FR. Conceicao Rodrigues College Of Engineering

Father Agnel Ashram, Bandstand, Bandra-west, Mumbai-50

Department of Information Technology

T.E. (IT) (semester VI) (2020-2021)

Lesson Plan

Subject: Software Engineering with Project Management(ITC601)

Credits-4

SYLLABUS

Sr. No.	Module	Detailed Content	CO Mapping
00	Prerequisite	Nature of Software, Software Definition, Software Characteristics, Software Application Domains	
01	The Software Process	Generic view of Process, Prescriptive Models: Waterfall Model, Incremental-RAD Model, Evolutionary Process Model-Prototyping, Spiral and Concurrent Development Model, Specialized Models: Component based, Aspect Oriented Development, Agile Methodology, Scrum and Extreme Programming	CO1
02	Requirements Engineering and Cost Estimation	Requirement, Types of Requirements, Requirement gathering, Requirement Engineering Task, Identifying Stakeholders, Multiple viewpoints, SRS (Software Requirement Specification) Project Estimation, LOC based, FP based and Use case based estimation.	CO1 CO2
03	Analysis and Design Engineering	Introduction of Analysis elements, Scenario based, Flow based, behavior and class based Design4Concepts and Principles, Architecture Design, Component Level Design, System Level Design, User Interface Design.	CO1 CO2 CO3
04	Quality & Configuration Management	Need for Testing, Testing Tactics, Testing strategies, McCall's Quality Factor, Software Configuration Management, SCM Process	CO4

05	IT Project Management	Introduction, 4 P's, W5HH Principle, Need for Project Management, Project Life cycle and ITPM, Project Feasibility, RFP, PMBOK Knowledge areas, Business Case, Project Planning, Project Charter and Project Scope	CO5
06	Project Scheduling and Risk Management	WBS, Developing the Project Schedule, Network Diagrams (AON, AOA), CPM and PERT, Gantt Chart, Risk Identification, Risk Projection and RMMM	CO1 CO2 CO3 CO4 CO6

Text Books:

1. Roger S Pressman "Software Engineering : A Practitioner's Approach" 7th Edition Mcgraw-Hill
ISBN:0073375977
2. Jack T. Marchewka, "Information Technology Project Management" 4th Edition ,Wiley India

References:

1. "Software Engineering : A Precise Approach" Pankaj Jalote , Wiley India
2. Ian Sommerville " Software Engineering" 9th edition Pearson Education SBN-13: 978-0- 13-703515-1, ISBN-10: 0-13-703515-2
3. John M. Nicholas, Project Management for Business and Technology, 3rd edition, Pearson Education.
4. Software Project management by Bob Hughes, Mike Cotterell , Rajib Mall

Internal Assessment:

Internal Assessment consists of two tests. Test 1, an Institution level central test, is for 20 marks and is to be based on a minimum of 40% of the syllabus. Test 2 is also for 20 marks and is to be based on the remaining syllabus. Test 2 may be either a class test or assignment on live problems or course project.

CO-Statements:

CO1: Define various software application domains and Identify suitable process model for software development.
CO2: Explain needs for software specifications also and Identify different types of software requirements with the help of gathering techniques.
CO3: Convert the requirements model into the design model and demonstrate use of software and user-interface design principles.
CO4: Estimate time and cost of the project and Perform Risk management.
CO5: Distinguish among SCM and SQA and can classify different testing strategies and tactics and compare them.
CO6: Justify role of SDLC in Software Project Development and evaluate the importance of Software Engineering in PLC.

CO-PO-PSO Mapping

Course Name	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO12	PSO 1	PSO 2
CO1	2	2		3									2	3
CO2		3	3	2	2					3	2		3	3
CO3		3	3		1								3	3
CO4		3		2	1								3	3
CO5		2			1								2	3
CO6	1										3		2	3

CO Assessment Tools

		Indirect Methods				
	Test	**Quiz**	**Assignment**	**End Sem Exam (W)**	**End Sem Exam (O)**	Course Exit Survey
CO1	**30%(test1)**	**30%**		**10%**	**30%**	100%
CO2	**30%(test1)**		**30%**	**10%**	**30%**	100%
CO3	**30%(test1,test2)**		**30%**	**10%**	**30%**	100%
CO4	**30%(test2)**		**30%**	**10%**	**30%**	100%
CO5	**30%(test2)**	**30%**	**-**	**10%**	**30%**	100%
CO6	**30%(Test2)**	**30%**	**=**	**10%**	**30%**	100%

Lecture Plan:

