

Ocean Engineering

Median Yearly Income (2010): \$79,218

This unit group is for all civil engineers: Civil engineers plan, design, develop and manage projects for the construction or repair of buildings, earth structures, ports and coastal installations, and systems related to transportation services and water distribution.

WHAT YOU DO

Ocean engineering is a combination of several types of engineering: a mix of mechanical, electrical, civil, acoustical and chemical engineering techniques and skills, coupled with a basic understanding of how the oceans work.

In the oceans technology sector,

ocean engineers work in an array of fields such as the oil and gas industry, military, and marine navigation. They design and build instruments and infrastructure that must stand up to the wear and tear of frequent use and that will survive the harsh conditions of the ocean environment.

WHAT YOU NEED

- A keen interest in planning and designing;
- Problem-solving and decision-making skills;
- Able to think in an analytical and logical manner;
- Able to communicate and cooperate with others;
- Excellent computer skills; and
- ❖ Good near and far vision.



Ocean engineers perform some or all of the following duties:

- Develop construction specifications and procedures;
- Evaluate and recommend appropriate building and construction materials;
- Ensure construction plans meet guidelines and specifications;
- Plan and design major civil projects;
- ❖ Act as project or site supervisor;
- Supervise technicians, technologists and other engineers; and
- Review and approve designs, calculations and cost estimates.







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CAREER PATHWAY

OVERVIEW Opportunities available for Work Type: Full-time high school students to gain Co-op > Area Most Likely to Work: hands-on and/or practical **Options and Opportunities** Cape Breton, Halifax, experience that could help Science Streams Northern and Southern them connect in this career. Oceans 11 regions **➤ Most Employees Have:** Grade 12 diploma or Bachelor's Degree and Post equivalent **Graduate Degree Not For Profits** Techsploration (techsploration.ca/) Certification: Professional Skills Canada (skillscanada.com) **Post-Secondary Engineer Certificate Educational Programs** ➤ Work Prospects: *Good Masters: 2 years 2 years: Tuition fees 4 years: Tuition fees PhD: 4 years: Tuition fees approx. \$6,000/year approx. \$9,000/year approx. \$10,000/year University Certificate/Diploma (Must complete an additional 2 **University Post-Graduate Degree** years at another institution for University Bachelor's Degree professional accreditation) Dalhousie: Faculty of Dalhousie: Faculty of Acadia, Cape Breton University, Engineering: Department of Civil Engineering Engineering: Department of Dalhousie Agriculture Campus, Civil Engineering Saint Mary's, St. Francis Xavier: Diploma of Engineering (Civil engineering concentration) **Provincial Standards Examination for Right to Title** and Practice: Certification attests that the holder has **Examples of Nova Scotia companies** met provincial requirements for the occupation. and organizations that offer this career Certification is required to practice this profession. CivTech Engineering NSCC: Oceans Technology Program MacDonnell Consulting Advanced one year diploma for students with a ➤ McNally Corporation Bachelor of Science or Engineering or an Engineering ➤Stantec, Nova Scotia Diploma to further enhance skills in the oceans technology sector.

References and Resource Links

- ▶*The employment outlook over the next few years for this occupational group is "good", which indicates the chances of a qualified individual finding work is above average.
- Careers Nova Scotia (http://careers.novascotia.ca/)
- > Create your career plan (careeringear.nscc.ca)
- > Engineers Nova Scotia (http://www.engineersnovascotia.ca)
- >2131 national occupation classification (http://www5.hrsdc.gc.ca/NOC/English/NOC/2011/QuickSearch.aspx?val65=2131)