

COURSE SPECIFICATIONS

University: Benha University

Faculty: Benha Faculty of Engineering

Course specifications

Course Description

- Instrumentation – Lettering – Lines – Geometric constructions – introduction to descriptive geometry – Sketches – Isometric views – Oblique views – Prospective views – Multi view projection – Sectional views – Dimensioning – Auxiliary views – Intersections and developments – Electric and electronic diagrams – Piping and pipe connections – Steel joints.

Programs take this course through their curricula

- Degree of Engineering and Technology in Mechanical Engineering (Production and Power)
- Degree of Engineering and Technology in Civil Engineering
- Degree of Engineering and Technology in Electrical Engineering (Control and Communications)

Departments offering these programs are:

- Mechanical Engineering
- Civil Engineering
- Electrical Engineering

Academic year / Level

- First preparatory year

Date of specification approval

- 2008 G.

A- Basic Information

Title: Engineering Drawing

Code: M 150

Credit Hours: 3

Lecture: -

Tutorial: 4

Practical: -

Total:4

B- Professional Information

1 - Overall aims of course

- Read and understand objects from standard Orthographic drawings
- Be able to draw standard drawing to describe objects in orthographic or pictorial drawings

2- Intended learning outcomes of course (ILOs)

- Deduce three standard orthographic views of an object
- Draw hidden details by taking suitable sectioning views
- Draw a pictorial drawing using orthographic projection
- Draw auxiliary views as needed to clarify object details
- Draw resulting lines from intersection of planes with solids and develop the remaining solid
- Draw resulting lines from intersection of two solid objects and develop the side boundary of each

a. Knowledge and understanding:

- a.1 Kinds of lines
- a.2 Standard views, their positions relative to each other and relationships
- a.3 Drawing entities
- a.4 Read and dimension drawings

b. Intellectual skills

- b.1 Visualize objects from orthographic projections
- b.2 Visualize hidden details of an object
- b.3 Deduce intersection of geometric entities
- b.4 Deduce boundary of a solid

c- Professional and practical skills

- c.1 Making scaled sketches to objects
- c.2 Draw exact layout of objects sheet metal working

d- General and transferable skills

- d.1 Dealing with geometry description (reading and drawing)
- d.2 Hand sketching with tools
- d.3 Free hand sketching

3- Contents

Topic	No. of Hours	Lecture	Tutorial/Practical
Lettering and Lines	8	-	2
Geometric Construction	8	-	2
Orthographic Projection	16	-	4
Dimensioning	4	-	1
Sectional Views	16	-	4
Auxiliary Views	8	-	2
Pictorial-Isometric	20	-	5
Intersection	8	-	2
Development	8	-	2
Steel Joints	8	-	2

4– Teaching and learning methods

- 4.1-Direct instruction
- 4.2-Supervised tutoring
- 4.3-Solid models
- 4.4-Home assignments

5- Student assessment methods

- 5.1 Class work grading to assess knowledge and intellectual skills
- 5.2 Quizzes to assess understanding and professional skills
- 5.3 Homework grading to assess understanding and professional skills
- 5.4 MidTerm to assess intellectual and transferable skills
- 5.5 Final Exam to assess intellectual and transferable skills

Assessment schedule

Assessment 1 CW	every week
Assessment 2 Quizzes	twice or three times each term
Assessment 3 HW	every work
Assessment 4 Mid Term	end of the first term
Assessment 5 Final Exam	end of the year

Weighting of assessments

Mid-term examination	20 %
Final-term examination	40 %
Other types of assessment	40 %
Total	100 %

Any formative only assessments

6- List of references

- 6.1- Course notes
 - Fundamentals of Engineering Drawing by Warren J. Luzadder and Jon M. Duff. Printice Hall, 11th ed., 1993.
 - Engineering Drawing,

6.2- Essential books (text books)

- Lecture Notes

6.3- Recommended books

- Same books

6.4- Periodicals, Web sites, ... etc

7- Facilities required for teaching and learning

Possible E-Learning

Course coordinator: Prof. Dr. Ahmed El-Assal

Head of Department:

Date: 30 / 6 / 2009