Ramgarhia Polytechnic College, Phagwara

Civil Engineering Department

Head of Department: Er. Gurcharan Singh

Name of the Faculty: Er. Vishal Sandhu

Discipline: Civil Engineering Department

Semester: 5th

Subject: Computer Applications

Lesson Plan Duration: 16 Weeks

RATIONALE

Computer applications plays a very vital role in present day life, more so, in the professional life of engineer. In order to enable the students use the computers effectively in problem solving, this course offers applications of various computer softwares in civil engineering.

Learning Outcomes

After undergoing the subject, students will be able to:

- Draw 2D drawings on AutoCAD viz. plan, section and elevation of a residential building
- Use various civil engineering software

PO → CO ↓	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	✔						✔
CO2		✔					✔

Syllabus

PRACTICAL	Details
1.	Introduction and use of AutoCAD for making 2D Drawings and develop plan, section and elevation of a residential building
2.	Demonstration of various civil engineering softwares like STAAD-Pro, Revit or Primavera Project Planner, BIM, ArcGIS or any other equivalent software for above mentioned software

Reference Books:

- Computer applications in engineering, by Er. R.K.Anand , ISHAN'S

Delivery/Instructional Methodologies

Sr.No.	Description
1.	Chalk and Talk
2.	PowerPoint Presentation

Assessment Methodologies

Sr. No.	Description	Type
1.	Student Assignment	Direct
2.	Test	Direct
3.	Board Examination	Direct
4.	Student Feedback	Direct

Gaps in the syllabus - to meet industry/profession requirements

S.NO.	DESCRIPTION	PROPOSED ACTIONS	PO MAPPING
	N/A	N/A	N/A

Topics beyond syllabus/advanced topics

Units	Details	Hours
N/A	N/A	N/A

Web Source References

Sr. No.	URL
1.	https://nptel.ac.in/

Lesson Plan

Week	Practical Day	
1st	1.	Introduction of AutoCAD
2nd	2.	Starting up of autocad ,autocad window, toolbar, drop down menu, command window, saving the drawing, introduction of graphic screen.
3rd	3	Starting up of autocad ,autocad window, toolbar, drop down menu, command window, saving the drawing, introduction of graphic screen.
4th	4	Co ordinates, drawing limits, grid, snap, ortho features, drawing commands, line, circle, polyline, multiline, ellipse, polygon, etc., Editing commands- copy, move, offset, fillet, chamfer, trim, lengthen, mirror, rotate, array etc. working with hatches, fills, dimensioning, text etc.
5th	5	Co ordinates, drawing limits, grid, snap, ortho features, drawing commands, line, circle, polyline, multiline, ellipse, polygon, etc., Editing commands- copy, move, offset, fillet, chamfer, trim, lengthen, mirror,

		rotate, array etc. working with hatches, fills, dimensioning, text etc.
6th	6	Preparation of line plan of a residential building
7th	7	Preparation of line plan of a residential building
8th	8	Preparation of 2D Drawings and develop plan, section and elevation of a residential building
9th	9	Preparation of 2D Drawings and develop plan, section and elevation of a residential building
10th	10	Preparation of 2D Drawings and develop plan, section and elevation of a residential building
11th	11	Preparation of 2D Drawings and develop plan, section and elevation of a residential building
12th	12	Preparation of 2D Drawings and develop plan, section and elevation of a residential building
13th	13	Preparation of 2D Drawings and develop plan, section and elevation of a residential building
14th	14	Preparation of 2D Drawings and develop plan, section and elevation of a residential building
15th	15	Preparation of 2D Drawings and develop plan, section and elevation of a residential building

16th	16	Demonstration of various civil engineering softwares like STAAD-Pro, Revit or Primavera Project Planner, BIM, ArcGIS

NBA has defined the following seven POs for an Engineering diploma graduate:

i)   **Basic and Discipline specific knowledge**: Apply knowledge of basic mathematics, science and engineering fundamentals and engineering specialization to solve the engineering problems.

 ii)   **Problem analysis:** Identify and analyze well-defined engineering problems using codified standard methods.

iii**)   Design/ development of solutions**: Design solutions for well-defined technical problems and assist with the design of systems components or processes to meet specified needs.

 iv)   **Engineering Tools, Experimentation and Testing**: Apply modern engineering tools and appropriate technique to conduct standard tests and measurements.

 v)   **Engineering practices for society, sustainability and environment**: Apply appropriate technology in context of society, sustainability, environment and ethical practices.

 vi)   **Project Management**: Use engineering management principles individually, as a team member or a leader to manage projects and effectively communicate about well-defined engineering activities.

vii)   **Life-long learning**: Ability to analyze individual needs and engage in updating in the context of technological changes.

Program Specific Outcomes (PSOs)

PSOs are a statement that describes what students are expected to know and be able to do in a specialized area of discipline upon graduation from a program. Program may specify 2-4 program specific outcomes, if required.

These are the statements, which are specific to the particular 11 program. They are beyond POs. Program Curriculum and other activities during the program must help in the achievement of PSOs along with POs.