May 17, 2018

MEMORANDUM

TO: William Cohen  
Associate Provost and Dean for Undergraduate Studies

FROM: Elizabeth Beise  
Associate Provost for Academic Planning and Programs

SUBJECT: Proposal to Establish a Minor in Naval Science (PCC Log. No. 17077)

At its meeting on April 6, 2018, the Senate Committee on Programs, Curricula and Courses approved the proposal to establish a Minor in Naval Science. A copy of the approved proposal is attached.

The new minor is effective Fall 2018. Please ensure that the change is fully described in the Undergraduate Catalog and in all relevant descriptive materials.

MDC/  
Enclosure

cc: Dylan Roby, Chair, Senate PCC Committee  
Barbara Gill, Office of Enrollment Management  
Reka Montfort, University Senate  
Huifang Pan, Division of Information Technology  
Pam Phillips, Institutional Research, Planning & Assessment  
Jason Speck, University Archives  
Linda Yokoi, Office of the Registrar  
Cynthia Stevens, Office of Undergraduate Studies  
Troy Mong, Navy ROTC
Program: Naval Reserve Officers' Training Corps

Department/Unit: Office of Undergraduate Studies

Proposal Contact Person (with email): Captain Troy Mong, tmong@umd.edu, 4-6298

Type of Action (check one):
- Curriculum change (includes modifying minors, concentrations/specializations and creating informal specializations)
- Curriculum change is for an LEP Program
- Rename a program or formal Area of Concentration
- Establish/Discontinue a formal Area of Concentration
- New Professional Studies program will be administered by Office of Extended Studies
- Other:

Establish a new academic degree/certificate program
Create an online version of an existing program
Establish a new minor
Suspend/Discontinue a degree/certificate program
Establish a new Master or Certificate of Professional Studies program

Summary of Proposed Action (use additional sheet if necessary):
The proposed Naval Science minor, which parallels existing minor degrees in Army Leadership Studies and Military Studies (Air Force), would be a 24-credit program open to all UMD students regardless of their majors or prior enrollment in Navy ROTC. This minor program is designed to promote the development of undergraduate students in interactive, small group environments with state-of-the-art technology including navigation programs and virtual reality ship driving situations. Its goal is to prepare students and future officers in the U.S. Navy and Marine Corps to serve effectively in formal and informal leadership and technical roles. The minor reinforces understanding and application of Naval leadership strategies, technological advances, ethical decision making methodologies, and physical and mental fitness. Students who complete the minor will gain an in-depth understanding of the Naval service and embody the core values of honor, courage, and commitment.

Unit Code(s) (to be entered by the Office of Academic Planning and Programs):

Unit Code: 012021001210101
UGST-Undergraduate Studies
NAVAL RESERVE OFFICERS’ TRAINING CORPS MINOR PROPOSAL

Naval Science Minor

OVERVIEW

The Naval Reserve Officers’ Training Corps (NROTC) is an in-depth commissioning source for Active Duty Officers in the U.S. Navy and Marine Corps. The program currently requires Midshipmen and prospective officers to complete at least one Naval Science and Leadership course a semester along with a semester of National Security/American Military Affairs, and one semester of a world culture/regional studies course. Currently these courses are open to all Midshipmen and by request non-program students at the university. The Naval ROTC program seeks to provide such education for all persons interested in Naval Science and History and be awarded a minor in Naval Science upon successful completion of the program requirements.

The Naval Science program promotes the development of undergraduate students in interactive small group environments with some of the most top-notch technology. Technology includes a state of the art navigation classroom with individual computers with current navigation programs. The classroom also includes the Conning Officers Virtual Experience (COVE) system, which allows students to engage in virtual reality ship driving situations to put their classroom knowledge to test. The goal of the minor is to prepare students and future Officers in the United States Navy and Marine Corps to serve effectively in formal and informal leadership and technical roles. The minor reinforces understanding and application of Naval leadership strategies, technological advances, ethical decision-making methodologies, and physical and mental fitness excellence. Students in the program will walk away with an in-depth understanding of the Naval service such as operations and logistical planning, team building, and peer-to-peer counseling, along with the embodiment of the core values of Honor, Courage and Commitment. The core courses in the minor are sequenced to meet the increasingly complex sets of outcomes-based instruction across cognitive, personal development, and group/organizational domains.

