

# Elements of Software Engineering (CS 314)

Ref. No: 60762  
Spring 2024

## Course Objective

- To study techniques for software development from problem specification through design, implementation, testing, and maintenance

## Class Homepage

- <http://web.cecs.pdx.edu/~xie/cs314-s24/cs314-s24.htm>

## Instructor

- **Prof. Fei Xie**  
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**Homepage:** <http://www.cs.pdx.edu/~xie>

## Office Hours

- By appointment

## Prerequisites:

- Programming skills (302) in a high-level programming language

## Meeting Time and Location

- T/Th 10:00-11:50AM, KMC 470, Hybrid

## Textbooks

- **Required:** Engineering Software Products: An Introduction to Modern Software Engineering (1st Edition) by Ian Sommerville, Pearson

## Grading

- **Exams:** 40%
  - Final Exam 10:15AM-12:05PM on June 11
- **Term project:** 40%
  - The term project will be a 2-person team software development project.
  - The term project will be announced in April 11.
  - Due Days:
    - Feature Document Due: April 23
    - Architecture Document Due: May 14
    - Test Plan Due: June 4
    - Project Report and Final Deliverables: June 11

- **Homework assignments:** 15%
- **Class participation and popup quizzes:** 5%
  - Popup quizzes may be given at the beginning or the end of each lecture.

### Homework Policies

- **Submission Policy**
  - Each assignment must be submitted electronically on Canvas by 12pm on due day.
- **Late Policy**
  - Extension is only given due to illness and other hardships.

### Class Schedules

	Dates	Topics	Readings
Week 1	Apr. 2	Software Product	Chapter 1
	Apr. 4		
Week 2	Apr. 9	Agile Software Engineering	Chapter 2
	Apr. 11		
Week 3	Apr. 16	Features, Scenarios, and Stories	Chapter 3
	Apr. 18		
Week 4	Apr. 23	Software Architecture	Chapter 4
	Apr. 25		
Week 5	Apr. 30	Cloud-Based Software	Chapter 5
	May 2		
Week 6	May 7	Microservices Architecture	Chapter 6
	May 9		
Week 7	May 14	Security and Privacy	Chapter 7
	May 16		
Week 8	May 21	Reliable Programming	Chapter 8
	May 23		
Week 9	May 28	Testing	Chapter 9
	May 30		
Week 10	Jun. 4	Devops and Code Management	Chapter 10
	Jun. 6		

(This schedule is subject to changes according to the need of the class. All suggested readings are from the required textbook, Engineering Software Products: An Introduction to Modern Software Engineering (1st Edition) by Ian Sommerville.)

### Academic Integrity

- Academic misconducts will be handled according to the rules of the Department of Computer Science, Maseeh College of Engineering and Computer Science, and Portland State University.