pre: MATH 2224 or MATH 2204 or MATH 2204H nor MATH 2406H</i>	3	
Track Technical Elective	3	
Technical Elective	3	
Pathways <sup>(2)</sup> 6a and/or 7*	3	
	<b>TOTAL</b>	<b>16</b>

## Keep in Mind:

- OE majors must take STAT 4705! It is offered both fall and spring.

# Track & Technical Electives

# Technical Electives





# Tracks

Tracks	Structures & Materials	Aero/Hydro Dynamics	Dynamics, Control, and Estimation	Vehicle & System Design	Naval Engineering	Space Engineering	Propulsion	Energy and the Environment
<b>Foundational Courses / Track</b>	AOE 4324 Energy Methods for Structures	AOE 3044: Boundary Layer & Heat Transfer	AOE 4004 State-Space Control	AOE 4084 (ESM 4084) Engineering Design Optimization	AOE 4264 Principles of Naval Engineering			
<b>Track Courses</b>	AOE 4054 (ESM 4444) Stability of Structures	AOE 4064 Fluid Flows in Nature	AOE 3134** Air Vehicle Dynamics	AOE 3354 Avionics Systems	AOE 4244 Naval and Marine Engineering Systems Design	AOE 2664 (ECE 2164) Exploration of Space Environment	AOE 4174 (ME 4174) Spacecraft Propulsion	AOE 4064 Fluid Flows in Nature
	AOE 4024 (ESM 4734) Intro to the Finite Element Method	AOE 4114 Applied Computational Aerodynamics	AOE 3144** Space Vehicle Dynamics	AOE 3804 Spl Topics in Aircraft Systems (HAW)	AOE 4274 Intermediate Ship Structural Analysis	AOE 4174 (ME 4174) Spacecraft Propulsion	AOE 4234 (ME 4234) Aerospace Propulsion Systems	AOE 4474 Propellers & Turbines
	AOE 4274 Intermediate Ship Structural Analysis	AOE 4434 Introduction to Computational Fluid Dynamics	AOE 3234** Ocean Vehicle Dynamics	AOE 4244 Naval and Marine Engineering Systems Design	AOE 4344 Dynamics of High Speed Marine Craft	AOE 4454 Spacecraft PNT & Orbit Determination	AOE 4474 Propellers & Turbines	AOE 4624 Foundations of Aero/Hydroacoustics
	AOE 5024 Vehicle Structures*	AOE 4474 Propellers & Turbines	AOE 4344 Dynamics of High Speed Marine Craft	AOE 4264 Principles of Naval Engineering	AOE 4474 Propellers & Turbines	AOE 4604 Booster Design, Fabrication, and Operation	AOE 4604 Booster Design, Fabrication, and Operation	AOE 4634 Wind Turbine Tech & Aerodynamics
	AOE 5034 Vehicle Structural Dynamics*	AOE 4624 Foundations of Aero/hydroacoustics	AOE 4454 Spacecraft PNT & Orbit Determination	AOE 4604 Booster Design, Fabrication, and Operation	AOE 5074 Advanced Ship Structural Analysis*	AOE 4654 (ECE 4154) Intro to Space Weather	AOE 4814 Sp Topics in Propulsion	AOE 4824 Sp Topics in Energy & Environment
	AOE 5074 Advanced Ship Structural Analysis*	AOE 5104* Advanced Aero and Hydrodynamics	AOE 4804 Sp Topics in DCE	AOE 4814 Sp Topics in Propulsion	AOE 5334* Advanced Ship Dynamics	AOE 4864 Special Topics in Space Engineering	AOE 5135* Vehicle Propulsion	ECE 4364 Alternate Energy Systems
	ESM 3054 (MSE 3054) Mechanical Behavior of Materials	AOE 5114* High Speed Aerodynamics	AOE 5204* Vehicle Dynamics & Control	CEE 5614 Analysis of Air Transportation Systems	ECE 4164 Global Navigation Satellite	AOE 5135* Vehicle Propulsion	AOE 5144 * Boundary Layer Theory & Heat Transfer	ENGR 3124 Intro to Green Engineering

Tracks	Structures & Materials	Aero/Hydro Dynamics	Dynamics, Control, and Estimation	Vehicle & System Design	Naval Engineering	Space Engineering	Propulsion	Energy and the Environment
Track Courses (cont'd.)	ESM 4024 Advanced Mechanical Behavior of Materials	AOE 5144 * Boundary Layer Theory & Heat Transfer	AOE 5334* Advanced Ship Dynamics	ME 4644 Intro to Rapid Prototyping	ECE 4364 Alt Energy Systems	AOE 5174* Introduction to Plasma Science	ME 3134 Fundamentals of Thermodynamics	ESM 4194 (ME 4194) Sustainable Energy Solution for a Global Society
	ESM 4044 Mechanics of Composite Materials	ME 3134 Fundamentals of Thermodynamics	AOE 5744* Linear Systems Theory	MGT 3304 Mgt Theory & Leadership	ME 3134 Fundamentals of Thermodynamics	AOE 5234* Orbital Mechanics	ME 4204 Internal Combustion Engines	ME 3134 Fundamentals of Thermodynamics
	ME 4624 Finite Element Practice in Mechanical Design		AOE 5754* Applied Linear Systems			ECE 3104 Intro to Space Systems & Technologies		
	MSE 2034 Elements of Materials Engineering		AOE 5764* Applied Linear Control			ECE 3154 Space Systems Design and Validation		
	MSE 3094 (AOE 3094) Materials & Manufacturing for Aero & Ocean Engineers		AOE 5774* Nonlinear Systems Theory			ECE 4164 Intro to GPS		
			ECE 4405 Control Systems			ECE 4194 Eng Principles of Remote Sensing		
			ECE 4406 Control Systems			PHYS 3655 Intro to Astrophysics		
			ECE 4624 Digital Signal Processing & Filter Design			PHYS 3656 Intro to Astrophysics		
			ESM 4114					

