UNITED INTERNATIONAL UNIVERSITY

Department of Computer Science and Engineering (CSE)

Course Syllabus

1	**Course Title**	Software Engineering Lab
2	**Course Code**	CSE 3422
3	**Trimester and Year**	Spring 2024
4	**Pre-requisites**	CSE 3412 - System Analysis and Design Lab
5	**Credit Hours**	1.0
6	**Section**	D
7	**Class Hours**	Section-D: Tuesday, 2:00PM – 4:30PM
8	**Class Room**	Section-D: Room # 529
9	**Instructor**	Md Hasan Al Kayem Lecturer, CSE, UIU
10	**Email**	hasan@cse.uiu.ac.bd
11	**Office**	Room # 319 (A)
12	**Counselling Hours**	
13	**Text Book**	Software Engineering, Eighth edition, Roger Pressman, 2015
14	**Reference**	Lecture documents
15	**Course Contents (approved by UGC)**	Laboratory work based on CSE 3421
16	**Course Outcomes (COs)**	
17	**Teaching Methods**	Lecture, laboratory exercise and reports, project development.

CO	Description
CO1	Function as an individual and as a member or leader of a team.
CO2	Design and develop a software
CO3	Learn to use modern software engineering tools.
CO4	Apply modern techniques of software engineering.
CO5	Presentation on Term Project

18 **CO with Assessment Methods**

CO	Assessment Method	(%)
-	Attendance	10
CO1	Class Performance	30
CO2	Assignment	10
CO3	Midterm	15
CO4	Final	25
CO5	Presentation (on Project)	10

19 **Mapping of COs and Program outcomes**

CO	Statement	Bloom's Domain	Program Outcome	Knowledge Profile	Complex Problem	Engineering Activities
CO 1	Function as an individual and as a member or leader of a team.	C	i Individual work and teamwork	Engineering fundamentals (K3) Specialist Knowledge (K4) Engineering Design (K5) Engineering Practice (K6)	Depth of Knowledge (P1) Range of Conflicting requirements(P2) Depth of Analysis (P3) Extent of stakeholder (P6) Interdependence (P7)	Range of Resources (A1) Level of Interaction (A2)
CO 2	Design and develop a software	C	c Design/Development of solutions			
CO 3	Learn to use modern software engineering tools.	C	e Modern Tool Usage			
CO 4	Apply modern techniques of software engineering.	C	b Problem analysis			
CO 5	Presentation on Term Project	A	J Communication			

20 **Lab Outline**

Lab	Topics	CO	References	Activities

1	Process Models	CO1, CO2	Lecture documents	Lecture, practice
2	Software Architecture	CO1, CO2	Lecture documents	Lecture, practice
3	Services Computing	CO1, CO2	Lecture documents	Lecture, practice
4	Requirements Definition	CO1, CO2	Lecture documents	Lecture, practice
5	User Interface Design	CO1, CO2	Lecture documents	Lecture, practice
6	Midterm exam	CO3		Exam
7	System Design	CO1, CO2	Lecture documents	Lecture, practice
8	Testing	CO1, CO2	Lecture documents	Lecture, practice
9	Documentation	CO1, CO2	Lecture documents	Lecture, practice
10	Version Control	CO1, CO2	Lecture documents	Lecture, practice
11	Presentation on Project	CO5		Presentation
12	Final exam	CO4		Exam

Appendix 1: Assessment Methods

Assessment Types	**Marks**
Attendance	10%
Class Performance	20%
Report/Viva	10%
Presentation (on Project)	15%
Mid Term	25%
Final Exam	20%

Appendix 2: Grading Policy

Letter Grade	**Marks %**	**Grade Point**	**Letter Grade**	**Marks %**	**Grade Point**
A (Plain)	90-100	4.00	C+ (Plus)	70-73	2.33
A- (Minus)	86-89	3.67	C (Plain)	66-69	2.00
B+ (Plus)	82-85	3.33	C- (Minus)	62-65	1.67
B (Plain)	78-81	3.00	D+ (Plus)	58-61	1.33
B- (Minus)	74-77	2.67	D (Plain)	55-57	1.00
			F (Fail)	<55	0.00

Appendix-3: Program outcomes

	Program Outcomes
1	**Engineering knowledge:** Apply knowledge of mathematics, natural science, engineering fundamentals and Computer Science and Engineering to the solution of complex engineering problems.

2	**Problem analysis:** Identify, formulate, research literature and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
3	**Design/development of solutions:** Design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
4	**Investigation:** Conduct investigations of complex problems using research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions
5	**Modern tool usage:** Create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex engineering problems, with an understanding of the limitations.
6	**The engineer and society:** Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solutions to complex engineering problems.
7	**Environment and sustainability:** Understand and evaluate the sustainability and impact of professional engineering work in the solution of complex engineering problems in societal and environmental contexts.
8	**Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.
9	**Individual work and teamwork:** Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.
10	**Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11	**Project management and finance:** Demonstrate knowledge and understanding of engineering management principles and economic decision-making and apply these to one's 13 own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12	**Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.