

# MECHATRONICS ENGINEERING TECHNOLOGY: DIPLOMA

## 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

Diploma in Mechatronics Engineering Technology

Students must successfully complete a minimum of 78 credits, including:

Code	Title	Credit Hours
Program Core Courses		39
Mathematics and Science Courses		15
General Studies course		24
<b>Total Credit Hours</b>		<b>78</b>

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: 24

#### English, Arabic or other Languages

Required Credits: 9

LSC 1103, AES 1013 and AES 1033

#### Humanities or Arts

Required Credits: 3

AES 1003

#### 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	78
Maximum Duration of Study	3 years
Minimum Duration of Study	2 years

Cost Recovery Program	No
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>		
AES 1013	Arabic Communications I	3
AES 1033	Islamic Culture	3
MTH 1113	Statistics for Engineering	3
MTH 1203	Calculus I	3
PHY 1203	Physics II	3
CHM 1103	Engineering Chemistry	3
Credit Hours		18
<b>Summer</b>		
MCE 2303	Material Selection and Testing	3
MTH 2103	Calculus II	3
Credit Hours		6
<b>Year 2</b>		
<b>Semester 3</b>		
ELE 2153	Electrical Eng Fundamentals	3
ICT 2013	Computational Thinking and Coding	3
MCE 2203	Applied Statics	3
MCE 2311	Solid Modelling	1
MTE 2403	Thermofluid Systems	3
MCE 2323	Manufacturing Technology I	3
Credit Hours		16
<b>Semester 4</b>		
AES 1003	Emirati Studies	3
MCE 3343	Industrial Plant Maintenance	3
MCE 3613	Fluid Power	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
Credit Hours		6
Total Credit Hours		78