

**Groton Public Schools
Curriculum Map**

INTRODUCTION

Course Title: Naval Science Two (NS-2)
Curriculum Area and Grade: Navy National Defense Cadet Corps (NNDCC)/NJROTC

Course Purpose:

Prerequisite: Naval Science I or transfer from other JROTC program.

This course is the even year curriculum for cadets to expand their knowledge and experience beyond the introduction to JROTC class. The curriculum includes two areas of study: (1) maritime history with studies of war at sea, the US Navy, strategy, and tactics, and (2) the nautical sciences with studies of maritime geography, oceanography-meteorology-astronomy, and physical science.

Major Learning Goals and Understandings:

Student Learning Expectation(s):

- Sea power is the ability to use the sea to meet a nation's needs.
- Alfred Thayer Mahan: The Influence of Sea Power Upon History, 1660–1783
- Growth of American Sea Power
- Leadership (Continuing)
- Nautical Sciences that support maritime operations

Units/Theme/Concept and # of Weeks

Quarter = 9 weeks, Semester=18 weeks, Trimester= 12 weeks, Year=36 weeks --- usually spread over 40 weeks

Unit 1- Maritime History (Up to 1865)	Unit 2 - Maritime History (1884 to present day)
Unit 3 – Leadership II (Cont.)	Unit 4 – Nautical Science (Maritime Geography, Oceanography and Meteorology)
Unit 5 – Nautical Science (Meteorology, Astronomy and Physical Science)	Unit 6 – General Military Training (GMT)

Mappers/Authors: LCDR Terance Henkle USN-Ret

Date Approved:

Unit 1 - Maritime History (Up to 1865)

Grade: 10	Subject: NNDCC/NJROTC	Course: Naval Science Two (NS 2)	Length of Unit: 6 weeks
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NNDCC/NJROTC Standards

- Introduction to the Navy Junior Reserve Officer Training Corps (NS-1 Textbook)
- Influence of Sea Power Upon History
- Sea Power: A Naval History
- Cadet Field Manual (11th Edition revised) NAVEDTRA 37116-K
- The Bluejacket's Manual

Part 2 – Unit Standards

Key Performance Expectations (Content Knowledge and Concepts/Skills)

The students will know:

1. Influence of Sea Power on Western Civilization
2. The American Revolution, 1775-1783
3. The Growth of American Sea Power
4. The Civil War, 1861-1865

The students will be able to explain or define:

1. Sea power played a significant role in the development of early Western civilization.
2. The defeat of the enemy's fleet kept it from supplying its land forces.
3. Early Seafarers explored all navigable waters for trade and commerce
4. Factors that influenced whether a country developed into a sea power
5. What is meant by a nation's sea power
6. How did navies start?
7. How did sea power influence the American Revolution?
8. When was the US Navy and U.S. Marine corps established?
9. What was the Navy act of 1794?
10. The growth of US maritime commerce influenced a growth of the US Navy
11. What were some of the major naval developments during America's civil war?

Big Idea

- **Big Ideas**
 - Why was the Mediterranean such an influence for nations building navies?
 - What countries or the dominant naval forces in the Mediterranean?
 - What was the age of discovery?
 - Why did England become such a successful naval power?
 - When was the naval forces of the US Navy and U.S. Marine Corps established?
 - Where were the first US Navy battles fought during the American Revolution?
 - Who were the Navy leaders in the early days of the American Revolution?
 - What was are the major navy battles during the American Revolution
 - Why was there conflict between Tripoli and the barbary pirates
 - What was the reason for the War of 1812?
 - What was the naval strategy during the war of 1812?

- What were the two different economies that developed in the north and in the South?
- What was the naval strategy for northern naval forces during the civil war?
- What were the southern naval forces strategies?

Part 3 – Common Unit Assessments

- NNDCC academics
- Formative and Summative assessments
- Self-assessment: Review / grade own work; reflections
- Peer assessment: Peer feedback/input
- Personal Inspection
- Drill (not drill teams)
- Projects/Homework/Research
- Physical fitness participation.

