**CURRICULUM OUTLINE**

**FOR THE**

### **NAVAL JUNIOR RESERVE OFFICER TRAINING CORPS**

## **NAVAL SCIENCE 3**

**Naval Knowledge, Leadership and Nautical Skills**

**Prepared By**

**Naval Education and Training Command**

### **Pensacola, Florida**

### **August 2010**

**NAVEDTRA 37138**

### **0509 LP-101-0735**

RECORD OF CHANGE

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GOALS AND OBJECTIVES OF THE NJROTC PROGRAM

The NJROTC program goals are to provide an opportunity for secondary school

students to learn about the basic elements and requirements for national

security and their personal obligations as American citizens to

contribute toward national security. The NJROTC has the following

basic objectives:

a. Promote patriotism

b. Develop informed and responsible citizens

c. Promote habits of orderliness and precision, and develop respect

for constituted authority

d. Develop a high degree of personal honor, self-reliance, individual

discipline, and leadership

e. Promote an understanding of the basic elements and requirements

for national security

f. Develop respect for and an understanding of the need for

constituted authority in a democratic society

g. Develop an interest in the military service as a possible career

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PREFACE

This document was prepared for submission to the NJROTC Curriculum Development

Committee for approval. The curriculum outline lists course lesson topics and

associated learning objectives, both unit and lesson topics, in their sequential

order. Criterion reference tests will be used to measure cadet achievement. The

standard for all cognitive objectives will be set by each senior naval science

instructor (SNSI), based on local guidelines.

Task analysis for the NS-3 Naval Knowledge and Naval Skills manual, was

accomplished by the Naval Junior Reserve Officers Training Corps (NJROTC) staff,

Pensacola, Florida, under the guidance of the Naval Education and Training

Command(NETC),using the Jury of Expert method and questionnaires.

Appropriate modifications will be left to the discretion of SNSIs.

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# Naval Skills

Section A - Curriculum Framework............................ A-1

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SECTION A

CURRICULUM FRAMEWORK

Naval Science 3

1. Major concepts/content. The purpose of this course is to further develop the understanding and importance of sea power and national security, naval operations and support functions, militry law, interantional law and the sea and naval leadership.

The Content should include, but not be limited to the following:

-sea power and national security

-naval operations, and support functions

-military law, discipline and punishment

-fundamentals of international law and the sea

-naval leadership

B. Intended outcomes. After successfully completing this course

the student will:

1. Investigate the role of Sea Power and National Security.

2. Expand the understanding and knowledge of Naval Operations,

and Support Functions.

3. Obtain a basic knowledge of Military Law, Discipline and

Punishment.

4. Have a working knowledge of the fundamentals of international

law, the international law of the sea, the law of war at sea

and collective security.

1. Demonstrate knowledge of the challenge of leadership, the qualities of an

effective leader, how to evaluate performance and give instruction.

6. Demonstrate confidence and proficiency in basic individual,

squad, and company close-order drill. Understand and

interpret the components of physical fitness.

1. Special note. The sixth intended outcome is not an academic component of

the NJROTC curriculum similar to the previous four intended outcomes.

Demonstrating confidence and proficiency in basic individual squad, company

close-order drill is a laboratory activity consisting of 72 hours of drill,

commands ceremonies, rotation of command, regular personnel inspections,

parade in company review, and personal physical fitness training.

A-1-1

SECTION B

COURSE OBJECTIVES

UNIT TITLE: 1.0 Sea Power and National Security

UNIT OBJECTIVE: 1.0 The cadet will be expected to demonstrate an

understanding of the international law as

it applies to countries using the sea.

LESSON TOPIC: 1.1 The Importance of Sea Power

ALLOTTED SESSIONS: 3

LESSON TOPIC OBJECTIVES:

1.1.1 Define the importance of sea power as it

relates to America.

1.1.2 Describe four major developments since

World War II that have increased

the importance of the oceans of the world.

1.1.3 Describe the strategic ocean areas.

1.1.4 Describe the fourfold mobility we

gain from the sea.

1.1.5 Describe the purpose and function of the

United States Merchant Marine and the relationship

between maritime commerce and the economy of

the United States.

1.1.6 Explain the importance of ocean research to

the United States.

1.1.7 Describe the vital role oceans will play

in the future of mankind.

LESSON TOPIC: 1.2 The U.S. Merchant Marine

ALLOTTED SESSIONS: 3

LESSON TOPIC OBJECTIVES:

1.2.1 Give a historical view of the United States

merchant marine from 1850s to the present.

1.2.2 Describe national policy as it related to the merchant

marine acts.

1.2.3 Describe the impact of waterborne commerce.

B-1-1

1.2.4 Describe the types of merchant ships.

1.2.5 Describe the auxiliary function ofthe U.S.

merchant marine in national defense.

1.2.6 Explain the merchant marine's role in supporting

our military forces in both peace and war.

1.2.7 Describe the merchant marine's role in carrying

strategic materials and energy resources which

support the civilian economy and the defense

production of our nation.

1.2.8 Explain the direct support the merchant marine

provides to some military operations.

1.2.9 Identify the auxiliary combatant role of merchant

ships.

1.2.10 Describe the role of the merchant marine in support

of foreign policy.

1.2.11 Describe the future of the merchant marine.

SESSON TOPIC: 1.3 Grand Strategy

ALLOTTED SESSIONS: 3

LESSON TOPIC OBJECTIVES:

1.3.1 Define national, grand, and military strategy.

1.3.2 Name the major strategists from 400 B.C. to the

mid-nineteenth century.

1.3.3 Describe the three classic schools of strategy.

1.3.4 Explain preparedness as it relates to grand strategy.

1.3.5 Describe the three phases of the evolution of U.S. grand

strategy.

1.3.6 Describe the concepts of massive retaliation and flexible

response as they relate to U.S. grand strategy.

1.3.7 Describe the three principle elements of today’s national

military strategy.

1.3.8 Explain the anticipated future strategic trends.

B-1-2

LESSON TOPIC: 1.4 U.S. Strategy and the Navy

ALLOTTED SESSIONS: 3

LESSON TOPIC OBJECTIVES:

1.4.1 Describe the two basic functions of the U.S. Navy.

1.4.2 Explain the three functional roles of the Navy

within national military strategy.

1.4.3 Differentiate between tactics and strategy.

1.4.4 Describe modern tactical innovations.

1.4.5 Describe the capabilities the U.S. naval force must have

if it is to be able to support national strategy.

1.4.6 Describe the Navy’s fundamental and supportive

tactical warfare tasks.

1.4.7 Describe the two categories of major tactical naval ships.

LESSON TOPIC: 1.5 National Security and Modern Conlfict

ALLOTTED SESSIONS: 3

LESSON TOPIC OBJECTIVES:

1.5.1 Explain the major concerns and elements used to

evaluate national strategy.

1.5.2 Describe the nine principles of war that govern

war fighting strategy and tactics.

1.5.3 Explain the following forms of modern armed

conflict: general war, revolutinary war, and terrorism.

1.5.4 List the possible causes of general war.

1.5.5 Describe the prerequisites for revolution.

B-1-3

UNIT TITLE 2.0 Naval Operations and Support Functions.

UNIT OBJECTIVE: 2.0 The Cadet will be expected to demonstrate knowledge

of the major organizations of the Navy, and how

communicating among naval units is accomplished,

the value of good intelligence, and the need to

protect that intelligence.

