

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 78 credits, including:

| Code | Title | Credit Hours |
|---------------------------------|-------|--------------|
| Program Core Courses | | 39 |
| Mathematics and Science Courses | | 15 |
| General Studies course | | 24 |
| Total Credit Hours | | 78 |

| Code | Title | Credit Hours |
|------|-------|--------------|
|------|-------|--------------|

Mechanical 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 2213 | Mechanics of Materials | 3 |
| MCE 2303 | Material Selection and Testing | 3 |
| MCE 2311 | Solid Modelling | 1 |
| MCE 2323 | Manufacturing Technology I | 3 |
| MCE 2332 | Geometric Dimensioning and Tolerancing | 2 |
| 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: 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 | DMCET |
| Major Code | MCE |

Ideal Study Plan

Recommended Sequence of Study

| Year 1 | | Credit Hours |
|--------------------|--|--------------|
| Semester 1 | | |
| 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 |
| Semester 2 | | |
| MTH 1113 | Statistics for Engineering | 3 |
| AES 1033 | Islamic Culture | 3 |
| MTH 1203 | Calculus I | 3 |
| PHY 1203 | Physics II | 3 |
| CHM 1103 | Engineering Chemistry | 3 |
| AES 1013 | Arabic Communications I | 3 |
| Credit Hours | | 18 |
| Summer | | |
| MTH 2103 | Calculus II | 3 |
| MCE 2303 | Material Selection and Testing | 3 |
| Credit Hours | | 6 |
| Year 2 | | |
| Semester 3 | | |
| ELE 2153 | Electrical Eng Fundamentals | 3 |
| ICT 2013 | Computational Thinking and Coding | 3 |
| MCE 2203 | Applied Statics | 3 |
| MCE 2311 | Solid Modelling | 1 |
| MCE 2323 | Manufacturing Technology I | 3 |
| MCE 2403 | Thermodynamics | 3 |
| Credit Hours | | 16 |
| Semester 4 | | |
| AES 1003 | Emirati Studies | 3 |
| MCE 2213 | Mechanics of Materials | 3 |
| MCE 2332 | Geometric Dimensioning and Tolerancing | 2 |
| MCE 2903 | Sophomore Design Project | 3 |
| MCE 3343 | Industrial Plant Maintenance | 3 |
| MCE 3613 | Fluid Power | 3 |
| Credit Hours | | 17 |
| Summer | | |
| EGN 2806 | Work Placement I | 6 |
| Credit Hours | | 6 |
| Total Credit Hours | | 78 |