Lovely Professional University, Punjab

Course Code	Course Title	Course Planner	Lectures	Tutorials	Practicals	Credits
INT411	SOFTWARE PROJECT MANAGEMENT	11265::Dalwinder Singh	3	0	0	3
Course Weightage	ATT: 5 CA: 25 MTT: 20 ETT: 50	**Exam Category: 55: Mid Term Exam: All Subjective – End Term Exam: All Subjective**				
Course Orientation	NA					

Course Outcomes :Through this course students should be able to

CO1 :: Describe basics of software project management and step wise project planning.

CO2 :: Apply cost and effort estimation techniques on software projects.

CO3 :: Apply methods and techniques of activity planning and risk assessment on software projects.

CO4 :: Analyze the progress of software project using monitoring and controlling tools.

	TextBooks (T)		
Sr No	**Title**	**Author**	**Publisher Name**
T-1	SOFTWARE PROJECT MANAGEMENT	BOB HUGHES, MIKE COTTERELL, RAJIB MALL	MCGRAW HILL EDUCATION

	Reference Books (R)		
Sr No	**Title**	**Author**	**Publisher Name**
R-1	SOFTWARE PROJECT MANAGEMENT	MOHAPATRA DR SANJAY	CENGAGE LEARNING
R-2	SOFTWARE PROJECT MANAGEMENT: A REAL-WORLD GUIDE TO SUCCESS	JOEL HENRY	PEARSON
R-3	SOFTWARE PROJECT MANAGEMENT	SUBRAMANIAN CHANDRAMOULI, SAIKAT DUTT	PEARSON

Other Reading (OR)	
Sr No	**Journals articles as Compulsary reading (specific articles, complete reference)**
OR-1	https://www.google.co.in/url?sa=t&rct=j&q=&esrc=s&source=web&cd=6&cad=rja&uact=8&ved=0ahUKEwjD__CHlu_JAhXFBo4KHVrEBOEQFgg8MAU&url=http%3A%2F%2Fwww.ifpug.org%2FConference%2520Proceedings%2FIFPUG-2001%2FIFPUG2001-06-Boehm-The_COCOMO_II_Suite_Of_Software_Estimation_Models.pdf&usg=AFQjCNH0P-Y8X_5_gQUVsE0A7_Xri6-FJg&sig2=hw3MPgDFnb9VfB4aTEqJDQ ,
OR-2	https://cs.uwaterloo.ca/~apidduck/CS846/intro.pdf ,

OR-3	http://homepages.dcc.ufmg.br/~rodolfo/es-1-09/EstimationSurvey.pdf ,
OR-4	web.mit.edu/smadnick/www/papers/J019.pdf ,

Relevant Websites (RW)		
Sr No	**(Web address) (only if relevant to the course)**	**Salient Features**
RW-1	http://brodzinski.com/2010/06/learning-project-management-basics.html	Learning Project Management Basics
RW-2	http://www.chambers.com.au/sample_p/c_pmodel.htm	Concept of Life Cycle Models
RW-3	http://www.cpmtutor.com/c08/allocation.html	Critical path method and resource management

LTP week distribution: (LTP Weeks)	
Weeks before MTE	7
Weeks After MTE	7
Spill Over (Lecture)	7

Detailed Plan For Lectures

Week Number	**Lecture Number**	**Broad Topic(Sub Topic)**	**Chapters/Sections of Text/reference books**	**Other Readings, Relevant Websites, Audio Visual Aids, software and Virtual Labs**	**Lecture Description**	**Learning Outcomes**	**Pedagogical Tool Demonstration/ Case Study / Images / animation / ppt etc. Planned**	**Live Examples**
Week 1	Lecture 1	Introduction to Software project management(What is project? Software project versus other types, Nature of software production)	T-1 R-3		L1: Zero lecture for the introduction to the course objectives, structure and details of academic tasks. L2: Learning of basics of project management	Student will know about basics of project management	Demonstration using power point presentation.	Construction of bridge and development of attendance module.
	Lecture 2	Introduction to Software project management(What is project? Software project versus other types, Nature of software production)	T-1 R-3		L1: Zero lecture for the introduction to the course objectives, structure and details of academic tasks. L2: Learning of basics of project management	Student will know about basics of project management	Demonstration using power point presentation.	Construction of bridge and development of attendance module.
	Lecture 3	Introduction to Software project management (Activities by Software Project Management)	T-1		Description of activities of software project management.	Students will know about activities of software project management.	Demonstration using power point presentation.	