LESSON TOPIC: 2.1 Naval Operations

ALLOTTED SESSIONS: 5

LESSON TOPIC OBJECTIVES:

2.1.1 Describe naval task force organization.

2.1.2 Describe the naval command and control organization.

2.1.3 Define strike and strike group in the context of naval

striking forces.

2.1.4 Describe the missions of the carrier strike forces.

2.1.5 Describe the modern carrier strike group (CSG).

2.1.6 Describe naval surface action groups.

2.1.7 Describe fleet aviation organization.

2.1.8 Describe air warfare.

2.1.9 Describe surface warfare.

2.1.10 Describe submarine warfare.

2.1.11 Describe undersea warfare.

2.1.12 Describe amphibious warfare.

2.1.13 Describe the principle objectives for amphibious

operation.

2.1.14 Describe information warfare.

2.1.15 Describe space warfare.

LESSON TOPIC: 2.2 Naval Communications

ALLOTTED SESSIONS: 3

LESSON TOPIC OBJECTIVES:

2.2.1 Describe the major functions of naval

telecommunications.

2.2.2 Describe the major telecommunications commands

under the Chief Of Naval Operations (CNO).

B-1-4

2.2.3 Cite ways in which electronic equipment has

aided in communication.

2.2.4 Explain the purpose of International Morse Code.

2.2.5 Describe the advantages of visual communication.

2.2.6 Describe the various sound and pyrotechnic

signaling devices.

LESSON TOPIC: 2.3 Naval Intelligence

ALLOTTED SESSIONS: 5

LESSON TOPIC OBJECTIVES:

* + 1. Provide general definition of intelligence.

2.3.2 Describe the roles that planning and direction,

collection, processing, analysis and production

and disseminating play in the intelligence cycle

process.

2.3.3 Discuss the types of intelligence, to include

naval intelligence and air intelligence.

2.3.4 Describe the makeup of the U.S. intelligence

community.

2.3.5 Describe the Central Intelligence Agency(CIA).

2.3.6 Describe the Federal Bureau of Investigation (FBI).

2.3.7 Describe the Department of Homeland Security (DHS).

2.3.8 Describe Department of Defense (DoD)Intelligence Agencies.

2.3.9 Describe the role of the Office of Naval

Intelligence (ONI).

2.3.10 Describe the basis of foreign intelligence organizations.

2.3.11 Describe the roles of spies and diplomats in espionage

operations.

2.3.12 Define counterintellingence.

2.3.13 List three different security classifications.

2.3.14 Explain the purposes of security clearnaces.

2.3.15 Explain the consequences of security breaches.

B-1-5

LESSON TOPIC: 2.4 Navy Logistics

ALLOTTED SESSIONS: 2

LESSON TOPIC OBJECTIVES:

2.4.1 Describe the Navy's logistics supply and

services system that began during World War I.

2.4.2 Describe the principles of logistics that come into play

in logistics planning at all levels.

2.4.3 Describe the six functioal areas of logistics.

2.4.4 Explain the following four elements of logistics:

acquisition, distribution, sustainment, and disposition.

2.4.5 Describe logistics in modern warfare.

LESSON TOPIC: 2.5 Navy Research and Development

ALLOTTED SESSIONS: 3

LESSON TOPIC OBJECTIVES:

2.5.1 Describe the Research and Development (R&D) program of

the Department of Defense (DoD).

2.5.2 Describe the management of the Navy’s R&D program.

* + 1. Explain the role of the Office of Naval Research (ONR) in

naval research and development .

2.5.4 Describe the role of the Naval Research Laboratory

(NRL)in naval research development.

* + 1. Describe the objectives of the naval oceanographic

research program.

2.5.6 Describe the current research and development

projects.

B-1-6

UNIT TITLE: 3.0 Military Law

UNIT OBJECTIVE: 3.0 The cadet will be expected to demonstrate

an understanding of military justice, and how

it relates to the navy.

LESSON TOPIC: 3.1 Introduction to Military Law

ALLOTTED SESSIONS: 3

LESSON TOPIC OBJECTIVES:

3.1.1 Explain the history of law codes as it

pertains to the Navy.

3.1.2 Describe the relationship between the U.S.

Constitution and military law.

3.1.3 Define Navy Regulations.

3.1.4 Describe important Navy regulations.

3.1.5 Explain the purpose of the Uniform Code of Military

Justice (UCMJ).

3.1.6 Cite the composition of the UCMJ articles.

LESSON TOPIC: 3.2 Discipline and Punishment

ALLOTTED SESSIONS: 3

LESSON TOPIC OBJECTIVES:

3.2.1 Describe the procedures for applying

discipline and punishment in the Navy.

3.2.2 Describe the process of apprehension, arrest,

restriction, and confinement used in

the Navy.

3.2.3 Describe the procedures for initiating

and preferring charges on enlisted personnel

aboard a U.S. Navy ship or shore station.

3.2.4 Describe the procedure for preliminary

investigation leading to captain's mast.

* + 1. Cite two basic classes of official naval disciplinary

actions.

* + 1. Describe the features of nonjudicial punishment.
    2. Cite the three types of military courts-martial.
    3. Explain the method for reviewing courts-martial.

B-1-7

* + 1. Describe the relationship between civil jurisdiction

and military justice.

* + 1. Cite the methods used for disciplinary separations from

the service.

UNIT TITLE: 4.0 International Law and the Sea

UNIT OBJECTIVES: 4.0 The cadet will demonstrate an understanding of

international law as it applies to countries

using the sea.

LESSON TOPIC: 4.1 Fundamentals of International Law

ALLOTTED SESSIONS: 2

LESSON TOPIC OBJECTIVES:

4.1.1 Identify the United States' role in international

relationships.

4.1.2 Explain the purpose of international law and

diplomacy.

4.1.3 Describe the history of diplomacy as it relates to

International law and the sea.

4.1.4 Describe the sources of international law which

binds independent nations together.

4.1.5 Identify three specific characteristics sovereign

nations have in common.

4.1.6 Identify the rights and duties of sovereign

states under International Law.

4.1.7 Describe the process of diplomatic recognition.

4.1.8 Describe the guidelines pertinent to military and naval

attaches under international law.

4.1.9 Describe how international problems are solved through

the effective use of international law.

4.1.10 Describe the concept of collective security.

4.1.11 Describe the United Nations (UN).

4.1.12 Describe international,regional, and collective

arrangements recognized by the UN.

4.1.13 Describe modern collective security trends and the issues

that revolve around such trends.

B-1-8

LESSON TOPIC: 4.2 International Law of the Sea

ALLOTTED SESSIONS: 2

LESSON TOPIC OBJECTIVES:

4.2.1 Explain the customs and treaties from 1604

to the present which relate to the international

law of the sea.

4.2.2 Identify the main ideas which have

formed customary international law of the

sea.

4.2.3 Describe the four possible adverse impacts of

international legal rules affecting the

deployment and navigation of naval vessels.

4.2.4 Explain the increase of sovereign territorial

sea jurisdiction.

4.2.5 Describe the potential hardships for the U.S.

Navy in straits and many scattered islands

around the world.

4.2.6 Explain the controversy over where internal

bays and gulfs end and where territorial seas

begin.

4.2.7 Describe how international law deals with

rivers, lakes, and canals.

4.2.8 Explain the law of the high seas.

4.2.9 Describe the economic zone problems.

4.2.10 Describe policies on territorial self-defense

and rights concerning fisheries.

