

Space Systems Design Certificate Program

The Naval Postgraduate School offers a certificate program in Space Systems Design via distributed learning (DL) and/or in-residence.

Purpose of Certificate

The Space Systems Design Certificate is intended for those who may have limited or no space experience, and an understanding for the level of performance that is required to incorporate new technologies into space systems, derive and articulate design requirements, and firmly understand the mission design lifecycle.

Areas of focus include:

- Space Mission Analysis
- Orbital Mechanics
- Spacecraft Technology and Design
- Spacecraft Subsystems
- Joint Space Doctrine
- Military Application of DoD and Commercial Systems

Certificate Courses Include:

- **SS3011**
Space Technology and Applications
- **AE4830**
Spacecraft Systems I
- **AE4831**
Spacecraft Systems II
- **SS3051**
Military Applications of DoD and Commercial Space Systems Classified Option (SECRET)

Program Eligibility

Active U.S. military officers and enlisted personnel, as well as DoD employees and contractors with Command endorsement (Tuition is paid for USN/USMC students). SECRET clearance required.

Prerequisites

- Baccalaureate degree with completion of college-level algebra, geometry, trigonometry, logarithms, and physics.

Additional Space Systems Programs

Certificates

These certificate programs comprise four courses each. Upon successful completion of the course work, students will be awarded a certificate of completion.

Space Systems Fundamentals

Targeted primarily towards employees who may have limited or no space experience.

Space Nuclear Command, Control and Communications (NC3)

Supports objectives corresponding to required space, ground, and classified elements of USAF Global Strike Command's strategic nuclear education components

Space Control Tactics and Operations

Targeted primarily at providing DoD space employees with a technical education in rendezvous and proximity operations and space control.

Degrees

Upon successful completion of the degree requirements, students will be awarded an M.S. degree.

Space Systems Operations

This degree is intended to provide an organization with personnel who can plan and manage the operation, tasking, and employment of space surveillance, intelligence collection, communications, navigation and sensing systems throughout the mission lifecycle.

Space Systems Engineering

This degree is intended to provide an organization with personnel who have the technical knowledge to plan and manage the development, design, acquisition, operation, tasking and employment of space surveillance, communications, navigation and sensing systems throughout the mission lifecycle.

Find out more about our programs:

nps.edu/web/ssag/degrees-and-curriculum

Benefits

Knowledge and analytical skills acquired in the Space Systems Design Certificate Program will prepare you to:

- Advocate USN/DoD interests in significant National Security Space Organizations
- Drive participation in joint processes for space system architecture and requirements development
- Prioritize the resources necessary to formulate and defend operational requirements for space
- Engage in partnerships with other military services and agencies, such as the National Reconnaissance Office (NRO), National Security Agency (NSA), the National Geospatial-Intelligence Agency (NGA), and Defense Information Systems Agency (DISA), to achieve naval space goals
- Compete for leadership positions in space programs and organizations
- Examine the basic system design of a spacecraft including its various subsystems: propulsion; structure; thermal; attitude determination and control; electrical power; and telemetry, tracking and commanding.
- Assess key interactions between the various subsystems and their effects on system performance.



Contact

Program Coordinator

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Space Systems Design Certificate Information

Certificate Description

my.nps.edu/web/dl/cert_SSD

Certificate Application Information

[www.nps.edu/Academics/Admissions/
ApplyOnline/ApplyNow.html](http://www.nps.edu/Academics/Admissions/ApplyOnline/ApplyNow.html)

Careers for Graduates Include:

USSPACECOM Staff Officer

NAVWAR Space Systems Project Officer

National Reconnaissance Project Officer

NETWARCOM Staff Officer

Combined Space Operations Center
(CSPOC) Staff Officer

VERSION DATE 11/26/2019

SPACE SYSTEMS ACADEMIC GROUP
CERTIFICATE PROGRAM

SPACE SYSTEMS DESIGN



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