University of Asia Pacific (UAP)
Department of Computer Science and Engineering (CSE)

Course Outline

Program: Computer Science and Engineering (CSE) **Course Title:** Software

Development

Course Code: CSE 410

Semester: Fall-2024

Level: 7th Semester

Credit Hour: 1.5

Name & Designation of Teacher: Sadia Jahangir Safa, Lecturer
Md. Mubtasim Fuad, Lecturer
Jawad Hossain, Lecturer

Office/Room: Faculty Area

Class Hours: Sec C1, Saturday, 11am - 1:50 pm
Sec B1, Monday, 11 am - 1:50 pm
Sec B2, Tuesday 11am - 1.50 pm
Sec A1, Tuesday 2 pm - 4:50 pm
Sec D1, Thursday, 11 am - 1:50 pm
Sec D2, Tuesday, 8:00 am - 10.50 am
Sec A2, Tuesday , 2 pm - 4:50 pm
Sec C2, Saturday, 8 am - 10:50 am

Consultation Hours: Monday 03:30 pm -04:45 pm

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Rationale: Required course in the CSE program

Prerequisite (if any)**: CSE 321 (Software Engineering)**
Course Synopsis: Basics of writing and presenting s/w project proposal, Requirement analysis, Different UML diagrams, Introducing
different popular and powerful s/w development frameworks, development phase, s/w testing, s/w deployment.

Course Objective: The objectives of this course are to:

1. **Introduce** appropriate project proposal writing method and requirement analysis technique.
2. **Teach** different UML diagrams and S/W development methods.
3. **Introduce** different S/W development frameworks.

Course Outcomes (CO) and their mapping with Program outcomes (PO) and Teaching-Learning Assessment methods:

CO No.	CO Statements: Upon successful completion of the course, students should be able to:	Corresponding POs (Appendix-1)	Bloom's taxonomy domain /le vel (Appendix -2)	Delivery methods and activities	Assessment Tools	Ks	Ps	As
CO1	**Apply** the Engineering knowledge to propose a real-world problem.	a	1/Apply	Lecture, multimedia	Continuous Project Evaluation	**K3, K5, K6, K7** ,	**P1, P3, P6,**	**A1, A2, A4**
CO2	**Identify** and formulate the functional and nonfunctional requirements of the proposed problem.	b	1/Analyze	Lecture, multimedia	Presentation on project idea, Project Report	**K8**	**P7**	

CO3	**Design** a working solution to the proposed problem.	c	1/Apply	Lecture, multimedia	Continuous Project Evaluation (UML, ERD, Code Review), Report			

CO4 **Use** modern
  engineering tools develop the   multimedia Project
  to design and e 2/Manipul ation Continuous Evaluation
           Lecture,
  proposed system.

CO5	**Identify** the social, health, safety, legal, and cultural implications of the project.	f	3/Valuing	Lecture, multimedia	Presentation on project idea, Project Report			
CO6	**Practice** the ethical and professional standards expected in engineering practice.	h	3/Valuing	Lecture, multimedia	Project Report			
CO7	**Work** effectively within a team while fulfilling individual responsibilities.	i	1/Respo nd ing	Lecture, multimedia	Continuous Project Evaluation			
CO8	**Communicate** effectively through presentation and report of the project.	j	1/Apply	Lecture, multimedia	Presentation on project, Project Report			
CO9	**Apply** project management principles and **produce** cost value analysis.	k	1/Apply	Lecture, multimedia	Continuous Project Evaluation and Report			
CO10	**Recognize** the necessity of life-long learning and be prepared to engage independently with new technologies and evolving industry	l	1/Apply	Lecture, multimedia	Project Report			

	demands.								

