Walchand College of Engineering, Sangli

(Government Aided Autonomous Institute)

AY 2021-22

Course Information	
Programme	B.Tech. (Open Elective)
Class, Semester	Final Year B. Tech., Sem VII
Course Code	
Course Name	Management for Engineers
Desired Requisites:	*

Teaching Scheme		**Examination Scheme (Marks)**			
Lecture	3 Hrs/week	**T1**	**T2**	**ESE**	**Total**
Tutorial	-	20	20	60	100
Practical	-				
Interaction	-	**Credits: 3**			

Course Objectives	
1	To cover key components of project management including project integration, project scope management, project time and cost management, quality management, human resource considerations, communications, risk management, and procurement management.
2	To stay competitive companies have sought to shorten the construction times of new infrastructure by managing construction development efforts effectively by using different project management tools.
3	To achieve this, we will use a basic project management framework in which the project life-cycle is broken into organizing, planning, monitoring, controlling and learning from old and current construction projects.

Course Outcomes (CO)	
CO1	Understand the importance of Project Management in most industries and businesses and to apply specific tools, models and processes.
CO2	Demonstrate knowledge in monitoring and controlling projects with respect to various dimensions such as time, cost, quality, safety and scope.
CO3	Identify and Analyse factors for successful Projects, as well as reasons for failure based on specific case studies in the context of effective Risk Management.

Module	**Module Contents**	**Hours**
I	**Basics of Project Management:** Introduction, Need for Project Management, Project Management Knowledge Areas and Processes, The Project Life Cycle, The Project Manager (PM), Phases of Project Management Life Cycle, Project Management Processes, Impact of Delays in Project Completions, Essentials of Project Management Philosophy, Project Management Principles	6
II	**Project Identification and Selection :** Introduction, Project Identification Process, Project Initiation, Pre-Feasibility Study, Feasibility Studies, Project Break-even point **Project Planning:** Introduction, Project Planning, Need of Project Planning, Project Life Cycle, Roles, Responsibility and Team Work, Project Planning Process, Work Breakdown Structure (WBS)	6
III	**Organisational Structure and Organisational Issues:** Introduction, Concept of Organisational Structure, Roles and Responsibilities of Project Leader, Relationship between Project Manager and Line Manager, Leadership Styles for Project Managers, Conflict Resolution,	5

IV	**PERT and CPM:** Introduction, Development of Project Network, Time Estimation, Determination of the Critical Path, PERT Model, Measures of variability, CPM Model, Network Cost System	7
V	**Project Quality Management and Value Engineering:** Introduction, Quality, Quality Concepts, Value Engineering **Project Execution and Control:** Introduction, Project Execution, Project Control Process, Purpose of Project Execution and Control **Introduction to Material Management** Materials flow system, role of materials management and its linkage with other functional areas, vendor networking,buyer-seller relationships, EOQ model, material codification andclassification, concept of logistics and supply chain management,	8
VI	**Project Risk and Safety Management:** Introduction, Risk, Risk Management, Role of Risk Management in Overall Project Management, Steps in Risk Management, Risk Identification, Risk Analysis, Reducing Risks accidents causes and effects, costs of accidents, occupational health problems in construction, Safety and health management system, Health and safety act regulations	6

Text Books	
1	Kumar Neeraj Zha, "Construction Project Management", Pearson India Education, 1st edition,(2011)
2	Saleh Mubarak, " Construction Project Scheduling and Control", Wiley, 2nd edition (2010)
3	P K Joy, "Handbook of Construction Management",Macmillan India Limited,2nd edition(2000)
References	
1	Larson, E.W. and Gray, C.F. (2018), Project management the managerial process, Seventh Edition, McGraw-Hill
2	Chitkara K K, "Construction Project Management : Planning, Scheduling and Controlling", Tata McGraw - Hill Education, 2nd edition, 2010
3	

CO-PO Mapping with regards to B.Tech Mechanical Programme:

	Programme Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CO1					1			1		1			2		
CO2						2				1			3		
CO3					1	2	2			2				3	

The strength of mapping is to be written as 1,2,3; Where, 1:Low, 2:Medium, 3:High
Each CO of the course must map to at least one PO.

CO-PO Mapping with regards to B.Tech. Electrical Engineering Programme:

	Programme Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CO1	1												2		
CO2	1	1	1					1					3		
CO3		1	2			2		1						3	

The strength of mapping is to be written as 1,2,3; Where, 1:Low, 2:Medium, 3:High
Each CO of the course must map to at least one PO.

CO-PO Mapping with regards to B.Tech Electronics Engineering Programme:															
	Programme Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CO1							1	2					2		
CO2							1	1	1		1		3		
CO3						2	2		1		1			3	
The strength of mapping is to be written as 1,2,3; Where, 1:Low, 2:Medium, 3:High Each CO of the course must map to at least one PO.															

CO-PO Mapping with regards to B.Tech Computer Science Engineering Programme:															
	Programme Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CO1									1				2		
CO2									1	1	1		3		
CO3										2	1			3	
The strength of mapping is to be written as 1,2,3; Where, 1:Low, 2:Medium, 3:High Each CO of the course must map to at least one PO.															

CO-PO Mapping with regards to B.Tech Information Technology Engineering Programme:															
	Programme Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CO1	2				1			1					2		
CO2	2							1					3		
CO3						1	2	2						3	
The strength of mapping is to be written as 1,2,3; Where, 1:Low, 2:Medium, 3:High Each CO of the course must map to at least one PO.															

Assessment

The assessment is based on 2 in-semester examinations in the form of T1 (Test-1) and T2 (Test-2) of 20 marks each. Also there shall be 1 End-Sem examination (ESE) of 60 marks. T1 shall be typically on modules 1 and 2, T2 based typically on modules 3, 4 and ESE shall be on all modules with nearly 50% weightage on modules 1 to 4 and 50% weightage on modules 5, 6.

Assessment Plan based on Bloom's Taxonomy Level

Bloom's Taxonomy Level	T1	T2	ESE	Total
Remember				
Understand	10	10	35	**55**
Apply	10	10	25	**45**
Analyze				
Evaluate				
Create				
Total	**20**	**20**	**60**	**100**