Week 1	Lecture 3	Introduction to Software project management(Key objectives of effective management, Problems with software projects, Risk reduction)	T-1		Description of activities of software project management.	Students will know about activities of software project management.	Demonstration using power point presentation.	
		Introduction to Software project management (Importance of software project management)	T-1		Description of activities of software project management.	Students will know about activities of software project management.	Demonstration using power point presentation.	
Week 2	Lecture 4	Stepwise Project planning (Project scope, Objectives)	T-1		Description of Project scope, Objectives.	Students will know about initial steps of planning.	Demonstration using power point presentation.	PRINCE2 (an acronym for PRojects IN Controlled Environments, version 2) is a project management methodology. The methodology encompasses the high level management, control and organisation of a project, but not lower level activities such as scheduling.
		Stepwise Project planning (Business Planning: determining objectives, Infrastructure)	T-1		Description of Project scope, Objectives.	Students will know about initial steps of planning.	Demonstration using power point presentation.	PRINCE2 (an acronym for PRojects IN Controlled Environments, version 2) is a project management methodology. The methodology encompasses the high level management, control and organisation of a project, but not lower level activities such as scheduling.

Week 2	Lecture 4	Stepwise Project planning (Forecasting demand for product)	T-1		Description of Project scope, Objectives.	Students will know about initial steps of planning.	Demonstration using power point presentation.	PRINCE2 (an acronym for PRojects IN Controlled Environments, version 2) is a project management methodology. The methodology encompasses the high level management, control and organisation of a project, but not lower level activities such as scheduling.
	Lecture 5	Stepwise Project planning (Characteristics,Proposal writing)	T-1		Description of Effort process	Student will know about cost calculation and manpower estimation	Demonstration using power point presentation.	
		Stepwise Project planning (Effort estimation)	T-1	OR-3	Description of Effort process	Student will know about cost calculation and manpower estimation	Demonstration using power point presentation.	
	Lecture 6	Stepwise Project planning (Requirement analysis)	T-1		Description of Risk identification.	Students will know about causal mapping, checklist as a tool	Demonstration using power point presentation.	
		Stepwise Project planning (Risk identification)	T-1	RW-1	Description of Risk identification.	Students will know about causal mapping, checklist as a tool	Demonstration using power point presentation.	
Week 3	Lecture 7	Cost Estimation and Life Cycle Models(Meaning, Managing allocation of resources)	T-1		Description of managing allocation of resources	Student will know about team organization and management	Demonstration using power point presentation.	
		Cost Estimation and Life Cycle Models(Creating programme)	T-1		Description of managing allocation of resources	Student will know about team organization and management	Demonstration using power point presentation.	
	Lecture 8	Cost Estimation and Life Cycle Models(Individual projects)	T-1	OR-2	Description of Program management.	Student will know about programme categorization and project differences	Demonstration using power point presentation	

