

# MECHATRONICS ENGINEERING TECHNOLOGY (DMTET) : DIPLOMA

Diploma in Mechatronics Engineering Technology (DMTET)

## Program Mission

Working in partnership with industry, the Diploma in Mechatronics Engineering Technology program provides quality education that prepares highly skilled technicians capable of serving the community and fulfilling personal ambitions with excellence. Graduates may choose to continue into the additional two years of the program to become innovative engineers.

## Program Goal

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

1. Provide Mechatronics engineering professionals with the technical knowledge and skills required by the industry to maintain mechatronics 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 Mechatronics 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 Mechatronics 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 Mechatronics 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 Mechatronics 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

Students seeking the Diploma in Mechatronics Engineering Technology degree must successfully complete the following minimum requirements:

1. A minimum of 81 credits, as follows:

- A minimum of 39 credits of the program major requirements, including Work Placement for 8 weeks
- A minimum of 15 credits in Math and Science courses.
- A minimum of 27 credits in General Studies, according to the General Studies breakdown and as advised in the study plan of the program.

2. A minimum CGPA of 2.00.

Code	Title	Credit Hours
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#### Mechatronics Engineering Core Courses

Required Credits: 39

EGN 1133	Design Thinking in Technology	3
EGN 2806	Work Placement I	6
ELE 2153	Electrical Eng Fundamentals	3
MCE 2203	Applied Statics	3
MCE 2303	Material Selection and Testing	3
MCE 2311	Solid Modelling	1
MCE 2323	Manufacturing Technology I	3
MCE 3343	Industrial Plant Maintenance	3
MCE 3613	Fluid Power	3
MTE 2403	Thermofluid Systems	3
MTE 2602	Mechatronics Measurements and Troubleshooting	2
MTE 2903	Sophomore Design Project	3
MTE 3603	Electronics Systems and Circuits	3

#### Mathematics and Science Courses

Required Credits: 15

CHM 1103	Engineering Chemistry	3
MTH 1103	Pre Calculus	3
MTH 1203	Calculus I	3
MTH 2103	Calculus II	3
PHY 1203	Physics II	3

#### General Studies

Required Credits: 27

#### English, Arabic or other Languages

Required Credits: 9

#### Humanities or Arts

AES 1003

Required Credits: 3

#### Information Technology and Mathematics

ICT 2013 and MTH 1113

Required Credits: 6

#### The Natural Sciences

PHY 1103

Required Credits: 3

#### The Social or Behavioral Sciences

Required Credits: 6

Description	Data
Total Required Credits	81
Maximum Duration of Study	3 years
Cost Recovery Program	No

Minimum Duration of Study	2 years
Program Code	DMTET
Major Code	MTE

## Ideal Study Plan

### Recommended Sequence of Study

Year 1		Credit Hours
<b>Semester 1</b>		
EGN 1133	Design Thinking in Technology	3
LSC 1103	Professional Communication and Reporting	3
LSS 1003	Life and Future Skills	3
MTH 1103	Pre Calculus	3
PHY 1103	Physics I	3
Credit Hours		15
<b>Semester 2</b>		
LSC 2103	Academic Reading and Writing II	3
LSS 1123	Basic Research Methods	3
MTH 1113	Statistics for Engineering	3
MTH 1203	Calculus I	3
PHY 1203	Physics II	3
Credit Hours		15
<b>Summer</b>		
AES 1013	Arabic Communications I	3
CHM 1103	Engineering Chemistry	3
Credit Hours		6
<b>Year 2</b>		
<b>Semester 1</b>		
AES 1003	Emirati Studies	3
ELE 2153	Electrical Eng Fundamentals	3
MCE 2203	Applied Statics	3
MCE 2303	Material Selection and Testing	3
MCE 2311	Solid Modelling	1
MTH 2103	Calculus II	3
Credit Hours		16
<b>Semester 2</b>		
ICT 2013	Computational Thinking and Coding	3
MCE 2323	Manufacturing Technology I	3
MTE 2403	Thermofluid Systems	3
MTE 2602	Mechatronics Measurements and Troubleshooting	2
MTE 2903	Sophomore Design Project	3
MTE 3603	Electronics Systems and Circuits	3
Credit Hours		17
<b>Summer</b>		
EGN 2806	Work Placement I *	6
MCE 3343	Industrial Plant Maintenance	3
MCE 3613	Fluid Power	3
Credit Hours		12
Total Credit Hours		81

\*Work Placement I shall start after year 2 Summer Semester is completed.