

1. Course number and name: **CSE702025 – Software Engineering + Lab**

2. Credit: 2 (Computing topics); Required

Contact hours: 3 (Lecture: 2/week, Labs: 1/week)

3. Instructor's or course coordinator's name: Dr. Mai Xuan Trang

4. Text book:

a. Required:

[1] Engineering Software Products: An Introduction to Modern Software Engineering (1st edition), Pearson, 2019.

b. Additional Textbooks (Optional):

5. Specific course information:

a. Catalog description of the content of the course:

This course provides an overview of the software development process and software engineering practices. Topics include software requirements and specifications, software design, coding, testing and debugging, software project management, and software maintenance. A complete system, designed and developed as a small group project is constructed during the course. Emphasis is placed on the development of a simple but functional system.

b. Prerequisites: CSE703006 (Data structures and algorithms)

6. Specific goals for the course:

a. Course Learning Outcomes:

Course Learning Outcomes and Relationship to Student Outcomes:

At the end of the course, students will be able to	Student Outcome No.
LO.01 – Describe basic software development and computing fundamentals that make up the Software Development Lifecycle.	1
LO.02 – Apply modern software engineering tools and languages.	1
LO.03 – Create well-structured analysis and design documents for software systems.	2
LO.04 – Work in teams to implements design documents and deliver simple but functional software systems.	5
LO.05 – Create well-structured document and presentation to demonstrate the implemented software systems.	3

b. Related Student Outcomes:

No.	Information Technology graduates must have...
1	Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.
2	Design, implement, and evaluate a computing based solution to meet a given set of computing requirements in the context of the program's discipline.

3	Communicate effectively in a variety of professional contexts.
5	Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.

7. Brief list of topics to be covered:

- Software development process
- Systems analysis and requirements specification
- Software design principles
- Design patterns and frameworks
- UML diagrams
- Software testing methods and techniques
- Software Project Management