4.2.11 Explain the international law on the

continental shelf and seabeds of the world.

LESSON TOPIC: 4.3 The Law of War at Sea

ALLOTTED SESSIONS: 3

LESSON TOPIC OBJECTIVES:

4.3.1 Describe the international law as it relates

to warships.

4.3.2 Explain the general rules of war on land and

at sea.

B-1-9

4.3.3 Describe war at sea and the effects war has

on international law.

4.3.4 Describe the methods used to enforce laws

of war.

UNIT TITLE: 1.0 Leadership

UNIT OBJECTIVE: 1.0 The cadet will be expected to demonstrate knowldege

of the challenge of leadership, the qualities of an

effective leader, how to evaluate the performance of

subordinates, and how to give instruction.

LESSON TOIC: 1.1 The Challenge of Leadership

ALLOTTED SESSIONS: 1

LESSON TOPIC OBJECTIVES:

* + 1. Describe the basis for effective leadership.

1.1.2 Explain the differences in philosophies of

leadership.

* + 1. Explain the importance of obedience.
    2. Describe obedience in the military services.
    3. Describe the legal and moral obligations of military leaders.

LESSON TOPIC: 1.2 Qualities of a Leader

ALLOTTED SESSIONS: 2

LESSON TOPIC OBJECTIVES:

1.2.1 Differentiate between moral responsibility and legally

enforceable laws.

1.2.2 Define loyalty.

1.2.3 Define devotion to duty

1.2.4 Describe professional knowledge and experience.

1.2.5 Explain the importance of self-confidence.

1.2.6 Describe the value of initiative and ingenuity in

the military services.

1.2.7 Comapre courage to moral courage.

1.2.8 Explain the importance of a leader’s ability to

organize and make decisions.

B-10

1.2.9 Describe the importance of leading by personal

example.

1.2.10 Explain why mutual trust and confidence are important

aspects of effective leadership.

1.2.11 Describe what is appropriate conduct whenever

wearing a military uniform.

1.2.12 Describe the importance of discipline and self-

discipline to effective leadership.

1.2.13 Explain the importance of using consistency whenever

conducting disciplinary action.

1.2.14 Explain the consequence each leader faces when he or

she loses control of his or her temper.

1.2.15 Describe why it is vital for leaders to get to know

the people working for them.

1.2.16 Describe freindship versus familiarity.

1.2.17 Define fratenization and sexual harassment.

LESSON TOPIC: 1.3 Evaluation of Performance

ALLOTTED SESSIONS: 1

LESSON TOPIC OBJECTIVES:

1.3.1 Define performance, ability, aptitude, and

achievement.

1.3.2 Describe evaluation in the NJROTC.

1.3.3 Explain goal setting as it relates to self-evaluation.

1.3.4 Explain progress assessment as it relates to self-

evaluation.

1.3.5 Describe the process of self-evaluation.

LESSON TOPIC: 1.4 How to Give Instruction

ALLOTTED SESSIONS: 4

LESSON TOPIC OBJECTIVES:

1.4.1 Describe what learning theory is.

1.4.2 List the major factors that influence learning.

1.4.3 Describe the conditions that tend to hinder learning.

B-11

1.4.4 Explain how to prepare a lesson plan, the site where

instruction will occur, and yourself as an instructor.

1.4.5 List the commonly used techniques for delivery of

instruction.

1.4.6 Describe the advantages and disadvantages of the

lecture technique for presenting information.

1.4.7 Describe the main steps of the lecture procedure for

delivering instruction.

1.4.8 Describe the advantages and disadvantages of the

lecture with audiovisuals technique for presenting

information.

1.4.9 Describe the main steps of the lecture with

audiovisuals procedure for delivering instruction.

1.4.10 Describe the advantages and disadvantages of the

demonstration technique for presenting informaiton.

1.4.11 Describe the main steps of the demonstration

procedure for delivering instruction.

1.4.12 Describe the advantages and disadvantages of the role

playing instructional technique.

1.4.13 Describe the advantages and disadvantages of the case

study instructional technique.

1.4.14 Describe the advantages and disadvantages of the

discussion instructional technique.

1.4.15 Describe the advantages and disadvantages of the

cooperative learning instructional technique.

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SECTION C

MASTER COURSE SCHEDULE

Length of Sessions: 40 Minutes

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UNIT LESSON UNIT AND LESSON SESSIONS TOTAL SESSIONS

NUMBER NUMBER TITLE PER LESSON PER UNIT

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1.0......................Sea Power and National Security....................15

1.1.......The Importance of Sea Power......3

1.2.......The U.S Merchant Marine .........3

1.3.......Grand Strategy,..................3

1.4.......U.S. Strategy and The Navy.......3

1.5.......National Security and Modern.....3

Conflict

2.0......................Naval Operations, and,............................23

Support Functions

2.1......Naval Operations.................5

2.2......Naval Communications.............3

2.3......Naval Intelligence ..............5

2.4......Navy Logistics.................. 2

2.5......Navy Research and Development....3

3.0......................Military Justice.................................6

3.1......Introduction to Military Law.....3

3.2......Discipline and Punishment........3

4.0......................International Law and The Sea....................7

4.1......Fundamentals of International...2

Law

4.2......International Law of the Sea....2

4.3......The Law of War at Sea...........3

C-1-1

SECTION C

MASTER COURSE SCHEDULE

Length of Sessions: 40 Minutes

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UNIT LESSON UNIT AND LESSON SESSIONS TOTAL SESSIONS

NUMBER NUMBER TITLE PER LESSON PER UNIT

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1.0.....................Leadership....................8

1.1.......The Challenge of Leadership......1

1.2.......Qualities of a Leader ...........2

1.3.......Evaluation of Performance .......1

1.4.......How To Give Instruction..........4

C-1-2

SECTION D

COURSE STUDENT PERFORMANCE STANDARDS

Naval Science 3

After successfully completing this course, the student will:

**1. Investigate the role of sea power and national security.**

**The student will:**

1.01 define the importance of sea power as it relates to America.

1.02 describe four major developments since World War II have increased

the importance of the oceans of the world.

1.03 describe the strategic ocean areas.

1.04 describe the mobility of sea power.

1.05 describe the purpose and function of the United States Merchcant Marine and

the relationship between maritime comerce and the economy of the United

States.

1.06 explain the importance of oceanography to the United States.

1.07 describe the vital role oceans will play in the future of humankind.

1.08 give a historical view of the United States merchant marine from the 1850s

to the present.

1.09 describe national policy as it related to the merchant marine acts.

1.10 describe the impact of waterborne commerce.

1.11 describe the types of merchant ships.

1.12 describe the auxiliary function of the U.S. meerchant marine in

national defense.

1.13 explain the merchant marine’s role in supporting our military forces in

both peace and war.

1.14 describe the merchant marine’s role in carrying strategic materials and

energy resources which support the civilian economy and the defense

production of our nation.

* 1. explain the direct support the merchant marine provides to some

military operations.

1.16 identify the auxiliary combatant role of merchant ships.

1.17 describe the role of the merchant marine in support of foreign policy.

1.18 describe the future of the merchant marine. \

1.19 define national, grand, and military strategy.

1.20 name the major strategists from 400 B.C. to the mid-nineteenth century.

1.21 describe the three classic schools of strategy.

1.22 explain preparedness as it relates to grand strategy.

