

Name of course : Computational Engineering Graphics.

Name of instructor: Dr. Ravi Kumar Gupta

Language of instruction: English

Number of contact hours: 36

Credit awarded: 03

Objective of course

The course will give the knowledge of the conventions and the methods of engineering drawing used in the engineering design centers and industries. Different theories of projections and the projection used in product design and development will be taught with hands on experience on projection of lines, planes, and solids. The participants will understand and create various type of views used in the product development and their importance. The participants will be able to prepare engineering models manually and using computer aided tools AutoCAD/Creo.

Syllabus

Basics of engineering drawing utilizing free hand sketching, mechanical drawing, and computer aided drafting using AutoCAD/Creo. The fundamental principles of orthographic projection as well as the topics on dimensioning, sectional views, isometric and perspective pictorials views, descriptive geometry and assembly drawings are taught. Design process and modeling using AutoCAD/Croe, Sketcher, Part design, Dimensioning and notes. Assembly drawings with sectioning and bill of materials.

Organization of course

Total contact hrs 36		
1st week:	10 hrs (classes)	2 hrs (self-study/project)
2nd week:	10 hrs (classes)	2 hrs (Mid term exam/assessment/discussion)
3rd week:	10 hrs (classes)	2 hrs (End term exam)

Mode of lectures: online lecture/online videos/case study/ discussion/ workshop/ hands-on

Course Plan

Lecture no.	Topic	Lecture mode	Instructor
L: 1-6	Basics of engineering drawing utilizing free hand sketching, mechanical drawing, and computer aided drafting using AutoCAD/Creo.	Online lecture & hands-on	Dr. Ravi Kumar Gupta
L: 7-12	The fundamental principles of orthographic projection as well as the topics on dimensioning, sectional views, isometric and perspective pictorials views, descriptive geometry and assembly drawings are taught.	Online lecture & hands-on	Dr. Ravi Kumar Gupta
L: 13-18	The fundamental principles of orthographic projection as well as the topics on dimensioning, sectional views, isometric and perspective pictorials views, descriptive geometry and assembly drawings are taught.	Online lecture & hands-on	Dr. Ravi Kumar Gupta
L: 19-24	Design process and modeling using AutoCAD/Creo, Sketcher, Part design, Dimensioning and notes. Assembly drawings with sectioning and bill of materials.	Online lecture & hands-on	Dr. Ravi Kumar Gupta
L: 25-30	Design process and modeling using AutoCAD/Creo, Sketcher, Part design, Dimensioning and notes. Assembly drawings with sectioning and bill of materials.	Online lecture & hands-on	Dr. Ravi Kumar Gupta

Brief profile of the instructor

Dr. Ravi Kumar Gupta, Associate Professor in the Department of Mechanical Engineering, School of Automobile, Mechanical & Mechatronics Engineering at Manipal University Jaipur; Dr. Gupta received PhD degree from IISc Bangalore and M.Tech. degree from MNNIT Allahabad. His publications have H-index = 11 (Scopus), 11 (Researchgate), 11 (Google Scholar). List of publications is available at:

<https://scholar.google.co.in/citations?user=yxtOO3UAAAAJ&hl=en>