Week 3	Lecture 8	Cost Estimation and Life Cycle Models(Program management)	T-1		Description of Program management.	Student will know about programme categorization and project differences	Demonstration using power point presentation	
	Lecture 9	Cost Estimation and Life Cycle Models(Risk evaluation)	T-1	OR-4	Description of Risk evaluation	Student will know about identification ,prioritizing and solutions for risk	Demonstration using power point presentation.	
Week 4	Lecture 10	Cost Estimation and Life Cycle Models(Cost benefit analysis, Evaluation of individual projects)	T-1		Description of Cost benefit analysis	Student will know about cost estimation and numericals	Demonstration using power point presentation.	
	Lecture 11	Cost Estimation and Life Cycle Models(Project approach : Introduction, Technical plan)	T-1		Description of project planning	Student will know about various parts of technical plan	Demonstration using power point presentation.	
	Lecture 12	Cost Estimation and Life Cycle Models(Life cycle models, Choice of process models)	T-1	RW-2	Description of life cycle models	Students will know about process of choosing the models for given projects.	Demonstration using power point presentation.	
		Cost Estimation and Life Cycle Models(Waterfall, V-Process, Spiral)	T-1	RW-2	Description of life cycle models	Students will know about process of choosing the models for given projects.	Demonstration using power point presentation.	The military had adopted the spiral model for its Future combat systems program. The FCS project was canceled after six years 2003 2009 it had a two year iteration . The FCS should have resulted in three consecutive prototypes .The spiral model thus may suit small up to 3 dollar million software applications and not a complicated system.

Week 5	Lecture 13	Cost Estimation and Life Cycle Models(Prototyping, Incremental delivery)	T-1		Description of models	Students will know about functioning of models to apply on projects	Demonstration using power point presentation.	
	Lecture 14				Test 1			
	Lecture 15	Effort Estimation(Meaning, Problems with Estimation Basis)	T-1		Description of estimation formulas and numericals	Students will know about under and over estimation concepts	Demonstration using power point presentation.	
Week 6	Lecture 16	Effort Estimation (EstimationTechniques Albrecht Function Point Analysis, Functions Mark II)	T-1		Description of formulas and techniques of function point analysis Description of formulas and techniques of function mark II	Students will learn about formulas and techniques of function point analysis Students will learn about formulas and techniques of function mark II	Case Study	
	Lecture 17	Effort Estimation (EstimationTechniques Albrecht Function Point Analysis, Functions Mark II)	T-1		Description of formulas and techniques of function point analysis Description of formulas and techniques of function mark II	Students will learn about formulas and techniques of function point analysis Students will learn about formulas and techniques of function mark II	Case Study	
	Lecture 18	Effort Estimation (COCOMO Model)	T-1 R-1		Description of COCOMO technique and numericals	Students will learn about COCOMO numericals and applications	Live Demonstration	Cocomo Calculator is used to calculate the cost,effort and manpower estimation.
Week 7	Lecture 19	Effort Estimation (COCOMO extensions)		OR-1	Description of COCOMO extensions	Students will learn about of COCOMO extensions	Demonstration using power point presentation.	
		SPILL OVER						
Week 7	Lecture 20				Spill Over			
	Lecture 21				Spill Over			
		MID-TERM						
Week 8	Lecture 22	Activity Planning (Objectives, Project Schedule.)	T-1		Description of network planning	Students will know about scheduling crieteria	Demonstration using power point presentation.	

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Week 8	Lecture 23	Activity Planning(Managing the task:managing the plan, Network Planning Model,Time Dimension)	T-1	RW-3	Description of CPM preparation	Students will know about forward and backward pass calculation	Live Demonstration	
	Lecture 24	Activity Planning (Identifying Critical Path, managing change, readjusting goals and milestones)	T-1 R-2		Description of slack calculation	Students will know about forward and backward pass calculation	Demonstration using power point presentation.	
Week 9	Lecture 25	Risk Management(Risk)	T-1		Description of mitigation and identification of risk	Students will know about checklist, causal mapping and other techniques	Demonstration using power point presentation.	
		Risk Management (Categories of Risk)	T-1		Description of mitigation and identification of risk	Students will know about checklist, causal mapping and other techniques	Demonstration using power point presentation.	
		Risk Management(Dealing with Risk, Risk Identification, Risk Assessment, Risk Planning, Risk Management)	T-1		Description of mitigation and identification of risk	Students will know about checklist, causal mapping and other techniques	Demonstration using power point presentation.	
	Lecture 26	Risk Management (Evaluating Risk to the Schedule, Applying the PERT Technique)	T-1		Description of formulas and numericals of PERT Technique	Students will know about formulas and numericals of PERT Technique	Demonstration using power point presentation.	
	Lecture 27				Test 2			
Week 10	Lecture 28	Resource Allocation, Monitoring and Control (Resource allocation introduction, Identifying resource requirements)	T-1	RW-3	Description of histogram and resource smoothing	Students will know about resource assignment , overallocation and under allocation	Demonstration using power point presentation.	
	Lecture 29	Resource Allocation, Monitoring and Control (Scheduling resources, Resource allocation)	T-1 R-2		Description of prioritizing techniques	Students will know about Burman priority techniques	Demonstration using power point presentation.	
	Lecture 30	Resource Allocation, Monitoring and Control (Publishing the resource & cost schedule, Scheduling sequence)	T-1		Description of buffering and solution to delayed activities	Students will know about overallocation and underallocation solutions	Demonstration using power point presentation.	
Week 11	Lecture 31	Resource Allocation, Monitoring and Control (Creating frameworks, Data collection)	T-1		Description of monitoring process	Students will know about collection techniques	Demonstration using power point presentation.	