1.23 describe the three phases of the evolution of U.S. grand strategy.

1.24 describe the concepts of massive retaliation and flexible response as they

relate to U.S. grand strategy.

* 1. describe the three principle elements of today’s national military strategy.
  2. explain the anticipated future strategic trends.

1.27 describe the two basic functions of the U.S. Navy.

1.28 explain the three functional roles of the Navy within national military

strategy.

1.29 differentiate between tactics and strategy.

1.30 describe modern tactical innovations.

1.31 describe the capabilities the U.S. naval force must have if it is to be able

to support national strategy.

1.32 describe the Navy’s fundamental and supportive tactical warfare tasks.

1.33 describe the two categories of major tactical naval ships.

1.34 explain the major concerns and elements used to evaluate national stragegy.

1.35 describe the nine principles of war that govern war fighting strategy and

tactics.

D-1-1

1.36 explain the following forms of modern armed conflict: general war, limited

war, revolutionary war, and terrorism.

1.37 list the possible causes of general war.

1.38 describe the prerequisites for revolution.

**2. Expand the understanding and knowledge of naval operations,**

**and support functions.**

**The student will:**

2.01 describe naval task force organization.

2.02 describe the naval command and control organization.

2.03 define strike and strike group in the context of naval striking forces.

2.04 describe the missions of the carrier strike forces.

2.05 describe the modern carrier strike group (CSG). .

2.06 describe naval surface action groups.

2.07 discuss the fleet aviation organization.

2.08 define air warfare.

2.09 define surface warfare.

2.10 define submarine warfare.

2.11 describe undersea warfare.

2.12 describe amphibious warfare.

2.13 describe the principle objectives for amphibious operations.

2.14 define information warfare.

2.15 describe space warfare.

2.16 describe the major functions of naval telecommunications.

2.17 describe the major telecommunications commands under the

Chief of Naval Operations (CN0).

2.18 cite ways in which electronic equipment has aided in communication.

2.19 explain the purpose of International Morse Code.

2.20 describe the advantages of visual communication.

2.21 describe the various sound and pyrotechnic signaling devices.

2.22 provide a general definition of intelligence.

2.23 describe the makeup of the U.S. intelligence community.

2.24 describe the basis of foreign intelligence organizations.

2.25 describe the roles of spies and diplomats in espionage operations.

2.26 define counterintelligence.

2.27 list the three different security classifications.

2.28 explain the purposes of security clearances.

2.29 explain the consequences of security breaches.

2.30 explain the principles and elements of logistics that come into play in

logistics planning at all levels.

* 1. describe the Research and Development (R&D) program of the

Department of Defense (DoD).

* 1. describe the management of the Navy’s R&D program.
  2. Explain the role of the Office of Naval Research (ONR) in naval research and development.
  3. describe the role of the Naval Research Laboratory (NRL) in naval

research and development.

* 1. describe the objectives of the naval oceanographic research
  2. describe the current advanced research and development project areas.

**3. Have a broad, basis knowledge of military law, discipline and**

**punishment and nonjudicial punishment and courts-martial.**

**The student will:**

3.01 explain the history of law codes as it pertains to the Navy .

3.02 describe the relationship between the U.S. Constitution and military law.

3.03 define Navy Regulations.

3.04 describe important Navy regulations.

3.05 explain the purpose of the Uniform Code of Military Justice (UCMJ).

3.06 cite the composition of the UCMJ articles.

D-1-2

3.07 define the process of apprehension, arrest, restriction, and

confinement used in the Navy.

3.08 explain the process of initiating and preferring charges on the

enlisted personnel aboard a U.S. Navy ship or shore station.

3.09 explain the procedures for preliminary investigation leading

to a captain's mast.

3.10 cite two basic classes of official naval disciplinary actions.

3.11 explain the purpose of nonjudicial punishment, and give examples

of typical outcomes.

3.12 cite the three types of military courts-martial.

3.13 explain the method for reviewing couts-martial

3.14 explain the relationship between civil jurisdiction and military justice.

3.15 cite the methods used for disciplinary separation from the services.

**4. Have a working knowledge of the fundamentals of international**

**law and the sea.**

**The student will:**

4.01 discuss the need for international law and identify the

five principal bases of the law.

4.02 cite the three sources of law which bind nations in a

contractual manner, and its effect on the sovereignty of a nation.

4.03 interpret how the U.S. Constitution regards international treaties.

4.04 state factors that the U.S. considers necessary before it will grant

diplomatic recognition to any state.

4.0 discuss the meaning of belligerency insurgency, and counterinsurgency

as it relates to international law, and the far-reaching effects

these terms have on the world community of nations and their respective

armed forces.

4.06 discuss territorial sea, and boundary establishment of the high

seas and international rivers between independent nations.

4.07 discuss the impact of the law of the sea on straits,

archipelagoes, gulfs, bays, rivers, lakes, canals, and seas.

4.08 differentiate between territorial sea and the economic zone problems.

4.09 discuss the law of ships and the general rules of war on land

and sea.

**Naval Leadership**

**5. Have a knowledge of the challendge of leadership, the qualities of an**

**effective leader, how to evaluate performance of subordinates, and how to**

**give instruction.**

**The student will:**

* 1. describe the basis for effective leadership.
  2. explain the differences in philosophies of leadership.
  3. explain the importance of obedience.
  4. describe obedience in the military services.
  5. describe the legal and moral obligations of military leaders.
  6. differentiate between moral responsibility and legally enforceable laws.
  7. define and explain loyalty, devotion to duty, professional knowledge and
  8. experience and the importance of self-confidence.
  9. describe the value of initiative and ingenuity in the military services.
  10. compare courage to moral courage.
  11. explain the importance of a leader’s ability to organize and to make decisions.
  12. describe the importance of leading by personal example.
  13. explain why mutual trust and confidence are important aspects of effective

leadership.

D-1-3

1.14 describe what is appropriate conduct whenever wearing a military uniform.

1.15 describe the importance of discipline and self-discipline to effective

leadership.

1.16 explain the importance of using consistency whenever conducting disciplinary

action.

* 1. 7 explain the consequences each leader faces when he or she loses control of his

or her temper.

* 1. describe why it is vital for leaders to get to know the people working for

them.

* 1. describe friendship versus familiarity.
  2. define fraternization and sexual harassment.
  3. define performance, ability, apitude, and achievement.
  4. describe evaluation in the NJROTC.
  5. explain goal setting as it relates to self-evaluation.
  6. describe the process of self-evaluation.
  7. describe what learning theory is.
  8. list the major factors that influence learning.
  9. describe the conditions that tend to hinder learning.
  10. explain how to prepare lesson plan, the site where instruction will occur,

and yourself as an instructor.

* 1. list the commonly used techniques for delivery of instruction.
  2. describe the advantages and disadvantages of th electure technique for

presenting information.

* 1. describe the main steps of the lecture procedure for delivering instruction.
  2. describe the advantages of the lecture with audiovisuals technique for

presenting information.

* 1. describe the main steps of the lecture with audiovisuals procedure for

delivering instruction.

* 1. describe the advantages and disadvantages of the demonstration technique for

presenting information.

* 1. describe the main steps of the demonstration procedure for delivering

instruction.

* 1. describe the advantages and disadvantages of the role playing instructional

technique.

* 1. describe the advantages and disadvantages of the case study instructional

technique.

* 1. describe the advantages and disadvantages of the discussion instructional

technique.