MISSION AND PURPOSE

- How does the program support the mission and strategic goals of UMD?

The first step in the University of Maryland’s Strategic Plan (Transforming Maryland- Higher Expectations) emphasizes attracting exceptional undergraduate and graduate students and prepares new generations of leaders. It outlines seeking to prepare for leadership in a competitive, rapidly changing global environment. The proposed Naval Science minor fulfills this exact goal. It develops a student’s ability to solve complex problems, develop their leadership skills, enhances the use of new technology, and prepares them to enter a diverse and increasingly complex military.
• What related programs are currently offered at the University of Maryland? How does the proposed program differ in curriculum or addresses constituencies not served?

Military Studies Minor
The Air Force ROTC offers a minor that is open to all students where, based on the course catalog, the focus is the “study of the U.S. Military and more specifically the U.S. Air Force.” Their program requires completion of the 12 credits in the Air Science course offering (ARSC 300/301/400/401) and an additional 6 credits in Electives that span Global and Military Affairs (GVPT 280, HIST 224/225/240/266/314, BMGT 360/364, GVPT 354/360, and SOCY 462/463/464/465). Though we seek to provide the students with a secondary academic experience to serve them in the future, the proposed minor will focus specifically on studying the development of leadership through the Naval Science Program.

Army Leadership Studies
The Army ROTC offers a minor that is open to all students where, students will be provided with opportunities to develop their own inherent leadership skills. Their minor requires the completion of 12-credit hours in the Army Leadership course offering (ARMY301/302/401/402) and an addition 3 credit in military history (HIST224 or HIST225). Much like the Military Studies Minor, the Army Leadership Studies program is similar, however, the Naval Science Minor will gear towards the development leadership wise and technologically for those interested in the program.

Leadership Studies Minor
The College of Counseling, Higher Education and Special Education (CHSE) currently offers a 15-credit Leadership Studies minor. According to the course catalog, the goal is to prepare students for “leadership roles in campus, local, national, and global contexts.” They require students to complete HESI 217/315/318/417 and one elective course from a pre-approved elective list. Though the three programs are similar, the proposed minor focuses specifically on the Naval ROTC program and prepares Midshipmen to lead Sailors and Marines in a combat environment.

• What data shows interest in the program?
Currently, the Naval ROTC program has a total of 61 Midshipmen and Marines in the program: 17 Freshmen, 28 Sophomores, 4 Juniors, 7 Seniors, and 5 active duty enlisted Marines pursuing their degree and commission. The program’s numbers fluctuate each year, but not significantly. All Midshipmen are asked to complete the requirements for this minor in order to earn a commission in the United States Navy and Marine Corps, but they do not receive acknowledgement of their academic efforts on their transcripts.

• Anticipate number of students
As this is a new program, enrollment data are limited; however, based on current numbers and the sizes of the past two Freshmen classes, we anticipate nearly 100 Midshipmen by the year 2020. By opening the Naval Science classes to those who are not seeking service in the United State Naval Service, the numbers may increase for those who wish to broaden their perspectives on leadership and specifically Naval leadership.

CHARACTERISTICS OF PROPOSED PROGRAM

- **Title for Transcript**
  NS (Naval Science) Minor

- **Primary Sponsoring Unit**
  Naval Reserve Officers’ Training Corps (NROTC), Office of Undergraduate Studies (UGST)

- **Catalog description**
  The minor in Naval Science is a 24-Credit minor that provides students with the opportunity to develop their own inherent leadership skills through the Naval NROTC development program. Students seeking a minor in Naval Science are not required to be members of the Naval ROTC program. This minor program enables students to develop a secondary academic experience that may serve them in their future professional work.

  The Naval Science minor is open to any student at the University of Maryland. Students seeking a minor in Naval Science must be approved by the Professor of Naval Science of the Naval ROTC program and be advised by instructional personnel in that office.

**Curriculum**

Naval Science Core: 18 Credit Hours from Available NAVY Courses

1. **NAVY 100 Introduction to Naval Science (3)** Introduction to the naval profession and concepts of sea power. Major topics explored are the mission, strategy, organization, and descriptions of the U.S. Navy and Marine Corps. Students will gain a basic understanding of war fighting capabilities, required leadership skills, training and education, and the duties and responsibilities of a U.S. Navy and Marine Corps Junior Officer. The student will learn Naval courtesy and customs, military justice, and nomenclature as well as the professional competencies required to become a naval officer.

