NAVAL SCIENCE

Admission to Program

This Program is only open to Officer Cadets already employed by the UAE Defense Force. Admission to the Program is conducted annually by a committee nominated by the General Head Quarters of the Armed Forces (GHQ). The number of cadets admitted to the Naval College is determined by the general policy of GHQ.

Program Mission

The Program provides graduates with the scientific/ technological knowledge, communication and leadership skills required to exploit the increasingly complex technologies involved in modern naval operations. The planned curriculum integration aims to produce graduates with the necessary scientific, technical, communication and cognitive skills to enable them to function effectively as naval officers while ensuring that the HCT Graduate Outcomes for graduates of the Higher Colleges of Technology are met. The Program will produce graduates capable of working as effective executive officers in the UAE Navy.

Program Description

The curriculum is meticulously structured to facilitate academic learning and military training concurrently. As the cadets engage in their educational journey at the Naval College, they focus on academic excellence and professional development to augment their intellectual acumen, professional expertise, and vocational aptitude. Furthermore, a significant emphasis is placed on military education and training, which are integral in cultivating the requisite character and leadership attributes befitting officers in the UAE Naval Forces.

This program encompasses a suite of academically rigorous courses, each bearing direct relevance to naval operations, seamlessly integrated with professional training modules. These courses are specifically tailored to meet the unique needs of future executive officers in the UAE Navy. The curriculum is designed to offer cadets an optimal amalgamation of military knowledge, naval science, leadership competencies, management skills, and practical professional training.

The program incorporates a wide range of subjects to establish a comprehensive foundation in academic skills and intellectual capacity. These include management, Emirati studies, physics, mathematics, information technology, and various scientific and technical courses. Additionally, fundamental courses in the English language and effective communication are included to enhance the cadets' reflective abilities on their performance and capabilities as professional naval officers. This diverse educational spectrum fosters their understanding of their nation and enhances their global awareness. Key communication skills, critical thinking, and quantitative reasoning abilities are developed, aligning with the program's objectives.

The program introduces a series of specialized professional courses in naval sciences in the final stages of the cadets' educational journey. These are meticulously chosen to equip the cadets with the essential knowledge and skills to undertake leadership roles within the UAE Naval Forces. The midshipmen training program collaborates with these professional naval courses to provide a multifaceted and enriching educational experience.

Program Goals

The Program aims to produce naval leaders of character and vision. Officers will ascribe to the Naval College's core values of integrity first, service before self, and excellence in all they do. To that end, the curriculum ensures that each graduate enters the UAE Navy with the unique combination of education and professional skills required by a naval officer.

In addition to the generic graduate outcomes related to graduates of the Higher Colleges of Technology, cadets, upon completion of the Program, will be able to:

- Demonstrate a knowledge base in Naval science, navigation and technology, suitable for a career as a naval professional.
- Employ the necessary seamanship, communication and navigation skills to safely operate military vessels.
- Show appropriate officer-like qualities of discipline, leadership, management and physical fitness.
- Deploy a range of scientific, technical, communication and transferable skills which will enhance their effectiveness in their chosen career.
- Manage and reflect on their own work, lifelong-learning and professional development.

Program Learning Outcomes

Diploma:

PLO 1. Demonstrate traits of sound discipline, leadership, decision making, intellectual curiosity, ability to communicate effectively, work in teams, and the knowledge and determination to uphold the values of UAE.

PLO 2. Demonstrate sound knowledge of General Studies and Naval Science subjects as applied in naval environments.

PLO 3. Apply basic Navigation skills to ensure safe passage at sea. Recognize the navigational aids, their operation, and understand the maritime operating environments.

PLO 4. Recognize seamanship gear and its operation in conduct of operations including anchor and cable work, rope work, boat work, berthing, replenishment, and search and rescue missions

PLO 5. Demonstrate a basic knowledge of naval warfare operations and tactics including, general operations, above water warfare, underwater warfare and air warfare.

