BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE, PILANI
INSTRUCTION DIVISION
FIRST SEMESTER 2015-16

Course Handout (Part II)

Date: 03/08/2015

In addition to part I (General Handout for all courses appended to the time table) this portion gives further specific details regarding the courses.

Course No : BITS F110
Course Title : ENGINEERING GRAPHICS
Instructor-in-charge : **M. S. DASGUPTA**
Team of Instructors : Anuradha Devi**,** C V Sunil Kumar, Kamalesh Kumar, Kapil Dev Choudhury, Nikhil Gakkhar, Nilesh Purohit, Sanghamitra Kundu, Shuvendu N Patel, Simarpreet Singh, Tanmay Gupta**,** V Sudhir

1. Course Description:
The course includes fundamentals and techniques of technical drawing and also standard practices of the same so that design ideas can be adequately communicated and produced. It introduces students to theories of projection and the concepts of engineering drawing using the most widely used CAD application software AutoCAD. Basic AutoCAD 2014 commands will also be introduced.

The course will cover: Introduction to AutoCAD basic commands; theory of projections; orthographic projections; isometric projections; projection of points, lines, planes and solids; section of solids; developments of surfaces; interpenetration of solids.

2. Scope and objective of the course:
Computerized drafting is an upcoming technology and provides accurate and easily modifiable graphics entities, easy data storage and retrieval facility and enhances creativity.
Upon successful completion of this course, the student will be able to:

- Read and interpret engineering drawings
- Identify the three principal projection planes
- Draw 2-dimensional orthographic projections from given 3-dimensional views
- Create an isometric drawing using AutoCAD
- Comprehend orthographic and multiview projection
- Apply the concept of cutting planes to create the various types of sectional views
- Become conversant with appropriate use of AutoCAD software for drafting.

3. Text Book: D.M. Kulkarni, A.P. Rastogi and A. K. Sarkar., *Engineering Graphics with AutoCAD*, PHI Learning Private Limited, New Delhi.

4. Reference Book: Dhananjay A. Jolhe, *Engineering Drawing with an Introduction to AutoCAD*, Tata McGraw-Hill Education Private Limited, New Delhi.

5. Course Plan:

Lecture No.	Learning Objectives	Topics to be covered	Practical Classes	Chap/Sec
1 - 2	Intro to AutoCAD	Basic commands	3 (non evaluative)	Ch. 1 & Ch.2

3 - 4	Orthographic projections	Theory, techniques, first and third angle projections, Multi view drawing from pictorial views.	2	Ch. 3 & Ch. 5
5 - 6	Isometric Drawing	Theory of isometric drawing, construction of isometric from orthographic.	3	Ch. 6
7 - 9	Spatial geometry	Projection of points; lines, true lengths, inclinations, shortest distance; planes	2	Ch. 9 & Ch. 10
10 - 12	Geometrical solids and sections	Construction of solids; section planes and sectional view.	2	Ch. 12 & Ch. 13
13 – 14	Development of surfaces	Radial line, parallel line	2	Ch. 14
15 - 16	Interpenetration of Solids	Vertical interpenetration, horizontal interpenetration, drawing of profile at entry and exit	2	Ch. 15

6. Evaluation Scheme:

EC No.	Evaluation component	Duration	Weightage	Date, Time	Remarks
1	Mid – Test (On-line)	60 min	24	10/10 8:00 - 9:30 AM	**CB**, On-line (Exam schedule shall be announced in class)
2	Comprehensive (On-line)	75 min	40	12/12 FN	**CB**, On-line (Exam schedule shall be announced in class)
3	Assignments	Pract. Hours	36		**OB**, Best (10) performances out of the ones attended by each student will be counted for aggregate marks. (Usually there are 13 evaluative sessions completed)

7. Chamber Consultation Hours: To be announced in class by individual instructors.

8. Notices: Concerned notices will be displayed on LTC notice board and INTRABITS.

9. Make-up policy: There is no makeup for class assignment. Make-up request for Mid Semester / comprehensive examination must accompany appropriate supporting medical / exigency documents.

Instructor-in-charge
BITS F110