**NAVY 100 Outcomes**

**The Naval Profession**

- Apply and analyze how military structures are effective and efficient to national security
Discuss duties and responsibilities that create successful leaders in the Navy and Marine Corps
Learn and adapt to the customs of the Navy and Marine Corps to everyday living

2. NAVY 101 Sea Power and Maritime Affairs (3) Introduces the student to the key themes of naval and maritime history. Curriculum presents an analysis through lectures, reading, and student discussion of the relationship of sea power to American history. Classical concepts and contemporary employment of sea power and examined by viewing historic and current naval and maritime developments.

NAVY 101 Outcomes

The Naval Profession
- Understand the history of the naval service
- Understand the events that unfolded to create the naval service there is today
- Understand the sacrifices made to the naval service

3. NAVY 200 Leadership and Management (3) Restriction: Permission of UGST-Navy ROTC. Additional information: Priority enrollment will be given to students enrolled in the University of Maryland NROTC program. Introductory course designed to familiarize students with the theories, processes, and behaviors that enable effective leadership and managerial competence. Students will engage in analytical discussions, review leadership development and education, and Navy/Marine Corps-based case study discussions in order to develop their understanding of personal strengths, values and growth opportunities in the context of team, group and organizational leadership.

NAVY 200 Outcomes

The Naval Profession
- Understand the leadership structure of the naval service and the ideas that formed it
- Analyze various leadership and management techniques, theories and behaviors
- Apply techniques and theories learned to individual leadership styles

Professional Competence
- Demonstrate understanding of theories and techniques through group and individual projects
- Demonstrate the differences between leadership and management
- Demonstrate the similarities between leadership and management
• Demonstrate the use of leadership and management techniques through other NROTC training evolutions

4. **NAVY 201 Navigation (3)** Restriction: Permission of UGST-Navy ROTC. Additional information: Priority enrollment will be given to students enrolled in the University of Maryland NROTC program. Introduces the student to a broad yet thorough education in basic surface ship navigation. Curriculum presents an overview of tools of the modern naval watch officer, and topics include celestial navigation, rules of the nautical road, piloting, practical chart work, tides, instruments, publications, records, and electronic navigation systems. Instructional sessions and/or activities develop the maritime proficiency core competency of the Naval Reserve Officer Training Corps (NROTC) program.

**NAVY 201 Outcomes**

The Naval Profession

- Learn basic navigation skills needed in the naval service
- Learn to operate the Conning Officer Virtual Experience (COVE)
- Apply lessons learned in the COVE for various navigation scenarios
- Learn to use maneuvering boards
- Apply knowledge of maneuvering boards to various navigation situations
- Discuss the rules of the road and why they are important in the naval service

Profession Competence

- Demonstrate knowledge of rules of the road in COVE simulations
- Demonstrate knowledge of maneuvering board problems in COVE simulations
- Demonstrate knowledge of general operation of the COVE

5. **NAVY 300 Naval Ship Systems I (Engineering) (3)** Restriction: Permission of UGST-Navy ROTC. Additional information: Priority enrollment will be given to students enrolled in the University of Maryland NROTC program. Introduces the student to a comprehensive fundamental understanding of United States naval engineering principles and systems. Topics include thermodynamics, incompressible fluid flow, electrical theory, hydraulics and pneumatics, power train components, fluid/lube oil systems, desalination, fundamentals of nuclear power, propulsion systems (internal combustion, gas turbines, and steam), electrical distribution, ship stability and control and damage control. Students will also examine case studies to apply and analyze course topics within naval ships systems contexts.

**NAVY 300 Outcomes**

The Naval Profession

- Learn the basics of naval engineering
• Understand the importance of the technologies implemented in the naval service
• Understand the science that runs fuels the naval science
• Apply and analyze topics with case studies and naval ship systems contexts

6. NAVY 301 Naval Ship Systems II (Weapons) (3) Recommended: MATH140, MATH141, and PHYS161. Restriction: Permission of UGST-Navy ROTC. Additional information: Priority enrollment will be given to students enrolled in the University of Maryland NROTC program. Introduces the student to a comprehensive fundamental understanding of United States naval weaponry. Includes theory and employment of weapons systems, including the processes of detection, evaluation, threat analysis, weapon selection, delivery, guidance, and explosives. Radar and sonar systems and major weapon types, including capabilities and limitations. Facets of command, control, and communications as means of weapons system integration. Curriculum presents an in-depth review of surface, sub-surface, aviation, and Marine Corps weapons and platforms.