Bachelor:

PLO 1. Ability to exhibit situational appreciation, analytical and leadership qualities. Display effective attitude and beliefs to perform the role of military commanders.

PLO 2. Demonstrate the ability to make rational operational decisions based on sound knowledge of naval equipment, machinery, weapons and sensors.

PLO 3. Ability to take decisions under various Naval Warfare and Operations to ensure safety of naval platforms.

PLO 4. Demonstrate complete understanding of handling naval platforms Damage Control and NBCD states.

PLO 5. Confidently exhibit navigational, communications, and operational skills in multi-platform, multi-threat naval scenarios.

PLO 6. Demonstrate sound knowledge of Rules of Road, and Rules of Engagements at sea.

Requirements
Completion Requirements
Bachelor of Naval Science with Diploma Exit

Completion Requirement – Bachelor's Degree

Students must successfully complete a minimum of 131 semester credits including

Code	Title	Credit Hours
General Studies Courses		33
Naval Science and Engineering		30
Professional		53
Sea Training		15
Total Credit Hours		**131**

Completion Requirement – Diploma Exit

Students must successfully complete a minimum of 107 semester credits including

Code	Title	Credit Hours
General Studies		33
Naval Science and Engineering		30
Professional		29
Sea Training		15
Total Credit Hours		**107**

To qualify for a Bachelor's Degree, a student is required to:
• Successfully complete the required number of credits (120 for Bachelors and 60 for Diploma), and courses specific to the program with a minimum cumulative GPA of 2.0
• Meet the residency requirement that a minimum of 50% of the program credit requirements have been completed at the HCT

Code	Title	Credit Hours
Naval Science and Engineering Core Courses		
Required Credits: 30		
MTH 1203	Calculus I	3
NSE 1003	Fluid Mechanics for Naval Applications	3
NSE 1013	Damage Control	3
NSE 2003	Ship Electrical Technology	3
NSE 2013	Principles of Naval Sensors	3
NSE 2033	Principles of Naval Architecture	3
NSE 2043	Ship Propulsion I	3
NSE 2103	Ship Propulsion II	3
NSE 2203	Electronics for Naval Applications	3
NSE 2023	Oceanography and Meteorology	3
Professional Courses (Bachelor)		
Required Credits : 53		
NAV 1104	Navigation I	4
NAV 2003	Navigation II	3
NAV 2103	Navigation III	3
NAV 2203	Rule of the Road (RoR)	3
NAV 4002	OOW Consolidation and Bridge Management	2
NAV 4014	Ocean Navigation	4
NAV 4023	Coastal Navigation	3
NAV 4033	Restricted Waters Navigation	3
NPS 2004	Seamanship I	4
NPS 2013	Naval Communications	3
NPS 2113	Seamanship II	3
NPS 4002	Bridge and Ship Systems	2
NPS 4123	Communications and Intelligence	3
NPS 4133	Capstone Project	3
NWR 1103	Naval Warfare and Operations I	3
NWR 2103	Naval Warfare and Operations II	3
NWR 4004	Bridge Warfare and Tactical Manoevering	4
Sea Training		
Required Credits : 15		
NPS 3003	Midshipman Sea Time - Seamanship	3
NPS 3013	Midshipman Sea Time - Navigation	3
NPS 3023	Midshipman Sea Time - Naval Engineering	3
NPS 3033	Midshipman Sea Time - Naval Operations and Communications	3
NPS 3053	Midshipman Sea Time - Rules of the Road	3
General Studies		
Required Credits : 33		
English, Arabic or other Languages		
Required Credits: 9		
AES 1013	Arabic Communications	3
LSC 1103	Professional Communication and Reporting	3
LSC 3023	Professional English	3
Humanities or Art		
Required Credits: 6		
AES 1003	Emirati Studies	3
PST 1173	Islamic Studies	3
Information Technology or Mathematics		
Required Credits: 6		
ICT 2013	Computational Thinking and Coding	3
LSM 1103	Technical Mathematics	3
The Natural Sciences		
Required Credits: 3		
PHY 1103	Physics of Mechanics and Motion	3
The Social or Behavioral Sciences		
Required Credits: 9		
LSS 1003	Life and Future Skills	3
LSS 1123	Basic Research Methods	3
NPS 2103	Naval Leadership and Management	3

