



蘇州大學
Soochow University

CS 202 Software Development Fundamentals

Fall 2023

Course Credits: 4

Contact Hours: 56 hours

Instructor: TBA

Email: TBA

COURSE OBJECTIVES

This course covers fundamental skills in computer programming and an understanding of general software development, web, desktop, and database applications. Topics covered include: basic computer programming; object-oriented programming: inheritance, abstract classes, interfaces, and polymorphism; software development lifecycle including the processes and practices for designing, implementing, and testing high quality software. By the end of the course, students will have acquired a solid foundation in software development fundamentals, enabling them to design, develop, and debug small-scale software applications.

Upon completion of this course, students will be able to:

1. Build their skills and understanding of software development;
2. Understand software development lifecycle including the processes and practices for designing, implementing, and testing software.
3. Explain and utilize basic design modeling techniques and simple design patterns, knowing when and how to apply them appropriately;
4. Differentiate and compare various types of software testing methods, understand their appropriate usage, and create and implement test code;
5. Gain practical experience in working with real-world software development settings and workflows, fostering an understanding of professional software development practices and collaboration.

PREREQUISITES

CS 120 Introduction to Computer Science I



GRADING

Grades will be determined by accumulating points, with 100 points being the maximum, as follows:

ITEM	POINTS
Midterm 1	15 Points
Midterm 2	15 Points
4 Lab Assignments	40 Points
Final Project	30 Points
Total	100 Points

Late submissions will be graded at the end of the course. Grades will be assigned according to the following rule:

$A \geq 90 > B \geq 80 > C \geq 70 > D \geq 60 > F$.

We reserve the right to make adjustments to the overall grading policy.

COURSE MATERIALS

Required Texts:

98-361: MTA Software Development Fundamentals, John Wiley & Sons, 2011.

Recommended (Optional) Texts or Other Materials:

None

COURSE TOPICS

MODULE	TASKS
Module 1	Topics: Topic 1: Introduction and Course Overview Topic 2: Introducing Algorithms Topic 3: Decision Structures, Repetition Structures Topic 4: Exception Handling Lab Assignment#1



Module 2	Topics: Topic 5: Introduction to Object-Oriented Programming Topic 6: Classes and Objects Topic 7: Inheritance and Polymorphism Topic 8: Encapsulation and Abstraction Lab Assignment#2 Assessments: Midterm#1
Module 3	Topics: Topic 9: General Software Development Topic 10: Application Lifecycle, Testing Topic 11: Data Structures Topic 12: Sorting Algorithms Lab Assignment#3 Assessments: Midterm#2
Module 4	Topics: Topic 13: Web Page Development Topic 14: ASP.NET Application Topic 15: IIS Web Hosting Topic 16: Web Services Development Lab Assignment#4 Final Project
Module 5	Topics: Topic 17: Understanding Desktop Applications Topic 18: Windows Forms Applications Topic 19: Console-Based Applications Topic 20: Windows Services Final Project
Module 6	Topics: Topic 21: Understanding Databases Topic 22: Relational Database Concepts Topic 23: Database Query Methods Topic 24: Database Connection Final Project due

ATTENDANCE

1) Class attendance is required. Missing classes without permission will lead to decrease in overall grade.



Missing less than two classes: no penalty.

Missing more than two classes: 7% will be taken off from the overall grade.

If the instructor reports a student's frequent missing of class to the Soochow University Academic Administration Office, the student might get a written warning and might be prohibited from attending final exam.

2) Participants in this course are expected to arrive in class promptly and adequately prepared. The primary objective of this course is to critically engage with the readings and the subject matter. Therefore, course participants are expected to have completed the reading prior to class and prepare thoughtful reflections/commentaries to share with fellow colleagues.

LEARNING REQUIREMENTS

- 1) Late assignments are not acceptable and are subjected to grade deductions.
- 2) Assignments submitted in the wrong format will be counted as not submitted.
- 3) Failure to submit or fulfill any required course component results in failure of the class.
- 4) Make-up for midterm and final exams only with valid excuses, as defined by the University.
- 5) In order to earn a Certificate of Completion, participants must thoughtfully complete all assignments by stated deadlines and earn an average quiz score of 50% or greater.

TECHNOLOGY POLICY

The use of electronic devices in class is distracting, both for the user and for the rest of the class. Only non-programmable calculators can be used in the tests and exam. Any attempts to use cell phones and other electronic communication devices will be seemed as cheating. Laptops are discouraged, unless you use them for activities DIRECTLY related to the course (e.g., note taking, reading course documents).

ACADEMIC INTEGRITY POLICY

Soochow University highly values the academic integrity and aims to promote the academic fairness, honesty and responsibility. Any academic dishonesty behaviors



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and any attempts to cheats and plagiarism will be reported to the university administration office. A written warning and the relevant penalties will be imposed. The record might be shown on the official university transcript.

DISABILITY ACCOMMODATION

Soochow University is committed to maintaining a barrier-free environment so that students with disabilities can fully access programs, courses, services, and activities at Soochow University. Students with disabilities who require accommodations for access to and/or participation in this course are welcome.

Note:

Please contact the University Administrative Office immediately if you have a learning disability, a medical issue, or any other type of problem that prevents professors from seeing you have learned the course material.