



Faculty of Engineering
Cairo University
Mechanical Design & Production Dept
CHS: MDE-MEE-IEM
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INDUSTRIAL TRAINING OBJECTIVES, FIELDS, AND EXPECTED OUTPUTS

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INTRODUCTION

- Industrial training refers to work experiences that are relevant to professional development prior to graduation. One of the requirements for the award of degree of Bachelor of Engineering, by the Credit Hour System, Faculty of Engineering, Cairo University (CUFE). In credit hour system, students must attend two compulsory IT-courses, namely Industrial Training-1, and Industrial Training-2.

Industrial Training-1

Compulsory, Credits: 1

Prerequisite(s): 72 credits + AA Approval

Training on industrial establishments relevant to the program. *Training lasts for total of 90 hours, during a period about **three weeks**.* The program training advisor schedules at least one follow up visit to the training venue and formally report on performance of trainee(s). A Mentor in the industrial establishment provides a formal report on the student's performance during training. The student submits a formal report and presentation to be evaluated by a panel of three members with one member being an external examiner appointed from industry or other colleges of engineering. *The course is graded as **Pass/Fail** grade-system.*

Industrial Training-2

Compulsory, Credits: 2

Prerequisite(s): IT1 + AA Approval

Training on industrial establishments relevant to the program. *Training lasts for total of **180 hours**, during a minimum period of **six weeks**.* The program training advisor schedules at least two follow-up visits to the training venue and formally report on performance of trainee(s). A Mentor in the industrial establishment provides a formal report on the student's performance during training. The student submits a formal report and presentation to be evaluated by a panel of three members with one member being an external examiner appointed from industry or other colleges of engineering. *The course is graded as **Pass/Fail** grade-system.*

IT Objectives

- To provide students the opportunity to test their interest in a particular career before permanent commitments are made.
- To develop skills in the application of theory to practical work situations.
- To develop skills and techniques directly applicable to their careers.
- Internships will increase a student's sense of responsibility and good work habits.
- To expose students to real work environment experience gain knowledge in writing report in technical works/projects.
- Internship programs will increase student earning potential upon graduation.
- To build the strength, teamwork spirit and self-confidence in students' life.
- To enhance the ability to improve student's creativity skills and sharing ideas.
- To build a good communication skill with group of workers and learn to learn proper behavior of corporate life in industrial sector.

Training Fields for MDE Program

- CAD/CAM Engineer
- Project Engineer
- Maintenance Engineer
- Production Engineer
- Mechanical Equipment Designer
- Automobile Engineer
- Power Plant Engineer

Training Fields for IEM Program

- **IT-1:**

The student become familiar with the whole production cycle, starting from receiving customer order, passing through production planning , storage, purchasing, production and gain well understanding of the main duties of each function and the details of the information cycle.

- **IT-2:**

The student need to gain a detailed understanding of the production planning process and have a hands on the real practice of different topics of industrial engineering including quality control, maintenance plan, inventory probability,....etc.

Industrial Training Fields for MEE Program

- Manufacturing and Assembly Plants (i.e., Control systems):
 - Explore the applications of PLC systems (or other controllers) to control different machine subsystems.
 - Explore different hydraulic and pneumatic systems adopted in the industry.
- Power Plants (i.e., Control systems): Explore the control systems adopted to control different stationary equipment (turbines, pumps, compressors)
- Vehicle service centers (i.e., Autotronics): Diagnosis and troubleshooting of faults and problems through the vehicle main control unit.

Industrial Training Outcomes for MEE Students

- Reflect on different topics studied in the MEE program such as:
 - Control systems,
 - Instrumentation,
 - Programming,
 - Hydraulics,
 - Pneumatics,
 - Machine Design,
- Understand the importance of Mechatronics in modern industry.
- Start to have relations and ties with industrial entities which may offer positions or jobs after graduation.