* 1. describe the advantages and disadvantages of the cooperative learning

instructional technique.

D-1-2

SECTION E

NJROTC TIME ALLOCATIONS

Total Hours Total Sessions

Classroom - Three days per week 72 108

drill - Two Days per week 48 72

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120 180

NOTE: The curriculum time allocation is based on 40-minute sessions of instruction for 36 weeks, with 180 teaching days. If the school schedule for classroom time other than 40 minutes in length, appropriate adjustments should be made at the local school level.

CONVERSION CHART - CLASS SESSIONS TO HOURS OF INSTRUCTION

Col. (1) Col. (2) Col. (3)

Length of Class Period Number of Classroom Number of Drills

in minutes Sessions Sessions

60 72 48

55 78 52

50 87 58

48 90 60

45 96 64

42 102 68

40 108 72

This program results in 120 class hours. Adjustments for staggered schedules,

rotating schedules, or modular schedules must be made at the local level.

Unit 10 (appendix unit) exceeds the total number of classroom hours stated

above by 17 hours/sessions. The use if this unit is at the discretion of

the NSI.

E-1-1

SECTION F

POWER POINT PRESENTATIONS

1. Use the Power Point Presentations provided for NS-3 which is located on the

NJROTC Naval Science 3 DVD.

F-3-1

SECTION G

INSTRUCTIONAL EQUIPMENT

1. One Pioneer videodisc player DVD-V7400 with remote control or equivalent per

classroom

2. Chalkboard or dry erase board and equipment.

3. Three Personal Computer (PC) with peripherals (as provided)

4. Liquid Crystal Display (LCD) projector

\* One per classroom

5. Naval Science 3 (NS3) Digital Video Disk (DVD)

6. Classroom Performance System (CPS) with remote controls.

\* One per classroom

7. One CD/Tape Cassette Player

\* One per classroom

8. One multimedia converter Aitech, model Multipro or equivalent per classroom.

Note: Computer systems and software will most likely be refereshed at least every

four years.

G-1-1

SECTION H

CHARTS AND MAPS

Title Lesson Number

1. World/ U.S Map/Globe 1.1

2. World/ U.S. Map/Globe 1.2

3. World/ U.S. Map/Globe 1.3

4. World/ U.S. Map/Globe 1.4

5. World/ U.S. Map/Globe 1.5

6. World/ U.S. Map/Globe 1.6

7. World/ U.S. Map/Globe 2.1

8. World/ U.S. Map/Globe 2.2

9. World/ U.S. Map/Globe 2.3

10. World/ U.S. Map/Globe 2.4

11. World/ U.S. Map/Globe 2.5

12. World/ U.S. Map/Globe 4.1

13. World/ U.S. Map/Globe 4.2

14. World/ U.S. Map/Globe 4.3

NOTE: The above charts, globes and maps is issued by supply one per classroom.

H-1-1

SECTION I

INSTRUCTOR MATERIALS

UNIT

STOCK NO. NUMBER TITLE

7020DVDNS3INT NS-3 Naval Knowledge,Leadership and Naval Skills DVD

NONE NS-3 Naval Knowledge Curriculum Outline

NONE NS-3 Naval Knowledge Test Bank with Answer Keys

NONE NS-3 Naval Knowledge Note-taking Sheets

0509LP1096653 NS-3 Instructor’s Answer Guide (Second Edition 2009)

NOTE: The curriculum outline, test bank and note taking sheets for NS-3 are located on the NJROTC Portal.

I-1-1

SECTION J

REFERENCES:

Hobbs, Richard R., CDR USNR (Ret), Naval Knowledge, Leadership and Nautical

Skills (NS-3) for the NJROTC Student, 2nd ed, Naval Institute Press, Annapolis,

2009.

The Bluejacket’s Manual, 21st ed., United States Naval Institute, Annapolis,

1991.

J-1-1

SECTION A

CURRICULUM FRAMEWORK

Naval Science 3

**A. Major concepts/content.** The purpose of this course is to build on the

general introduction provided in Naval Science 1, to further develop the

traits of introduce cadets to the technical areas of naval science study,

and engender a deeper awareness of the vital importance of the world oceans

to the continued well-being of the United States.

The content should include, but not be limited to the following:

-the construction and organization (damage control) of naval ships

-naval shipboard organization and watch standing

-equipment, terminology, and small boat basic characteristics

used in basic seamanship

-common tools and terminology of navigation

-navigation fundamentals, nautical rules of the road and purpose

of maneuvering boards

-naval weaponry instruction in gunnery, guided missiles, mines, chemical,

biological, and nuclear weapons

**B. Intended outcomes.** After successfully completing this course, the

student will:

1. Expand the understanding and knowledge of Navy ships, their

construction, operation, and uses.

2. Expand the understanding and knowledge of Navy ships, their

organization, shipboard watches, and general bills.

3. Have a classroom understanding of small boat ship handling techniques

used by the Navy.

4. Demonstrate knowledge of basic theory of marine navigation as it

relates to Naval Skills.

5. Demonstrate knowledge of basic theory of nautical rules of the road

and be able to use a maneuvering board effectively for all types

of situations.

6. Have a broad, basic knowledge of naval weaponry, to include naval

gunnery, guided missile systems, mines, chemical, biological, and

nuclear weapons.

A-2-1

SECTION B

COURSE OBJECTIVES

UNIT TITLE: 1.0 Ship Construction, and Damage Control

UNIT OBJECTIVE: 1.0 The cadet will be expected to demonstrate knowledge of

Navy ships, their construction, characteristics, and damage

control.

LESSON TOPIC: 1.1 Ship Construction

ALLOTTED SESSIONS: 5

LESSON TOPIC OBJECTIVE:

1.1.1 Describe the eight major factors used in

the construction of any U.S. Navy ship.

1.1.2 Identify nautical terms used in the U.S.

Navy.

1.1.3 Describe terms that describe a ship's

structure.

1.1.4 Describe the decks and spaces of a U.S. Navy vessel.

1.1.5 Describe the superstructure of a U.S. Navy vessel.

1.1.6 Describe the watertight integrity of a Navy ship.

1.1.7 Cite the three types of propulsion plants

used in Navy vessels.

1.1.8 Explain the design and planning stages in

ship construction for U.S. Navy ships.

* + 1. Describe the launching of a U.S. vessel.
    2. Describe the commissioning of a U.S. vessel.

1.1.11 List the classifications and designations

of U.S. Navy ships.

LESSON TOPIC: 1.2 Damage Control And Firefighting

ALLOTTED SESSIONS: 4

LESSON TOPIC OBJECTIVES:

1.2.1 Describe the services provided by damage

control.

B-2-1

1.2.2 Describe the functions and responsibilities

of key personnel assigned to the damage

control organization.

1.2.3 Describe the responsibilities of repair

parties.

1.2.4 Explain the material conditions of

readiness.

1.2.5 Describe the methods and materials used by

repair parties to make emergency repairs.

1.2 6 Describe the systems used to communicate

throughout the damage control organization.

1.2.7 Describe the three physical requirements for a

fire to occur and the four classes of fires.

1.2.8 Explain the systems used to fight fires

aboard a ship.

1.2.9 Describe the portable firefighting

extinguishers used by the Navy.

1.2.10 Describe the protective firefighting

equipment used by the Navy.

