Mahidol University International Colleague

Computer Engineering International Program

EGCI340 Software Design

1st Trimester, 2025-26

Instructor:	Dr. Lalita Narupiyakul	**E-mail:**	Lalita.nar@mahidol.ac.th
Office hours:	Wed. 13:00-14:00	**Office:**	6253

Course Description

An introduction to software design paradigms; software design fundamentals; system and software requirements; software design tools, and computer aided for software design; business process modeling (BPM); user experience (UX) and user interface (UI) design.

Learning Objectives

- Explain the current practices and problems in software engineering: software life cycle, requirements specification, and software design process.
- Describe the modern practices includes software design paradigms and design patterns
- Design architecture and analyze software analysis models.

Course Information

Fri. 12:00-13:50 Microsoft Team Join Code: **zc53qq6**

Recommended Reading Material:

- Ian Sommerville, Engineering Software Products: An Introduction to Modern Software Engineering 1st Edition, Pearson; 2020; ISBN: 1292376341.

Reference

- Branson S. UX/UI Design: Introduction Guide to Intuitive Design and User-Friendly Experience. Steve Branson; 2020.

Measurement and Evaluation of Student Achievement

Item	Date Out	Date Due	Value	AIAS
Assignment 1 (A1)	Week4	Week5	10%	Level 3 (Selective AI)
Assignment 2 (A2)	Week10	Week11	10%	Level 3 (Selective AI)
In-class Lab			20%	Level 4 (50/50 AI)
Group Project and Presentation	4-Dec		10%	Level 3 (Selective AI)
No Midterm Exam	-		-	
Final Exam	12-Dec		50%	Level 1 (No AI)

Note:

(1) Please note that NO late Project Report will be accepted AFTER 29th March.

(2) Student's achievement will be evaluated according to the faculty and university standard, using the symbols: A (90%), B+(85%), B(80%), C+(75%), C(70%), D+(65%), D(60%) and F(<60%).

(3) This is not online class. Students must accept any in-class announcements by instructor without online posting.

Assignment Policies

Assignment criteria are specified in the detailed assignment descriptions. Read them carefully to be sure that you have fulfilled all aspects of the requirements. Assignments are DUE ON THE DAY 12:00PM indicated. No Late Submission will be accepted. There will be 5 marks deduction if you do not follow the assignment instruction.

Extenuating Circumstances

The instructor will consider individually, rare extenuating circumstances, which may cause an assignment to be late. Examples of extenuating circumstances include hospitalization, death of a loved one, traffic accidents, etc. The student must provide documentation, such as sick note, to validate the extenuating circumstance. It will be at the instructor and student advisor's discretion to work out the extension in this situation.

Academic Dishonesty

Any form of plagiarism is ZERO tolerance. Both parties, who is copying and who is being copied, will get ZERO mark in their assignments.

Course Schedule (Tentative)

Lecture	Topic	Note
01	Introduction to Software Design	
02	S/W Life Cycle and Software Processes I	
03	Software Processes II	
04	Software Requirements I	A1 Out
05	Software Requirements II	
06	Software Requirements III	A1 Due
07	Analysis Models I	
08	Analysis Models II	A2 Out
09	UX/UI Design I	
10	UX/UI Design II	A2 Due
11	UX/UI Design III	
12	Project Presentation	Project Report
	Final Exam	12-Dec

*Please note that this is a tentative schedule and it may be slightly revised based on the progress of classes.

AI Assessment Scale (AIAS)

The AIAS typically consists of five levels, ranging from "No AI" to "Full AI," allowing educators to select the most appropriate level for a given assessment task.

Level	Description	Example
Level 1 (No AI)	Assessments focus on foundational knowledge and skills, where AI assistance is not permitted, ensuring students demonstrate their understanding and abilities without relying on GenAI.	The use of AI is prohibited. Any use of AI tools during the quiz/exam will result in a penalty and shall be subject to disciplinary action.
Level 2 (Limited AI)	AI tools can be used for specific tasks, such as exploring concepts, suggesting structures, or generating basic code snippets, but students are expected to critically evaluate and refine the AI output.	Students may use AI to generate initial ideas, explore key concepts, or create an outline. However, the final analysis, synthesis, and writing must be entirely the student's own work. The Student Acknowledgement of AI Use statement must be provided for any AI-generated insights used in the research process.
Level 3 (Selective AI)	AI can be used in limited and clearly defined ways, such as exploring concepts, suggesting structure, or summarizing key ideas, depending on the assessment's purpose.	Students use AI to find documentation and examples for software engineering assignment and report, but student are required to explain then analyze and discuss or summarize their contents and examples in student's words.
Level 4 (50/50 AI)	Assessments allow for a mix of human and AI input, where students can use AI for certain aspects of the task but still demonstrate their own understanding and critical thinking.	AI may be used to assist in generating content ideas, drafting slides, and refining presentation. Students are expected to critically evaluate AI-generated suggestions and modify them to align with course objectives. The final presentation must reflect the student's independent understanding and strategic decision-making.
Level 5 (Full AI)	Students can use any GenAI tool while completing the assessment, which is appropriate when the focus is on AI-related skills or when the assessment task is designed to encourage creative and innovative use of AI.	Students use AI to Write a comprehensive report on AI applications in software engineering, using AI to research, generate content, draft designs, and even create visual diagrams. Reflect on the effectiveness, limitations, and ethical considerations of using AI throughout the process.