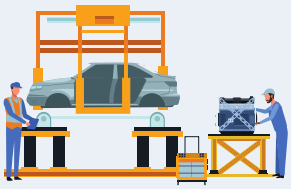
Occupational Profile

Mechanical Engineers

Mechanical Engineers research, design and develop mechanical systems, and are key to the success of projects in manufacturing industries. Mechanical Engineers contribute to the development of cutting-edge technologies in industries such as clean energy, aerospace, automotive and biomedicine. With their multidisciplinary knowledge and skills, Mechanical Engineers enjoy mobility across multiple fields of engineering. FOCAL projects over 830 job openings for Mechanical Engineers in the automotive manufacturing sector over the upcoming decade.

Where do Mechanical Engineers work?



Vehicle Assembly and Body Parts Manufacturing

Architecture Industry

Energy and Utility Industry

Machinery Manufacturing and Repair Industry

Research and Consulting Industry

What do Mechanical Engineers do?

The applications of Mechanical Engineering are vast. Industries such as motor vehicle production, aerospace manufacturing, nuclear and thermal energy, and biomedical sciences all require the contributions, skills and expertise of Mechanical Engineers. Below are some tasks of this occupation:

- Conduct research into feasibility, design, operation and performance of mechanisms, components and systems
- Design advanced technologies, systems, machines, components, tools and equipment
- Plan and manage engineering projects
- Prepare material, cost and time estimates, as well as reports and design specifications
- Supervise and inspect the installation, modification and commissioning of mechanical systems at construction sites or in industrial facilities

Career pathways & potential earnings of Mechanical Engineers

Mechnical Engineers can progress to other roles and positions with adequate experience and skills:

Mechanical Engineers

Wages for Mechanical Engineers start at $26/hr. As they gain experience and leadership skills, they can transition to management.

Engineering Managers

Engineering Managers can earn up to $87/hr. Talented managers with business knowledge may work in senior management.

Senior Managers

Engineers in management can find themselves in roles such as Chief Technology Officer or Director of Operations. Wages can go up to $160/hr.

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Mechanical Engineers can also apply their skills and expertise in other occupations such as the following:

- Industrial and Manufacturing Engineers
- Electrical and Electronic Engineers

How do I become a Mechanical Engineer?

There are several requirements to become a Mechanical Engineer. Some requirements may vary by province or company. Below are the most commonly required qualifications to work as a Mechanical Engineer:

- **Minimum Education:** A bachelor's degree in Mechanical Engineering or a related engineering discipline. Some positions may require post-graduate education as a minimum requirement.
- **Certification, Licensing, and Training:** Licensing by a provincial or territorial body of engineers is required to approve engineering drawings and reports, and to practice as a professional engineer (P. Eng.). Three to four years of supervised work experience and training, as well as passing of an exam are required to obtain licensing.

What are the most important skills to have as a Mechanical Engineer?

Mechanical Engineers develop deep technical knowledge of mathematics, physics and design through their education. Soft skills and other knowledge are gained and further refined through job training and experience practicing as an engineer.

Technical Knowledge and Skills

- Computer Aided Design/Manufacturing (CADM) Software
- Systems Design and Modelling
- Numerical Computer Simulations
- Data Analysis
- Programming and Coding
- Mechatronics

Soft Skills

- Critical Thinking
- Complex Problem Solving
- Communication
- Judgement and Decision Making
- Inductive and Deductive Reasoning
- Teamwork

Mechanical Engineering jobs in Canada

In 2021, more than 53,000 Mechanical Engineers were employed across Canada's sectors and industries. FOCAL projects more than 830 Mechanical Engineering job openings in Canada's automotive manufacturing sector between 2021 and 2030. FOCAL also forecasts that during the same period, more than 550 Mechanical Engineers are needed to fill recruitment gaps in the sector, especially as the sector transitions to electric vehicles (EVs).

Learn more about the job market for mechanical engineers, as well as about many other developments and new technologies in Canada's automotive manufacturing by visiting our website futureautolabourforce.ca.
You can also check our social media by following these links:

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