1.2.11 Describe the procedures for fighting fires.

UNIT TITLE: 2.0 Shipboard Organization

UNIT OBJECTIVE: 2.0 The cadet will be expected to demonstrate an

understanding of the Navy’s mission and

organization to ensure combat effectiveness.

LESSON TOPIC: 2.1 Shipboard Organization

ALLOTTED SESSIONS: 4

LESSON TOPIC OBJECTIVES:

2.1.1 Describe the administrative organization of a

typical Navy fighting ship, to include the

responsibilities of key personnel.

2.1.2 Describe the responsibilities of department heads and

division officers aboard Navy vessels.

2.1.3 Describe the publications which establish the

functional shipboard organization.

B-2-2

LESSON TOPIC: 2.2. Watches

ALLOTTED SESSIONS: 2

LESSON TOPIC OBJECTIVES:

2.2.1 Describe the watch structure used in the U.S. Navy.

2.2.2 Cite the duties and responsibilities of shipboard

watchstanders.

2.2.3 Describe the duties performed by crewmen during

underway watches.

2.2.4 Describe the duties performed by crewmen during

in-port watches.

2.2.5 Describe the duties of Navy personnel performing

watches ashore.

* + 1. Describe the duties of Navy personnel performing

barracks security watches.

UNIT TITLE: 3.0 Basic Seamanship

UNIT OBJECTIVE: 3.0 The cadets will be expected to demonstrate

an understanding of basic care, makeup and use

of fiber lines and wire ropes, ground tackle and deck

equipment as it relates to basic seamanship.

LESSON TOPIC: 3.1 Deck Seamanship

ALLOTTED SESSIONS: 4

LESSON TOPIC OBJECTIVES:

3.1.1 Cite the duties and responsibilities of deck

department personnel.

3.1.2 Cite the duties and responsibilities of boatswain’s

Mates.

3.1.3 Define marlinspike seamanship.

3.1.4 Describe the types and makeup of ropes used

in the Navy.

3.1.5 Describe the proper procedure for handling

fiber rope.

B-2-3

3.1.6 Describe how to tie knots, bends, and

hitches.

3.1.7 Cite the importance of securing at sea.

LESSON TOPIC: 3.2 Ground Tackle and Deck Equipment

ALLOTTED SESSIONS: 4

LESSON TOPIC OBJECTIVES:

3.2.1 Explain the terms associated with and the use

of ground tackle.

3.2.2 Explain the terms associated with and the use

of anchors.

3.2.3 Explain the terms associated with and the use

of anchor chains and related equipment.

3.2.4 Describe the operation of an anchor windlass.

3.2.5 Explain the terms associated with and the

procedures used in anchoring.

3.2.6 Explain the terms associated with and the use

of deck and pier fittings used in mooring.

3.2.7 Explain the terms associated with and the

procedures used for mooring lines to a pier.

3.2.8 Describe the equipment and basic procedures

used in towing.

3.2.9 Describe the equipment used and explain the

terms associated with cargo handling.

3.2.10 Explain the procedure used during underway replenishment.

LESSON TOPIC: 3.3 Small Boat Seamanship

ALLOTTED SESSIONS: 4

LESSON TOPIC OBJECTIVES:

3.3.1 Describe the purpose of small boat seamanship.

3.3.2 Identify nomenclature that applies to small boat parts and structure.

B—2-4

3.3.3 Describe the Upperworks of a small boat.

3.3.4 Describe the propulsion and rudder of a small boat.

3.3.5 Identify types of small craft as they apply to the

NJROTC program.

3.3.6 Describe the duties of the coxswain.

3.3.7 Describe the procedures for small boat handling.

3.3.8 Given a set of maneuvering problems related to

small craft, use recognized concepts to maneuver a boat

in a classroom situation.

3.3.8 Describe boat etiquette as practiced by the

United States Navy.

UNIT TITLE: 4.0 Marine Navigation

UNIT OBJECTIVE: 4.0 Demonstrate a basic understanding of navigation and the

significant instruments used in this science.

LESSON TOPIC: 4.1 Introduction to Navigation

ALLOTTED SESSIONS: 4

LESSON TOPIC OBJECTIVES:

4.1.1 Define navigation.

4.1.2 Describe the terrestrial sphere as it

relates to navigation.

4.1.3 Cite the significance of the great circle.

4.1.4 Define circular measurement.

4.1.5 Describe the relationship of meridians as

they pertain to measurement.

4.1.6 Describe how distance is represented by

parallel circles on a globe.

B-2-5

4.1.7 Explain how latitude and longitude are used

to locate places on a map.

4.1.8 Describe how nautical measurements are made

at sea.

4.1.9 Describe true and relative bearing.

4.1.10 Explain the use of navigational charts.

4.1.11 Describe how mercator projection is used by

navigators.

4.1.12 Explain the purpose for the basic types of

nautical charts.

4.1.13 Explain how courses, bearings, and lines of position

are plotted on a nautical chart.

4.1.14 Describe the navigational equipment and other means

used to pilot a ship.

LESSON TOPIC: 4.2 Aids To Navigation

ALLOTTED SESSIONS: 3

LESSON TOPIC OBJECTIVES:

4.2.1 Specify three principal characteristics of

navigational lights.

4.2.2 Explain the purpose of lighthouses, lightowers

and lightships.

4.2.3 Describe the types of buoys used along waterways.

4.2.4 Describe how day beacons and ranges are used as

navigational aids.

* + 1. Define the U.S. Intracoastal Waterway.
    2. Describe the publication *Nautical Chart Symbols,*

*Abbreviations, and Terms, Chart No.1*.

B-2-6

LESSON TOPIC: 4.3 Time and Navigation

ALLOTTED SESSIONS: 3

LESSON TOPIC OBJECTIVES:

4.3.1 Describe the basic timekeeping instruments

used in the U. S. Navy.

4.3.2 Explain how time is indicated in the Navy.

4.3.3 Describe the purpose of the ship's bell

system on board a Navy vessel.

4.3.4 Describe the Arc theory in relation to

measuring time.

4.3.5 Describe the various kinds of time.

4.3.6 Describe the aspects of the date/time group.

UNIT TITLE: 5.0 Rules of the Road and Maneuvering Board

UNIT OBJECTIVE: 5.0 The cadet will be expected to demonstrate the basic

concepts of maneuvering a small boat under classroom

conditions through the use of the maneuving board.

LESSON TOPIC: 5.1 Nautical Rules of the Road

ALLOTTED SESSIONS: 3

LESSON TOPIC OBJECTIVES:

5.1.1 Describe the two main sets of nautical rules.

5.1.2 Explain the importance and purpose of nautical rules.

* + 1. Describe the rules for shipboard lights and day shapes in

inland and international waters.

* + 1. Describe whistle, fog, and distress signals used on

marine vessels.

5.1.5 Describe the inland and international rules for

steering and sailing vessels to avoid risk of collisions.

B-2-7

LESSON TOPIC: 5.2 The Maneuvering Board

ALLOTTED SESSIONS: 3

LESSON TOPIC OBJECTIVES:

5.2.1 Describe the purpose and use of the

maneuvering board.

5.2.2 Explain the relationship between relative motion

and reference point.

5.2.3 Describe the major steps for plotting directions

with the use of a maneuvering board.

5.2.4 Given a set of problems related to the Closest

Point of Approach (CPA), apply the major concepts

of maneuvering a ship.

