

# NAVAL SCIENCE (N S)

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**Any experimental courses offered by N S can be found at:**

registrar.iastate.edu/faculty-staff/courses/explistsings/ (<http://www.registrar.iastate.edu/faculty-staff/courses/explistsings/>)

**Courses primarily for undergraduates:**

## **N S 111: Introduction to Naval Science**

(3-0) Cr. 3. F.

Introduction to the organization, regulations, and capabilities of the US Navy, with emphasis on mission and principal warfare components.

## **N S 212: Seapower and Maritime Affairs**

(3-0) Cr. 3. S.

An historical survey of sea power in terms of national domestic environments, foreign policy, and the evolution of maritime forces with trends in technology, doctrine, and tactics. The student will develop an understanding of the role the US Navy has played in the nation's history, both in peace and war. Naval events, forces and policies will be studied as elements in the shaping of the national consciousness and sense of purpose. Course content will include the development of the concept of sea power, the role of various warfare components of the Navy, the implementation of sea power as an instrument of national policy, the evolution of naval tactics, and the influence of maritime affairs around the world.

## **N S 220: Leadership and Management**

(3-0) Cr. 3. F.

Introduction to the basic concepts of management and organization, their application to operations and personnel management. Experiential approach to learning principles of leadership and management by examining various management theories and their applications. Skills are developed in the areas of communication, counseling, control, direction, management, and leadership through active guided participation.

## **N S 230: Navigation**

(3-0) Cr. 3. S.

*Prereq: Sophomore classification*

Study of the fundamentals of marine navigation used by ships at sea; includes practical exercises in piloting using visual and electronic means. In-depth discussion of laws that govern conduct of vessels in national and international waters. Course is supplemented with review and analysis of case studies involving actual navigation incidents.

## **N S 240: Fundamentals of Maneuver Warfare**

(3-0) Cr. 3. Alt. S., offered odd-numbered years.

Concepts, definition, and need for maneuver warfare and expeditionary operations. US Marine Corps case studies of specific battles, development, and implementation. Structure, operation and capabilities of the Marine expeditionary unit, Marine air-ground task force and expeditionary strike group, Discussion and incorporation of leadership traits and principles.

## **N S 320: Naval Ship Systems I (Engineering)**

(3-0) Cr. 3. F.

*Prereq: PHYS 231 and PHYS 231L, sophomore classification*

An introduction to naval engineering with emphasis on the equipment and machinery involved in the conversion of energy for propulsion and other purposes aboard the major ship types of the U.S. fleet. Basic concepts of the theory and design of steam, gas turbine, diesel, and nuclear propulsion. Introduction to ship design, stability, hydrodynamic forces, compartmentalization, electrical and auxiliary systems.

## **N S 321: Evolution of Warfare**

(3-0) Cr. 3. S.

*Prereq: Sophomore classification*

Evolution of warfare from 3500 B.C. to contemporary times; analysis of the impact of historical precedents on modern military thought and action; emphasis on the historical development of military tactics, strategy, and technology.

## **N S 330: Naval Ship Systems II (Weapons)**

(3-0) Cr. 3. S.

*Prereq: PHYS 221, sophomore classification*

Introduction to the theory and principles of operation of naval weapon systems. Included coverage of types of weapons and fire control systems, capabilities and limitations; theory of target acquisition, identification and tracking; basics of naval ordnance.

## **N S 410: Naval Operations and Seamanship**

(3-0) Cr. 3. F.

*Prereq: N S 230; senior classification*

Study of tactical naval operations; employs practical use of maneuvering boards together with shiphandling principles to arrive at tactical shipboard maneuvering solutions. Study also of naval command and control, communications, and the Naval Warfare Doctrine.

**N S 412: Leadership and Ethics**

(3-0) Cr. 3. S.

*Prereq: Requirements for NROTC students - N S 111, N S 212 or HIST 389, N S 220, N S 230, N S 320, N S 330 and N S 410*

Basic background concerning the duties and responsibilities of the junior naval officer and division officer in the areas of integrity and ethics, human resources management, personnel management, material management, and the administration of discipline. Preparation for responsibilities encountered immediately upon commissioning.

**N S 440: Senior Naval Science Seminar**

(1-0) Cr. 1. F.S.

*Prereq: Senior classification*

Current leadership issues in the US Navy which will challenge the newly commissioned officer. Opportunities to analyze, provide solutions, and discuss actions related to a variety of real world situations.

**N S 490: Independent Study**

Cr. 1-3. Repeatable, maximum of 9 credits.

*Prereq: Senior classification and prior approval of Naval Science Department Chair, 6 credits in Naval Science*

No more than 9 credits of N S 490 may be counted toward graduation.