

THE ASW CERTIFICATE PROGRAM

The Anti-Submarine Warfare (ASW) Certificate supports the needs of the Navy in ASW and complements existing warfare ASW training and qualification. The program is subject to the oversight of the Naval Postgraduate USW Academic Group which includes:

Andres Larraza, Ph.D.

Chair, USW Academic Group

W. G. (Jerry) Ellis, Rear Admiral, USN (Ret)

Chair, Professor of Undersea Warfare

Richard D. Williams III, RDML USN (Ret)

*Chair, Professor of Mine Warfare
Deputy Director, Undersea Warfare*



"I recommend this program, in fact the Command (NUWC) should insist that engineers and scientists at a certain level take and pass these courses. These are fundamentals that should be understood by engineers working for a submarine research facility and I regret I didn't take them earlier."

NUWC NPT Engineer



THE ASW CERTIFICATE CURRICULUM

Anti-Submarine Warfare encompasses multiple disciplines including physics, signal processing, physical oceanography, and operations research. This program is a distance learning curriculum that consists of four fully accredited college level courses. Offered in two half-year parts with a one quarter break between, these courses develop critical analytic skills and an understanding of the fundamental principles applied in ASW.

"Superiority in USW will be created by a coordinated, networked force..., most importantly, it will be created by the highly skilled and motivated people who operate and command these assets."

RADM Frank Drennan USN,

*Former Commander of the Naval Mine Warfare
and Anti-Submarine Warfare Command*

Part I: Sonar Equations & Oceanography

PH3401 INTRODUCTION TO SONAR EQUATIONS

A discussion of each term of the sonar equations, with application to the detection, localization, and classification of underwater targets.

OC2930 INTRODUCTION TO OCEANOGRAPHY FOR UNDERSEA WARFARE

An introduction to ocean processes and phenomena with applications to Undersea Warfare.

Part II: Signal Processing & Operations Research

EO3404 APPLIED SIGNAL PROCESSING

The fundamentals of digital signal processing as applied to acoustic signals.

Prerequisites: Single-Variable Calculus and Complex Numbers.

OS3680 NAVAL TACTICAL ANALYSIS

Includes search and detection, weapons effectiveness, and decision analysis.

Prerequisite: Probability.

For a more in-depth description of these certificate courses please visit:

www.nps.edu/Academics/DL/DLPrograms/Programs/cert_ASW.html

THE USW CURRICULUM AT NPS

Students with an ASW Certificate are well positioned to continue their education and professional development by entering the Undersea Warfare (USW) curriculum at the Naval Postgraduate School (NPS). This highly interdisciplinary program focuses on the engineering fundamentals, physical principles and operations research that contribute to USW, ASW and Mine Warfare (MIW) operational employment. Recently, a new thrust area in unmanned maritime vehicles was added to the curriculum.

Students in this curriculum earn their master's degree in a technical field such as:

- Operations Research
- Physical Oceanography
- Electrical/Mechanical Engineering
- Engineering Acoustics
- Applied Physics/Mathematics



For more information regarding NPS resident graduate programs, please visit:

www.nps.edu/Academics

FREQUENTLY ASKED QUESTIONS

HOW DOES AN ASW CERTIFICATE HELP ME?

Completion of the ASW Certificate Program extends a general technical undergraduate degree to include the essential concepts, equations, and skill sets needed to understand, design, and use ASW systems.

WHAT ARE THE PREREQUISITES?

Students pursuing the ASW certificate need a bachelor's degree along with a working knowledge of college-level mathematics including single-variable calculus and probability. A one quarter break after the first two courses provides time to refresh your knowledge of these prerequisites.

IS THERE A SERVICE COMMITMENT?

Per OPNAVINST 1520.23C, a Naval Officer will incur a 1-year service obligation when enrolled in a certificate program.

WHO IS ELIGIBLE?

Active duty Naval personnel, DoD civilians, major DoD contractors, and international students.

WHAT IS THE COST?

The Anti-Submarine Warfare (ASW) program is sponsored by N97 for qualified DoD applicants. There is no tuition required from DoD students or their commands. ASW also allows a small number of defense contractors and international students into the program at a cost of \$2500 per student/course. The cost for textbooks is approximately \$300 if purchased new.

HOW MUCH TIME WILL IT TAKE?

Completion of each course will require 10-12 hours of study per week.

HOW ARE THE COURSES DELIVERED?

Although courses are expected to be completed during the quarter they are taken, the web-based delivery gives students substantial flexibility in scheduling their coursework.

CONTACT INFORMATION

General Questions

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Admissions Questions

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WWW.NPS.EDU/ACADEMICS/DL

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ASW CERTIFICATE IN ANTI-SUBMARINE WARFARE



"Anti-Submarine Warfare is one of the hardest warfare areas. It is an art and a science, and as Sailors, we must work constantly to make sure we are up to the task."

ADM Gary Roughead,
Chief of Naval Operations



NAVAL POSTGRADUATE SCHOOL