Course Request for Fall 2022
Instructions for Rising Seniors in AOE

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March 2022
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Course Request Basics

- Fall 2022 Course Request Dates:
  - March 22 - April 5

- 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:
  - 4/22/22 - 5/27/22
  - 8/1/22 - 8/26/22

More Information From Engineering Education:

https://enge.vt.edu/undergraduate/academicadvising/courseregistration.html
● Once the Fall 2022 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

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOE 4105^4 Experiments for Aerospace Design, Pre: 3054; Co: 4065 or 4165</td>
<td>1</td>
</tr>
<tr>
<td>AOE 4065^4, Air Vehicle Design, Pre: 2104, 3054, 3114, 3124, 3134, 3164; Co: 4105 or AOE 4165^4, Space Vehicle Design, Pre: 2104, 3054, 3114, 3124, 3144, 3154, 3164; Co: 4105</td>
<td>3</td>
</tr>
<tr>
<td>MATH Elective^4, Choice of: MATH 4574^4, MATH 4404 (AOE 4404)^4, or STAT 4705^4</td>
<td>3</td>
</tr>
<tr>
<td>Technical Elective</td>
<td>3</td>
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<tr>
<td>Pathways^* 6a and/or 7^*</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

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.
## Typical Senior Fall Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOE 4205 (1-4) Experiments for Ocean Vehicle Design Pre: 3054; Co: 4265</td>
<td>1</td>
</tr>
<tr>
<td>AOE 4265 (1-4) Ocean Vehicle Design Pre: 2204, 3214, 3224, 3234, 3264; Co: 4205</td>
<td>3</td>
</tr>
<tr>
<td>STAT 4705 (1) Probability and Statistics for Engineers Pre: MATH 2224 or MATH 2204 or MATH 2204H nor MATH 2406H</td>
<td>3</td>
</tr>
<tr>
<td>Track Technical Elective</td>
<td>3</td>
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<tr>
<td>Technical Elective</td>
<td>3</td>
</tr>
<tr>
<td>Pathways (2, 3a and/or 7*)</td>
<td>3</td>
</tr>
</tbody>
</table>

**TOTAL 16**

## Keep in Mind:

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

18 CH Technical Electives

Non-AOE 6 CH limit

9 CH Track
- Does NOT need to be declared
- NOT a concentration
- NOT listed on diploma
- 3 courses from same track
- Foundational course required for some tracks
- Foundational course does NOT need to be taken first

9 CH General Tech
- Includes any AOE course NOT counted somewhere else
- Includes track electives NOT counted towards track
- Undergrad Research (AOE 4994) counts
- CS 1114 counts
- Other non-AOE courses listed in checksheet packet
## Tracks