Code	Title	Credit Hours
Professional Courses (Diploma)		
Required Credits : 29		
NAV 2003	Navigation II	3
NPS 2013	Naval Communications	3
NWR 1103	Naval Warfare and Operations I	3
NWR 2103	Naval Warfare and Operations II	3
NAV 2103	Navigation III	3
NAV 2203	Rule of the Road (RoR)	3
NPS 2004	Seamanship I	4
NAV 1104	Navigation I	4
NPS 2113	Seamanship II	3

Description	Data
Total Required Credits	131
Maximum Duration of Study	5.5 years
Minimum Duration of Study	3.5 years
Cost Recovery Program	Yes
Program Code	NAVSC
Major Code	NVS

Ideal Study Plan
Recommended Sequence of Study

Year 1

Semester 1

Code	Title	Credit Hours
AES 1013	Arabic Communications	3
PST 1173	Islamic Studies	3
LSM 1103	Technical Mathematics	3
NPS 2004	Seamanship I	4
PHY 1103	Physics of Mechanics and Motion	3
LSS 1003	Life and Future Skills	3
	Credit Hours	**19**

Semester 2

Code	Title	Credit Hours
LSC 1103	Professional Communication and Reporting	3
NAV 1104	Navigation I	4
MTH 1203	Calculus I	3
NSE 2003	Ship Electrical Technology	3
NSE 1003	Fluid Mechanics for Naval Applications	3
AES 1003	Emirati Studies	3
	Credit Hours	**19**

Semester 3

Code	Title	Credit Hours
NPS 2113	Seamanship II	3
NWR 1103	Naval Warfare and Operations I	3
NSE 2203	Electronics for Naval Applications	3
NAV 2003	Navigation II	3
ICT 2013	Computational Thinking and Coding	3
NSE 2043	Ship Propulsion I	3
	Credit Hours	**18**

Year 2

Semester 4

Code	Title	Credit Hours
NWR 2103	Naval Warfare and Operations II	3
NSE 2103	Ship Propulsion II	3
NSE 1013	Damage Control	3
NPS 2013	Naval Communications	3
NAV 2103	Navigation III	3
LSC 3023	Professional English	3
	Credit Hours	**18**

Semester 5

Code	Title	Credit Hours
NSE 2033	Principles of Naval Architecture	3
NSE 2023	Oceanography and Meteorology	3
NPS 2103	Naval Leadership and Management	3
NSE 2013	Principles of Naval Sensors	3
LSS 1123	Basic Research Methods	3
NAV 2203	Rule of the Road (RoR)	3
	Credit Hours	**18**

Semester 6

Code	Title	Credit Hours
NPS 3013	Midshipman Sea Time - Navigation	3
NPS 3053	Midshipman Sea Time - Rules of the Road	3
NPS 3003	Midshipman Sea Time - Seamanship	3
NPS 3033	Midshipman Sea Time - Naval Operations and Communications	3
NPS 3023	Midshipman Sea Time - Naval Engineering	3
Diploma Exit		
	Credit Hours	**15**

Year 3

Semester 7

Code	Title	Credit Hours
NPS 4002	Bridge and Ship Systems	2
NAV 4014	Ocean Navigation	4
NAV 4023	Coastal Navigation	3
NAV 4033	Restricted Waters Navigation	3
	Credit Hours	**12**

Semester 8

Code	Title	Credit Hours
NPS 4123	Communications and Intelligence	3
NAV 4002	OOW Consolidation and Bridge Management	2
NPS 4133	Capstone Project	3
NWR 4004	Bridge Warfare and Tactical Manoevering	4
	Credit Hours	**12**
	Total Credit Hours	**131**

Faculty and Academic Staff

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