Students may enroll in the Naval Reserve Officers’ Training Corps (NROTC) program as scholarship or non-scholarship students.

An academic minor in Naval Science is also available to all Rice students in undergraduate degree-granting programs. The faculty and instructors in the program consist of active-duty military officers.

**Minor**
- Minor in Naval Science (https://ga.rice.edu/programs-study/departments-programs/interdisciplinary/naval-science/naval-science-minor/)

Naval Science does not currently offer an academic program at the graduate level.

**Program Chair**
Jeff Bowman, USN

**Advisors**
Daniel Collins, USMC
Emily Konoza, USN
Adam Winters, USN

**Professor in the Practice**
Jeff Bowman, USN

**Adjunct Professors in the Practice**
Daniel Collins, USMC
Emily Konoza, USN
Eric Kroeger, USMC
Adam Winters, USN

For Rice University degree-granting programs:
To view the list of official course offerings, please see Rice’s Course Catalog (https://courses.rice.edu/admweb/ISWKSCAT.cat?p_action=cata)
To view the most recent semester’s course schedule, please see Rice’s Course Schedule (https://courses.rice.edu/admweb/ISWKSCAT.cat)

---

**Naval Science (NAVA)**

**NAVA 100 - NAVAL SCIENCE LABORATORY**
Short Title: NAVAL SCIENCE LABORATORY
Department: Naval Science
Grade Mode: Standard Letter
Course Type: Laboratory
Credit Hour: 1
Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.
Course Level: Undergraduate Lower-Level
Description: Practical applications of leadership principles as a Junior Naval Officer. Repeatable for Credit.

**NAVA 101 - NAVAL ORIENTATION**
Short Title: NAVAL ORIENTATION
Department: Naval Science
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.
Course Level: Undergraduate Lower-Level
Description: An introduction to naval traditions and customs, seamanship, naval organization and missions, and the fundamental concepts of sea power.

**NAVA 103 - SEA POWER AND MARITIME AFFAIRS**
Short Title: SEA POWER
Department: Naval Science
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.
Course Level: Undergraduate Lower-Level
Description: Readings, discussions, and research on selected topics related to the history, importance, and impact of sea power on modern civilization.

**NAVA 203 - LEADERSHIP AND MANAGEMENT I**
Short Title: LEADERSHIP AND MANAGEMENT I
Department: Naval Science
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.
Course Level: Undergraduate Lower-Level
Description: An introduction to the principles and concepts of management, organization, leadership, information systems, and decision making.
NAVA 238 - SPECIAL TOPICS  
Short Title: SPECIAL TOPICS  
Department: Naval Science  
Grade Mode: Standard Letter  
Course Type: Internship/Practicum, Laboratory, Lecture, Seminar, Independent Study  
Credit Hours: 1-4  
Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.  
Course Level: Undergraduate Lower-Level  
Description: Topics and credit hours may vary each semester. Contact department for current semester's topic(s). Repeatable for Credit.

NAVA 301 - NAVIGATION I  
Short Title: NAVIGATION I  
Department: Naval Science  
Grade Mode: Standard Letter  
Course Type: Lecture/Laboratory  
Credit Hours: 3  
Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.  
Course Level: Undergraduate Upper-Level  
Description: Marine navigators and laws of vessel operations. Includes coastal piloting, navigational aids, nautical astronomy, satellite and inertial systems, and rules of the nautical road.

NAVA 302 - NAVAL OPERATIONS AND SEAMANSHIP  
Short Title: NAVAL OPERATIONS & SEAMANSHIP  
Department: Naval Science  
Grade Mode: Standard Letter  
Course Type: Lecture/Laboratory  
Credit Hours: 3  
Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.  
Course Level: Undergraduate Upper-Level  
Description: An analysis of ship movements, formations, and fleet operations; includes Rules of the Road, maneuvering board, tactical publications and communications.

NAVA 303 - EVOLUTION OF WARFARE  
Short Title: EVOLUTION OF WARFARE  
Department: Naval Science  
Grade Mode: Standard Letter  
Course Type: Lecture/Laboratory  
Credit Hours: 3  
Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.  
Course Level: Undergraduate Upper-Level  
Description: Historical survey of the evolution of the conduct of warfare. Strategy, tactics, weapons, organization, and military leaders/thinkers are studied. Course is taught in the NROTC Building.

NAVA 304 - NAVAL WEAPONS-NAVAL SHIP SYSTEMS II  
Short Title: NAVAL WEAPONS  
Department: Naval Science  
Grade Mode: Standard Letter  
Course Type: Lecture/Laboratory  
Credit Hours: 3  
Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.  
Course Level: Undergraduate Upper-Level  
Description: The theory and employment of weapons systems. The student explores the processes of detection, evaluation, threat analysis, weapon selection, delivery, guidance, and explosives. The physical aspects of radar and underwater sound are described in detail.

NAVA 402 - LEADERSHIP AND ETHICS  
Short Title: LEADERSHIP AND ETHICS  
Department: Naval Science  
Grade Mode: Standard Letter  
Course Type: Lecture/Laboratory  
Credit Hours: 3  
Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.  
Course Level: Undergraduate Upper-Level  
Prerequisite(s): NAVA 203  
Description: Leadership principles, with particular emphasis on ethics, human resources management, military law and discipline, and administration. The Capstone course for NROTC seniors. Recommended prerequisite(s): Spring semester of senior year.

NAVA 403 - NAVAL ENGINEERING  
Short Title: NAVAL ENGINEERING  
Department: Naval Science  
Grade Mode: Standard Letter  
Course Type: Lecture/Laboratory  
Credit Hours: 3  
Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.  
Course Level: Undergraduate Upper-Level  
Description: Ship propulsion systems, auxiliary systems, steering systems, electrical power distribution, ship design, ship stability and damage control measures.

NAVA 411 - FUNDAMENTALS OF MANEUVER WARFARE  
Short Title: FUND OF MANEUVER WARFARE  
Department: Naval Science  
Grade Mode: Standard Letter  
Course Type: Lecture  
Credit Hours: 3  
Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.  
Course Level: Undergraduate Upper-Level  
Description: Mutually Exclusive: Cannot register for NAVA 411 if student has credit for NAVA 410.
NAVA 477 - SPECIAL TOPICS
Short Title: SPECIAL TOPICS
Department: Naval Science
Grade Mode: Standard Letter
Course Type: Internship/Practicum, Lecture, Seminar, Laboratory
Credit Hours: 1-4
Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: Topics and credit hours may vary each semester. Contact department for current semester's topic(s). Repeatable for Credit.

Description and Code Legend
Note: Internally, the university uses the following descriptions, codes, and abbreviations for this academic program. The following is a quick reference:

Course Catalog/Schedule
• Course offerings/subject code: NAVA

Department (or Program) Description and Code
• Naval Science: NAVA

Undergraduate Minor Description and Code
• Minor in Naval Science: NAVA

CIP Code and Description ¹
• NAVA Minor: CIP Code/Title: 28.0505 - Naval Science and Operational Studies

¹ Classification of Instructional Programs (CIP) 2020 Codes and Descriptions from the National Center for Education Statistics: https://nces.ed.gov/ipeds/cipcode/