



Shri Someshwar Shikshan Prasarak Mandal's
**Sharadchandra Pawar College of Engineering &
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(Approved by AICTE New Delhi, Recognized by Govt. of Maharashtra
& Affiliated to Savitribai Phule Pune University, Id.no.PU/PN.Engg./445/2012)
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BE Civil
Course Outcome (2015 Pattern)
Semester – II

Course Code	Course: Dams and Hydraulic Structures (401007)
C407.1	Classify various types of dams and its safety monitoring.
C407.2	Analyze stability of gravity dam.
C407.3	Design profile of spillway and energy dissipater.
C407.4	Analyze zoned earthen dam and diversion head works.
C407.5	Design of canal and its components.
C407.6	Explain cross drainage works and river training structures

Course Code	Course: Quantity Surveying, Contracts and Tenders (401008)
C408.1	Explain terms related to estimation along with preparation of approximate estimate.
C408.2	Compute the quantities to prepare the detailed estimate.
C408.3	Prepare specification and rate analysis for item.
C408.4	Prepare the valuation of property.
C408.5	State the tender, types of tenders, tendering procedure, and methods of executing the work.
C408.6	Compare contracts, types of contract and conditions of contract.

Course Code	Course: Elective III (Airport and Bridge Engineering) (401009- (6))
C409 (6).1	Plan airport as per specifications of international organizations
C409 (6).2	Plot airport layout and design runway and taxiway
C409 (6).3	Design runway and taxiway pavements and drainage
C409 (6).4	Locate heliports w.r.t landing area, marking, and lighting
C409 (6).5	Investigate site for bridge construction and analyze it with different loading conditions.
C409 (6).6	Classify bridges and bearings.

Course Code	Course: Elective IV (Construction Management) (401010- (1))
C410 (1).1	Explain overview of construction sector.
C410 (1).2	Illustrate construction scheduling, work study and work measurement.
C410 (1).3	Acquaint various labour laws and financial aspects of construction projects.



Subject : Design of Steel Structures (301003)

Course Objectives

A	This course is designed to provide understanding of IS code provisions, fundamentals of structural steel design and its applications for design of various components.
B	Students should be able to understand components of steel structures and its arrangements
C	Student should be able to design beams, columns, column footings, roof trusses, gantry girder and plate girders

Course Outcomes

CO1	Demonstrate knowledge about the types of steel structures, steel code provisions and design of the adequate steel section subjected to tensile force.
CO2	Determine the adequate steel section subjected to compression load and design of built up columns along with lacing and battening.
CO3	Design eccentrically loaded column for section strength and column bases for axial load and uniaxial bending.
CO4	Design of laterally restrained and unrestrained beam with and without flange plate using rolled steel section.
CO5	Analyze the industrial truss for dead, live and wind load and design of gantry girder for moving load.
CO6	Understand the role of components of welded plate girder and design cross section for welded plate girder including stiffeners and its connections.



Program Outcomes (POs)

COs	Program Outcomes (POs)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO1	1	2	3	3	3	2	0	1	2	2	3	3
CO2	3	3	2	3	0	2	3	2	0	3	3	2
CO3	2	2	3	3	2	3	2	0	1	2	0	2
CO4	2	2	2	3	2	3	1	0	2	3	0	2
CO5	3	2	3	2	3	2	0	0	1	2	0	2
CO6	2	1	1	0	0	0	0	0	0	1	0	1
Avg CO	2.33	2.33	2.83	3.00	2.50	3.00	2.17	1.83	2.50	3.83	2.83	4.00

Subject : Design of Reinforced Concrete Structures (301013)

Course Objectives

A	To provide the students with basic concepts of reinforced concrete structures.
B	To analyze, design and detailing of different component of reinforced concrete structures.

Course Outcomes

CO1	Apply relevant IS provisions to ensure safety and serviceability of structures, understand the design philosophies and behavior of materials.
CO2	Recognize mode of failure as per LSM and evaluate moment of resistance for singly, doubly rectangular, and flanged sections.
CO3	Design & detailing of rectangular one way and two-way slab with different boundary conditions
CO4	Design & detailing of dog legged and open well staircase
CO5	Design & detailing of singly/doubly rectangular/flanged beams for flexure, shear, bond and torsion
CO6	Design & detailing of short columns subjected to axial load, uni-axial/bi-axial bending and their footings.

