



CSC 360-02: Software Development with AI

TR, 2:00 - 3:15 PM, Science Rm 139

Fall 2026

Instructor Information

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Office Location: Science Rm 257

Office Hours: T, Th: 1 – 2:00 PM

W: 3 – 5 PM

Th: 3:30 – 4:30 PM; and by appointment

Office hours can be virtual (appointment required) or in person. It is not necessary to sign up for in-person office hours, but those who do will be given priority. [Click to sign up for office hours.](#)

Course Description

Generative AI and coding agents are transforming the work of software developers. In April 2026, Google's CEO reported that 75% of the company's new code is now AI-generated — up from just 25% in 2024. As AI takes on more of the actual writing of code, developers' responsibilities are shifting toward designing systems, reviewing AI-generated work for correctness and quality, and integrating that work into larger applications. Doing this well still requires a strong command of coding fundamentals: without them, a developer cannot judge whether AI-generated code is correct, well-designed, or safe to ship.

This course builds that foundation in Java — the language students already know — while deliberately practicing the review and integration skills the AI-driven workplace now demands. We begin with a review of core object-oriented design principles, then apply them by building graphical applications in JavaFX. Throughout, students work with AI coding tools: writing specifications and tests before delegating implementation to an AI agent, critiquing and debugging AI-generated code for design flaws and hidden bugs, and deciding when to accept, revise, or reject an AI's suggestions. Two skills are essential for this practice: test-driven development (TDD), which creates a verifiable target before any code is written, and git-based version control, which creates an audit trail of the human-AI workflow. By the end of the course, students will be able to design object-oriented Java applications, direct and critically evaluate AI coding agents, and use testing and version control as the guardrails that make AI collaboration effective and reliable.

Learning Outcomes

Upon completing this course, you will be able to:

- *Learning outcome 1 (SDF, Software Development Fundamentals)*: Develop, write, and read/explain Java programs that use fundamental programming constructs including basic I/O, conditional and iterative statements, functions/methods, structured data types, and user-defined classes.
- *Learning outcome 2 (UT/TDD, Unit Tests and Test-Driven Development)*: Develop Java code using a test-driven development approach (writing tests prior to implementation)
- *Learning outcome 3 (Git, Version Control)*: Use git for version control, including to manage and document a collaborative human-AI development workflow.
- *Learning outcome 4 (JavaFX)*: Apply object-oriented design principles to build a graphical Java application using JavaFX.
- *Learning outcome 5 (SD-AI, Software Development with AI)*: Direct and evaluate AI coding agents by writing specifications, delegating implementation, and critically reviewing AI-generated code for correctness, design quality, and hidden defects.



communication



creativity



critical thinking



ethical reasoning



quantitative literacy

Learning Resources

1. Course notes and class website: <https://gdancik.github.io>
2. Additional course material: <https://easternct.blackboard.com>
3. Piazza (<https://piazza.com>) will be used for online discussion, which can be accessed through Blackboard.

Assessments

The final course grade will be calculated using the following assessments:

Assessment	Points or Percentage
Quizzes	25%
Labs	25%
Exams	25%
Projects	25%

Quizzes: There will be approximately 8 in-class, closed note quizzes that accompany each unit. Quizzes are designed to assess your ability to read, understand, and explain code, without the use of AI or outside resources. **Quizzes will start promptly at the beginning of class, and you must be in class on time to take the quiz.** The lowest quiz grade will be dropped.

Labs: There will be approximately 8 in-class labs that accompany each unit. Labs are designed to give you hands-on experience with class concepts and most will involve using Visual Studio Code and AI to write, edit, and run code.

Exams: There will be two in-class, closed note exams, designed to ensure that you understand class concepts without relying on AI or other resources.

Projects: There will be two software development projects that will give you the opportunity to demonstrate class concepts through the development of Java (Project #1) and JavaFX (Project #2) Applications.

Students will be assigned the following final letter grades, based on the calculations coming from the course assessment section.

Grade	Percentage Interval
A	94-100%
A-	90-93%
B+	87-89%
B	83-86%
B-	80-82%
C+	77-79%
C	73-76%
C-	70-72%
D+	67-69%
D	60-66%
F	<60%

Grading and Course Policies

Lab Policy

All labs must be completed in class unless stated otherwise. Each individual needs to complete their own lab, but you can ask for help (from the instructor or fellow students) if needed.

Online Discussion

We will use Piazza as an online discussion and question and answer forum in this course. Piazza can be accessed through Blackboard. Piazza allows for students to post and answer questions, anonymously if desired. The class benefits by seeing questions asked by other students (who often have the same questions as you) and by contributing answers. As the instructor, I will answer questions and can endorse correct student answers as well. For these reasons, all non-personal (e.g., not grade-related) questions should be posted to Piazza rather than e-mailed to me. Questions regarding course content, logistics or due dates, or homework assignments should be posted to Piazza. Questions regarding homework must be specific and may contain no more than several lines of code. Note that posts not meeting these criteria will be deleted and the poster penalized if warranted.

Exam Policy

Make-up exams will only be given if you have an official excuse for missing class. If you know ahead of time that you will miss an exam, please talk to me before the exam to make arrangements for taking it. Missing two or more exams without official excuses will result in your dismissal from the course with a grade of F.