5.2.5 Describe the wind effect on maneuvering a vessel.

UNIT TITLE: 6.0 Naval Weapons and Aircraft

UNIT OBJECTIVE: 6.0 The cadets will be expected to demonstrate an understanding of naval weapons.

LESSON TOPIC: 6.1 An Introduction to Naval Weapons

ALLOTTED SESSIONS: 2

LESSON TOPIC OBJECTIVES:

6.1.1 Describe the evolution of naval weapons from 1453

to the present.

6.1.2 Discuss basic weapons terminology as it applies

to the Navy.

6.1.3 Describe the Navy weapons organization.

6.1.4 Discuss the range of weapons used by the Navy.

6.1.5 Describe the major considerations used to select

ship’s weapons systems.

6.1.6 Describe weapons systems elements and requriements.

6.1.7 Describe the shipboard weapons control systems used

by the Navy.

B-2-8

LESSON TOPIC: 6.2 Naval Guns

ALLOTTED SESSIONS: 3

LESSON TOPIC OBJECTIVES:

6.2.1 Describe the major characteristics and nomenclature

of naval guns.

6.2.2 Describe the principal components of gun ammunition.

6.2.3 Describe the principals of gun projectiles.

6.2.4 Describe the techniques used by the Navy to provide gunfire support.

LESSON TOPIC: 6.3 Naval Aircraft, and Guided Missiles

ALLOTTED SESSIONS: 5

LESSON TOPIC OBJECTIVES:

6.3.1 Describe the evolution of naval aviation.

6.3.2 Describe the types of naval aircraft.

6.3.3 Explain the evolution of naval aircraft weapons

systems.

6.3.4 Describe the general types of guided missiles.

6.3.5 Describe the four basic component parts of guided

missile systems.

6.3.6 Describe the types and usage of guided missiles

used in the Navy.

6.3.7 Describe the Navy's submarine-launched ballistic

missile program.

6.3.8 Describe the purpose of the Navy’s cruise missiles

launched from surface ships, submarines, and aircraft.

6.3.9 Describe the Navy air-to-air missiles used in front line

defense of naval task force.

6.3.10 Describe the second line of fleet defense with the use

of the Navy’s surface-to air missiles.

6.3.11 Describe the purpose of the Navy’s air-to-surface

missiles.

B-2-9

6.3.12 Describe the Navy’s current under sea warfare

(USW)weapons.

6.3.13 Explain the two basic types of guided missile

trajectories.

LESSON TOPIC: 6.4 Mine Warfare

ALLOTTED SESSIONS: 3

LESSON TOPIC OBJECTIVES:

6.4.1 Describe the principles used in mine warfare from the American Revolution to the present.

* + 1. Describe the classification of mines.
    2. Describe the three types of mine countermeasures, to

include ship treatment against magnetic and acoustic mines, minesweeping, and mine hunting.

6.4.4 Describe Mine Hunting and what it involves.

6.4.5 Describe the major capabilities of mine warfare.

LESSON TOPIC: 6.5 Chemical, Biological, and Nuclear Weapons

ALLOTTED SESSIONS: 3

LESSON TOPIC OBJECTIVES:

6.5.1 Explain what conventional weapons are.

6.5.2 Describe some examples of the use of chemical and

biological warfare in earlier times.

6.5.3 Explain what has tended to keep the use of chemical

and biological warfare in early times.

6.5.4 Explain chemical warfare and describe the common types

of CW agents found in the weapons stockpiles of most

major nations today.

6.5.6 Explain biological warfare.

6.5.7 Explain nuclear warfare and describe the possible

effects of a nuclear warhead explosion.

B-2-10

6.5.9 Explain the physiological effects of radiation exposure

on personnel.

6.5.10 Explain chemical biological and damage control(CBR\_

damage control procedures, including pre-attack

countermeasures and post-attack shipboard

dcontamination.

B-2-11

SECTION C

MASTER COURSE SCHEDULE

Length of Sessions: 40 Minutes

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UNIT LESSON UNIT AND LESSON SESSIONS TOTAL SESSIONS

NUMBER NUMBER TITLE PER LESSON PER UNIT

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1.0.....................Ship Construction and Damage ........................ 9

Control

1.1........Ship Construction................5

1.2........Damage Control and Firefighting..4

2.0.....................Shipboard Organization and

Watchstanding....................6

2.1........Shipboard Organization...........4

2.2........Watches..........................2

3.0.....................Basic Seamanship.....................................12

3.1........Deck Seamanship..................4

3.2........Ground Tackle and Deck...........4

Equipment

3.3........Small Boat Seamanship............4

4.0.....................Introduction to Navigation and Time.................10

4.1........Introduction to Navigation.......4

4.2........Aids to Navigation...............3

4.3........Time and Navigation..............3

5.0.....................Rules of the Road and Maneuvering...................6

Board

5.1....... Nautical Rules of the Road.......3

5.2....... Maneuvering Board................3

6.0.................... Naval Weapons and Aircraft..........................14

6.1........An Introduction to Naval.........2

Weapons

6.2........Naval Guns.......................3

C-2-1

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UNIT LESSON UNIT AND LESSON SESSIONS TOTAL SESSIONS

NUMBER NUMBER TITLE PER LESSON PER UNIT

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6.3........Naval Aircraft, and Missiles.....3

6.4........Mine Warfare.....................3

6.5........Chemical, Biological, and........3

Nuclear Warfare

C-2-2SECTION D

COURSE STUDENT PERFORMANCE STANDARDS

Naval Skills

After successfully completing this course, the student will:

**1. Expand the understanding and knowledge of Navy ships, their**

**construction, operation, mission and objectives of damage control.**

The student will

1.01 draw a basic shipboard organization and identify ship types and

their missions.

1.02 identify nautical terms associated with the parts and structure

of ships.

1.03 discuss the major factors considered in the construction of

naval ships and the way they are propelled.

1.04 identify the four ways a ship can be launched.

1.05 identify the material conditions of readiness, and the purposes

of shakedown and underway training cruises.

1.06 explain the primary objectives of damage control.

1.07 identify the classes of ship fires, their characteristics, and

extinguishing methods.

1.08 identify the principal means and advantages of internal

communication throughout the ship.

1.09 identify the principal factors in CBR warfare.

**2. Recognize and learn the organizational elements of, and relationships**

**within, a typical Navy shipboard organization, and learn the different**

**types of naval ships, and their mission.**

The student will:

2.01 recognize the naval terminology used in shipboard organization.

2.02 describe the composition and primary responsibilities of the various

departments aboard ship.

2.03 identify the types of shore watches and shipboard watches, both in-port

and underway.

2.04 describe the written instructions for the assignment of shipboard

personnel, and procedures to be followed during various emergency,

operating and administrative situations.

2.05 draw a basic shipboard organization and identify ship types and their

missions.

**3. Exhibit an understanding of the various types of equipment and**

**terminology used in basic seamanship.**

The student will:

3.01 demonstrate the use of various types of knots, bowlines and

hitches used when anchoring and mooring.

3.02 demonstrate how to coil, fake and flemish a line.

3.03 demonstrate skill with all ground tackle and deck equipment.

3.04 identify all equipment having to do with a ship's anchors,

anchor cable, or mooring gear.

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3.05 describe the types, construction and measurement of ropes.

3.06 identify and describe the hull, transom, draft, keel, and pulpit as

part of a small boat, and the purpose of each part.

3.07 describe the differences of handling a twin-screw boat as compared to a

single-screw boat.

