COMSATS University Islamabad
Department of Computer Science
Course Syllabus

Course Information

Course Code: **CSC494**	Course Title: **Software Project Management**
Credit Hours: **3(3,0)**	Lecture Hours/Week: **3**
Lab Hours/Week: **0**	Pre-Requisites: **CSC291: Software Engineering Concepts**

Catalogue Description:

This course covers fundamental concepts of software project management. Topics include: Software Project Management; Managing Project Goals, Time & Costs; Risk Management; Quality Management; HR & Communication Management; Software Project Pricing; Software Development Management; and Development & Management Standards.

Text and Reference Books

Textbooks:

1. A Guide to the Project Management Body of Knowledge, PMBOK® Guide, PMI, 2017.
2. Introduction to Software Project Management, Adolfo Villafiorita, CRC Press, 2014.

Reference Books:

1. Software Extension to the PMBOK® Guide, PMI, 2013.
2. PMI Agile Practice Guide, PMI, 2017.

Week wise Plan:

Lecture #	CDF Unit #	Topics Covered	Reading Material
1.	1	Introduction to Software Project Management Foundational Elements, and Role of a Project Manager.	PMBOK: Ch1
2.	1	Organizational Influences & Project Life Cycle: Types of Activities, Organizational, Cultures & Styles, Organizational Communications, and Organizational Process Assets.	PMBOK: Ch2
3.	1	Organizational Influences & Project Life Cycle: Enterprise Environmental Factors, Composition of Project Teams, and Software Project Life Cycle.	PMBOK: Ch2
4.	1	Project Management Processes: Initiating Process Group, Planning Process Group, Planning Process Group, Monitoring & Controlling Process Group, and Closing Process Group.	PMBOK: Ch3
5.	1	Project Integration Management: Introduction, Develop Project Charter, and Develop Project Management Plan.	PMBOK: Ch4
6.	1	Project Integration Management: Direct & Manage Project Work, Monitor & Control Project Work, Perform Integrated Change Control, and Close Project or Phase.	PMBOK: Ch4
7.	2	Project Scope Management: Introduction, Plan Scope Management, Collect Requirements, and Define Scope.	PMBOK: Ch5
8.	2	Project Scope Management: Creating WBS, Validate Scope, and Control Scope.	PMBOK: Ch5
9.	2	Project Time Management: Introduction, Plan Schedule Management, Define Activities, and Sequence Activities.	PMBOK: Ch6, Adolfo: Ch3
10.	2	Project Time Management: Estimate Activity Resources, and Estimate Activity Durations.	PMBOK: Ch6, Adolfo: Ch3

11.	2	Project Time Management: Develop Schedule, and Control Schedule.	PMBOK: Ch6, Adolfo: Ch3
12.	2	Project Cost Management: Introduction, Plan Cost Management, and Estimate Costs.	PMBOK: Ch6, Adolfo: Ch3
13.	2	Project Cost Management: Determine Budget, Control Costs & Contingency, and Management Reserves.	PMBOK: Ch7
14.	2	Project Cost Management: Earned Value Example.	PMBOK: Ch7
15.	3	Project Quality Management: Introduction, Plan Quality Management, and Perform Quality Assurance.	PMBOK: Ch8
16.	3	Project Quality Management: Control Quality & Process Decision Program Chart, and Prioritization Matrix.	PMBOK: Ch8
17.	**Mid Term Exam**		
18.			
19.	3	Project Communications Management: Introduction, Plan, and Communication Management.	PMBOK: Ch10
20.	3	Project Communications Management: Manage Communications, and Monitor Communication.	PMBOK: Ch10
21.	4	Project Risk Management: Introduction, Plan Risk Management, Identify Risks, Perform Qualitative Risk Analysis, and Perform Quantitative Risk Analysis.	PMBOK: Ch11
22.	4	Project Risk Management: Plan Risk Responses, Implement Risk Responses, and Monitor Risks.	PMBOK: Ch11
23.	4	Project Human Resource Management: Introduction, Plan Resource Management, Estimate Activity Resources, and Acquire Resources.	PMBOK: Ch1
24.	4	Project Human Resource Management: Develop Team, Manage Team, and Control Resources.	PMBOK: Ch9
25.	4	Project Stakeholder Management: Introduction, Identify Stakeholders, Plan Stakeholder Engagement, and Monitor Stakeholder Engagement.	PMBOK: Ch13
26.	4	Project Procurement Management: Introduction, Plan Procurement Management, Conduct Procurements, and Control Procurement.	PMBOK: Ch12
27.	4	Definable Work Vs High Certainty Work, Agile Manifesto & Mindset, Uncertainty, Risk, and Life Cycle Selection.	Adolfo: Ch7
28.	5	Mixing Agile Approaches; and Project Factors that Influence Tailoring.	Ref. Material
29.	5	Start with an Agile Mindset, Servant Leadership Empowers Team; and Team Composition.	Ref. Material
30.	5	Organizational Change Management; Organizational Culture; Procurement & Contracts; Business Practices; and Multiteam Coordination & Dependencies.	Ref. Material
31.	5	SCRUM; and EXTREME PROGRAMMING.	Ref. Material
32.	5	KANBAN; and SCRUMBAN.	Ref. Material
Final Term Exam			

