

- Seminars
- Student presentations
- Guest speakers
- Case studies
- Field trips
- Role playing
- Audio-visual presentations
- Active class discussion and debates
- Team teaching
- Quizzes
- Panel discussion

### Methods of Evaluation

These will be both formative and summative and will employ the following:

- Assignments
- Presentations
- Quizzes
- Projects (individual and group)
- Group discussions
- Examinations

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# CARIBBEAN MARITIME INSTITUTE

An ISO 9001:2008  
Certified Institution



## MASTER OF ENGINEERING (M.ENG.) IN INDUSTRIAL SYSTEMS

## Purpose

This programme is designed to produce industry-ready graduates with the necessary skills and knowledge to solve problems within the manufacturing, public utilities and other associated industries. The programme focuses on the major areas of industrial systems engineering with the depth and rigour which will allow students to solve novel problems in the areas and to pursue research in engineering and in other scholastic works. Upon completion of this programme, students will be able to assess user requirements and manage the acquisition and implementation of the various components needed to realise the system.

## Course Description

Industrial automation is the central theme of the programme. It integrates the use of computer technology and advanced manufacturing techniques in the design and implementation of industrial systems. The design and use of industrial robots are introduced. This is combined with advanced control engineering techniques to produce automated industrial systems.

## Target Group

Candidates with a first degree in industrial, mechanical, electrical, electronic or chemical engineering. Persons with an applied physics degree will be accepted on a case by case basis.

## Course Duration

The duration of the Masters Degree is a minimum of twelve (12) months, full time, and (18) months part time. Graduate students are required to earn sixty (60) credits as follows.

- 44 credits from 12 taught courses.
- 16 credits from a 15,000 word thesis on a chosen area in industrial engineering.

## Course Content

- Advanced Engineering Mathematics (**3 credits**)
- Computer Programming (**4 credits**)
- Advanced Manufacturing Processes (**4 credits**)
- Electrical Machines and Power Systems (**4 credits**)
- Mechanical Systems Design Principles (**4 credits**)
- Classical Mechanics (**3 credits**)
- Industrial Electronics (**4 credits**)
- Industrial Automation (**4 credits**)
- Microcontrollers and PLC's (**4 credits**)
- Advanced Control (**4 credits**)
- Design and Management of Waste Water Treatment Systems (**3 credits**)
- Project Economics and Finance (**3 credits**)

## Research Project

Students are required to complete a research project in the final year. This project values 16 credits. Students will be required to identify a research topic based on a local need and design and fabricate a device to solve the problem. They will also submit a final paper with the device.

## Modes of Instruction

In order to make the programme interesting, a variety of methods will be used to facilitate teaching and learning with the purpose of accommodating the learning styles of the diverse population of candidates. These will include: