

# Naval Science

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*Visiting Professor and Chair* (To be determined)  
CDR John K. Bishop, USN, M.A., *Lecturer*

The Department of Naval Science, a recognized department of instruction within the College, educates and trains young men and women to serve as commissioned officers in the Navy and Marine Corps. Only those men and women reasonably disposed to accept a commission in the Navy or Marine Corps should plan to enter the Naval Reserve Officers Training Corps (NROTC) Program. This affirmation must be understood clearly by everyone who applies for the program.

## Scholarship Program

Graduating high-school students can apply through the national competition for a four-year Naval ROTC Scholarship. If selected for the four-year Naval ROTC Scholarship Program, they receive full tuition, all academic fees, military uniforms, a stipend of \$750 per academic year for textbooks, and a graduated monthly subsistence allowance (\$250/month for Freshmen, \$300 for Sophomores, \$350 for Juniors and \$400 for Seniors) while attending college. Additionally, the College of the Holy Cross offers free room to all four-year national scholarship winners living on campus. They are required to take certain college courses, undergo three summer training cruises, each approximately four weeks in duration, and are required to serve at least four years on active duty after commissioning.

Second-year college students can apply through the national competition for the two-year Naval ROTC Scholarship Program. If selected, during their third and fourth years they will receive full tuition, all academic fees, the annual stipend of \$750 for textbooks, military uniforms, and a monthly stipend the same as a four year scholarship student. In addition, they will attend the Naval Science Institute at Newport, R.I., for six weeks during the summer before their third year, will be required to take certain college courses, and will undergo one summer training cruise of four weeks duration. They will be required to serve at least four years on active duty after commissioning.

## College Program

First- and second-year students at the College may apply directly to the Professor of Naval Science for enrollment in the College Program (non-scholarship). After completion of at least one semester in the College Program, students who have achieved a GPA of 2.5 or higher, passed one semester of calculus with a grade of C or better, and performed well in the battalion may be recommended by the Professor of Naval Science for a Naval Service Training Command Controlled Scholarship. The scholarship includes all the same rights and responsibilities as a scholarship student detailed above.

College Program students not selected for a scholarship by the beginning of their junior year must be selected for advanced standing or will be dropped from the NROTC program. Selection for advanced standing is competitive and centrally managed by the Naval Service Training Command. This program provides military uniforms and a subsistence allowance of \$350/\$400 per month for Juniors/Seniors respectively while attending college. College Program students are required to take certain college courses and to undergo one summer training cruise of four weeks during the summer preceding their fourth year. Second-year College Program students who receive advanced standing or a scholarship must attend the Naval Science Institute in Newport, R.I. for six weeks during the summer preceding their junior year. Upon commissioning, College Program students are required to serve at least three years on active duty.

## Naval Science Students

Any student in the College may take Naval Science courses. Naval Science students receive credit for satisfactory completion of accredited Naval Science courses but have no official status in the NROTC Program and receive none of the benefits provided to NROTC students.

## General Information

The Holy Cross NROTC Unit is composed of approximately 75 midshipmen. The battalion is divided into companies, and the overall leader is the Midshipman Battalion Commander, a fourth-year student who is chosen for outstanding leadership qualities. The battalion meets for drill or classroom instructional periods once a week. In addition, each year the battalion sponsors an active social program, which includes informal events, the Navy Marine Corps Birthday Ball, Dining In, Tri-Service Cotillion, various military and athletic excellence competitions, and field meets.

## Courses

### Naval Science 100 — Naval Science Lab

*Fall, spring*

Naval Science Laboratory. One weekly two-hour laboratory. Emphasis is placed on professional training which is not of an academic nature. The laboratory is intended for topics such as drill and ceremonies, physical fitness and swim testing, cruise preparation, sail training, safety awareness, preparation for commissioning, personal finances, insurance and applied exercises in naval ship systems, navigation, naval operations, naval administration, and military justice. Other topics and special briefings are conducted as determined by the Naval Service Training Command or the Professor of Naval Science. Required of all midshipmen. No degree credit.

### Naval Science 111 — Naval Orientation

*Fall*

An introduction to the customs, traditions, missions, rules and regulations of the Department of Defense and the United States Navy and Marine Corps. Topics include rank structure, uniform regulations, military law, terminology, ships and aircraft types, naval history, and present naval missions. Required of all midshipmen; intended for first-year students. No degree credit.

