

Course Code	Course Name	L-T-P-Credits	Year of Introduction
CE334	COMPUTER AIDED CIVIL ENGINEERING LAB	0-0-3-1	2016

**Prerequisite : CE231 Civil Engineering Drafting Lab**

**Course objectives:**

1. To introduce the fundamentals of Civil Engineering drafting and drawing.
2. To familiarize with the FEA software packages for analysis and Design of structures
3. To understand the Total Station data transfer and interpretation.
4. To enable the usage of Project Management Software

**List of Experiments :**

- I. Structural Drawings for
  - a) Slabs and Beams
    - i. One Way / Two way Slab/Continuous Slabs
    - ii. Singly reinforced /Double reinforced Beams
    - iii. Continuous / Flanged Beams
  - b) Stair Case ( Doglegged and Tread and Riser Type)
  - c) Foundations (Isolated and Combined Rectangular)
- II Analysis and design of steel and RCC elements using STAAD/SAP 2000/ ETABS/any FEM software package.
  - a) Continuous and Cantilever beams
  - b) Plane truss and Frames
- III Use of Project Management Software ( MS Project/Primavera)
  - a) Preparation of Bar Chart/Gantt Charts/CPM/PERT Charts and finding Critical Path
  - b) Practice on Resource allocation (and Project Monitoring( Cost and Time)
- IV. Conduct of Survey camp using Total Station ( minimum 3 days duration) and its plotting.

**Expected Outcomes:**

- The students are expected to accomplish the abilities/skills for the use of Civil Engineering Drafting/Analysis, Design and Project Management Software.

**Text Books / References:**

1. N Krishna Raju, Structural Design and Drawing, Second Edition, Universities Press (India), Private Limited, Hyderabad, 2009
2. Reference Manual of the Relevant Software
3. Satheesh Gopi, Dr. R Sathikumar, N Madhu, Advanced Surveying: Total Station, GIS and Remote Sensing, Pearson Education India, 2006
4. AutoCAD Essentials, Autodesk official Press, John Wiley & Sons, US, 2015

**Note:**

- (1) Evaluation of drawing, along with a viva, to be done at the end of every class.
- (2) A survey camp of minimum 3 days duration using total station is to be conducted in the semester, and is compulsory
- (3) Evaluation Criteria :
 

Best 8 plate/Exercises	-	40 marks
Survey Camp	-	30 marks
.End semester examination	-	30 marks
<b>TOTAL</b>		<b>- 100 marks</b>