# Senior Fall FAQs

# In DARS my Pathways Concept 1 - Discourse (advanced) is incomplete. Do I need to add a specific course for this?

- No, you do NOT need to add an extra course for advanced discourse.
- The advanced discourse requirement is covered by a combination of AOE 3054 and senior design/experiments courses.
- As long as you complete all of the AE or OE major required courses, you will complete your advanced discourse requirement.

# Are there any courses that I can take over the summer?

- The following courses are typically offered by VT over the summer. Equivalencies for these courses will NOT be found at other institutions.
  - MATH 4564 - required course
  - STAT 4705 - required for OE majors, math elective option for AE majors
  - MATH 4574 - math elective option for AE majors
- Some CS technical elective options (e.g. CS-1114) and many Pathways courses are available at VT and/or other institutions over the summer.
- Be sure to follow the [proper steps](#) when taking courses elsewhere.

# I want to take Launch Vehicle Design for my senior design sequence. Is it going to be offered?

- No. Launch Vehicle Design (AOE 4365-66) will NOT be available as a senior design option for 2024-2025.
- If you are currently taking Air Vehicle Dynamics (AOE 3134) you should course request Air Vehicle Design (AOE 4065).
- If you are currently taking Space Vehicle Dynamics (AOE 3144) you should course request Space Vehicle Design (AOE 4165).

# How should I decide which track and general technical electives to take in the fall?

- Run a DARS!
- How many electives are still needed for your chosen track?  
How many total electives do you still need?
- Remember technical electives are offered fall or spring, but not both terms.
- **If your track has a foundational course, determine when you need to take it.** Use the curriculum resources at the end of this presentation.
- **You may only count 6 credits of non-AOE technical electives** (track & general tech combined)
- Use our [AOE Technical Electives Guide](#).
- When in doubt, contact your advisor!

# Can I take AOE 5xxx level technical electives?

- If you are enrolled in the UG/G program you may take AOE 5xxx courses that work with your UG/G plan.
- If you are a senior with a GPA greater than or equal to 3.0 you may take AOE 5xxx courses with instructor permission.
- You will need to contact the [AOE graduate program coordinators](#) to be added to 5000-level courses during the add periods.

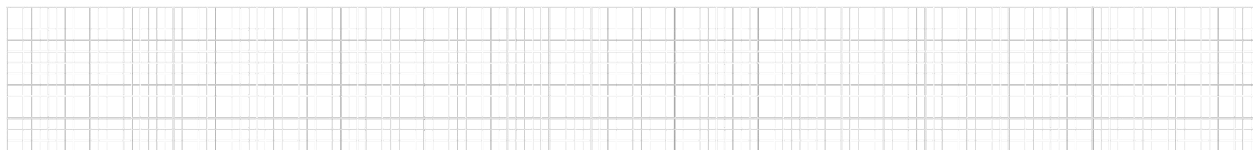


# I looked at my DARS and I currently have course in multiple tracks? What's going on?

- Some courses are options in multiple tracks. So, they may show up under different tracks at first.
- If a course can count as a track elective, DARS will place it there before putting it under general technical electives.
- Once you enroll in 3 courses that fulfill a single track, they should group together, showing that the track is in-progress or complete. Any other courses you have completed that could have been track courses should then move to technical electives or free electives.

# I took a special study (AOE 4984) that was supposed to count for my track. But, in my DARS I don't see it there. What's going on?

- Special studies do not automatically go in a track in DARS.
- If you have taken a special study that is supposed to count in a track, contact your advisor to request a substitution placing it in that track.



# AOE Curriculum Resources

- [AOE Undergraduate Curriculum Webpage](#)
- [Virginia Tech Timetable of Classes](#)
- [Undergraduate AOE Course Catalog](#)



COLLEGE OF ENGINEERING  
KEVIN T. CROFTON DEPARTMENT OF  
AEROSPACE AND OCEAN ENGINEERING  
VIRGINIA TECH.

# Other Factors Impacting Your Planning?

**double  
major**

**5-year  
plan**

**co-op**

**cadet**

**UG/G**

**transfer  
student**

**minors**



# Still Have Questions?

Contact your advisor!

Emily Metzgar (last names A-G): [emilymetzgar@vt.edu](mailto:emilymetzgar@vt.edu)

Chelsea Nowak (last names H-Ri): [cnowak@vt.edu](mailto:cnowak@vt.edu)

Brian Kastner (last names Ro-Z): [briank4@vt.edu](mailto:briank4@vt.edu)

Schedule an appointment through [Navigate](#).