

Mechanical Engineer

Median Hourly Income (2010): \$75, 520

This unit group is for all mechanical engineers: Mechanical engineers research, design and develop machinery and systems for generation, transportation, processing and manufacturing. They also perform duties related to mechanical systems.

WHAT YOU DO

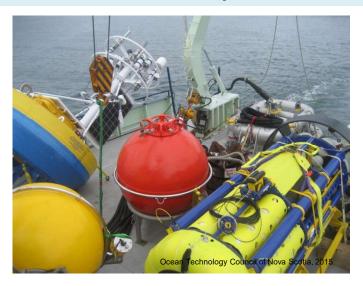
Mechanical engineers play an essential role in industries as they are responsible for designing, testing, analyzing and developing machines and systems, while applying creativity and innovation.

In the oceans technology sector

mechanical engineers design and develop cutting edge, innovative technologies for applications such as oceanography, power systems deployed in the ocean, defence, search and rescue, fishing, marine transportation and offshore energy exploration and development.

WHAT YOU NEED

- Have a keen interest in the design and operation of machines and mechanical processes;
- Persistence, good judgement, and the ability to think analytically and logically are essential:
- You must be able to communicate and work well with others, as engineers often work in teams;
- Leadership and problem-solving skills are also critical; and
- Computer experience is considered an asset.



Mechanical engineers perform some or all of the following duties:

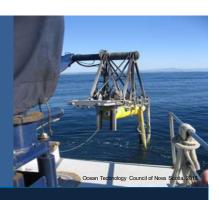
- Plan and manage projects, and prepare material, cost and timing estimates, reports and design specifications for machinery and systems;
- Design machines, components, tools, fixtures and equipment;
- Analyze dynamics and vibrations of mechanical systems and structures;
- Supervise and inspect the installation, modification and commissioning of mechanical systems at construction sites or in industrial facilities; and
- Supervise technicians, technologists and other engineers and review and approve designs, calculations and cost estimates.







Mechanical Engineer



CAREER PATHWAY

OVERVIEW

- ❖ Work Type: Full-time or self employed
- **❖** Area Most Likely to Work: Halifax and Cape Breton
- **❖** Most Employees Have: University bachelors degree or post-graduate degree
- Certification: Professional **Engineer Certificate**
- Work Prospects: Good*

2 year: Tuition fees approx.

\$6, 000/year

University Certificate/Diploma

(Must complete an additional 2 years at another institution for

professional accreditation)

Acadia, Cape Breton University,

Dalhousie, Dalhousie Agriculture Campus, St. Mary's, St. Francis Xavier: Faculty of Engineering:

Engineering

Opportunities available for high school students to gain Co-on **Options and Opportunities** hands-on and/or practical **Science Streams** experience that could help them connect in this career. Grade 12 diploma or equivalent

Post-Secondary **Educational Programs**

4 year: Tuition fees approx. \$9, 000/year

University Bachelor's Degree

Dalhousie: Faculty of Engineering: Mechanical Engineering

Not For Profits

Techsploration (techsploration.ca/) Skills Canada (skillscanada.com)

> Masters: 2 years PhD: 4 years: Tuition fees approx. \$10,000/year

University Post-Graduate Degree

Dalhousie: Faculty of Engineering: Mechanical Engineering

Examples of Nova Scotia companies and organizations that offer this career

- ➤ GeoSpectrum Technologies Inc.
- ➤ MetOcean Data Systems Ltd
- ➤ Precise Design Engineering Solutions.
- Vemco (Amirix Systems Inc.)

Provincial Standards Examination for Right to Title and Practice: Certification attests that the holder has met provincial requirements for the occupation. Certification is required to practice this profession.

NSCC: Oceans Technology Program

Advanced one year diploma for students with a Bachelor of Science or Engineering or an Engineering 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)
- >2132 national occupation classification

(http://www5.hrsdc.gc.ca/NOC/English/NOC/2011/ProfileQuickSearch.aspx?val=2&val1=2132&val65=Mechanical+Engineer)