NAVY 301 Outcomes

The Naval Profession
• Learn the basics to naval weapon systems
• Understand the operational uses for weapon systems
• Understand the technological advances in weapon systems
• Apply and analyze topics with case studies and naval weapons contexts

7. NAVY 302 Evolution of Warfare (3) Restriction: Permission of UGST-Navy ROTC. Additional information: Priority enrollment will be given to students enrolled in the University of Maryland NROTC program. Traces the development of warfare, from earliest recorded history to the present, with focus on the impact of major military theorists, strategists, tacticians, and technological developments. The student acquires an intermediate sense of strategy and develops an understanding of military alternatives and the impact of historical precedent on military thought and actions.

NAVY 302 Outcomes

The Naval Profession
• Understand the history of the Marine Corps
• Understand the events that unfolded to structuralize the way the Marine Corps runs today
• Understand military strategy through time
8. **NAVY 400 Naval Operations and Seamanship (3)**  
Restriction: Permission of UGST-Navy ROTC. Additional information: Priority enrollment will be given to students enrolled in the University of Maryland NROTC program. Capstone course for senior NROTC Navy-option midshipmen in advanced navigation, communications, naval operations, and naval warfare. Students learn through simulation in a computer classroom known as the Maritime Skills Simulator (MSS), in addition to lectures, discussions, and qualitative and quantitative tests/examinations. Students will engage in discussions regarding the moral and ethical responsibilities or military leaders, as well as the essential attributes of character required for effective leadership.

**NAVY 400 Outcomes**

**The Naval Profession**

- Build upon lessons learned in previous naval navigation course
- Learn advanced navigation skills needed in the naval service
- Operate the Conning Officer Virtual Experience (COVE) and Maritime Skills Simulator (MSS)
- Apply advanced lessons learned in the COVE and MSS for various navigation scenarios
- Advance skills in maneuvering boards
- Apply knowledge of maneuvering boards to various difficult navigation situations
- Apply navigation skills to leadership scenarios

**Profession Competence**

- Demonstrate knowledge of rules of the road in COVE simulations
- Demonstrate knowledge of maneuvering board problems in COVE simulations
- Demonstrate knowledge of general operation of the COVE

9. **NAVY 401 Leadership and Ethics (3)**  
Recommended: NAVY200. Restriction: Permission of UGST-Navy ROTC. Additional information: Priority enrollment will be given to students enrolled in the University of Maryland NROTC program. Integrates an intellectual exploration of Western moral traditions and ethical philosophy with military leadership, core values, the Uniform Code of Military Justice, and Navy regulations. The course provides students with a basic understanding of major moral traditions including Relativism, Utilitarianism, Kantian Ethics, Natural Law Theory, Divine Command Theory, and Virtue Ethics.

**NAVY 401 Outcomes**

**The Naval Profession**

- Learn various aspects of naval and military law
- Learn Navy regulations
- Learn and understand leadership and ethical theories throughout history
- Engage in class activities and group projects
- Understand the importance of ethics and morals within the naval service
- Apply learned theories in various exercises and papers

**Profession Competence**
- Demonstrate knowledge through capstone project
- Demonstrate knowledge through interactive situation panels

10. **NAVY 402 Amphibious Warfare (3)**

   **Required: NAVY100, NAVY101, NAVY302. Restriction: Permission of UGST-Navy ROTC. Additional information: Priority enrollment will be given to students enrolled in the University of Maryland NROTC program.**

   Introduction to foundational concepts and history of amphibious warfare, from the classical period to the present day. Emphasis is placed on analytical study and critical thought rather than memorization of historical facts. Students will trace the evolution of amphibious warfare through analysis of case studies using amphibious and maneuver doctrine as a framework. By the end of this course, students will comprehend modern employment concepts and challenges relating to the use of amphibious forces.