Lecture no	Topic	Planned date	Actual Date	Mode of teaching
1	Nature of Software, Software Definition,	25th Jan 2021	25th Jan 2021	Online(Google Meet)
2	Software Characteristics, Software Application Domains	27th Jan 2021	27th Jan 2021	Online(Google Meet)
3	Generic view of Process, Prescriptive Models: Waterfall Model, Incremental-RAD	28th Jan 2021	28th Jan 2021	Online(Google Meet)
4	Model, Evolutionary Process Model-Prototyping,	1st feb 2021	1st feb 2021	Online(Google Meet)
5	Prototyping, Spiral and Concurrent Development Model, Specialized	2nd feb 2021	2nd feb 2021	Online(Google Meet)
6	Models: Component based, Aspect Oriented Development, Agile Methodology,	3rd feb 2021	3rd feb 2021	Online(Google Meet)
7	Agile Methodology, Scrum and Extreme Programming	4th feb 2021	4th feb 2021	Online(Google Meet)
8	Requirement, Types of Requirements, Requirement gathering, Requirement Engineering Task,	8th feb 2021	8th feb 2021	Online(Google Meet)
9	Identifying Stakeholders, Multiple viewpoints, SRS (Software Requirement Specification)	9th feb 2021	9th feb 2021	Online(Google Meet)
10	Project Estimation, LOC based, FP based	10th feb 2021	10th feb 2021	Online(Google Meet)
11	FP based	11th feb 2021	11th feb 2021	Online(Google Meet)
12	Use case based estimation.	15th Feb 2021	15th Feb 2021	Online(Google Meet)
13	Introduction of Analysis elements, Scenario based,	16th Feb 2021	16th Feb 2021	Online(Google Meet)
14	Flow based, behaviour(UCD)	17th Feb 2021	17th Feb 2021	Online(Google Meet)
15	Flow based, behaviour(UCD)	18th Feb 2021	18th Feb 2021	Online(Google Meet)
16	class based Design	1st march 2021	1st march 2021	Online(Google Meet)
17	class based Design	2nd march	2nd march	Online(Google

		2021	2021	Meet)
18	Flow based, behaviour(sequence Diagram)	3rd march 2021	3rd march 2021	Online(Google Meet)
19	Flow based, behaviour(Activity diagram)	4th march 2021	4th march 2021	Online(Google Meet)
20	Flow based, behaviour (State chart Diagram, DFD)	16th march 2021	17th march 2021	Online(Google Meet)
21	Concepts and Principles, Architecture Design,	17th March 2021	18th March 2021	Online(Google Meet)
22	Component Level Design, System Level Design,	22nd march 2021	19th march 2021	Online(Google Meet)
23	User Interface Design**.**	23rd march 2021	20th march 2021	Online(Google Meet)
24	Need for Testing, Testing Tactics,	24th March 2021	30th March 2021	Online(Google Meet)
25	Testing strategies	25th March 2021	31st March 2021	Online(Google Meet)
26	McCall's Quality Introduction, 4 P's,	30th March 2021	1st April 2021	Online(Google Meet)
27	W5HH Principle	31st March	5th April	Online(Google Meet)
28	Need for Project Management, Project Life cycle	1st April	5th April	Online(Google Meet)
29	ITPM,	12th april	6th april	Online(Google Meet)
30	Project Feasibility, RFP, PMBOK Knowledge areas,	15th april	7th april	Online(Google Meet)
31	Business Case	8th april	8th april	Online(Google Meet)
32	Project Planning, Project Charter	19th April	12th april	Online(Google Meet)
33	Project Charter,	20th April	15th april	Online(Google Meet)
34	Project scope	22nd april	29th April	Online(Google Meet)
35	Factor, Software Configuration Management, SCM Process	26th April	3rd May	Online(Google Meet)
36	WBS, Developing the Project Schedule,	27th April	4th may	Online(Google Meet)
37	Network Diagrams AON,CPM, PERT, Gantt Chart,	28th April	4th may	Online(Google Meet)
38	AON , CPM, PERT	29th April	6th may	Online(Google Meet)
39	Risk Identification,	10th April	5th may	Online(Google Meet)
40	Risk Projection and RMMM	11th April	6th may	Online(Google

				Meet)
41	Revision	12th April		
42	Revision	13th April		

Lab Plan for Software Development Lab

Lab Outcomes:

LO1: Prepare SRS documentation

LO2: Sketch a Modelling with UML

LO3: Estimate Cost and time for development of the project

LO4: Develop project using appropriate development tools

Lab Plan: SDL(Software Development Lab)

Sr. No	Topic	Week No	Lab outcome
1	Define Problem statement	Week1	LO1
2	SRS Document	Week1	LO1
3	Class Diagram	Week2	LO2
4	Object Diagram	Week 2	LO2
5	Use case diagram	Week2	LO2
6	Sequence Diagram	Week2	LO2
7	Activity diagram	Week3	LO2
8	State chart diagram	Week3	LO2
9	Package Diagram	Week3	LO2
10	Component diagram	Week3	LO2
11	Deployment diagram	Week3	LO2
12	Data Flow diagram	Week4	LO3
13	Cost estimation -	Week4	LO3
14	Gantt Chart	Week4	LO3
15	AON-CPM	Week4	LO3

Assignment Plan:

Assignment No	Date	Questions	CO/LO
1	17-3-2021		CO2
2	8-4-21		CO3
3	8-4-21		CO4

Quiz Conducted:

Quiz No	Date	Questions	CO/LO
1			CO1
2			CO5
3			CO6

Term Work:

Term Work:
Term Work shall consist of full Mini Project on above guidelines/syllabus. Also Term work Journal must include at least 2 assignments.
Term Work Marks: 25 Marks (Total marks) = 15 Marks (Case Study) + 5 Marks (Assignments) + 5 Marks (Attendance)
Oral Exam: An Oral exam will be held based on the Case Study and Presentation.