Student Outcomes (SOs)

S.#	Description
1	Apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization to the abstraction and conceptualization of computing models from defined problems and requirements
2	Identify, formulate, research literature, and solve *complex* computing problems reaching substantiated conclusions using fundamental principles of mathematics, computing sciences, and

	relevant domain disciplines
3	Design and evaluate solutions for *complex* computing problems, and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations
4	Create, select, adapt and apply appropriate techniques, resources, and modern computing tools to *complex* computing activities, with an understanding of the limitations
5	Function effectively as an individual and as a member or leader in diverse teams and in multi-disciplinary settings.
9	Recognize the need, and have the ability, to engage in independent learning for continual development as a computing professional

Course Learning Outcomes (CLOs)

Sr.#	Unit #	Course Learning Outcomes	Blooms Taxonomy Learning Level	SO
CLO-1	1	Summarize fundamental concepts of software project and integration management.	*Understanding*	1
CLO-2	2	Determine the project scope and cost estimation within a time frame for a software project.	*Applying*	2,4
CLO-3	3-4	Explain the concepts of quality, risk, communication, and HR management.	*Understanding*	1
CLO-4	5	Select the best software process practices in context of software project management.	*Understanding*	1
CLO-5	1-5	Develop a comprehensive software project plan.	*Creating*	2-5,9

CLO Assessment Mechanism

Assessment Tools	CLO-1	CLO-2	CLO-3	CLO-4	CLO-5
Quizzes	Quiz 1	Quiz 2	Quiz 3	Quiz 4	-
Assignments	-	Assignment 1	Assignment 2	Assignment 3	Assignment 4
Mid Term Exam	Mid Term Exam	Mid Term Exam	Mid Term Exam	-	-
Final Term Exam	Final Term Exam				

Policy & Procedures

- **Attendance Policy:** Every student must attend 80% of the lectures as well as laboratory in this course. The students falling short of required percentage of attendance of lectures/laboratory work, is not allowed to appear in the terminal examination.

- **Course Assessment:**

	Quizzes	Assignments	Mid Term Exam	Terminal Exam	Final Marks
Theory (T)	15	10	25	50	100

- **Grading Policy:** The minimum passing marks for each course is 50% (In case of LAB; in addition to theory, student is also required to obtain 50% marks in the lab to pass the course). The correspondence

between letter grades, credit points, and percentage marks at CUI is as follows:

Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	F
Marks	>= 85	80 - 84	75 - 79	71 - 74	68 - 70	64 - 67	61 - 63	58 - 60	54 - 57	50-53	< 50
Cr. Point	3.67-4.00	3.34-3.66	3.01-3.33	2.67-3.00	2.34-2.66	2.01-2.33	1.67-2.00	1.31-1.66	1.01-1.30	0.10-1.00	0.00

- **Missing Exam:** No makeup exam will be given for final exam under any circumstance. When a student misses the mid-term exam for a legitimate reason (such as medical emergencies), his grade for this exam will be determined based on the Department policy. Further, the student must provide an official excuse within one week of the missed exam.

- **Academic Integrity:** All CUI policies regarding ethics apply to this course. The students are advised to discuss their grievances/problems with their counsellors or course instructor in a respectful manner.

- **Plagiarism Policy:** Plagiarism, copying and any other dishonest behaviour is prohibited by the rules and regulations of CUI. Violators will face serious consequences.