Program Outcomes (POs)

COs	Program Outcomes (POs)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO1	3	1	0	0	2	1	1	1	2	1	1	0
CO2	2	2	2	1	0	1	1	0	0	1	0	1
CO3	2	3	2	1	0	0	0	0	0	0	0	1
CO4	3	3	2	0	0	0	0	0	0	0	0	1
CO5	3	3	2	0	0	0	0	0	0	0	0	1
CO6	1	0	0	0	0	0	0	0	0	0	0	0
Avg CO	2.33	2.00	1.33	0.33	0.33	0.33	0.33	0.17	0.33	0.33	0.17	0.67

Subject : Elective II: Architecture and Town Planning (301015)

Course Objectives	
A	To use principles of architectural planning and understand futuristic need of users.
B	To discuss and demonstrate the concepts of landscaping, urban renewal and sustainable architecture
C	To distinguish and relate planning levels and understand use of act and to develop neighborhood plan
D	To understand and demonstrate planning strategy with reference to different acts, guidelines, norms.
E	To appraise multifaceted zones like SEZ, CRZ and Special township, understand applications of modern Tools like GIS / GPS / RS in town planning and need of Rural Planning

Course Outcomes	
CO1	Apply the principles of architectural planning and landscaping for improving quality of life
CO2	Understand the confronting issues of the area and apply the acts.
CO3	Evaluate and defend the proposals.
CO4	Appraise the existing condition and to develop the area for betterment.



COs	Program Outcomes (POs)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO1	2	1	2	2	3	2	2	2	1	0	0	0
CO2	2	2	2	2	3	2	2	2	1	0	0	3
CO3	2	3	1	2	3	2	2	2	1	1	0	2
CO4	3	2	2	1	3	2	2	2	1	0	0	2
Avg CO	2.25	2	1.75	1.75	3	2	2	2	1	0.25	0	1.75

Subject : Elective III: Integrated Water Resources Planning and Management (401003)

Course Objectives

A	To introduce connection of agriculture and water with IWRP & M and to make students aware about organizations like WALMI
B	To introduce the connection of IWRP & M with water
C	To impart knowledge of legal aspects

Course Outcomes

CO1	Understand concerned organizations, IWRP & M objectives, principles, challenges, application & analysis of IWRP&M approaches & principles in a case study.
CO2	Understand PIM, WDS, WALMI, agriculture in the concept of integrated water resources, apply and analyse water requirements for food production
CO3	Understand assessment of surface and ground water quality, EIA, CPCB regulations, application & analysis of effluent quality standards as per CPCB
CO4	Understand water economics and funding, application & analysis of planning for a sustainable water future
CO5	Understand legal regulatory settings of IWRP & M, application & analysis of inter-basin water transfers and IWRP & M
CO6	Understand flood control & power generation for IWRP & M, application QIGIS for analysis of a basin for IWRP & M

Program Outcomes (POs)

COs	Program Outcomes (POs)											
	1	2	3	4	5	6	7	8	9	10	11*	12
CO1	2	2	3	3	2	3	2	0	1	2	0	2
CO2	2	2	2	3	2	3	1	0	2	3	0	2
CO3	3	2	3	2	3	2	0	0	1	2	0	2
CO4	3	1	0	0	2	1	1	1	2	1	1	0
CO5	2	2	2	1	0	1	1	0	0	1	0	1
CO6	2	3	2	1	0	0	0	0	0	0	0	1
Avg CO	2.50	2.33	2.50	2.33	2.33	2.67	2.00	1.50	2.50	3.17	2.00	3.33



Subject : Building Technology and Architectural Planning (201001)

Course Objectives

A	To enumerate different types of structure and their requirement.
B	To describe all basic activities of construction.
C	To study different types of materials, byelaws and Architectural aspects used in construction for civil engineering projects
D	To plan different building units, Town planning parameters and safety of buildings.

Course Outcomes

CO1	Identify types of building and basic requirements of building components.
CO2	Make use of Architectural Principles and Building byelaws for building construction.
CO3	Plan effectively various types of Residential Building forms according to their utility, functions with reference to National Building Code.
CO4	Plan effectively various types of Public Buildings according to their utility functions with reference to National Building Code.
CO5	Make use of Principles of Planning in Town Planning, Different Villages and Safety aspects.
CO6	Understand different services and safety aspects

COs	Program Outcomes (POs)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO1	3	3	2	0	0	0	0	0	0	0	0	1
CO2	1	0	0	0	0	0	0	0	0	0	0	0
CO3	3	3	2	3	0	2	3	2	0	3	3	2
CO4	2	2	3	3	2	3	2	0	1	2	0	2
CO5	2	2	2	3	2	3	1	0	2	3	0	2
CO6	2	2	2	1	0	1	1	0	0	1	0	1
Avg CO	2.17	2.00	1.83	1.67	0.67	1.50	1.17	0.33	0.50	1.50	0.50	1.33