Academic Integrity and Use of AI

You are encouraged to discuss projects and exercises with one another unless specified otherwise. However, copying answers from another student (unless otherwise specified) is cheating and this will not be tolerated. You will be expected to use AI on many coding assignments. The use of AI should be documented when you commit your changes to Github (we will discuss this later in the semester). You are also strongly encouraged to use AI to explain and help you understand code. However, your understanding of the material without the use of AI will be evaluated on quizzes and exams.

Classroom Civility

In general, follow the Golden Rule and treat others with respect and the way you want to be treated. Students are expected to behave in a manner that promotes learning. Students who disrupt class will be referred to the Office of Student Conduct for disciplinary review. If the classroom climate is not amenable to learning the class will adjourn.

Course and University Policies and Resources

Accommodations for Students with Disabilities

Eastern Connecticut State University is committed to following the requirements of the Americans with Disabilities Act (ADA) of 1990, the ADA Amendment Act of 2008, and Section 504 of the Rehabilitation Act of 1973, as amended in 1998. If you are a student with a disability (or think you might have a disability) and require accommodations or assistance evacuating a building in the case of an emergency, please contact the Office of AccessAbility Services (OAS) at 860-465-0189 to discuss your request further. Please note that accommodations are not retroactive and must be communicated through a Letter of Accommodation, which is drafted by the OAS. Please visit the [Office of AccessAbility website](#) for more information on how to register with our office. (Current as of June 2026)

Counseling and Psychological Services (CAPS)

Mental Health and Wellness: Eastern Connecticut State University faculty and staff recognize that mental health concerns can impact academic performance and interfere with daily life activities. Please notify your faculty member or academic advisor for academic assistance, as needed. Counseling and Psychological Services (CAPS) can also provide support if you're feeling stressed, overwhelmed, anxious, depressed, lost or are struggling with other personal issues.

Please call or visit the [Counseling and Psychological Services \(CAPS\) website](#) for more information. These professional services are free, confidential, and support non- traditional, graduate, and undergraduate students. Call 860-465-0181 to schedule an appointment. Same day urgent hours are Monday through Friday, 1-3 pm.

Outside of CAPS office hours (M-F, 8:30-4:30), students may access after-hours phone support by calling 860-465-0181 to speak with an on-call crisis counselor.

Students in crisis and/or experiencing suicidal thoughts: For free 24/7 crisis support in the US, call:

- Suicide & Crisis Lifeline at 9-8-8
- Suicide Prevention Lifeline at 1-800-273-8255
- Text HOME to the Crisis Text Line at 741 741
- Trevor Project 1-866-488-7386 for LGBTQ youth
- 211 (mental health emergency)

(Current as of July 2025)

Tentative Course Schedule

Date	Day	Unit and Theme/Topic	Learning Outcomes Addressed	Assignments
08/25/2026	Tuesday	Intro to Software Development with AI	SD-AI	
08/27/2026	Thursday	Review of Java Fundamentals	SDF	
09/01/2026	Tuesday	Lab: Intro to VS Code with AI and Java Review	SDF, SD-AI	
09/03/2026	Thursday	Review of Methods, Objects and Classes	SDF	Quiz 1
09/08/2026	Tuesday	Lab: UML, Classes, and Objects	SDF, SD-AI	
09/10/2026	Thursday	Exceptions, Inheritance and Abstract Classes	SDF	Quiz 2
09/15/2026	Tuesday	Lab: Exceptions, Inheritance and Abstract Classes	SDF, SD-AI	
09/17/2026	Thursday	Lab: Javadoc	SDF	Quiz 3
09/22/2026	Tuesday	Review and Java Application Example	SDF, SD-AI	
09/24/2026	Thursday	Github	Github	
09/29/2026	Tuesday	Lab: Github	Github	
10/01/2026	Thursday	Introduce Project #1	SDF, SD-AI, Github	Quiz 4
10/06/2026	Tuesday	Review / Work on Project	SDF, SD-AI, Github	
10/08/2026	Thursday	Exam #1	SDF, SD-AI, Github	Project #1 Due
10/13/2026	Tuesday	Unit Testing	UT/TDD	
10/15/2026	Thursday	Lab: Unit Testing	UT/TDD, Github	

10/20/2026	Tuesday	Refactoring and Test-Driven Development	SDF, UT/TDD	Quiz 5
10/22/2026	Thursday	Lab: Refactoring and Test-Driven Development	SDF, UT/TDD, Github	
10/27/2026	Tuesday	Intro to JavaFX and JavaFX Forms	JavaFX	Quiz 6
10/29/2026	Thursday	Lab: JavaFX with Forms	JavaFX, SD-AI, Github	
11/03/2026	Tuesday	JavaFX Graphics	JavaFX, SD-AI	Quiz 7
11/05/2026	Thursday	Lab: JavaFX Graphics	JavaFX, SD-AI, Github	
11/10/2026	Tuesday	Final Project Overview	SDF, SD-AI, UT/TDD, Github, JavaFX	Quiz 8
11/12/2026	Thursday	Exam #2	SDF	
11/17/2026	Tuesday	Final Project Proposal Presentations	SDF	
11/19/2026	Thursday	Final Project Proposal Presentations	SDF	
11/24/2026	Tuesday	Final Project Proposal Presentations	SDF	
11/26/2026	Thursday	Thanksgiving -- no class		
12/01/2026	Tuesday	Review / WrapUp	SDF, SD-AI, UT/TDD, Github, JavaFX	
12/03/2026	Thursday	Final Presentations	SDF, SD-AI, UT/TDD	
12/08/2026	Final Exam Period	Final Presentations	SDF, SD-AI, UT/TDD	Final Project Due