BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE, Pilani
KK Birla Goa Campus
INSTRUCTION DIVISION
FIRST SEMESTER 2017-2018

Course Handout

Date: 28/July/2017

Course No **:** BITS F110
Course Title **:** Engineering Graphics
Instructor-in-charge **:** Ravindra Saluja
Team of Instructors:
Varinder Singh, Mali Kiran Dinkar, Sandeep Jose , Sandeep Singh, Abhilash Kumar Tilak, Amal Siju, Nikhil Rejendra Kadam, Mahesh Dasar.

Scope and objective of the course:
Engineering Graphics is the primary medium for conceptualizing and communicating design concepts during development of engineering goods. The objective of the course is to train the students in this important skill needed for all engineering disciplines and familiarize them with established engineering drawing practice through lecturing as well as hands on training.

Learning outcomes
After completion of the course, the student will be able to:

- Conceive product concepts clearly and use established standards for producing orthographic and isometric drawings.
- Use the concepts of spatial geometry for drawing projections of various complex shapes.
- Use advanced concepts such as cut-sections useful for aiding the manufacturing and assembly processes involved in complex products
- Use advanced concepts such as development of the surfaces of solids for aiding the manufacturing.

General Course Description:
The course focuses on developing graphical and drafting skills among students. The course uses AutoCAD 2014 as a platform for solving problems of engineering graphics. The discussion is started by introducing the AutoCAD platform. Gradually, different topics of engineering graphics are introduced one by one such as orthographic projections, isometric projections, projections of points, lines, planes and solids, development of surfaces and sections of solids.

Text Book **:** D.M. Kulkarni, A.P.Rastogi and A. Sarkar., *Engineering Graphics with AutoCAD*, PHI publisher, revised edition, July 2010

Reference Books:

1) N. D. Bhatt & V. M. Panchal., Engineering Drawing, Charotar Publisher, 2007.
2) Dhanjay A Jolhe, Engineering Drawing, Tata-Mcgarw hill, 2008.

Course plan

Topics to be covered	Learning Objectives	Pract. Classes	Chap./Sec.
M1 Introduction to course	Fundamental requirements for completing the course		Ch 1
M2 Introducing the AutoCAD platform	Basic commands for working on AutoCAD	3	Ch. 2 & Ch.4
M3 Theories of Projections	Fundamental syntax of engineering drawings		Ch 3
M4 Orthographic projections	Multi view drawing from pictorial views.	2	Ch. 5
M5 Isometric drawings	Theory of isometric drawing, construction of isometric from orthographic.	2	Ch. 6
M6 Projection of points and lines	Fundamentals and procedures to solve problems on spatial geometry for points and lines	2	Ch. 9
M7 Projections of Planes	Fundamentals and procedures to solve problems on spatial geometry for planes	1	Ch. 10
M8 Projections of Solids	Fundamentals and procedures to solve problems on spatial geometry for solids	1	Ch. 12
M9 Sections of Solids	How to draw selected features in solids prominently	1	Ch. 13
M10Development of surfaces	How to manufacture hollow solids from sheets	1	Ch. 14

Evaluation Scheme:

SC No.	Evaluation component	Duration (min.)	Date, Time & Venue	Marks	Nature of component
1	Lab. Assignments	Pract. hours	Weekly once Central Computer lab	100	Class Assignments(open book)
2	Mid – Test (on-line)	60	To be announced	60	Computerized CLOSED BOOK examination
3	Comprehensive (on-line)	90	Refer to Time Table	120	Computerized CLOSED BOOK examination
4	Tutorial (4 surprise quiz)	20 minutes	To be announced	20	Class Assignments(open book)

Chamber Consultation Hours: To be announced in the tutorial class.

Notices: All notices will be displayed on the LMS/EDX.

Make – up policy:

Make-up for practical class will be granted only for genuine reasons. However, prior permission is a must. For medical cases, confirmation from the concerned physician of the Medical Centre is a must.

Instructor-in-charge
(BITS F110)