### Naval Science 112 — Naval Engineering

*Fall*

Detailed study of ships' characteristics and types including ship design, hydrodynamic forces, stability, compartmentation, propulsion, electrical and auxiliary systems, interior communications, ship control, and damage control. Included are basic concepts of the theory and design of steam, gas turbine, and nuclear propulsion. Also discussed are shipboard safety and fire fighting. Required of all Navy option midshipmen; intended for third-year students. No degree credit.

### Naval Science 113 — Naval Weapon Systems

*Spring*

An introduction to the principles and behavior of electronic and electromagnetic systems to provide a foundational understanding of the interrelationships with naval combat systems. Topics and concepts explored pertain to a wide range of maritime applications, such as radar, sonar, communications, electro-optics, computer, missiles and electronics warfare systems. Required of all Navy option midshipmen; intended for third-year students. No degree credit.

### Naval Science 114 — Sea Power

*Spring*

A survey of U.S. Naval History from the American Revolution to the present, with emphasis on the Navy's role as an instrument of U.S. national security policy and foreign policy. Includes in-depth discussion of naval developments, key maritime strategies that have shaped the sea services, and naval contributions throughout various periods in American history, including major battles and campaigns in armed conflicts through the Gulf War. Required of all midshipmen; intended for first-year students. One unit.

### Naval Science 141 — Navigation

*Spring*

Practical piloting in restricted and open water to include discussions on tides, currents, electronic navigation, and celestial navigation theory. Coast Guard Navigation Rules, maneuvering board concepts, and a brief introduction to weather are covered. Required of all Navy option midshipmen; intended for second-year students. No degree credit.

### Naval Science 142 — Operations

*Fall*

This course includes discussions on Rules of the Road and basic ship handling practices. Covers command and control and Naval Operations as they apply to each warfare platform. Required of all Navy option midshipmen; intended for fourth-year students. No degree credit.

### Naval Science 145 — Evolution of Warfare

*Alternate years in fall*

This course is designed to cover the causes of continuity and of changes in the means and methods of war-

fare during major periods of history. It addresses the evolution of strategic principles and the influence of economic, moral, psychological, political and technological factors and strategic thought. It also examines the interrelationships between technological progress and military changes in rendering obsolete the successful strategies, policies, doctrines and tactics of the past. Required of all Marine option midshipmen.

**Naval Science 151 — Organizational Management**

*Fall*

This course focuses on the theoretical and practical concepts of leadership and management. It includes discussions of the principles and processes required of managers including: planning, organizing, controlling, motivation, communication, and decision making. Examples from both general business and the Naval establishment are used. The social, ethical and moral responsibilities of managers are also discussed. Required of all midshipmen; intended for second-year students. One unit.

**Naval Science 155 — Amphibious Warfare**

*Alternate years in fall*

Amphibious Doctrine is, at its core, a study of the evolutionary development of a unique form of armed engagement, i.e., the contested transition of military power from sea to land. Beginning with studies of selected examples of pre-20th-century landings, this course uses the World War I landing at Gallipoli as the turning point in methodology. Study then progresses through World War II and the Korean War to the present. Throughout, the increasing complexity and incredible detail of amphibious operations is made evident. Required of all Marine option midshipmen. No degree credit.

**Naval Science 246 — Marine Corps Leadership**

*Spring*

This course is designed to prepare students for success at USMC Officer Candidates School (OCS) and The Basic School (TBS). Emphasis is placed on leadership skills, basic infantry tactics, and general subjects including Marine Corps organization, history, customs and courtesies, and traditions. Practical application of skills such as land navigation and issuing combat orders is a central feature. Required of all Marine option midshipmen. No degree credit.

**Naval Science 352 — Leadership and Ethics**

*Spring*

This course focuses on the moral and ethical responsibilities of a successful military officer. It explores the fundamental concepts of western moral traditions and ethical philosophies, and examines conflicts of moral principles, principles of justice, just war theory, and conduct of war, among other areas. It includes case studies and ethical dilemmas and moral reasoning in a military setting. This capstone course, in the NROTC curriculum, builds on and integrates the professional competencies developed in prior course work and professional training. Required of all midshipmen; intended for fourth-year students. No degree credit.