

Civil engineering program

Learning outcomes

Student outcomes describe what students are expected to know and be able to do by the time of graduation. The Civil Engineering program is designed to enable students to:

PLO 1. Ability to apply knowledge of mathematics, science, civil engineering fundamentals and other relevant field of studies to solve complex engineering problems.

PLO 2. Ability to identify, formulate, research literature and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.

PLO 3. Ability to design or develop solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal and environmental considerations.

PLO 4. Ability to conduct investigations into complex problem using research based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.

PLO 5. Ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex engineering activities, with an understanding of the limitations.

PLO 6. Ability to provide contextual reasoning to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice.

PLO 7. Ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.

PLO 8. Ability to uphold the ethic of engineering practice.

PLO 9. Ability to communicate effectively with confidence, including able to write and make convincing presentation on complex engineering problem.

PLO 10. Ability to function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.

PLO 11. Ability to demonstrate understanding of project and financial management, and possess entrepreneurial skill to create business opportunity.

PLO 12. Ability to continuously seek and acquire contemporary technology changes.

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	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11	PLO 12	Overall
Introduction to Civil Engineering			+		+		+	+		+	+		6
Engineering Surveying			+	+			+	+		+		+	6
Engineering Mechanics			+	+			+	+	+	+			6
Engineering Drawing			+	+			+	+	+	+			6
Fluid Mechanics	+	+		+	+					+	+		6
Soil Mechanics			+	+				+		+	+		5
Civil Engineering Laboratory 1					+		+	+		+		+	5
Civil Engineering Materials			+					+	+	+	+	+	6
Mechanics of Materials and Structures	+	+	+							+		+	5
Computer Programming	+	+		+		+				+			5
Hydraulics	+		+							+			3
Engineering Geology and Rock Mechanics				+		+				+	+	+	5
Geotechnics							+	+		+			3
Reinforced Concrete Design 1	+	+		+	+		+			+	+	+	8
Reinforced Concrete Design 2	+	+		+	+			+	+	+			7
Structural Steel & Timber Design	+		+							+		+	4
Hydraulic structures				+			+			+	+		4
Steel structures			+	+	+	+	+			+	+	+	8
Wastewater Engineering	+	+								+		+	4
Management and organizations					+		+			+			3
Structural Analysis				+	+	+	+			+	+	+	7
Strength of materials		+	+		+	+		+		+	+	+	8
Theory of Structures			+	+				+	+	+			5