Weighting COs with Assessment methods:

Assessment Type	% weight	CO 1	CO 2	CO 3	CO 4	CO 5	CO 6	CO 7	CO 8	CO 9	CO 10
Presentation Followed Viva	40%		10			15			15		
Documentation (Project)	30%		5	5		3	5		2	5	5
Continuous Project Evaluation (Assessment)	30%	5	15	10	5	18	5	5	17	5	5
Total	100 %	5		15	5			5		10	

Course Content Outline and mapping with COs

Weeks	Topics / Content		ne Delivery methodsand activities	Reading Materials
1	Basic concept of complex engineering problem, s/w development	CO1, CO5, CO6	Lecture, multimedia	Slides
2	Team formation for group project and project idea generation	CO1, CO7, CO8	Lecture, multimedia	Slides
3	Presentation on project proposal	CO1, CO7, CO8		
4	Mock UI presentation	CO2, CO7, CO10		Slides
5	UML diagram presentation	CO2, CO7,	Lecture, multimedia	
6	Discussion on different development frameworks, their advantages and disadvantages.	CO10CO3		

7-10	Continuous Project Update	CO3, CO5, CO6, CO7, CO8, CO10		

11-12	Final Project Update	CO3, CO5, CO6, CO7, CO8, CO9, CO10		
13	Final Presentation	CO1, CO2, CO4, CO7, CO9		
14	Project Documentation	CO2, CO3, CO5, CO6, C08, CO9, CO10		

Minimum attendance: 70% class attendance is mandatory for a student in order to appear at the final examination.

Textbook: No textbook required.

Grading System: As per the approved grading scale of University of Asia Pacific (Appendix-3).

Special Instructions: **Late attendance:** Students who will enter the class after the attendance call will be marked as absent.

Assignment: **Unfinished** work should be submitted as assignment. **Additional** assignments may be given as needed. Copied homework will be graded as zero. Late submission will result in a 50% deduction in score.

Student's responsibilities: Students must come to the class prepared for the course material covered in the previous class (es).

They must submit their assignments on time.

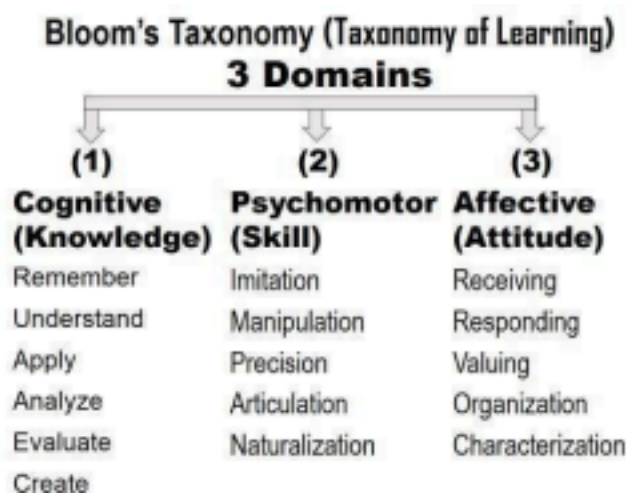| Prepared by (Course Teacher)	Checked by (Chairman, PSAC committee)	Approved by (Head of the Department)
Sadia Jahangir Safa Mubtasim Fuad Jawad Hossain	PSAC	

Appendix-1:

Washington Accord Program Outcomes (PO) for engineering programs:
  a) Apply knowledge of mathematics, natural science, engineering fundamentals and an engineering

specialization as specified in K1 to K4 respectively to the solution of complex engineering problems.

b) Identify, formulate, research literature and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences. (K1 to K4)

c) 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. (K5)

d) Conduct investigations of complex problems using research-based knowledge (K8) and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.

e) 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. (K6)

f) 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. (K7)

g) Understand and evaluate the sustainability and impact of professional engineering work in the solution of complex engineering problems in societal and environmental contexts. (K7) h) Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice. (K7)

i) Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.

j) 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.

k) Demonstrate knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

l) 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.

Bloom's Taxonomy (Taxonomy of Learning)
3 Domains

(1) Cognitive (Knowledge)	(2) Psychomotor (Skill)	(3) Affective (Attitude)
Remember	Imitation	Receiving
Understand	Manipulation	Responding
Apply	Precision	Valuing
Analyze	Articulation	Organization
Evaluate	Naturalization	Characterization
Create		

Appendix-3
UAP Grading Policy:

Numeric Grade	Letter Grade	Grade Point

80% and above	A+	4.00
75% to less than 80%	A	3.75

70% to less than 75% A- 3.50 65% to less than 70% B+ 3.25

60%tolessthan65%	B	3.00
55%tolessthan60%	B-	2.75
50%tolessthan55%	C+	2.50
45%tolessthan50%	C	2.25
40%tolessthan45%	D	2.00
Lessthan40%	F	0.00