CS3356: MANAGING SOFTWARE PROJECTS

Effective Term
Semester B 2025/26

Part I Course Overview

Course Title
Managing Software Projects

Subject Code
CS - Computer Science
Course Number
3356

Academic Unit
Computer Science (CS)

College/School
College of Computing (CC)

Course Duration
One Semester

Credit Units
3

Level
B1, B2, B3, B4 - Bachelor's Degree

Medium of Instruction
English

Medium of Assessment
English

Prerequisites
CS3342 Software Design or
CS3354 Software Engineering or equivalent

Precursors
Nil

Equivalent Courses
CS3343 Software Engineering Practice

Exclusive Courses
IS4532 Project Management and Outsourcing

Part II Course Details

Abstract

The course aims to introduce students to the principles behind the effective and successful management of software projects as well as tools, techniques and best practices. There are three main parts. One part is concerned with the project life cycle, processes and knowledge areas of the Project Management Framework as defined in "A Guide to the Project Management Body of Knowledge" (PMBOK) published by the Project Management Institute (PMI). The second part is concerned with the various soft skills required of a project manager, such as presentation skills, negotiation skills, interpersonal skills, people management skills, leadership skills, etc. The final part aims to expose students to highly realistic risk scenarios in which project managers need to prepare themselves for; issues that may involve hardware/ software problems, to issues with clients/stakeholders, developers, budget, schedule, etc.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Critically evaluate the Project Management Framework as described in the PMBOK.		x	x	
2	Apply IT project management knowledge, techniques and tools to solve realistic problems related to IT projects.			x	
3	Recognize the importance of project management soft skills needed in project managers.		x		x
4	Explore new ways to suitably integrate project management knowledge, techniques, tools and soft skills in enhancing IT project success.			x	

A1: Attitude
Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability
Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

A3: Accomplishments
Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

Learning and Teaching Activities (LTAs)

	LTAs	Brief Description	CILO No.	Hours/week (if applicable)
1	Lecture	Explain the keys concepts in software project management and its framework as defined in PMBOK.	1, 2, 3	Lecture: 3 hours/week

2	Case study/risk scenario analysis and discussion	To reinforce what is learned from the reading and lecture, students are given a weekly risk scenario/case. The scenario/case poses an IT project problem situation for students to propose a course of action to take, as well as precautionary actions that should have been taken to avoid or alleviate the problem in the first place. Students are required to do some online research as well as make appropriate references to the PMBOK in their proposal.	2, 3, 4	Lecture: 3 hours/week
3	Journal	As a learning and knowledge sharing tool, students are required to keep a weekly self-reflective journal to record their learning progress and useful insights as they progress through the course. The journal provides evidence to support the learning of software project management concepts and best practices.	1, 2, 3	After Class
4	Presentation and case analysis	Students will be randomly selected to present their proposals for the risk scenarios/case. The instructor will guide and help focus discussions.	1, 2, 3, 4	Tutorial: 8 hours/semester

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks ("-" for nil entry)	Allow Use of GenAI?
1	Class exercise and discussion	1, 2, 3	12	-	Yes
2	Self-reflective journal and discussion	2, 3, 4	8	-	Yes
3	Quiz	1, 2, 3	30	-	No
4	Risk scenario/case analysis report/ presentation	2, 3, 4	10	-	Yes

Continuous Assessment (%)

60

Examination (%)
40

Examination Duration (Hours)
2

Minimum Examination Passing Requirement (%)
30

Additional Information for ATs
For a student to pass the course, at least 30% of the maximum mark for the examination must be obtained.

Assessment Rubrics (AR)

Assessment Task
Class exercise and discussion

Criterion
1.1 ABILITY to EXPLAIN and APPLY Project Management Framework for effective IT project management

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
Self-reflective journal and discussion

Criterion
2.1 ABILITY to EXPLAIN the important soft skills and APPLY the skills for effective IT project management

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
3. Quiz

Criterion
3.1 ABILITY to APPLY the Project Management Framework and soft skills for effective IT project management

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
Risk scenario/case analysis report/presentation

Criterion
4.1 ABILITY to APPLY the Project Management Framework and soft skills for solving risk scenario problems

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
Examination

Criterion
5.1 ABILITY to EXPLAIN and APPLY Project Management Framework for effective IT project management

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Part III Other Information

Keyword Syllabus

The Project Management Framework. Project Management Institute (PMI). A Guide to the Project Management Body of Knowledge (PMBOK). Project Management Professional (PMP) certification. Roles/responsibilities of a project manager. Project manager soft skills: presentation skills, time management skills, people management skills, communication skills, negotiation skills, interviewing skills.

Syllabus

- Overview
  Overview of the project management discipline; software system versus software project; system development life cycle; roles and responsibilities of the project manager, ethics of software project management; PMI; PMBOK
- The Project Management Framework
  The chapters of the PMBOK – integration management, scope management, time management, cost management, quality management, human resource management, communication management, risk management, procurement management, etc
- Project Management Soft Skills
  Presentation skills, managing time, managing meetings, managing people, managing team, doing interviews, interpersonal communication skills, problem solving skills, etc
- Worst Case Scenarios/Case Studies
  Examples: "How to Give a Last Minute Project Status Presentation", "How to Convince Others, and Yourself, that the Software will be Delivered on Time", "How to Keep the Project Going After Your Key Developer Suddenly Quits", "What to Do When a New Technology Fails", "How to Convince Others, and Yourself, that the Software will be Absolutely Safe", "What to Do When the Customer Insists that You Add a New Feature", etc.

Reading List

Compulsory Readings

	Title
1	K. Schwalbe (2014). Managing Information Technology Projects. Course Technology, 7th Edition.
2	Project Management Institute (2013). A Guide to the Project Management Body of Knowledge: (PMBOK Guide). 5th edition.

Additional Readings

	Title
1	A. Stellman and J. Greene (2007). Head First PMP: A Brain-Friendly Guide to Passing the Project Management Professional Exam. O' Reilly.
2	F.P. Brooks (1995). The Mythical Man-Month: Essays on Software Engineering. Addison-Wesley Professional, 20th Anniversary Edition.