3.08 discuss the screw current, side force, and rudder forces all combine to

determine how a boat will respond in a backing situation.

3.09 discuss the boat nomenclature that applies to powerboats and sailboats.

3.010 describe the factors associated with making a port-side-to landing and

a starboard-side-to landing in small boats.

3.011 discuss why and how hand salutes are rendered to small boats carrying

officers and officials.

3.012 describe the various ways the national ensign and personal flags and

pennants of officers are properly displayed from small boats.

**4. Become familiar with the tools and terminology of navigation and**

**do basic navigational plotting.**

The student will:

4.01 recognize the common terms used in navigation.

4.02 describe the common types of navigation such as piloting, dead

reckoning, celestial navigation, and electronic navigation.

4.03 distinguish between mercator and gnomic chart projections

4.04 describe the purpose of the chronometer and sextant as

navigational instruments.

4.05 identify the various navigational aids, their characteristics, and

their chart symbology.

4.06 discuss the importance of time in navigation.

4.07 identify the main relative bearing positions, and convert from

relative to true bearings, and vice versa.

4.08 demonstrate the use of the pelorus in taking bearings.

**5. Demonstrate knowledge of basic theory of nautical rules of the road**

**and be skilled in the many uses of the maneuvering board**.

The student will:

5.01 discuss the need for nautical rules of the road, and the types of

risk collision situations encountered underway.

5.02 explain sound signals used under rules of the road.

5.03 describe the main purpose of the maneuvering board , and the

reference normally used for motion by individuals concerned

with maneuvering a vessel.

5.04 complete a maneuvering board plot in order to find the direction and

speed of the true wind.

**6. Demonstrate knowledge of naval weapons in terms of their evolution,**

**their types, and their essential elements.**

The student will:

6.01 cite the main consideration governing the selection of a weapons system

for a ship.

6.02 cite the various purposes guns are used for on almost all naval ships.

D-2-2

6.03 identify the three essential parts of a naval high-explosive projectile

and how damage is primarily inflicted.

6.04 describe the principals of projectiles.

6.05 cite some important tasks that may be assigned to naval gunfire support?

6.06 explain the three main groups that naval aircraft fall into: fixed wing,

rotary wing, and lighter-than-air.

6.06 discuss the naval guided missile from the standpoint of the airframe,

the propulsion system, the guidance system, and the warhead.

6.06 compare and contrast the five types of missile guidance systems, their

operational capability, their flexibility, and their range.

6.07 discuss the aerodynamic forces of thrust, drag, gravity, and lift which

produces a resultant force acts on all parts of a body in level flight.

6.07 describe the trajectory of a sea-launched ICBM, and how it is affected

by aerodynamic forces during its initial and terminal flight in the

earth's atmosphere.

6.08 describe the ballistic and aerodynamic trajectories of guided missiles.

6.09 discuss the first American attempt at mine warfare in the Revolutionary

War.

6.10 explain how offensive and defensive mining are used, and how they

compare to the three types of mine countermeasures used to protect

friendly shipping against mines.

6.11 discuss mine classification from the standpoint of: the method of

planting, the final planted position, the mode of operation, and the

detonating or actuation mechanism.

6.12 explain how mines are located (hunted) and swept.

6.13 describe some examples of the use of chemical and biological warfare in

earlier times.

6.14 discuss the more devastating types of CBR weapons that are in the

inventories of many of today’s military forces.

D-2-3

SECTION E

NJROTC TIME ALLOCATIONS

Total Hours Total Sessions

Classroom - Three days per week 72 108

Drill - Two days per week 48 72

120 180

NOTE: The curriculum time allocation is based on 40-minute

sessions of instruction for 36 weeks, with 180 teaching

days. If the school schedule for classroom time is

other than 40 minutes in length, appropriate adjustments

should be made at the local school level.

CONVERSION CHART -- CLASS SESSIONS TO HOURS OF INSTRUCTION

Col. (1) Col. (2) Col. (3)

Length of Class Period Number of Classroom Number of Drill

in Minutes Sessions Sessions

60 72 48

55 78 52

50 87 58

48 90 60

45 96 64

42 102 68

40 108 72

This program results in 120 class hours. Adjustments for staggered schedules,

rotating schedules, or modular schedules must be made at the local level.

Unit 10 (appendix unit) exceeds the total number of classroom hours stated

above by 6 hours/sessions. The use of this unit is at the discretion of the

NSI.

E-2-1

SECTION F

POWER POINT PRESENTATIONS

1. Use the Power Point Presentations provided for NS-3 which is located on the

NJROTC Naval Science 3 DVD.

F-2-2

SECTION G

INSTRUCTIONAL EQUIPMENT

1. One Pioneer videodisc player DVD-V7400 with remote control or equivalent per

classroom

2. Chalkboard or dry erase board and equipment.

3. Three Personal Computer (PC) with peripherals (as provided)

4. Liquid Crystal Display (LCD) projector

\* One per classroom

5. Naval Science 3 (NS3) Digital Video Disk (DVD)

6. Classroom Performance System (CPS) with remote controls.

\* One per classroom

7. One CD/Tape Cassette Player

\* One per classroom

8. One multimedia converter Aitech, model Multipro or equivalent per classroom.

Note: Computer systems and software will most likely be refereshed at least every

four years.

G-2-1

SECTION H

CHARTS and MAPS

Title Lesson Number

No. 65, Track Chart of the World 4.1

12-3162-3C- 1 through 18, Constellation Stars 4.1

(chart series of 18)

Charts (World Charts) NAVOCEANO Charts 4.1

No. 17, Great Circle Sailing Chart-Atlantic 4.2

No. 56, Great Circle Sailing Chart-Pacific 4.2

018 NAV/OP Geographic Map of the U.S. 4.2

019 NAV/OP Geographic Map of the World 4.2

No. 76, Time Zone Chart of the World 4.3

3-3505.21C, Charts: Tides, Winds and Currents, 5.1 (24x3O), 1, 3 & 6

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SECTION I

INSTRUCTOR MATERIALS

INSTRUCTOR MATERIALS

UNIT

STOCK NO. NUMBER TITLE

7020DVDNS3INT NS-3 Naval Knowledge,Leadership and Naval Skills DVD

NONE NS-3 Naval Knowledge Curriculum Outline

NONE NS-3 Naval Knowledge Test Bank with Answer Keys

NONE NS-3 Naval Knowledge Note-taking Sheets

0509LP1096653 NS-3 Instructor’s Answer Guide (Second Edition 2009)

NOTE: The curriculum outline, test bank and note taking sheets for NS-3 are located on the NJROTC Portal.

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SECTION J

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0509-LP-042 0553 Maneuvering Board (Prorammed Instruction)

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NAVEDTRA 10210H, Seaman

NAVEDTRA 10120-Jl, Seaman

NAVEDTRA 10149-F1, Quartermaster 3 & 2.

NAVEDTRA 10151, Quartermaster 1 & C.

NAVEDTRA 10157, Quartermaster 3.

NAVEDTRA 16138-H, Naval Orientation.

NAVEDTRA 10054-E1, Basic Military Requirements

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of the Road, 2nd., Naval Institute Press, Annapolis, 1991.

Szczurek, Greg, COLREGS, Houston Marine Consultants, Inc., Kenner, La, 1980.

Szczurek, Greg, Unified Rules, Houston Marine Consultants, Inc., Kenner, La,

1981.

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