# Annexure VI
# Proficiency Programme in Civil Engineering

Civil Engineering students can choose to either broaden their background or attain in-depth coverage of a particular subject by enrolling in a Proficiency Programme. Proficiency courses are coherent sequences of courses that may be taken in addition to the courses required for the B. Tech degree.

***Conditions for award of additional certificate of proficiency in Civil Engineering***

1. Qualify for the award of B. Tech. degree in the minimum period.
2. Have passed in minimum of >50% of B. Tech elective subjects taken from Civil Engineering Department.
3. Grade Point Average in the elective subjects of (2) is >7.0.
4. Major project has been done in Civil Engineering Department with at least 'A' grade
5. CGPA in BTech should be >6.5.

At present Department of Civil Engineering JUIT, Waknaghat offers following proficiency programmes:

1. Proficiency in Computer Aided Design (CAD)

2. Proficiency in Building Design and Construction (BDC)

3. Proficiency in Construction Technology and Management (CTM)

The Proficiency programme offered in aforementioned areas are designed primarily for students of civil engineering department, JUIT to experience the engineering approach to the solution of design problems. Students pursuing any of the proficiency course will be better prepared for careers in civil engineering. These proficiency courses will provide students with a technical and competitive edge over most traditional civil engineering undergraduates in the civil engineering job marketplace.

Following are the course curriculum outlines for proposed 3 proficiency courses:

**1. Computer Aided Design (CAD) Proficiency**

| Name of elective | Suggested Running Semester |
|---|---|
| Building Drawing | 4$^{th}$ Sem |
| Modelling Simulation and Computer Application | 5$^{th}$ Sem |
| Construction Management Computations | 6$^{th}$ Sem |
| Computational models in Transportation Engineering | 7$^{th}$ Sem |
| Computer Applications in Environmental Engineering | 8$^{th}$ Sem |
| Simulations in Geotechnical Engineering | 8$^{th}$ Sem |

**2. Building Design and Construction (BDC) Proficiency**

| Name of elective | Suggested Running Semester |
|---|---|
| Building Drawing | 4$^{th}$ Sem |
| Construction Technology and Management | 5$^{th}$ Sem |
| Advanced Structural Analysis | 6$^{th}$ Sem |

| | |
|---|---|
| Construction Safety and Health | 6th Sem |
| Design of Prestressed Concrete Structures | 7th Sem |
| Advanced Reinforced Concrete Design | 8th Sem |

**3. Construction Technology and Management (CTM) Proficiency**

| Name of elective | Suggested Running Semester |
|---|---|
| Construction Technology and Management | 5th Sem |
| Construction Management Computations | 6th Sem |
| Construction Financial Management | 6th Sem |
| Construction Technique | 7th Sem |
| Construction Planning and Control | 8th Sem |
| Heavy/Civil Construction Equipment, Methods, and Management | 8th Sem |