**NAVY 402 Outcomes**

**The Naval Profession**
- Learn and understand the history of amphibious warfare
- Apply lessons learned in interactive scenarios
- Engage in case studies to further understand amphibious warfare
- Apply and analyze knowledge through field exercises

**Expanded Learning: 6 Credit Hours**

1. **National Security/Military History: Example courses**

   **HIST 224 Modern Military History, 1494-1815 (3)**

   Restriction: None. Survey of the military history of Europe through an examination of the economic, financial, strategic, tactical, and technological aspects of the development of military institutions and warfare from the dynastic wars of the Valois and Habsburgs to the national wars of the French Revolution and Empire.

   **HIST 225 Modern Military History 1815-Present (3)**

   Restriction: None. The military history of Europe through an examination of the economic, financial, strategic, tactical, and technological aspects of the development of military institutions and warfare from the Congress of Vienna in 1815 to the present.
• Understands the significance of military leadership and military leaders and its influence on history
• Understand how battles were fought and how Leaders made tactical decisions in combat situations

2. Cultural/Regional Studies (3) Courses pending approval by a Naval Science advisor. One semester course to enhance knowledge of cultural and/or regional studies of developing nations. Course examples HIST120/284/285 GEOG130 or PERS251. Courses are not limited to the examples listed.

   Professional Competence
   • Understand the significance of developing countries customs
   • Understand how cultures differ across the world
   • Understand regional conflicts and advances

• Reliance upon courses provided through other academic units
  Currently 3 credits in National Security/Military History and 3 credits in Cultural/Regional Studies are commissioning requirements and are taught by various departments within the university.

• Faculty overseeing the minor
  The current NROTC program is part of the Office of Undergraduate Studies (UGST). The Professor of Naval Science, the assigned NROTC Officer staff, and the UGST Dean will oversee the Naval Science minor.

  The Naval Science minor will be led by the current NROTC Staff. Their credential are listed below:
  
  CAPT Troy Mong, Professor of Naval Science
  CDR Stew Wennersten, Assistant Professor of Naval Science
  LT Christopher Anderson
  LT Adam Klimas
  LT Michael Tenaglia
  Capt Nathaniel Kaine, Marine Officer Instructor

CAPT Troy Mong
Captain Mong is a native of Huey, Pennsylvania. He graduated from Grove City College in May 1989 with a Bachelor of Science degree in Electrical Engineering and received his commission at Naval Officer Candidate School in Newport, Rhode Island. He received his Master’s degree in National Security Strategic Studies from the Naval War College in Newport, Rhode Island. Captain Mong’s at-sea assignments included a division officer tour on USS HENRY M. JACKSON (SSBN 730)(Gold), a department head assignment on USS MIAMI (SSN 755), an executive officer assignment on USS ALEXANDRIA(SSN 757) and a command tour on USS HYMAN G. RICKOVER (SSN 709). During his division officer tour he completed seven strategic deterrent patrols, as a department head he conducted a CENTCOM/EUCOM deployment and during his
executive officer assignment he deployed “around the world” on a combined ARCTIC/WESTPAC/EUCOM deployment. As Commanding Officer, USS HYMAN G. RICKOVER (SSN 709), he completed a Decommission Inactivation Availability at Portsmouth Naval Shipyard in Portsmouth, New Hampshire. On shore-duty, Captain Mong was assigned as the Tactical Products Officer at SUBMARINE DEVELOPMENT SQUADRON TWELVE, department head on the SUBMARINE TACTICAL READINESS EVALUATION TEAM ATLANTIC and the Deputy Commander for Readiness at SUBMARINE SQUADRONS TWO, FOUR, and TWELVE. His post-command tours included Deputy Chief for Joint Security Office Forward on the staff of U.S. CENTRAL COMMAND and Director of Training at NAVAL SUBMARINE SCHOOL. Captain Mong most recently served as Commanding Officer of the Naval ROTC unit at Purdue University. In October 2015, Captain Mong took command of the Naval ROTC Maryland Consortium (UMD/UMBC) and assumed duties as the Professor of Naval Science. Captain Mong has been awarded the Legion of Merit, Meritorious Service Medal (3 awards), Joint Service Commendation Medal, Navy and Marine Corps Commendation Medal (7 awards), Navy and Marine Corps Achievement Medal (3 awards) and various campaign and unit awards including Battenburg Cup and Battle Efficiency ‘E’ awards.

