Faculty of Engineering & Technology

Production Technology

Information :

Course Code :	MAN 121	**Level :**	Undergraduate	**Course Hours :**	2.00- Hours

Department : Faculty of Engineering & Technology

Instructor Information :

Title	Name	Office hours
Professor	Maher Mohamed Aboelhassan Nofal	1
technician	Ahmed Hassan Fares Fargaly	
technician	Essam Mostafa Mohamed Hamed	
technician	Abdel Samad Taha Mahmoud Ahmed Abdelkarim	
technician	Mohamed Mounir Mohamed Mousa Al wakeel	
technician	Bayomi Abul Sabae Mohamed Bayomi	
technician	Saleh Mostafa El Sayed Ali Youssif	

Area Of Study :

Develop the students' knowledge about the basic concepts of differential Workshop Hand Tools, Properties of Material, Classification and Selection of Materials, Quality Inspection and other Aspects Related to Manufacturing.
Develop the students' knowledge about different manufacturing processes
Prepare students evaluate the applicability of particular materials for specific design requirements.
Prepare students to select appropriate manufacturing process to produce various products
Train students to evaluate the economics of manufacturing processes selected for particular products

Description :

Introduction to production technology, Principle of Metals Casting, Casting Process and joining of metals, Bulk Metal Forming, forming processes (forging, bending, rolling, Sheet Metal Forming, Polymer Forming etc.), Machining Fundamentals and basic machining processes (turning, shaping, milling, drilling, grinding, etc.), Workshop Hand Tools, Properties of Material, Classification and Selection of Materials, Quality Inspection and other Aspects Related to Manufacturing.

Course outcomes :

a.Knowledge and Understanding: :

1 -	Identify engineering material, classification, selection, properties and testing
2 -	Explain the principles and techniques of casting process
3 -	Explain the principles and different types of forming process
4 -	Explain the principles and different types of machining process

5 -	Explain the principles and different types of joining and inspection process
6 -	Identify the different aspect is affecting process selection
b.Intellectual Skills: :	
1 -	Apply a proper material to a certain product
2 -	Select a suitable manufacturing process to produce a certain product
3 -	Select alternative solutions according to different given constrains
4 -	Determine the important factors affecting material and process selection
c.Professional and Practical Skills: :	
1 -	Practice safely and accurately simple workshop hand tools
2 -	Distinguish safely and accurately workshop Equipment
3 -	Classify the required process selection factors
d.General and Transferable Skills: :	
1 -	Verify the technical report in oral seminar
2 -	Effectively manage tasks, time, and resources
3 -	Estimate as a part of a project team in building real case study.

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Introduction	4	1	1
Workshop Hand Tools	4	1	1
Properties of Material	4	1	1
Classification and Selection of Materials	4	1	1
Principle of Metals Casting	4	1	1
Casting Process	4	1	1
Principle of Metal Forming	4	1	1
Bulk Metal Forming	4	1	1
Sheet Metal Forming	4	1	1
Polymer Forming	4	1	1
Machining Fundamentals	4	1	1
Machining Processes	8	2	2
Joining of Metals	4	1	1
Quality Inspection and other Aspects Related to Manufacturing	4	1	1

Teaching And Learning Methodologies :

Interactive Lecture
Discussion
Problem-based Learning
Report

Experiential Learning

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Assignment	5.00		
Final Exam	40.00		
Lab Exper.	5.00		
Mid- Exam 1I	20.00		
Mid- Exam I	20.00		
Oral Exam	5.00		
Quizzes	5.00		

Course Notes :

Distributed by the Author on the course Moodle page, FUE website

Recommended books :

-M. Lal ï O. P. Khanna, 1979, Text Book of Foundry Technology,
-John Campell, Casting, 2nd edition, Butterworth-Heinemann 2003----

Periodicals :

- Materials Handbook, v. 15 ï casting, ASM Int., USA, 1998.
- Journal of Metals, ASM, USA

Web Sites :

- Websites on casting and websites on casting.