IM 212- Manufacturing Processes

Hour: Lecture: 2 Hrs. Tutorial: 2 Hrs. Credit: 3.
Coordinator: Mona Fouad

Text Book:

- F Hassan El-Hofy, "Fundamentals of Machining Processes", CRC Press, latest edition.

Specific course information

a. This course is tailored for departments other than the department of industrial and management engineering and it covers the following topics: Chip type machining processes, cutting tools, work holding devices, mechanics of chip formation, and analytical study of machining processes. It also includes tool wear, process accuracy and product surface finish, precision measurements and metrology, and an overview of non-conventional machining processes.
b. Prerequisite: None
c. Designation: Required

Specific goals for the course:

- An ability to apply knowledge of mathematics, science, and engineering.
- An ability to design and conduct experiments, analyze and interpret data.
- An ability to identify, formulate, and solve engineering problems.
- An ability to use the techniques, skills, and modern engineering tools necessary for Mechanical engineering practice.

Course instruction outcomes:

- The students will be able to understand the fundamentals of chip type machining processes.
- The students will be familiar with the different cutting tools used in machining processes.
- The students will be able To understand the basics of non-traditional and computerized machine tools.
- The students will be able To comprehend the importance of inspection and quality control measures.

Student outcomes:

A, B, E, F, K

Topics Covered:

- Fundamentals of chip – type machining processes.

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- Cutting tools for machining.
- Turning and drilling processes.
- Milling Processes.
- Broaching and shaping processes.
- Abrasive machining processes 1.
- Abrasive machining processes 2.
- Numerical control machine tools.
- Non-traditional machining processes 1.
- Non-traditional machining processes 2.
- Measurements & Inspection 2.
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- Quality Control.

Course / credit hours	Math & Basic Sciences	Engineering Topics	General Education
Manufacturing Processes /3		3	