**CDR Stew Wennersten**

Stewart “Stew” M. Wennersten, a native of Salisbury, Maryland, graduated from The George Washington University with a bachelor’s degree in Physics and was commissioned an Ensign in May 1993. CDR Wennersten completed Surface Warfare Officer Division Officer Course in Newport, Rhode Island and reported to USS BELLEAU WOOD (LHA 3), forward deployed in Sasebo, Japan for his initial Division Officer Tour where he served as Boilers Officer and Second Division Officer. On USS BELLEAU WOOD (LHA 3), he deployed to Somalia and the U.S. SEVENTH FLEET AOR as well as qualified as Surface Warfare Officer and Engineering Officer of the Watch. His next fleet assignment was Fire Control Officer on USS GONZALEZ (DDG 66) from November 1996 to December 1998. Upon completion of his Division Officer tours, he attended and graduated from the Naval Postgraduate School in April 2001, earning a Master of Science degree in Mechanical Engineering. He then attended Department Head School and reported to USS BOONE (FFG 28) in October 2001, serving as Engineer Officer until June 2003. Upon completion of his first department head tour, he attended the Mine Warfare Training Command School and reported as Executive Officer and Navigator on board USS WARRIOR (MCM 10)/MCM CREW LEADER in November 2003 completing two deployments including a crew swap deployment to U.S. FIFTH FLEET on board USS ARDENT (MCM 12). In August 2006, CDR Wennersten reported as Executive Officer on board USS DOYLE (FFG 39) where he participated in a highly successful West Africa/Gulf of Guinea deployment. CDR Wennersten reported to the OPNAV staff in September 2008 as Executive Decision Management Office Staff Operations Officer responsible for planning and scheduling flag/SES executive forums. During this tour, CDR Wennersten was designated as a mine warfare
specialty career path officer. CDR Wennersten reported as Operations Officer on board USS WASP (LHD 1) in February 2011 where he participated in the F-35 Lightning/Joint Strike Fighter initial sea trials, Exercise BOLD ALLIGATOR 2012, and War of 1812 Commemorations in New Orleans, LA, Fort Lauderdale, FL, New York, NY, Norfolk, VA and Boston, MA. Upon completion of sea duty, CDR Wennersten served as Executive Officer and Acting Commanding Officer of The George Washington University Navy ROTC unit from August 2012 to October 2015 where he completed a Master of Business Administration degree. CDR Wennersten reported in October 2015 as the Executive Officer of the Naval ROTC Maryland Consortium (UMD/UMBC).

**LT Christopher Anderson**

LT Anderson entered Naval Service in August 2006 as a student at the Naval Academy Preparatory School (NAPS) in Newport, RI. He graduated from NAPS in May 2007 and spent the next 4 years at the United States Naval Academy (USNA) in Annapolis, MD. He graduated in May 2011 with a Bachelor of Science degree in Economics with Honors. He was commissioned in May 2011 and was assigned to Temporary Active Duty at USNA until October when he reported to Nuclear Power School in Charleston, SC. Upon completion of Nuclear Power School, LT Anderson attended the Submarine Officer Basic Course in Groton, CT. After 3 months in Groton, LT Anderson headed back to Charleston, SC to the Naval Power Training Unit. In August 2013 LT Anderson finished his Submarine training in Charleston by qualifying Engineering Officer of the Watch on an operating Naval Nuclear Power Plant and reported to the USS Albuquerque (SSN-706) home ported in San Diego, CA. Onboard Albuquerque, LT Anderson served as the Electrical Assistant and the Chemical and Radiological Controls Assistant. His collateral duties included Anti-Terrorism Officer, Laser Safety Officer, Recreation Fund Custodian, Morale and Welfare Officer, Recreation Services Officer, and Peacetime Safety Officer. LT Anderson conducted an extended CENTCOM deployment and the early stages of the decommissioning of the USS Albuquerque while onboard. LT Anderson is currently stationed at the NROTC Unit Maryland Consortium as a staff officer. He teaches NAVY300 in the Fall and NAVY301 in the Spring.

