



Arab Academy for Science, Technology & Maritime Transport  
College of Engineering & Technology  
Mechanical Engineering (Mechatronics) Program

**University/Academy:** Arab Academy for Science, Technology & Maritime Transport  
**Faculty/Institute:** College of Engineering & Technology  
**Program:** B.Sc. Mechanical Engineering

**Form no. (12)**  
**Course Specification**

**1- Course Data**

Course Code: <b>ME 252</b>	Course Title: <b>Mechanical Engineering Drawing</b>	Academic Year/Level: <b>2nd year / 4th semester</b>
Specialization: <b>Mechanical</b>	No. of Instructional Units <b>3 credits</b>	Lecture <b>2 hrs.</b>
		Practical <b>4 hrs.</b>

**2- Course Aim**

To enable the student to use computer aided drafting program to make detail and assembly drawings with enough care and accuracy and according to appropriate conventions

**3- Intended Learning Outcomes**

<b>a- Knowledge and Understanding</b>	<b>Through knowledge and understanding, students will be able to:</b> K2) Basics of information and communication technology (ICT) K3) Characteristics of engineering materials related to the discipline K10) Technical language and report writing
<b>b- Intellectual Skills</b>	<b>Through intellectual skills, students will be able to:</b> I1) Select appropriate mathematical and computer-based methods for modeling and analyzing problems. I2) Select appropriate solutions for engineering problems based on analytical thinking
<b>c- Professional Skills</b>	<b>Through professional and practical skills, students will be able to:</b> P10) Apply quality assurance procedures and follow codes and standards. P12) Prepare and present technical reports
<b>d- General Skills</b>	<b>Through general and transferable skills, students will be able to:</b> G3) Communicate effectively G4) Demonstrate efficient IT capabilities. G9) Refer to relevant literature

**4- Course Content**

<b>Week No.1</b>	CAD basics
<b>Week No.2</b>	Object construction and manipulation in CAD systems
<b>Week No.3</b>	Drawing entities format and view
<b>Week No.4</b>	Layers, text and dimensioning
<b>Week No.5</b>	Hatching and construction of blocks, printing

- Week No.6** Drawing notations: Surface finish - machining & welding symbols
- Week No.7** Bolted connections / 7th week evaluation
- Week No.8** Fits and Tolerances – Assembly drawing exercise
- Week No.9** Assembly drawing with applications – Assembly drawing exercise
- Week No.10** Assembly drawing with applications – Assembly drawing exercise
- Week No.11** Assembly drawing with applications – Assembly drawing exercise
- Week No.12** Assembly drawing with applications / 12th week evaluation
- Week No.13** Assembly drawing with applications – Assembly drawing exercise
- Week No.14** Assembly drawing with applications – Assembly drawing exercise
- Week No.15** Assembly drawing with applications – Assembly drawing exercise
- Week No.16** Final Examination

### 5- Teaching and Learning Methods

- Lectures
- Tutorials
- Reports & sheets
- Laboratories
- Seminars

### 6-Teaching and Learning Methods for Students with Special Needs

- Lectures
- Tutorials
- Reports & sheets
- Laboratories
- Seminars

#### **Engineering Requirements and Design Considerations in college Buildings and its Leading Passages**

- The design of college buildings and pedestrian passages leading to it are sloppy to allow the transportation of the handicapped;
- Doors are wide enough to let wheel chairs pass through easily and conveniently.
- Lifts are provided for movement between floors.
- Doors are made from light weight materials to make it easy for the handicapped suffering from weakness in limb muscles or those handicapped using prosthetic limbs to deal with them with the least muscular effort.
- Class floors are made from non-slippery materials to prevent falls on the part of the handicapped.
- Sudden changes in the floor level are prevented.

#### **Design Considerations of the Classes**

- Class boards are placed at 60 cm high to allow wheeled chair users or those suffering from limited arm mobility use them.
- Enough spaces are left between seats and benches to prevent hindering the movement of wheeled chairs between them.
- Handicapped students sit among normal people in class to be able to interact with them. Nevertheless, in urgent cases according to the nature of the disability, the handicapped students sit in fixed suitable places whether at the front or the back of the class.
- Handicapped students sit close to the main exits of the class to be able to evacuate in case of emergencies.

**Academic Support:**

- The general academic advisor appoints an academic supervisor for handicapped students.
- Continuous follow ups are made for handicapped students after each assessment to evaluate their academic level of achievement

**7- Student Assessment**

<b>a-Procedures used</b>	1-Drawing and writing Examinations to assess The Intended Learning Outcomes.	
	2-Class Activities (Reports, Discussions, -----) to assess The Intellectual and general Skills.	
<b>b- Schedule:</b>	Assessment 1	7 <sup>th</sup> Week Assessment
	Assessment 2	12 <sup>th</sup> Week Assessment
	Assessment 3	Continuous Assessments
	Assessment 4	16 <sup>th</sup> Week Final Written Exam
<b>c- Weighing of Assessment</b>	7 <sup>th</sup> Week Evaluation	30 %
	12 <sup>th</sup> Week Evaluation	20 %
	Final-term Examination	40 %
	Oral Examination	00 %
	Practical Examination	00 %
	Semester Work	10 %
	Total	100%

**8- List of References:**

<b>a- Course Notes</b>	N/A
<b>b- Required Books (Textbooks)</b>	• Notes prepared and edited (from several related text books, standards and codes in use) to cover the syllabus
<b>c- Recommended Books</b>	• Boundy, "engineering Drawings", McGraw – Hill Co, Latest Edition
<b>d- Periodicals, Web Sites, etc.</b>	N/A

Course coordinator:

Program Manager: