

**Far Western University**  
**Bachelors Degree in Civil Engineering**



**Course Structure and Course Code**

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## **1. Introduction**

The Far Western University (FWU) is offering the course in Bachelors Degree in Civil Engineering. The objective of this course is to produce the Civil Engineers of quality standard to serve in the development activities of the nation. The details of this course include as follows:

### **1.1 Title of the Course**

Bachelors Degree in Civil Engineering.

### **1.2 Duration of the Course**

Duration of the Course is four (4) years. Each year consists of two semesters. The duration of each semester will have a minimum of ninety working days (15 weeks). The medium of instruction is English.

## **2. Course Structure**

This course is divided into eight (8) semesters. The first year courses include fundamental common subjects. The second and third year courses generally include specific courses of the related discipline. The fourth year courses include professional and application type courses.

The course structure provides subject wise information about lecture, tutorial and practical hours per week, full marks and pass marks for the internal and final examination, and the duration of final examination.

## **3. Credit Hours**

This is a full time course with 167 credit hours. Each student has to choose at least 4 elective subjects equivalent to 12 credit hours, one minor project of 3 credit hours, one seminar of 1 credit hour. A field based major project of 4 credit hours should be taken within the area of four elective subjects as far as possible.

## **4. Course Code**

A course code is a combination of letters and numbers. Course code for Bachelors Degree in Civil Engineering is specified for each subject consisting of two letters followed by three digits for core courses and four digits for elective courses.

The first two letters of the Course Code denote respective discipline, eg. AR: architecture; CE: civil; CT: computer; EE: electrical; EX: electronics; GE: geomatic; ME: mechanical; SH: science and humanities.

The first digit denotes the year on which the subject is offered (1 for first year, 2 for second year, 3 for third year, and 4 for fourth year respectively).

The second digit denotes the semester on which the subject is offered (1 for first semester, 2 for second semester, 3 for third semester, 4 for fourth semester, 5 for fifth semester, 6 for sixth semester, 7 for seventh semester and 8 for eighth semester respectively). Third digit of core courses denotes the paper.

Similarly, second, third and fourth digit of elective courses denotes the cluster of electives, for example digit 501 to 509 for structural engineering subjects: 510 to 519 for water resources engineering subjects: 520 to 529 for environmental engineering subjects, 530 to 539 for

highway engineering subjects, and 540 to 549 for other electives. Fourth digit of elective courses denotes the respective elective subjects.

## **5. Instruction Method**

Each course is specified with lecture, tutorial and practical hours per week. The method of instruction is lecture, enhanced by tutorials and/or practical depending upon the relevancy of the course. Tutorials are used to widen the concepts stated in the course. Practical and laboratory classes are used to develop necessary concepts and basic skills.

Presentations and use of multimedia is encouraged for forth year courses.

## **6. Internal Assessment and Final (End Semester) Examination**

The student's performance in each subject is evaluated by internal and final examination.

### **6.1 Internal Assessment.**

40 % of the total marks is allocated for internal assessment for theory part of all subjects. Internal assessment mark should include class attendance and performance, timely submission and correctness of assignments, class tests, quizzes, etc.

Evaluation of practical part of most of the subjects is done through continuous assessment. It includes lab performance, report submission, presentation, viva etc. However, for few courses final examinations are also conducted.

70 % attendance is mandatory to qualify for the final examination.

### **6.2 Final Examination**

Examinations of theoretical subjects are conducted as per academic calendar of FWU.

Duration of final examination will be 3 hours for most of the subjects.

### **6.3 Pass Marks**

Each student must obtain 45 % in both internal assessment and final examination of each subject to pass in a particular subject. Only students who have passed the internal assessment of a particular subject are allowed to appear in the final examination of that subject.

## **7. Evaluation System**

Students are evaluated on a continuous basis throughout the semester. Evaluation is done by the faculty, a consequence of the autonomous status granted to the faculty of engineering. Project work is evaluated on the basis of the review by internal and external examiners. For successful completion of the course, students should pass all the components of all subjects in all semesters. The overall performance of each student is measured by cumulative grade point average.

Depending upon the final weightage aggregate percentage scored by a student, a division is awarded as follows:

CGPA > 3.6: Distinction Division

CGPA < 3.6 and  $\geq$  3.0: First Division

CGPA < 3.0 and  $\geq$  2.0: Second Division

CGPA < 2.0 and  $\geq$  1.0: Pass Division

<b>FIRST YEAR</b>					
<b>Semester I</b>	<b>Course Code</b>	<b>23 Credits</b>	<b>Semester II</b>	<b>Course Code</b>	<b>22 Credits</b>
Engineering Mathematics I	SH111	3	Engineering Maths II (Integral + Differential Calculus)	SH121	3
Engineering Chemistry	SH112	4	Physics (Mechanics + Optics)	SH122	4
Engineering Drawing I	AR113	2	Object Oriented Programming	CT123	4
Basic Programming and Data-Structure (C)	CT114	4	Engineering Drawing II (CAD aided)	AR124	2
Physics (Electricity + Magnetism)	SH115	4	Study Skills in English for Academic Purposes (EAP)	SH125	3
Applied Mechanics( Statics and Dynamics)	CE116	3	Construction Materials	CE126	3
English for Communication	SH117	3	Fundamental of Thermodynamics and Heat Transfer	ME127	3
<b>SECOND YEAR</b>					
<b>Semester III</b>	<b>Course Code</b>	<b>20 Credits</b>	<b>Semester IV</b>	<b>Course Code</b>	<b>21 Credits</b>
Engineering Mathematics III	SH231	3	Communication English II	SH241	3
Basic Mechanical Engineering	ME232	2	Building Drawing CAD Aided	AR242	2
Engineering Survey I	GE233	3	Structural Analysis I	CE243	3
Basic Electrical & Electronics Engineering	EX234	3	Probability and Experimental Design	SH244	3
Strength of Materials	CE235	3	Engineering Survey II	GE245	3
Engineering Geology	SH236	3	Building Technology	AR246	3
Fluid Mechanics	CE237	3	Hydraulics	CE247	4
<b>THIRD YEAR</b>					
<b>Semester V</b>	<b>Course Code</b>	<b>20 Credits</b>	<b>Semester VI</b>	<b>Course Code</b>	<b>22 Credits</b>
Computer Methods in Civil Engineering	CT351	3	Soil and Rock Mechanics	CE361	3
Engineering Economics	CE352	3	Irrigation Engineering	CE362	3
Structural Analysis II	CE353	3	Design of Steel & Timber Structure	CE363	3
Water Supply Engineering	CE354	3	Sanitary and Environmental Engineering	CE364	3
Transportation Engineering	CE355	3	Airport & Railway Engineering	CE365	3
Hydrology and River Engineering	CE356	3	Estimation, Costing & Valuation	CE366	3
Survey Camp	GE357	2	Seminar	CE367	1
			Concrete Technology & Masonry Structure	CE368	3
<b>FOURTH YEAR</b>					
<b>Semester VII</b>	<b>Course Code</b>	<b>20 Credits</b>	<b>Semester VIII</b>	<b>Course Code</b>	<b>19 Credits</b>
Design of RCC Structure	CE471	3	RS and GIS Application to Engineering	GE481	3
Hydropower Engineering	CE472	3	Construction Management & Project Engineering	CE482	3
Foundation Engineering	CE473	3	Engineering Professional Practice and Society	CE483	3
Safety Engineering	CE474	3	Major Project	CE484	4
Minor Project	CE 475	2	Elective III	CE	3
Elective I	CE	3	Elective IV	CE	3

Elective II	CE	3			
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## Electives

<b>Structural Engineering Elective</b>			<b>Environmental Engineering Elective</b>		
<b>Subjects</b>	<b>Code No</b>	<b>Credits</b>	<b>Subjects</b>	<b>Code No</b>	<b>Credits</b>
Advanced Structural Engineering	CE4501	3	Advanced Environmental Engineering	CE 4520	3
Analysis & Design for Wind and Earthquake Effects	CE4502	3	Air Pollution Engineering	CE 4521	3
Planning and Design of Building Services	CE4503	3	Solid Waste Management	CE 4522	3
Vulnerability assessment and retrofitting techniques	CE4504	3	Environmental Impact Assessment	CE 4523	3
Structural Dynamics	CE4505				
<b>Water Resources Engineering Elective</b>			<b>Highway Engineering Elective</b>		
Water Resources Management	CE4510	3	Computer Application in Traffic and Highway Engineering	CE 4530	3
Flow Measurement and Ground Water Engineering	CE4511	3	Transport Project Planning and evaluation	CE 4531	3
Design and Analysis of Hydraulic Structures	CE4512	3	Highway Design in Hilly Terrain	CE 4532	3
Sedimentation Engineering	CE4513	3			
<b>OTHER ELECTIVES</b>					
Infrastructure for Sustainable Development	CE 4540	3			