How Do Online Courses Compare to Face-to-Face Courses?

You should expect to do as much work in an online course as you would in a face-to-face course. You may have to do more reading, writing, and independent research than you would in a face-to-face course. In general, you are expected to be self-motivated and to work hard.

Courses are offered using an internet-only delivery method. There will be both synchronous (two-way, live communication between student and professor) and asynchronous (downloadable materials and prerecorded lectures) components.

Engagement between the faculty and students is a central thrust of the program. Each week typically features a one-hour “real time” meeting of the class to interact with the professor. During this session, the professor will present interactive material, answer questions on the lecture material, and review homework assignments.

Who Should Be Interested?

- Recent graduates with engineering or science backgrounds.
- Individuals seeking to apply mathematics, physics, or associated scientific principles to the design, development, and operation of ocean-related systems.
- Ocean engineering professionals who want to advance in their career.
- Anyone interested in maximizing their career potential in a field of growing demand.

Program Overview

Ocean engineering design requires a comprehensive background in all of the areas of study associated with ocean engineering:

- Hydrodynamics: The flow of water around a ship’s hull, into the propeller, and over the rudder is critical to its performance.
- Structures: The structural loads on ships and submarines are among nature’s most intense, ranging from extreme diving pressures to huge storm waves to the weight of thousands of tons of cargo.
- Propulsion: From propellers to propulsion plants to control systems, ocean engineering students use their backgrounds to understand and analyze the propulsion systems of today and of the future.
- Vehicle Dynamics: An understanding of ship motions in a seaway (called seakeeping) and ship maneuverability are important to designing a functional and comfortable ship.
- Marine Engineering: Study of the machinery that goes into running a ship, including main engines, electric generators, heating, and air conditioning among many others.

How to Enroll

For more information, visit our website at www.aoe.vt.edu or call (Toll Free) 866-791-4898.

Virginia Tech's Program is Designed for Student Success

- Earn a degree from Virginia Tech’s College of Engineering ranked as one of the Top 25 graduate schools by U.S. News and World Report.
- Engage in an exciting curriculum that provides students with the knowledge and tools to enter the diverse field of ocean engineering.
- Work with the best—Virginia Tech is the home of MAESTRO, today’s most advanced computer-based method for the analysis and optimization of ships, submarines, and offshore structures.
- Learn from leading ocean engineering faculty experts, who bring real-world experience from the U.S. Navy, industry research, and design arenas.
- Complete your degree entirely online, affording maximum flexibility.
- Design your course load to fit your individual needs.
- Collaborate with students all over the world to bring a dynamic exchange to the virtual classroom.
- Excellent support for online students from Virginia Tech’s Institute for Distance and Distributed Learning.

"The most useful (and most stressful) part of getting my degree was taking the thesis option. I spent nearly 1 1/2 years working on the thesis, and the experience prepared me for writing proposals and reports more than anything I’d taken in school previously or done at work. For anyone trying to decide whether or not to do the thesis, I suggest going with the thesis. It provides more preparation for your career than I ever thought possible, and even though it was hard, I’m better off for having done it.”

--Lauren Hanyok, M.S.
Points of Interest

Number of Active Faculty: 24
Number of Masters and Ph.D. Students: More than 100
Unique Facilities: Stability, Open-Jet, Boundary-Layer, Low Speed, Transonic, Supersonic, and Hypersonic Wind Tunnels; new propulsion laboratory; new Space@VT building, new Kentland Experimental Aerial Systems Laboratory, new Center for Autonomous Systems (CASTLE), new Center for Renewable Energy and Aerodynamic Testing (CREATE).

Multidisciplinary Research Programs: Collaborative Center for Multidisciplinary Sciences, Naval Engineering Program, Virginia Center for Autonomous Systems

Naval Engineering Graduate Certificate

Naval engineering is defined as a field of study and expertise that includes all engineering and sciences as applied in the marine and maritime environments. It is open to all graduate students in the College of Engineering.

Application Documents

• Official transcripts sent to both the Graduate School and to the Aerospace and Ocean Engineering Department (www.applyweb.com/apply/vtechg/index.html).
• Statement of Interest and Curriculum Vitae, which can be attached to the online graduate application.
• Three Letters of Recommendation.
• Test of English as a Foreign Language (TOEFL) Scores for international applicants.
• Immigration Information Form for international applicants.