<table>
<thead>
<tr>
<th>Foundational Courses / Track</th>
<th>Structures &amp; Materials</th>
<th>Aero/Hydro Dynamics</th>
<th>Dynamics, Control, and Estimation</th>
<th>Vehicle &amp; System Design</th>
<th>Naval Engineering</th>
<th>Space Engineering</th>
<th>Propulsion</th>
<th>Energy and the Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOE 4024 (ESM 4734) Intro to the Finite Element Method</td>
<td>AOE 4114 Applied Computational Aerodynamics</td>
<td>AOE 3144** Space Vehicle Dynamics</td>
<td>AOE 3804 Spl Topics in Aircraft Systems (HAW)</td>
<td>AOE 4274 Intermediate Ship Structural Analysis</td>
<td>AOE 4474 Propellers &amp; Turbines</td>
<td>AOE 4604 Booster Design, Fabrication, and Operation</td>
<td>AOE 4634 Wind Turbine Tech &amp; Aerodynamics</td>
<td></td>
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<tr>
<td>AOE 4274 Intermediate Ship Structural Analysis</td>
<td>AOE 4434 Introduction to Computational Fluid Dynamics</td>
<td>AOE 3234** Ocean Vehicle Dynamics</td>
<td>AOE 4244 Naval and Marine Engineering Systems Design</td>
<td>AOE 4344 Dynamics of High Speed Marine Craft</td>
<td>AOE 4454 Spacecraft PNT &amp; Orbit Determination</td>
<td>AOE 4474 Propellers &amp; Turbines</td>
<td>AOE 4624 Foundations of Aero/Hydroacoustics</td>
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<tr>
<td>AOE 5034 Vehicle Structural Dynamics*</td>
<td>AOE 4624 Foundations of Aero/hydroacoustics</td>
<td>AOE 4454 Spacecraft PNT &amp; Orbit Determination</td>
<td>AOE 4604 Booster Design, Fabrication, and Operation</td>
<td>AOE 5074 Advanced Ship Structural Analysis*</td>
<td>AOE 4654 (ECE 4154) Intro to Space Weather</td>
<td>AOE 4814 Sp Topics in Propulsion</td>
<td>AOE 4824 Sp Topics in Energy &amp; Environment</td>
<td></td>
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<tr>
<td>AOE 5074 Advanced Ship Structural Analysis*</td>
<td>AOE 5104* Advanced Aero and Hydrodynamics</td>
<td>AOE 4804 Sp Topics in DCE</td>
<td>AOE 4814 Sp Topics in Propulsion</td>
<td>AOE 5334* Advanced Ship Dynamics</td>
<td>AOE 4864 Special Topics in Space Engineering</td>
<td>AOE 5135* Vehicle Propulsion</td>
<td>ECE 4364 Alternate Energy Systems</td>
<td></td>
</tr>
<tr>
<td>ESM 3054 (MSE 3054) Mechanical Behavior of Materials</td>
<td>AOE 5114* High Speed Aerodynamics</td>
<td>AOE 5204* Vehicle Dynamics &amp; Control</td>
<td>CEE 5614 Analysis of Air Transportation Systems</td>
<td>ECE 4164 Global Navigation Satellite</td>
<td>AOE 5135* Vehicle Propulsion</td>
<td>AOE 5144 * Boundary Layer Theory &amp; Heat Transfer</td>
<td>ENGR 3124 Intro to Green Engineering</td>
<td></td>
</tr>
<tr>
<td>Track Courses (cont'd.)</td>
<td>Structures &amp; Materials</td>
<td>Aero/Hydro Dynamics</td>
<td>Dynamics, Control, and Estimation</td>
<td>Vehicle &amp; System Design</td>
<td>Naval Engineering</td>
<td>Space Engineering</td>
<td>Propulsion</td>
<td>Energy and the Environment</td>
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<tr>
<td>ESM 4024</td>
<td>ESM 4044</td>
<td>ME 4624</td>
<td>ME 4624</td>
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<td>ME 4624</td>
<td>ME 4624</td>
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</tr>
<tr>
<td>Advanced Mechanical Behavior of Materials</td>
<td>Mechanics of Composite Materials</td>
<td>Finite Element Practice in Mechanical Design</td>
<td>Applied Linear Systems</td>
<td>Applied Linear Control</td>
<td>ECE 3104</td>
<td>ECE 3154</td>
<td>Space Systems Design and Validation</td>
<td>Sustainable Energy Solution for a Global Society</td>
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<tr>
<td>AOE 5144 *</td>
<td>AOE 5334 *</td>
<td>AOE 5744 *</td>
<td>AOE 5754 *</td>
<td>AOE 5764 *</td>
<td>AOE 5774 *</td>
<td>ECE 4164</td>
<td>Intro to GPS</td>
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</tr>
<tr>
<td>Boundary Layer Theory &amp; Heat Transfer</td>
<td>Advanced Ship Dynamics</td>
<td>Linear Systems Theory</td>
<td>Applied Linear Control</td>
<td>ECE 4405</td>
<td>ECE 4406</td>
<td>Control Systems</td>
<td>ECE 4194</td>
<td>Eng Principles of Remote Sensing</td>
</tr>
<tr>
<td>ME 3134</td>
<td>MGT 3304</td>
<td>ME 3134</td>
<td>ECE 4405</td>
<td>Control Systems</td>
<td>ECE 4406</td>
<td>Control Systems</td>
<td>PHYS 3655</td>
<td>Intro to Astrophysics</td>
</tr>
<tr>
<td>Fundamentals of Thermodynamics</td>
<td>Fundamentals of Thermodynamics</td>
<td>Mgt Theory &amp; Leadership</td>
<td>ECE 4624</td>
<td>Digital Signal Processing &amp; Filter Design</td>
<td>ECE 4624</td>
<td>Digital Signal Processing &amp; Filter Design</td>
<td>PHYS 3656</td>
<td>Intro to Astrophysics</td>
</tr>
<tr>
<td>ESM 4194 (ME 4194)</td>
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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.
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)
➢ 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 can request to be force-added to 5xxx level courses during end of summer add/drop using our online AOE Force-Add Request Form.
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
➢ AOE Future Planned Teaching Schedule
Other Factors Impacting Your Planning?

- 5-year plan
- Co-op
- double major
- Cadet
- UG/G
- minors
Still Have Questions?

Contact Brian or Emily!

Brian: briank4@vt.edu
Emily: emilymetzgar@vt.edu

Schedule an appointment through Navigate.