NAVAL SCIENCE

northwestern.edu/nrotc

The Northwestern University Naval Reserve Officers Training Corps (NROTC) Unit was established in 1926 by congressional authorization when Northwestern became one of the original six universities to create a naval science department. The professor of naval science chairs Northwestern’s Department of Naval Science. Department faculty members are commissioned officers serving on active duty in the US Navy or Marine Corps. They are selected and nominated by their respective services and approved by the University. The unit is located at:

617 Haven Street
Evanston, Illinois 60208-4140
phone 847-491-5264

Naval ROTC Programs

NROTC offers young men and women the opportunity to obtain leadership and management experience as commissioned officers in the US Navy (Navy option) or Marine Corps (Marine Corps option) after graduation from Northwestern, through either the Scholarship Program or the nonscholarship College Program.

At Northwestern, NROTC midshipmen lead essentially the same campus life as other students. They make their own arrangements for room and board and participate in campus activities of their choice, including the opportunity for University-sponsored overseas study. There are no prescribed academic majors for NROTC students, though scientific and technical studies are encouraged. NROTC students are required to complete the naval science curriculum, attend a weekly two-hour laboratory, and participate in four to six weeks of active-duty summer training at sea or ashore. NROTC students are required to abide by the Midshipmen Regulations issued by the unit. Students may enroll in the NROTC program at any time from the beginning of their first year of enrollment until the end of their sophomore year.

Courses

In addition to the required courses listed here, participants in the NROTC program must satisfactorily complete a number of other courses prescribed by the Department of the Navy, which are offered by other departments of the University. Current information on those course requirements is available from the NROTC unit.

With the exception of NAVSCI 110-0 and NAVSCI 355-0 Directed Study, Northwestern course credit is granted for successful completion of naval science courses; applicability to graduation requirements is subject to limitations imposed by the responsible University faculty committees and by the undergraduate schools. For more information on credit availability, consult the dean of each school. Naval science courses are open to non-NROTC students with department approval.

NAVSCI 210-0 Marine Navigation (1 Unit)
This course is an in-depth study of the theory, principles, procedures, and application of plotting, piloting, and electronic navigation, as well as an introduction to maneuvering boards. Students learn piloting techniques, the use of charts, the use of visual and electronic aids, and the theory of operation of both magnetic and gyrocompasses. Students develop practical skills in plotting and electronic navigation.

NAVSCI 220-0 Naval Ship Systems II - Naval Weapons (1 Unit)
This course outlines the theory and employment of weapons systems. Students explore the processes of detection, evaluation, threat analysis, weapon selection, delivery, guidance, and explosives. Fire control systems and major weapons types are discussed, including capabilities and limitations. The physical aspects of radar and underwater sound are described. Facets of command, control, communications, computers, and intelligence are explored as a means of weapons system integration.

NAVSCI 230-0 Leadership and Management Seminar for Naval Officers (1 Unit)
The course introduces the student to many of the fundamental concepts of leading Sailors and Marines, which shall be expanded upon during the continuum of leadership development throughout NROTC. It develops the elements of leadership vital to the effectiveness of Navy/Marine Corps officers by reviewing the theories and parameters of leadership and management within and outside of the Naval Service.

NAVSCI 331-0 Naval Operations (1 Unit)
This course is a continued study of relative motion, formation tactics, and ship employment. It includes introductions to Naval operations and operations analysis, ship behavior and characteristics in maneuvering, applied aspects of ship handling, afloat communications, Naval command and control, Naval warfare areas, and joint warfare.

NAVSCI 336-0 Evolution of Warfare (1 Unit)
Students trace the development of warfare to the present day. It is designed to cover the causes of continuity and change in the means and methods of warfare. It addresses the influence of political, economic, and societal factors on the conduct of war, with significant attention focused on the role of technological innovation in changing the battlefield. Students will explore the contribution of preeminent military theorists and battlefield commanders to our modern understanding of the art and science of war.

NAVSCI 338-0 Fundamentals of Maneuver Warfare (1 Unit)
Students trace the development of warfare to the present day. It is designed to cover the causes of continuity and change in the means and methods of warfare. It addresses the influence of political, economic, and societal factors on the conduct of war, with significant attention focused on the role of technological innovation in changing the battlefield. Students will explore the contribution of preeminent military theorists and battlefield commanders to our modern understanding of the art and science of war.

NAVSCI 341-0 Naval Leadership and Ethics (1 Unit)
The course integrates an intellectual exploration of Western moral traditions and ethical philosophy with a variety of topics, such as military leadership, core values, professional ethics, the UCMJ and Navy regulations, and discussions relating to the roles of enlisted members, junior and senior officers, command relationships, and the conduct of warfare.

NAVSCI 345-0 Naval Ship Systems I - Naval Engineering (1 Unit)

This course is a study of the U.S. Navy and the influence of sea power on history that incorporates both a historical and political science process to explore the major events, attitudes, personalities, and circumstances that have imbedded the U.S. Navy with its proud history and rich tradition.

NAVSCI 120-0 Sea Power and Maritime Affairs (1 Unit)
This course integrates an intellectual exploration of Western moral traditions and ethical philosophy with a variety of topics, such as military leadership, core values, professional ethics, the UCMJ and Navy regulations, and discussions relating to the roles of enlisted members, junior and senior officers, command relationships, and the conduct of warfare.
Students learn detailed ship design, hydrodynamic forces, stability, propulsion, electrical theory and distribution, hydraulic theory and ship control, and damage control. The course includes basic concepts of theory/design of steam, gas turbine, diesel, and nuclear propulsion. Case studies on leadership/ethical issues in the engineering arena are also covered.

**NAVSCI 350-0 Naval Science Lab (0 Unit)**
Topics shall cover general Navy/Marine Corps mission and policies, force protection, operational security, watch standing, physical fitness, nutrition, stress management, and other professional development subjects not normally included in the curriculum of the Naval Science courses.

**NAVSCI 355-0 Directed Study (0 Unit)**