

V. V. P. Engineering College, Rajkot
Department of Civil Engineering
Course Outcomes & PO/PSO Mapping

Semester:	7
Subject Name:	Summer Internship
Subject Code:	3170001

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3170001.1	Demonstrate an understanding of the industrial environment by engaging in hands-on tasks that simulate real-world engineering practices.	U
C3170001.2	Develop technical and managerial skills by actively participating in industrial processes and professional activities.	C
C3170001.3	Compose well-structured technical reports and deliver effective presentations based on industrial training experience	C
C3170001.4	Exhibit professional ethics and responsibilities expected from an engineer in a practical industrial setting	Ap
C3170001.5	Analyse social, economic, and administrative aspects affecting the functioning of industrial organizations	An

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Semester:	7
Subject Name:	Irrigation Engineering
Subject Code:	3170609

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3170609.1	Explain aspects of irrigation scheme.	U
C3170609.2	Calculate Irrigation Requirements for crops.	Ap
C3170609.3	Design floor thickness for a weir and barrage using Bligh's and Khosla's theory.	C
C3170609.4	Explain types of dam, Spillways and spillway gates.	U
C3170609.5	Design irrigation canal.	C
C3170609.6	Explain regulating & cross drainage works, water logging and drainage principles.	U

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Semester:	7
Subject Name:	Construction Engineering and Management
Subject Code:	3170614

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3170614.1	Explain phases of construction, project managerial skills and project organizational structure.	U
C3170614.2	Apply project management techniques for equipment, accounts, material, cost, value and quality.	Ap
C3170614.3	Apply modern project management systems like CPM,PERT and BIM for construction projects.	Ap
C3170614.4	Establish Construction Quality ,health, safety and environmental management system.	Ap
C3170614.5	Evaluate feasibility of construction equipment for different project conditions	E

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Semester:	7
Subject Name:	Engineering Economics, Estimation and Costing
Subject Code:	3170615

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3170615.1	Explain principles of economics to engineering problems.	U
C3170615.2	Estimate quantities and cost of construction projects.	E
C3170615.3	Design specifications for civil engineering works.	C
C3170615.4	Estimate unit rates of civil engineering works.	E
C3170615.5	Prepare tenders, contracts and tender notice for civil engineering works.	Ap
C3170615.6	Estimate value of buildings and lands.	E

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Semester:	7
Subject Name:	Application of GIS in Civil Engineering
Subject Code:	3170617

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3170617.1	Explain GIS applications in civil engineering projects.	U
C3170617.2	Describe ArcGIS and QGIS for civil engineering projects	U
C3170617.3	Apply knowledge of data science for various GIS analysis.	Ap
C3170617.4	Use GIS platrofm for modeling.	Ap

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Semester:	7
Subject Name:	Design of Steel Structures
Subject Code:	3170618

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3170618.1	Assess loads acting on Industrial steel structure, plate girder, gantry girder and foot over bridge.	E
C3170618.2	Generate structural layout of plate girder, gantry girder and foot over bridge.	C
C3170618.3	Design plate girder, gantry girder & foot over bridges using current Indian Standards.	C
C3170618.4	Design steel beams & portal frames using plastic method.	C

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Semester:	7
Subject Name:	Railway and Airport Engineering
Subject Code:	3170619

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3170619.1	Explain elements and importance of railway and Airport	U
C3170619.2	Explain operations and maintenance techniques in railway and airport.	U
C3170619.3	Evaluate Geometric design of railway track. And runway	E
C3170619.4	Explain grading and drainage system of airport.	U
C3170619.5	Explain communication systems used in railway and airport.	U

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Semester:	7
Subject Name:	Design of hydraulic structures
Subject Code:	3170621

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3170621.1	Recommend suitable type of dam and site for the construction.	E
C3170621.2	Design Earthen, Rockfill and Gravity Dam.	C
C3170621.3	Explain types of spillways , sluice & crest gates and energy dissipators.	U
C3170621.4	Design oggey spillway , chute spillway and energy dissipators devices.	C

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Semester:	7
Subject Name:	Precast Construction
Subject Code:	3170622

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3170622.1	Compare construction techniques of Precast Concrete and conventional concrete structures	An
C3170622.2	Explain structural System and load path of precast structures.	U
C3170622.3	Design Precast Concrete Structural Elements	C
C3170622.4	Select the Production method and equipment for erection of precast elements	E

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Semester:	7
Subject Name:	Port and Harbour Engineering
Subject Code:	3170623

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3170623.1	Explain elements of Port and Harbor planning.	U
C3170623.2	Explain operations and maintenance techniques in Port and Harbour	U
C3170623.3	Explain design principles of Ports and Harbour	U
C3170623.4	Explain communication systems used in port and harbour	U

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Semester:	7
Subject Name:	Environmental Impact Assessment
Subject Code:	3170625

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3170625.1	Explain EIA in project planning and development.	U
C3170625.2	Explain analysis attributes for Environmental impact Assessment.	U
C3170625.3	Apply project attributes to predict the environmental impact on project	Ap
C3170625.4	Generate the EIA report for Environmental clearance.	C

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Semester:	7
Subject Name:	Infrastructure for smart Cities
Subject Code:	3170628

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3170628.1	Explain the essential requirement of infrastructure development for smart cities.	U
C3170628.2	Identify components of infrastructure and infrastructure plan for smart city	
C3170628.3	Explain smart transport system for smart cities.	U
C3170628.4	Review water resource system for smart city and its application	U
C3170628.5	Describe National and Global policies for smart city development.	U

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