COURSE SPECIFICATIONS

University: Benha University  Faculty: High Institute of Technology

Course specifications

Course Description

- Training exercises based on manufacturing and assembling of multi-part components – Intensive use of machine tools including wood working machines

Programs take this course through their curricula:

- Degree of Engineering and Technology in Mechanical Engineering (Production and Power)

Departments offering these programs are:

- Mechanical Engineering

Academic year / Level

- Second year

Date of specification approval

- 2009 G.
A- Basic Information
Title: Engineering Applications      Code: M 260
Credit Hours: 4                   Lecture: -
Tutorial: -                      Practical: 4        Total: 4

B- Professional Information
1 - Overall aims of course
   • Use of production facilities to produce a part of mechanical system
   • Read and interpret working drawings
   • Produce sandwich format report
   • Use efficiently workshop tools and machine
   • Assemble simple mechanisms and mechanical systems

2- Intended learning outcomes of course (ILOs)
   • Use workshop tools
   • Use manufacturing machines
   • Learn necessary calculations needed for producing components
   • Work within a group in a mini-project

a. Knowledge and understanding:
   a.1 Know the professional use of production machines
   a.2 Formalization with assembly techniques
   a.3 Know and fix faults associated manufacturing and assembly processes

b. Intellectual skills
   b.1 Composing multi-component parts from simpler components
   b.2 Use fixtures and assembly aides and measuring devices in workshop
   b.3 Conduct check procedure against manufacturing and assembly processes

c- Professional and practical skills
   c.1 Design simple and efficient methods for assembly purposes

d- General and transferable skills
   d.1 Gain enough experience to deal with workshop tasks
   d.2 Develop team working skills
3- Contents

<table>
<thead>
<tr>
<th>Topic</th>
<th>No. of Hours</th>
<th>Lecture</th>
<th>Tutorial/Practical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing machines</td>
<td>16</td>
<td>-</td>
<td>16</td>
</tr>
<tr>
<td>Workshop tools</td>
<td>12</td>
<td>-</td>
<td>12</td>
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<tr>
<td>Assembly processes</td>
<td>16</td>
<td>-</td>
<td>16</td>
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<tr>
<td>Finishing processes</td>
<td>12</td>
<td>-</td>
<td>12</td>
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<tr>
<td>Process and procedure sheets</td>
<td>12</td>
<td>-</td>
<td>12</td>
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<tr>
<td>Mini project</td>
<td>52</td>
<td>-</td>
<td>52</td>
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</tbody>
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4– Teaching and learning methods

4.1-Direct instruction
4.2-Supervised training
4.3-Project advising
4.4-Project report

5- Student assessment methods

5.1 Workshop Grading to assess knowledge and intellectual skills
5.2 Quizzes to assess understanding and professional skills
5.3 Mid Term to assess intellectual and transferable skills
5.4 Project Report to assess intellectual and transferable skills
5.5 Final Exam to assess intellectual and transferable skills

Assessment schedule

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Week</th>
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<tbody>
<tr>
<td>Assessment 1</td>
<td>Workshop Week every week</td>
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<tr>
<td>Assessment 2</td>
<td>Quizzes Week five or six times</td>
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<tr>
<td>Assessment 3</td>
<td>Mid -Term Week end of the term</td>
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<tr>
<td>Assessment 4</td>
<td>Mini project Week end of the term</td>
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<tr>
<td>Assessment 5</td>
<td>Final Exam Week end of the term</td>
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Weighting of assessments

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Weight</th>
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</thead>
<tbody>
<tr>
<td>Mid-term examination</td>
<td>10 %</td>
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</table>
Final-term examination 40 %
Oral examination 30 %
Semester work 10 %
Report 10 %
Total 100 %

6- List of references
- Course notes
6.2- Essential books (text books)
  - Lecture Notes
6.3- Recommended books
  - Same books

7- Facilities required for teaching and learning
   Possible E-Learning

Course coordinator: Dr. Ahmed Kassem
Head of Department:
Date: //