**LT Adam Klimas**

Lieutenant (LT) Adam J. Klimas is a graduate of the Naval ROTC program at Jacksonville University in Jacksonville, Florida. He enlisted in the Navy on September 12th, 2001 as an Interior Communications Electrician. Upon graduation from Recruit Training he attended the Navy’s Electrician “A” school then he started his first operational tour. While stationed onboard the USS Carney he worked as a communications electrician, earned his Enlisted Surface Warfare qualification, and was selected as the Junior Sailor of the Year. His next assignment was onboard the USS John F. Kennedy where he focused on maintenance management, additionally, he earned his Enlisted Aviation Warfare Specialist qualification, and was selected as the Sailor of the Year. After the USS John F. Kennedy, Adam started his first non-operational tour at the Naval
Consolidated Brig in Charleston, South Carolina. While stationed at the Brig he was designated as a Duty Warden and led the Emergency Response Teams. During this tour he was selected as the Sailor of the Year and the Corrections Officer of the Year, earned his Associates of Arts degree from Florida Community College, and was selected for the Seaman-to-Admiral commissioning program. As an Officer Candidate in the Seaman-to-Admiral program Adam completed the course of instruction at the Naval Science Institute in Newport, RI then went on to earn a Bachelors of Business Administration from Jacksonville University before commissioning as an Ensign. As a newly commissioned officer he completed the Basic Division Officers Course in Newport, RI then went on to become the Communications Officer onboard the USS Vicksburg. While stationed onboard the USS Vicksburg, Adam earned his qualifications as an Engineering Officer of the Watch and Surface Warfare Officer. After his tour onboard the USS Vicksburg, Adam completed the Advanced Division Officers Course then went on to study Maritime Operations at the Naval War College. Upon completion of his program of study at the War College, Adam went on to become the Assistant Operations Officer and Task Force Navigator for Destroyer Squadron 40. As the Assistant Operations Officer Adam was responsible for planning and leading missions in Central and South America. Upon completion of his tour at the squadron LT Klimas began his current duty assignment as a Naval Science Instructor at the NROTC Maryland Consortium.

**LT Michael Tenaglia**
Raised in West Chester, Pennsylvania, LT Michael J. Tenaglia graduated from The University Of Maryland in 2010 and earned a Bachelor of Science in Mechanical Engineering with a minor in Nuclear Engineering. LT Tenaglia began his career onboard USS CURTS (FFG 38) where he served as the Fire Control and Force Protection Officer. While on CURTS, he participated in anti-narcotic operations and deployed to 4th Fleet. In November 2013, he reported to USS THEODORE ROOSEVELT (CVN71) where he served as the Reactor Propulsion Division Officer and the Assistant Reactor Training Officer. During his tour, he completed an around the world deployment, participating in Operation Inherent Resolve. LT Tenaglia’s personal awards include the Navy and Marine Corps Achievement Medal, Global War on Terror Expeditionary Medal, Global War On Terror Service Medal, Sea Service Deployment Ribbon and multiple unit and service awards.

**Capt Nathaniel Kaine**
Captain Nathaniel Kaine is the Naval ROTC Unit’s Marine Officer Instructor. He is an infantry officer by trade and also a designated foreign security force adviser. He graduated from the George Washington University with a Bachelors of Arts in Political Science and minors in International Affairs and Naval Science. His Marine Corps professional education includes Officer Candidates School, The Basic School, Infantry Officer Course, Joint Fires Observer School, and the Marine Adviser Course. He moved to the University of Maryland in January of 2017 from 2d Battalion, 8th Marine Regiment in Camp Lejeune, North Carolina. While with the unit, he commanded multiple platoons and served as the assistant
operations officer for the thousand-Marine infantry battalion. He deployed with the unit for 6 months in 2015 to Sub-Saharan Africa, managing extended security cooperation missions with partner nation military forces, and again in 2016 to Eastern Europe to manage US participation in large-scale NATO training exercises and promote regional stability.

- **Procedures by which student can declare or be admitted into minor**
  
The Naval Science minor is conceived as a four-year program of advanced study for freshmen through seniors. To apply, students should contact the Naval ROTC Director in person any time prior to the fall of their freshman year to request permission. Students applying after freshmen year may participate but may have to double up on courses offered in the Fall or Spring only.

  Students of all majors will be eligible to apply and prior military or ROTC experience is not required. The program seeks students who demonstrate a sincere interest in Naval Science studies and exhibit a commitment of intrapersonal and interpersonal growth through the study of Naval Science concepts. Students must be approved by the Professor of Naval Science in the Naval ROTC program and will be advised by instructional personnel in that office.