National Defence / Défense nationale

CANADIAN FORCES
FORCES CANADIENNES
Regular and Reserve • Régulière et de réserve

A Career as an **Officer**

Naval Combat Systems Engineering

STRONG PROUD
TODAY'S Canadian Forces

WHAT THEY DO

Naval Combat Systems Engineering (NCS ENG) Officers are members of the Navy. The role of an NCS ENG Officer is to:

- provide engineering expertise for:
  - the support of day-to-day Naval operations and maintenance of combat systems in ships and submarines
  - the continuous renewal of the Fleet through modernization and replacement, including design, development, acquisition, construction and disposal of Naval combat systems and equipment
  - the peacetime sustainment of infrastructure needed to support Naval operations and missions in times of emergency, mobilization and war
- provide leadership, development and personnel management of the officer and technician occupations that support Naval Combat Systems Engineering activities

More specifically, Naval Combat Systems Engineers are responsible for the readiness, operation and maintenance of Naval Weapon Systems and their ammunition, Navigation Systems, Communication Systems, Above Water and Underwater Sensor Systems, Command and Control Systems, Data Processing Systems, Electronic Warfare Systems, and the integration of these systems into a full naval combat suite. They analyze the state of their systems, equipment and personnel, predict their requirement for Naval operations and advise Command accordingly.

Qualification Requirements

You must meet Canadian Forces medical standards, and successfully complete a selection process that includes interviews and a wide range of examinations, including tests of physical fitness.

The primary degrees for those who wish to become Naval Combat Systems Engineers are a Bachelor of Electrical or Computer Engineering. Most other Engineering degrees and many Science degrees are also acceptable.

Entry Plans

Regular Officer Training Plan – The Regular Officer Training Plan (ROTP) comprises a full undergraduate education (to the Bachelor's degree level) at the Royal Military College of Canada or another accredited Canadian university, followed by at least four years of obligatory service in the Regular component of the Canadian Forces, commencing immediately upon graduation.

To qualify for ROTP, you must have completed high school with the appropriate university-oriented credits, or be in Grade 12 in an appropriate program with full expectation of successful completion.

Direct Entry Officer (DEO) Plan – You must have or be in the process of obtaining a university degree in one of the above-noted disciplines. Additionally, you will attend the one-week Naval Officer Assessment Board held each spring and fall in Halifax, NS or Victoria, BC.

Training

The length and content of officer training depend on the entry plan you use to join the CF.

Phase I: Initial Assessment and Basic Officer Training

Initial Assessment and the Basic Officer Training Course (BOTC) are conducted at the Canadian Forces Leadership and Recruit School in Saint-Jean-sur-Richelieu, Quebec. During BOTC, you will learn the principles of leadership, regulations and customs of the service, basic weapons-handling, and first aid. Throughout Phase I, you will participate in a rigorous program of fitness training and sports.

Canada

Second language training will be provided to officers who are not already fluent in both official languages. The length of training is based upon an individual's second language proficiency.

Phase II: Naval Officer Training

Consists of the 9-week Naval Environmental Training Program – Officers course held at the Naval Officer Training Centre in Victoria, B.C. This course introduces the Naval environment and includes 4 weeks on board a minor war vessel for officers to experience life at sea.

Phase III: Naval Combat Systems Engineering Training

Consists of several courses held at the Canadian Forces Naval Engineering School (CFNES) in Halifax, N.S. The first course, Naval Engineering Indoctrination, lasts 11 weeks and introduces the systems, equipment and personnel of the two engineering departments of the ships in the Fleet. This course includes 7 weeks on board a major warship.

The next course, Naval Combat Systems Engineering Applications, lasts 28 weeks and provides detailed instruction in the theory, application, operation, maintenance, personnel and management of Naval Combat Systems Engineering in the Navy. On completion, officers join the ships of the Fleet for one year in order to consolidate their skills and knowledge of Naval Combat Systems Engineering.

Throughout the above-noted training, officers will develop the general and personnel management skills required to successfully fill engineering positions.

Career Development

You will be enrolled at the rank of Naval Cadet (NCdt). On completion of a degree (as described above) and Basic Officer Training, you will be commissioned as an Acting Sub-Lieutenant (ASLt). On completion of the Naval Engineering Indoctrination course and one year of commissioned service, you will be promoted to the rank of Sub-Lieutenant (SLt). Upon attaining your qualification as a Naval Combat Systems Engineer and after three years of commissioned service, you will be promoted to the rank of Lieutenant Navy (Lt(N)). Further promotions are based upon performance, potential and merit.

Post-Graduate and Specialized Training Opportunities

Naval Combat Systems Engineering offers opportunities to further enhance engineering specialization through fully funded post-graduate education in Canada or abroad. For example, there is an ongoing need for Naval Combat Systems Engineers with a Master's degree in:

- Combat Systems Engineering
- Electrical Engineering
- Computer Software Management
- Guided Weapons Systems

There is also a need for Naval Combat Systems Engineers with specialized skills in:

- Radar Systems Analysis
- Electronic Warfare
- Digital Communications
- Underwater Acoustics

Working Environment

Naval Combat Systems Engineers are employed in the ships and submarines of the Fleet and at shore-based establishments that support the Fleet. In the Fleet, they serve as the Head of the Combat Systems Engineering Department. In this position, they are frequently required to work extended hours and are on-call 'around-the-clock'. They deal with the mental stress of working with and leading a large number of personnel of varied training levels and backgrounds in a cramped, noisy, self-contained environment for extended periods and in all weather conditions.

In shore-based establishments, they are employed throughout Canada (primarily in Halifax, N.S., Victoria, B.C. and the National Capital Region) and abroad. The range of employment is wide and involves present and future technological challenges in the Navy. For example, a Junior Project Engineer may be part of a new equipment acquisition project or a technical project within a Fleet Maintenance Facility. In addition, Naval Combat Systems Engineers are employed in staff, training and administrative positions requiring engineering expertise.

Appropriate training, environmental clothing and equipment are provided, and Naval Combat Systems Engineering Officers' health, safety and morale are closely monitored.

For more information, please call the Canadian Forces Recruiting at **1-800-856-8488**, or visit our Web site: **www.forces.gc.ca**

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