COURSE SPECIFICATIONS (2010-2011)

Benha University  Faculty of Engineering at Shobra  Mechanical Engineering Department

A- Basic Information

Course Title: Engineering production  Code: MEC 002
Lecture: 2  Tutorial: Practical: 3  Total: 5
Program on which the course is given: B.Sc. Mechanical Engineering (Power)
Major or minor element of program: Major
Department offering the program: Mechanical Engineering Department
Department offering the course: Physics and Sciences Department
Academic year / level: Prep Year / Second Semester
Date of specifications approval: 10/5/2006

B- Professional Information

1- Overall aims of course:
   1) Provide students with a solid foundation in the fundamental principles of production engineering
   2) Provide students to study the application of methods of

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

a- Knowledge and Understanding
   a.2) Basics of information and communication technology (ICT).
   a.3) Characteristics of engineering materials related to discipline.

b- Intellectual Skills
   b.2) Select appropriate solutions for engineering problems based on analytical thinking.
   b.7) Solve engineering problems, often on the basis of limited and possibly contradicting information.
   b.8) Select and appraise appropriate ICT tools to a variety of engineering problems.
   b.9) Judge engineering decisions considering balanced costs, benefits, safety, quality, reliability, and environmental impact.

c- Professional and Practical Skills
   c.2) Professionally merge the engineering knowledge, understanding, and feedback to improve designs, product and/or services.
   c.3) Create and/or re-design a process, component or system, and carry out specialized engineering designs.
   c.11) Exchange knowledge and skills with engineering community and industry.

d- General and Transferable Skills
   d.1) Collaborate effectively within multidisciplinary team.
   d.2) Work in stressful environment and within constraints.
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3- Contents

<table>
<thead>
<tr>
<th>Topic No.</th>
<th>Topic</th>
<th>Weeks</th>
<th>ILO’s</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>safety and engineering material</td>
<td>2</td>
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<td>2</td>
<td>Engineering hand tools</td>
<td>2</td>
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<td>3</td>
<td>Introduction to computerized Numerical control</td>
<td>2</td>
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<tr>
<td>4</td>
<td>Introduction to casting and welding technology</td>
<td>2</td>
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<tr>
<td>5</td>
<td>rolling, forging and drawing technology</td>
<td>2</td>
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<tr>
<td>6</td>
<td>turning, drilling, milling technology</td>
<td>2</td>
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<td>7</td>
<td>grinding technology</td>
<td>2</td>
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<td><strong>Total</strong></td>
<td><strong>14 weeks</strong></td>
<td><strong>70</strong> hours</td>
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4- Teaching and Learning Methods

Lectures
Practical training / workshop

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

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.
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Essential books
Recommended books

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

Course coordinator: Dr. Sæber Abd Rabbo
Course instructor: Dr. Sæber Abd Rabbo

Head of Department: Prof. Dr. Ali Al Sabaagh

Date: December 5, 2011