

COS 430 & 530: Software Engineering

Department of Computer Science
Spring 2024

Instructor Info

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Office: 230 Science Building, Portland

Student Hours: M/W 11:00 AM-12:00 PM

Course Meetings

Luther Bonney 410, Portland

M/W 12:30-1:45 PM



[Student Services and Policies Hub](https://mycampus.maine.edu/group/usm/student-services-and-policies-hub)¹.

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¹ <https://mycampus.maine.edu/group/usm/student->

[services-and-policies-hub](#)

1. Course Information

1A. Course Description

Study of methods applied to large-scale software development, including topics such as requirements analysis and specification, design, validation and verification, and project management, with emphasis on principles of design. Students use methods on a large programming project.

1B. Course Materials & Books

Required textbook:

[Software Engineering: A Practitioner's Approach \(9th Edition\)](#)

By Roger S. Pressman and Bruce Maxim

McGraw-Hill Higher International;

ISBN-10: 1259872971; ISBN-13: 978-1259872976

Recommend textbook:

[Software Engineering \(10th Edition\)](#)

By Ian Sommerville Pearson;

ISBN-10: 0133943038; ISBN-13: 978-0133943030

1C. Course Learning Outcomes

Successful completion of this course will provide students with the ability to:

- analyze a problem, and identify and define the computing requirements appropriate to its solution,
- to function effectively on teams to accomplish a common goal,
- to use current techniques, skills, and tools necessary for computing practice,
- to apply design and software development principles in the construction of software systems of varying complexity, and
- to understand different software development methodologies including Agile Development and the Rational Unified Process.

2. Coursework & Grading

2A. Course Assessment

Assessment Name	Value
Class Attendance	5%
4 Assignments	40%
Lab Participation and 2 Assignments	25%
Midterm	10%
Project	20%
Total:	100%

2B. Attendance

Regular attendance and fully engaged participation is expected of all students. You should complete all assigned readings before each class session. I will post occasional reading quizzes to Brightspace. These quizzes will be due before the beginning of class.

2C. Assignment

Assignment should complete individually. Homework assignments will be due on the day by 11:59PM. For example, the first homework due is Jan 28, which means you should submit your work before Jan 28 11:59PM. All assignment reports (Microsoft Word or PDF file) and program source codes (Java executable file) will be submitted and graded through Brightspace.

2D. Lab

We will not have separate lab sessions, instead, the lab material will be covered during the lecture time. Please ensure to bring your computer to the classroom when we have the lab topic. We will be demonstrating some helpful tools and codes. You will have to complete a total of 2 lab assignments.

2E. Midterm

The midterm exam will be taken online through Brightspace and must be completed within the specified time.

2F. Project

We do not have a final exam, but we have an important team project. Each group of 2-3 students determines your software development project, such as an information management system, web development, etc. In the final stage, each group is required to submit a project report of at least 5 pages, along with source code and a presentation lasting between 15-20 minutes.

2G. Grading System

Letter grades are assigned based on the final percent using the interval values:

Grade	% Bound
A	93 - 100
A-	90 - 92.99
B+	87 - 89.99
B	83 - 86.99
B-	80 - 82.99
C+	77 - 79.99
C	73 - 76.99
C-	70 - 72.99
D	60 - 69.99
F	<60

3. Class Schedule

3A. Course Schedule

Week	Date	Topics	Readings	Start	Due
1	Jan 17	Introduction to Software Engineering	CH1		

2	Jan 22	Software process models/ Software Engineering Lifecycle (SDLCs)/	CH2-4		
	Jan 24				
3	Jan 29	Software Requirements Analysis	CH7-11		
	Jan 31			HW1	
4	Feb 5	UML	CH8		
	Feb 7	Project Iteration (1)			
5	Feb 12	UML	CH9		HW1
	Feb 14	Lab: Software development tools and environments, Version Control: Git	Handout	Lab1	
6	Feb 19	Presidents Day (no classes)			
	Feb 21	Object Oriented Analysis	CH12	HW2	Lab1
7	Feb 26	Object Oriented Design	CH12		
	Feb 28	Project Iteration (2)			
8	March 4	Lab: Web development I	Handout/CH17	Lab 2	HW2
	March 6	Midterm			
9	March 11	Spring Break (no classes)			
	March 13				
10	March 18	Software Architecture	CH13	HW3	
	March 20		CH14		
11	March 25	Project Iteration (3)			
	March 27	Lab: Web development II	Handout/CH25		HW3
12	Apr 1	Software Design Patterns	CH16		
	Apr 3				Lab2

13	Apr 8	Software Testing	CH19-22	HW4	
	Apr 10		CH23-24		
14	Apr 15	Software Management	CH31-32		
	Apr 17		CH33-36		HW4
15	Apr 22	Final project presentations			
	Apr 24	Final project presentations			

3B. Schedule of Assignments

- This course comprises 4 assignments and 2 lab assignments. The release and deadline for each assignment will be tailored to the course's progress and shall be subsequently provided here, along with an announcement posted on Brightspace.

4. Course-Specific Policies

4A. Handing in Assignments

All assignment reports (Microsoft Word or PDF file) and program source codes (Java executable file) will be submitted and graded through Brightspace.

4B. Late Assignments

Late assignments will be marked down 5% per day that they are late (except under special circumstances such as illness or other unanticipated impediments). Late assignments will also not be accepted after the last class lecture unless a prior arrangement has been made.

4C. Team project

For the project, I encouraged you to work in teams of two or three. You can work together face to face or remotely using Zoom and screen sharing. Your roles and division of labor should be indicated in the report. Although it is a team project, I hope that you can actively participate in it and achieve real gains. Many students feel they learn more effectively by working with a partner.

The best teams for learning are several students at similar levels. Do not make a team between someone with prior programming experience and someone with no experience. Teams should turn in only one report with both student names on it.

4D. Plagiarism

Plagiarism is turning in work that is not your own. Searching the internet for answers or using answers created by others is plagiarism and may result in failing the course as well as appropriate disciplinary action. It is your responsibility to not leave your work where others might copy it.

4E. Getting help

I want everyone to succeed. Do not put off getting help when you need it.

- Use the discussion board in Brightspace.
- Join student hours (or by appointment).
- Use the tutoring available through the Learning Commons which is available both on-campus and by Zoom. Learn more and schedule an appointment at: usm.maine.edu/learningcommons.

5. Academic Services & Policies

Below you'll find a brief list highlighting some of the most crucial student services and supports.

- **Request disability accommodations** | (207) 780-4706 | dsc-usm@maine.edu
- **Report Interpersonal violence** | (207) 780-5767 | usm.titleix@maine.edu
- **Report on-campus emergencies and safety concerns** | (207) 780-5211 or your local police agency.
- **Get academic help** | mycampus.maine.edu/group/usm/learning-commons
- **Get technology help** | usm.maine.edu/computing/helpdesk
- **Meet with an academic advisor** | usm.maine.edu/advising

For USM's most complete and current information on services available to students, as well as academic policies, use the QR Code to go to the [Student Services and Policies Hub webpage](https://mycampus.maine.edu/group/usm/student-services-and-policies-hub)².

² <https://mycampus.maine.edu/group/usm/student-services-and-policies-hub>

**Services &
Policies that
Support You**

