CVX5241 Hydraulic Engineering II

Level	5
Course Code	CVX5241
Course Title	Hydraulic Engineering II
Credit value	2
Core/Optional	Core (Civil Engineering)
Course Aim/s	To provide an in-depth knowledge on advanced concepts in Hydraulic Engineering
Course Learning Outcomes (CLO):	At the completion of this course student will be able to: CLO1: Explain the standard approaches and formulas to solve and design open channel flow. [Relational] CLO2: Understand features and mechanisms behind sediment transport in open channels. [Multi-structural] CLO3: Explain the aspects of ground water and Solve problems related to uniform and non-uniform ground water flow. [Relational] CLO4: Perform laboratory experiments to visualize and understand characteristics of open channel flow. [Multi-structural] CLO5: Explain hydraulic engineering concepts and applications through effective written communication. [Multi-structural]
Content (Main topics, sub topics)	**Outline Syllabus:** Unit 1: Open Channel Flow Session 01:Open Channel Flow - Characteristics Session 02:Open Channel Flow - Application of Energy equation Session 03:Open Channel Flow - Application of Force-momentum equation Session 04:Uniform flow in Open Channels Session 05:Non-uniform flow in Open Channels Unit 2: Sediment Transport Session 06:Sediment Characteristics and Initiation of Sediment motion Session 07:Sediment Transport in Open Channel Flow 1 Session 08:Sediment Transport in Open Channel Flow 2 Unit 3: Ground Water Flow Session 09:Ground water storage Session 10:Ground water exploration Session 11:Steady Ground water flow Session 12:Unsteady Ground water flow **Laboratory work** 1. Open Channel Flow 2. Groundwater Flow