Week 11	Lecture 32	Resource Allocation, Monitoring and Control (Visualizing progress, Status reports)	T-1		Description of Visualizing progress	Students will know about application of Gantt,Ball chart	Live Demonstration	
		Resource Allocation, Monitoring and Control (Milestone analysis, Cost monitoring)	T-1		Description of Visualizing progress	Students will know about application of Gantt,Ball chart	Live Demonstration	
	Lecture 33	Resource Allocation, Monitoring and Control (Change control, Cost (direct and indirect))	T-1		Description of Change Control	Students will know about change control	Case Study	
Week 12	Lecture 34	Resource Allocation, Monitoring and Control (Earned value analysis, Performance ratio)	T-1		Description of Earned value analysis and Description of formulas and techniques	Students will know about formulas of earned value and calculation process	Case Study	
	Lecture 35				Poster Presentation			
	Lecture 36	Software quality & small projects(Introduction, Defining software quality.)	T-1		Introduction to software quality	students will learn about the basics of software quality	Demonstration using power point presentation.	
Week 13	Lecture 37	Software quality & small projects(Software Quality: ISO9126)	T-1		Description of ISO 9126	Students will know about ISO 9126	Demonstration using power point presentation.	
	Lecture 38	Software quality & small projects(Software measures, Product versus process quality.)	T-1		Description of differences of product and process	Students will know about product and process dividation	Demonstration using power point presentation.	
	Lecture 39	Software quality & small projects(Management of external standards)	T-1		Description about BSEN standard	Students will know about various steps of BSEN standard	Demonstration using power point presentation.	
Week 14	Lecture 40	Software quality & small projects(Problems with student projects, Content of project plan)	T-1		Description of problems related to projects and project plans	Students will know about broader problems and components of project plan	Demonstration using power point presentation.	
		SPILL OVER						
Week 14	Lecture 41				Spill Over			
	Lecture 42				Spill Over			
Week 15	Lecture 43				Spill Over			
	Lecture 44				Spill Over			
	Lecture 45				Spill Over			

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Scheme for CA:

CA Category of this Course Code is:A0203 (2 best out of 3)

Component	Weightage (%)	Mapped CO(s)
Poster Presentation	50	
Test 1	50	
Test 2	50	

Details of Academic Task(s)

Academic Task	Objective	Detail of Academic Task	Nature of Academic Task (group/individuals)	Academic Task Mode	Marks	Allottment / submission Week
Poster Presentation	To make students capable of writing research paper and then prepare for poster presentation	Students will write a research paper through out the term and at the end of term they will be evaluated through poster presentation	Individual	Offline	30	2 / 12
Test 1	To evaluate the students through written test	Question paper will be a mixture of analytic and descriptive questions. Questions will be either of 5 marks or multiple of 5 marks	Individual	Offline	30	3 / 5
Test 2	To evaluate the students through written test	Question paper will be a mixture of analytic and descriptive questions. Questions will be either of 5 marks or multiple of 5 marks	Individual	Offline	30	7 / 9