Part 4 – Common / Assured Learning Experiences

Students will participate in:

- Group activities
- Modeling
- Peer assessment
- Monitoring, guidance, support
- Student-led class presentations
- Field work
- Encourage student leadership and teaching
- Direct instruction

Unit 2 - Maritime History (1884 to present day)

Grade: 10	Subject: NNDCC/NJROTC	Course: NS 2	Length of Unit: 6 weeks
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Unit 2: Leadership Skills

- Introduction to the Navy Junior Reserve Officer Training Corps (NS-1 Textbook)
- Influence of Sea Power Upon History
- Sea Power: A Naval History
- Cadet Field Manual (11th Edition revised) NAVEDTRA 37116-K
- The Bluejacket's Manual

Part 2 – Unit Standards

Key Performance Expectations (Content Knowledge and Concepts/Skills)

The students will know

1. Why was it important to establish a naval training center?
2. Why is ADM Alfred Mahan important in the influence of Sea Power?
3. Why was there a need to rebuild the US Navy after the civil war?
4. How did the US Navy's influence grow during this time?
5. What naval vessels were most "feared" during World War One?
6. What happened to naval forces between WWI and WWII?
7. What was the US policy during WWII for naval forces?
8. What were US naval policies during 1950 – 1969?
9. What were the US naval policies during the Cold War Era?

The students will be able to:

1. Discuss the need to continue to train naval personnel
2. Navy Act that Congress eventually passed in 1794 provided for only six frigates
3. US merchantmen and sailor were being held ransom by the barbary pirates
4. Know the major naval battles of 1812
5. How clipper ships influence trade with the orient
6. Admiral Perry's influence with Japan
7. The Influence of Sea Power upon History, 1660-1783,
8. Major naval vessels and conflicts used battleships
9. Naval inventions(s) for 100 years
10. What two events nearly caused the United States to go to war with Germany in 1915 and 1916?
11. Last major battleship battles were during Jutland
12. Naval aviation has evolved between the wars.
13. Last of the great battleships
14. Establish treaties limiting the size and armament of warships during the interwar years
15. Two naval strategies and policies during WWII
16. Unification of the Services
17. The Truman Doctrine, the Marshall Plan, and the Cold War
18. Korea, Cuban Missile Crisis, Vietnam naval strategies
19. The Cold War and naval technology

Big Idea

● Big Ideas

- The invention of the submarine
- What was the significance of the battle between the USS Monitor and CSS Virginia?
- Naval Blockades and riverine warfare
- What was the principal effect of the Confederate commerce raiders?
- What were the geopolitical and strategic lessons of the Civil War regarding sea power versus land power?
- Mahan argued that it was command of the sea that had enabled Britain to create its empire
- The age of the Dreadnoughts through early WWII
- Submarines, carries and airpower was the dominant force during WWII
- Antisubmarine warfare innovations during this period
- Island hopping was the strategy in the pacific
- NATO was created after WWII
- Atomic power
- Terrorism and naval strategies with current conflicts since 1990

Part 3 – Common Unit Assessments

- NNDCC academics
- Formative and Summative assessments
- Self-assessment: Review / grade own work; reflections
- Peer assessment: Peer feedback/input
- Personal Inspection
- Drill (not drill teams)
- Projects/Homework/Research
- Physical fitness participation.

Part 4 – Common / Assured Learning Experiences

Students will participate in:

- Group activities
- Modeling
- Peer assessment
- Monitoring, guidance, support
- Student-led class presentations
- Field work
- Encourage student leadership and teaching
- Direct instruction

Unit 3 - Leadership (Cont.)

Grade: 10	Subject: NNDCC/NJROTC	Course: NS-2	Length of Unit: 6 weeks
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NNDCC/NJROTC Standards

- Introduction to the Navy Junior Reserve Officer Training Corps (NS-1 Textbook)
- Fundamentals of Naval Leadership
- Ethics For the Junior Officer
- Cadet Field Manual (11th Edition revised) NAVEDTRA 37116-K
- The Bluejacket's Manual

Part 2 – Standards

Key Performance Expectations (Content Knowledge and Concepts / Skills)

The students will know:

1. After a year of being a follower now it is time to lead.
2. Your first rule must be to set the best example possible.
3. NNDCC/NJROTC needs effective leaders in squad, platoon, company, and staff positions.
4. How can you help incoming Naval Science 1 cadets?
5. Cadets must learn to manage increasingly complex situations.
6. Key to successful leadership, is fairness.
7. Essential Qualities of Leadership
8. What is the difference between physical and moral courage?

