

PGDFLP24: Studio-II – SYLLABUS

- **Studio–II is a practice-oriented design course that focuses on the planning, design, and integration of plumbing systems for various building types in accordance with the National Building Code of India (NBC 2016), CPHEEO Manuals, and relevant Indian Standards. The studio develops students' skills in preparing plumbing layouts and service drawings for residential, institutional, commercial, healthcare, hospitality, industrial, and high-rise buildings. Students undertake design exercises involving domestic cold and hot water supply systems, underground and overhead water storage tanks, pumping and hydro-pneumatic systems, water distribution networks, sanitary drainage, soil, waste and vent systems, storm water drainage, rainwater harvesting, greywater recycling, sewage treatment, and water conservation measures. The course emphasizes fixture unit calculations, water demand estimation, pipe sizing, hydraulic principles, pump selection, pressure zoning, and preparation of riser diagrams. Students learn to coordinate plumbing services with architectural, structural, fire safety, HVAC, electrical, and lift systems using AutoCAD and BIM-based tools. The studio also covers plumbing service shafts, equipment rooms, inspection chambers, manholes, septic tanks, sewage treatment plants, and utility coordination. Design exercises include preparation of detailed plumbing drawings, schedules, isometric views, schematic diagrams, quantity estimation, and code compliance reports. The studio culminates in an integrated plumbing design project for a selected building, demonstrating efficient water management, sustainable plumbing practices, and compliance with statutory regulations through a final design presentation and viva voce.**