

**UNIVERSITY OF MAURITIUS
FACULTY OF ENGINEERING**

**Mechanical and Production Engineering
Department**

<http://www.uom.ac.mu/Faculties/FOE/MPED/index.asp>

**B. Eng (Hons.)
Mechanical Engineering**

Introduction

Mechanical engineering is one of the largest, broadest, and oldest engineering. Applications of mechanical engineering are found in the records of many ancient civilizations. It is, therefore, not a surprise that the first British professional society of mechanical engineers and the American Society of Mechanical Engineers (ASME) were formed in 1847 and 1880 respectively.

At the beginning of the 20th century, mechanical engineers designed and worked with large rotating machines but the areas requiring the expertise of Mechanical Engineers have widened further ranging from the depths of the ocean to outer space. Mechanical engineers use the principles of energy, materials, and mechanics to design and manufacture machines and devices of all types. They create the processes and systems that drive technology and industry.

The Department

Set up within the School of Industrial Technology in 1968, the Mechanical and Production Engineering (MPE) Department has played a vital role in producing diploma holders and undergraduates to support the early stages of industrialization in Mauritius. In the late 1960's the Diploma in Mechanical and Electrical Engineering was launched jointly by the Mechanical Engineering and Electrical Engineering Departments. In order to meet the growing needs of the country for trained engineers, a bachelor degree in Mechanical Engineering was introduced in the late seventies,

and the first batch of degree holders graduated in 1981.

The department also offers MPhil/PhD research programme (full-time and part-time) on various themes.

Programme Entry Requirements

2 GCE 'A' Level Passes in Mathematics and one of the following subjects: Physics, Physical Science, Engineering Science, Physics with Chemistry, Design & Technology (Technology).
(See University Entry requirements also)

Programme

The B.Eng (Hons.) in Mechanical Engineering is of 4 years duration but students have a maximum of 7 years to complete the programme. The programme has changed to a large extent since the first batch graduated in 1981. The programme has been revised every five years to cater for the developments and changes in the Mechanical Engineering field over the years. The University of Mauritius has drastically increased the intake to increase the access to this programme. This shows the Department's commitments to support the development and needs of the country.



CNC Boxford Lathe

The response from the industry has been very positive since the beginning in 1981 and the programme has been very popular with students over the years. Mechanical Engineers produced by the UoM have adapted nicely to all sectors of the economy.

Programme Structure

The Programme offers both theory and laboratory work designed to enable the students to have a broad based knowledge in Mechanical Engineering Systems. The knowledge and skills gained will be useful to deal with a broad range of engineering products such maintenance of production systems, consumer goods, process control, design and implementation of HVAC systems, power plants, building services etc... The scheme of study also offers adequate background for further studies/research at graduate level and beyond both locally and abroad.

The students are given the basic tools to equip them with the necessary skills to research, design, develop, manufacture, and test tools, engines, machines, and other mechanical devices. This provides the students with a blend of technologies, which will provide the most economic, elegant, and appropriate solution to the problem at hand.

There are various categories of modules such as: basic engineering, mathematics, electronics, electrical engineering, fluid power, metallurgy, production engineering, heat transfer and thermodynamics. They are not limited to a single industry and the engineers can adapt easily to any industry, which require their expertise.

Laboratories and Facilities.

The Department manages various laboratories to support the students during their stay at the University of Mauritius. The labworks help the students to apply the basic principles learnt in the different engineering modules. A list of the Department laboratories is given below;

<http://www.uom.ac.mu/Faculties/foe/MPE/laboratories.htm>

- ❖ Fluid Power & Robotics
- ❖ CAD/CAM
- ❖ CAD Studio
- ❖ Thermodynamics
- ❖ Structural Mechanics
- ❖ Mechanical Workshop.
- ❖ Metallurgy
- ❖ Metrology



The Hydraulics Workbench

Additionally, the students will also be working in the Electronics Lab, Microprocessor Lab., Electrical Machines Lab, and Fluid Dynamics Lab, which are under the responsibilities of other Departments in the same Faculty.

The final year students spend a lot of their time in one or more of these Labs in connection with their project works. Details of some of the Final year projects are available on the website.

Practical training/Industrial interaction

Vacation Training supplements the labworks already included in most modules. Additionally, the students have to spend one semester (full time) in an industrial environment, to give the practical engineering exposure. This helps the students to apply the knowledge gained previously to solve actual problems and to get acquainted with the usual design and maintenance practices.

The students have to complete a final year project as partial requirement for the award of the degree where they try to combine all the knowledge gained over the three years plus

some additional research. A lot of industry based project have been completed successfully in the past and a list of final year projects are available on the department website.

Industrial visits are also organized during the semester.



Vertical Machining Center

Skills of Mechanical Engineers.

The programme is aimed at creating Mechanical Engineers who will be successful in:

- Problem solving
- Creativity
- Hands-on understanding
- Teamwork/Networking
- Leadership
- Lifelong learning

Job Prospects

Graduates with a B.Eng (Hons.) in Mechanical Engineering can be registered with the Council of Registered Professional Engineers (CRPE).

The job prospect is very wide for the graduates with a B.Eng (Hons.) in Mechanical Engineering. They work on power-producing machines as well as power-using machines. The major sectors where their expertise are sought are maintenance (of manufacturing systems, tourism industry, para-statal bodies, sugar

industry) design and implementation of HVAC systems, production engineers, sales engineers, security services, material handling systems and many others.

In addition, mechanical engineers work in manufacturing or agriculture production, maintenance, or technical sales; where they may become administrators or managers.



Electro Discharge Machine

Further Studies.

Many of our graduates have successfully completed Masters and Doctoral (PhD) Degrees overseas in countries like France, United Kingdom, Sweden, Germany, New Zealand, United States and Australia. Many of them have benefitted from scholarships offered by foreign Universities and international organizations.

More Information

- **Email:** haree@uom.ac.mu
- **Or website**
<http://www.uom.ac.mu/Faculties/FOE/MPED/index.asp>