The students will be able to:

1. Teach what they have previously learned
2. Peer to peer assistance for new members of the unit
3. Ability to see and do what must be done.
4. Leaders think independently and use initiative in their jobs.
5. Loyalty to seniors, which means a willingness to serve them reliably and well.
6. Loyalty to juniors, which means consideration for their welfare and interests.
7. Develops self-confidence with increased experience, skills, professional knowledge
8. Know their juniors to evaluate them
9. Leaders must know the capabilities of each member of their group

Big Idea

● **Big Ideas**

- Leaders must be willing to take increased responsibility.
- To build loyal and committed juniors it is important first to be loyal and committed to them.
- Leaders must know the capabilities of each member of their group
- Know people's needs and understand how these needs affect human behavior.
- Understand, guide, and teach.
- Listen effectively and give counsel wisely.
- Plan.
- Requirements to be a good leader
 - i. Courage, Physical and Moral is required to be a leader
 - ii. Honor, Honesty, and Truthfulness is required to be a leader
 - iii. Self-Confidence is required to be a leader
 - iv. Common Sense, Good Judgment, and Tact
 - v. Sense of Responsibility
 - vi. Concern for People

Part 3 – Common Unit Assessments

- NNDCC academics
- Formative and Summative assessments
- Self-assessment: Review / grade own work; reflections
- Peer assessment: Peer feedback/input
- Personal Inspection
- Drill (not drill teams)
- Projects/Homework/Research
- Physical fitness participation.

Part 4 – Common / Assured Learning Experiences

Students will participate in:

- Group activities
- Modeling
- Peer assessment
- Monitoring, guidance, support
- Student-led class presentations
- Field work
- Encourage student leadership and teaching
- Direct instruction

Unit 4 - Nautical Science (Maritime Geography, Oceanography and Meteorology)

Grade:
10

Subject:
NNDCC/NJROTC

Course:
NS-2

Length of Unit:
6 weeks

NNDCC/NJROTC Standards

- Introduction to the Navy Junior Reserve Officer Training Corps (NS-1 Textbook)
- Cadet Field Manual (11th Edition revised) NAVEDTRA 37116-K
- Cadet Reference Manual
- The Bluejacket's Manual

Part 2 – Standards

Key Performance Expectations (Content Knowledge and Concepts / Skills)

The students will know:

1. Why Study Geography?
2. What is Military Geography?
3. Maritime Geography of the Western and Eastern Seas
4. Oceans are the political, economic, and military lifeblood of the world.
5. Oceanography spans the past, the present, and the future of our world.
6. What is oceanography?
7. Why does our government maintain an active program of oceanographic research?
8. Undersea Landscape
9. Ocean Currents and Seawater
10. Our Atmosphere
11. Clouds and Fog

The students will be able to:

1. Know the commerce that travels the oceans.
2. Know the location of US Naval Bases
3. Why the Panama Canal still has strategic importance.
4. Know the most important military sea-lanes in the Atlantic for the United States
5. Know why is the Greenland-Iceland-United Kingdom gap important to the allies?
6. Why is the Suez Canal important to both Western Europe and the Middle Eastern nations?
7. Why is the Pacific area an important part of US Policy?
8. Know the formation of the oceans
9. Know why physical oceanography is important to naval operations
10. What is a current?
11. Know the layers of the atmosphere
12. The sun drive is the heat source for weather
13. What is a cloud made of?
14. What are the three basic clouds?

Big Idea

- **Big Ideas**

- How much of Earth's surface is covered by water?
- What are the various oceanography disciplines?
- Why is the Persian Gulf important to the United States and its allies?
- What are some of the major chock points for naval operations?
- Why is keeping the sea lanes open for commerce important to the US?
- What are the five layers of the atmosphere?
- Why is the jet stream important to military operations?
- What occurs as water ascends into the atmosphere?
- Clouds are made of water.
- Cirrus, cumulus, and stratus clouds are the three major types of clouds
- Fog is a cloud that touches the ground

Part 3 – Common Unit Assessments

- NNDCC academics
- Formative and Summative assessments
- Self-assessment: Review / grade own work; reflections
- Peer assessment: Peer feedback/input
- Personal Inspection
- Drill (not drill teams)
- Projects/Homework/Research
- Physical fitness participation.

