

# MECHANICAL ENGINEERING TECHNOLOGY: DIPLOMA

## Program Mission

The program provides an excellent broad education with a focused area of specialization options to cater for the global UAE industry. Mechanical engineering technology graduates are trained to support the design, development, and maintenance of mechanical, static as well as rotating equipment. The program also teaches them to develop effective energy solutions, and manufacture and maintain state of the art equipment. HCT Mechanical Engineers are trained to use state of the art software and hardware to rapidly prototype and test potential product design, computerized testing and measurements, and computer control of machinery.

## Program Goal

*The Program Educational Objectives of the Diploma in Mechanical Engineering Technology program are to:*

1. Provide Mechanical Engineering professionals who are equipped with the technical knowledge and skills required by the industry to maintain mechanical systems to highest level of industry standards.
2. Prepare graduates for a successful career with strong communication and teamwork skills and an understanding of the global, ethical and social implications of the industry and Mechanical Engineering profession.
3. Provide graduates with strong commitment to lifelong learning, continuing education, and professional growth.
4. Provide graduates with the commitment to contribute actively to achieving the Abu Dhabi Vision 2030.

## Program Learning Outcomes

Upon graduation, a HCT graduate in Diploma in Mechanical Engineering Technology should demonstrate:

1. An ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve well-defined engineering problems appropriate to the Mechanical Engineering Technology.
2. An ability to design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes appropriate to the Mechanical Engineering Technology.
3. An ability to apply written, oral, and graphical communication in well-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature.
4. An ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results.
5. An ability to function effectively as a member of a technical team.

## Requirements

### Completion Requirements

Diploma in Mechanical Engineering Technology

*Students must successfully complete a minimum of 73 credits, including:*

Code	Title	Credit Hours
Program Core Courses		43
Mathematics and Science Courses		12
General Studies course		18
<b>Total Credit Hours</b>		<b>73</b>

Code	Title	Credit Hours
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### Mechanical Engineering Core Courses

Required Credits: 43		
EGN 1001	Engineering Workshop	1
EGN 1133	Design Thinking in Technology	3
EGN 2712	Applied Programming for Engineers	2
EGN 2806	Work Placement I	6
ELE 2153	Electrical Eng Fundamentals	3
MCE 2203	Applied Statics	3
MCE 2213	Mechanics of Materials	3
MCE 2223	Applied Dynamics	3
MCE 2303	Material Selection and Testing	3
MCE 2311	Solid Modelling	1
MCE 2323	Manufacturing Technology I	3
MCE 2403	Thermodynamics	3
MCE 2903	Sophomore Design Project	3
MCE 3343	Industrial Plant Maintenance	3
MCE 3613	Fluid Power	3

### Mathematics and Science Courses

Required Credits: 12		
CHM 1103	Engineering Chemistry	3
MTH 1203	Calculus I	3
MTH 2103	Calculus II	3
PHY 1203	Physics II	3

### General Studies

Required Credits: 18

### English, Arabic or other Languages

Required Credits: 6

LSC 1103 and AES 1013

### Information Technology and Mathematics

Required Credits: 6

ICT 2013 and MTH 1113

### The Natural Sciences

Required Credits: 3

PHY 1103

### The Social or Behavioral Sciences

Required Credits: 3

LSS 1003

Description	Data
Total Required Credits	73
Maximum Duration of Study	3 years
Minimum Duration of Study	2 years
Cost Recovery Program	No

Program Code DMCET

Major Code MCE

## Ideal Study Plan

### Recommended Sequence of Study

#### Year 1

Semester 1		Credit Hours
AES 1013	Arabic Communications	3
EGN 1001	Engineering Workshop	1
EGN 1133	Design Thinking in Technology	3
LSC 1103	Professional Communication and Reporting	3
LSS 1003	Life and Future Skills	3
PHY 1103	Physics I	3
<b>Credit Hours</b>		<b>16</b>

#### Semester 2

CHM 1103	Engineering Chemistry	3
ICT 2013	Computational Thinking and Coding	3
MTH 1113	Statistics for Engineering	3
MTH 1203	Calculus I	3
PHY 1203	Physics II	3
<b>Credit Hours</b>		<b>15</b>

#### Summer

MCE 2303	Material Selection and Testing	3
MTH 2103	Calculus II	3
<b>Credit Hours</b>		<b>6</b>

#### Year 2

#### Semester 3

EGN 2712	Applied Programming for Engineers	2
ELE 2153	Electrical Eng Fundamentals	3
MCE 2203	Applied Statics	3
MCE 2311	Solid Modelling	1
MCE 2323	Manufacturing Technology I	3
MCE 2403	Thermodynamics	3
<b>Credit Hours</b>		<b>15</b>

#### Semester 4

MCE 2213	Mechanics of Materials	3
MCE 2223	Applied Dynamics	3
MCE 2903	Sophomore Design Project	3
MCE 3343	Industrial Plant Maintenance	3
MCE 3613	Fluid Power	3
<b>Credit Hours</b>		<b>15</b>

#### Summer

EGN 2806	Work Placement I	6
<b>Credit Hours</b>		<b>6</b>

<b>Total Credit Hours</b>		<b>73</b>
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