

## 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            |
| Professor  | Maher Mohamed Aboelhassan Nofal           | 1            |
| technician | Bayomi Abul Sabae Mohamed Bayomi          |              |
| technician | Abdel Samad Taha Mahmoud Ahmed Abdelkarim |              |
| technician | Essam Mostafa Mohamed Hamed               |              |
| technician | Ahmed Hassan Fares Fargaly                |              |
| technician | Mohamed Mounir Mohamed Mousa Al wakeel    |              |
| technician | Saleh Mostafa El Sayed Ali Youssif        |              |
| technician | Saleh Mostafa El Sayed Ali Youssif        |              |
| technician | Khaled Osman Seer El Khatm Naqeeb         |              |
| technician | Bayomi Abul Sabae Mohamed Bayomi          |              |
| technician | Mohamed Mounir Mohamed Mousa Al wakeel    |              |
| technician | Abdel Samad Taha Mahmoud Ahmed Abdelkarim |              |
| technician | Essam Mostafa Mohamed Hamed               |              |
| technician | Ahmed Hassan Fares Fargaly                |              |

#### Area Of Study :

Engineering materials: material structure and properties, metallic alloys and equilibrium diagrams, Metal forming: casting, forging, rolling, drawing, extrusion and spinning, Welding and riveting: soldering, brazing, electric arc welding, cold pressure and friction welding, electric resistance welding, spot, seam and projection welding, Metal cutting: hand tools and machining processes, centre lathe, shaper and drill, Measuring instruments, lengths and angles, specifications and standardization, Elements of production management systems and cost of production.

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**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                    |

**Course Topic And Contents :**

| Topic   | No. of hours | Lecture | Tutorial / Practical |
|---|--------------|---------|----------------------|
| 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 :**

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**Recommended books :**

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**Periodicals :**

**Web Sites :**