

# THE REQUIREMENTS

## WHO CAN ENROLL IN THIS PROGRAM?

- Applicants with a US government affiliation, government laboratory engineers, active military personnel, Navy civilians, current NPS, resident students, and a limited number of, contractors sponsored by Department of Defense (DOD) organizations.

## WHAT ARE THE ENTRANCE REQUIREMENTS?

- Acceptance by the ECE Department
- Recent graduates with a degree in a related field of science or engineering with appropriate on-the-job experience
- Background in basic circuits, Fourier transforms and undergraduate electromagnetics
- Command or company endorsement
- It may be possible to provide transition education for those students not qualified for direct entry.



RC-135 Rivet Joint reconnaissance aircraft



EA-18G next-generation electronic attack aircraft

## CONTACT INFORMATION

**Monique P. Fargues, Ph.D.**

ECE Department  
Assoc. Chair for Student Programs  
(831) 656-2859  
fargues@nps.edu  
ECEDL@nps.edu

For more information on the  
ECE department, go to:

**[www.nps.edu/ece](http://www.nps.edu/ece)**

For more information on other  
NPS DL programs, go to:

**[www.nps.edu/dl](http://www.nps.edu/dl)**

DEPARTMENT OF  
**ELECTRICAL and COMPUTER ENGINEERING**

The graphic features a satellite in orbit over Earth, with a circular inset showing a person's face overlaid with digital data points and lines. At the bottom, there are images of military aircraft, including an EA-18G Growler and a B-52 bomber. The NPS logo is prominently displayed in the lower center.

# ELECTRONIC WARFARE MASTER OF ENGINEERING

A DISTRIBUTED LEARNING PROGRAM  
For EW ENGINEERS

**NPS**  
PRAESTANTIA PER SCIENTIAM

NAVAL POSTGRADUATE SCHOOL

## THE PROGRAM

The Certificate and Master of Engineering (Electrical Engineering) degree\* program is a Distributed Learning program designed specifically for Electronic Warfare (EW) Engineers.

The program will improve the technical and analytical skills of EW engineers, and the payoff is immediate. Students can apply the course work directly to their current jobs.

### CERTIFICATES

Students will complete three sets of courses, each leading to a certificate, where each course can be applied towards one certificate only and advanced graduate level EC46XX courses contained within each build on specific EC36XX courses previously completed.

Certificates are:

- EW Engineer
- Journeyman EW Engineer
- Senior EW Engineer

The order in which each EW certificates may be taken is linked to previously selected EC36XX courses.

Courses taken to earn the EW certificates may be applied toward and satisfy requirements for the MEng (EE) degree.

*\* Program can be tailored to customer requirements, but minimum length is approximately 8 quarters for students enrolling in 1 course per quarter.*



Crew members aboard the USS George Washington

## THE CURRICULUM

The curriculum provides a solid theoretical foundation focused on electronic warfare including electronic attack, electronic protection and electronic support. The program is based on the following set of EW-related courses:

**EC3210:** Introduction to Electro-Optical Engineering (3-2)

**EC3600:** Antennas and Propagation (3-2)

**EC3610:** Microwave Engineering (3-2)

**EC3615:** Radar Fundamentals (3-2)

**EC3630:** Radiowave Propagation (3-2)

**EC3700:** Joint Network Enabled Electronic Warfare (3-2)

**EC4600:** Advanced Topics (V-V)

[prerequisite EC36XX may vary]

**EC4615:** Advanced Radar (3-2) [prerequisite EC3615]

**EC4630:** Radar Cross Section Prediction & Reduction (3-2)

[prerequisite EC3600]

**EC4685:** Principles of Electronic Warfare (3-2) [prerequisite: EC3615 and knowledge of basic communication systems]

### ELECTRONIC WARFARE ENGINEER CERTIFICATE

A 3-course sequence consisting of:

**EC3600**

**EC3615** or **EC3630**

**EC3700** or **EC4685**

### JOURNEYMAN EW ENGINEER CERTIFICATE

A 3-course sequence consisting of:

**EC3210**

**EC3610**

**EC4615** or **EC4630** or **EC4600**

### SENIOR EW ENGINEER CERTIFICATE

A 3-course sequence consisting of:

**EC3615** or **EC3630**

**EC3700** or **EC4685**

**EC4615** or **EC4630**

[www.nps.edu/ece](http://www.nps.edu/ece)

## THE OUTCOMES

### ELECTRONIC WARFARE ENGINEER CERTIFICATE

Upon completion, students will have the cognitive skills and abilities required to analyze, design, and evaluate systems involving: antennas, radiowave propagation, radar, communications, electronic warfare, and/or networked EW and apply these skills in a military systems environment.

### JOURNEYMAN EW ENGINEER CERTIFICATE

Upon completion, student will have the cognitive skills and abilities required to analyze, design, and evaluate systems involving: microwave components, RF systems, electro-optical systems and components, advanced radar concepts, and/or advanced topics in electronic warfare and apply these skills in a military systems environment.

### SENIOR EW ENGINEER CERTIFICATE

Upon completion, student will have the cognitive skills and abilities required to analyze, design, and evaluate systems involving: advanced radar topics, radar cross-section concepts, radiowave propagation, communications, and/or electronic warfare and apply these skills in a military systems environment.



B-2 Spirit: Artist rendition