A- Basic Information

Course Title: Production Engineering  (1)  
Code: MDP111
Lecture: 3  Tutorial: 3  Practical:  
Total: 6

Program on which the course is given: B.Sc. Mechanical Engineering (Productions) 
Major or minor element of program: Major 
Department offering the program: Mechanical Engineering Department 
Department offering the course: Mechanical Engineering Department 
Academic year / level: First Year / First Semester 
Date of specifications approval: 10/5/2006

B- Professional Information

1- Overall aims of course: 
Write the aims of the course here ...

2- Intended learning outcomes of course (ILOs) 
By completion of the course, the student should be able to:

a- Knowledge and Understanding 
a.3) Characteristics of engineering materials related to discipline. 
a.8) Current engineering technologies as related to disciplines. 
a.10) Technical language and report writing. 
a.13) Concepts, principles and theories relevant to Mechanical Engineering and manufacture; 
a.16) Relevant contemporary issues in mechanical engineering.

b- Intellectual Skills 
b.3) Think in a creative and innovative way in problem solving and design. 
b.9) Judge engineering decisions considering balanced costs, benefits, safety, quality, reliability, and environmental impact. 
b.10) Incorporate economic, social, environmental dimensions and risk management in design. 
b.12) Create systematic and methodic approaches when dealing with new and advancing technology. 
b.17) Use the principles of engineering science in developing solutions to practical mechanical engineering problems. 
b.18) Select appropriate manufacturing method considering design requirements.

c- Professional and Practical Skills 
c.2) Professionally merge the engineering knowledge, understanding, and feedback to improve design, product and/or services. 
c.4) Practice the neatness and aesthetics in design and approach. 
c.8) Apply safe systems at work and observe the appropriate steps to manage risks.
c.10) Apply quality assurance procedures and follow codes and standards.
c.11) Exchange knowledge and skills with engineering community and industry.
c.14) Employ the traditional and modern CAD and CAD/CAM facilities in design and production processes

c.15) Use basic workshop equipment safely;
c.19) Prepare the process plan for manufacturing.

d- General and Transferable Skills
d.1) Collaborate effectively within multidisciplinary team.
d.2) Work in stressful environment and within constraints.
d.3) Communicate effectively
d.6) Effectively manage tasks, time, and resources.
d.7) Search for information and engage in life-long self learning discipline.
d.9) Refer to relevant literatures.

3- Contents

<table>
<thead>
<tr>
<th>Topic No.</th>
<th>Topic</th>
<th>Weeks</th>
<th>ILO’s</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Principle of Measurement and Inspection.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Precise Measurement.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Surface roughness</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Metal cutting, machining processes and calculation of machining time.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Taper turning, screw cutting ,Drilling,Shaping and planning</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Milling processes, Indexing head and Grinding processes</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Broaching operation and Broaching tools</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>14 weeks</strong></td>
<td><strong>84 hours</strong></td>
</tr>
</tbody>
</table>

4- Teaching and Learning Methods
Lectures
Practical training / laboratory
Seminar / workshop
Class activity
Case study
Assignments / homework

5- Student Assessment Methods
Assignments to assess knowledge and intellectual skills.
Quiz to assess knowledge, intellectual and professional skills.
Mid-term exam to assess knowledge, intellectual, professional and general skills.
Oral exam to assess knowledge and intellectual skills.
Final exam to assess knowledge, intellectual, professional and general skills.

Assessment Schedule
COURSE SPECIFICATIONS (2010-2011)

Benha University Faculty of Engineering at Shobra Mechanical Engineering Department

Assessment 1 on weeks 2, 5, 9, 11
Assessment 2 Quizzes on weeks 4, 6, 10, 12
Assessment 3 Mid-term exam on week 8
Assessment 4 Oral Exam on week 14
Assessment 5 Final exam on week 15

Weighting of Assessments
05% Home assignments
05% Quizzes
10% Mid-term examination
20% Oral examination
60% Final-term examination
100% Total

6- List of References
Course notes
Course notes prepared by instructor.
Essential books
Production Technology, M.S. Hammed & Ibrahiem Mousa
Recommended books

7- Facilities required for teaching and learning
Lecture room equipped with overhead projector
Presentation board, computer and data show
Laboratory

Course coordinator: Prof. Dr. Maher G. Higazy
Course instructor: Dr. Iman Mahmoud Mohamed EL-komy and Sayed Abd-ELwanis

Head of Department: Prof. Dr. Maher Hegazy Date: December 5, 2011

www.feng.bu.edu.eg