Part 4 – Common / Assured Learning Experiences

Students will participate in:

- Group activities
- Modeling
- Peer assessment
- Monitoring, guidance, support
- Student-led class presentations
- Field work
- Encourage student leadership and teaching
- Direct instruction

Unit 5 - Nautical Science (Meteorology, Astronomy and Physical Science)

Grade: 10	Subject: NNDCC/NJROTC	Course: NS-2	Length of Unit: 6 weeks
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NNDCC/NJROTC Standards

- Introduction to the Navy Junior Reserve Officer Training Corps (NS-1 Textbook)
- Cadet Field Manual (11th Edition revised) NAVEDTRA 37116-K
- The Bluejacket’s Manual

Part 2 – Standards

Key Performance Expectations (Content Knowledge and Concepts / Skills)

The students will know:

1. Wind and Weather
2. Fronts and Storms
3. Weather Forecasting
4. Weather Satellites
5. Astronomy
6. Astronomical Observations
7. The Moon, Sun, and Planets
8. The stars
9. Physical Science

The students will be able to:

1. What causes the wind
2. Know what causes weather
3. Know how weather forecasting occurs
4. Know the types of weather satellites
5. Know astronomical object in the solar system and universe
6. Know forces, motion, and aerodynamics
7. Know buoyancy as it applies to naval operations
8. Know basic electricity
9. Know basic electronics
10. Know basic computers
11. Know basic sound and sonar

Big Idea

- **Big Ideas**

- Wind is caused by atmospheric pressure and uneven heating of the earth.
- Weather is created by temperature, dew point, relative humidity, and fronts
- All military forces require meteorological support to support naval forces.
- The Sun, stars are used for basic nautical navigation
- The sun and moon influence the tides which are critical for naval operations.
- The understanding of Newton's law is important for ship or aircraft maneuvering
- Electronics, computers, sound, sonar, and radar are important systems used by the US Naval forces

Part 3 – Common Unit Assessments

- NNDCC academics
- Formative and Summative assessments
- Self-assessment: Review / grade own work; reflections
- Peer assessment: Peer feedback/input
- Personal Inspection
- Drill (not drill teams)
- Projects/Homework/Research

- Physical fitness participation.

Part 4 – Common / Assured Learning Experiences

Students will participate in:

- Group activities
- Modeling
- Peer assessment
- Monitoring, guidance, support
- Student-led class presentations
- Field work
- Encourage student leadership and teaching
- Direct instruction

Unit 6 - General Military Training (GMT)

Grade: 10	Subject: NNDCC/NJROTC	Course: NS-2	Length of Unit: 9 weeks
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NNDCC/NJROTC Standards

- Cadet Field Manual (11th Edition revised) NAVEDTRA 37116-K
- Naval Ceremonies, Customs and Traditions
- Cadet Reference Manual
- The Bluejacket’s Manual

Part 2 – Standards

Key Performance Expectations (Content Knowledge and Concepts / Skills)

The students will know:

- NJROTC Uniform Regulations
- Personnel Inspection
- NJROTC Rates/Ranks and U.S. Navy Rates/Ranks
- Military Chain of Command
- Military Customs, Courtesies, Etiquette and Ceremonies.
- Orders To the Sentry
- Code of Conduct
- UCMJ

The students will be able to:

- Understand how to properly wear the NNDCC/NJROTC uniform
- Understand the rank structure within the unit and within the U.S. Navy
- Understand the Chain of Command within the organization
- Understand Customs, Courtesies, Etiquette and Ceremonies of the Naval Service
- Understand the 11 General Orders of a sentry
- Know preparatory commands for facing, marching commands as individuals, groups
- Know how to present and march with “colors”
- Know the grooming standards within the organization
- Know the manual of arms with rifle or sword.

Big Idea

- **Big Ideas**
 - **See Part 2 above**

Part 3 – Common Unit Assessments

- NNDCC academics
- Formative and Summative assessments
- Self-assessment: Review / grade own work; reflections
- Peer assessment: Peer feedback/input
- Personal Inspection
- Drill (not drill teams)
- Projects/Homework/Research
- Physical fitness participation.

Part 4 – Common / Assured Learning Experiences

Students will participate in:

- Group activities
- Modeling

- Peer assessment
- Monitoring, guidance, support
- Student-led class presentations
- Field work
- Encourage student leadership and teaching
- Direct instruction