



SWE200

Design Patterns

Section 01: M, 11a - 12:50a @ MCT158, or online

Section 01: W, 11a - 12:50a @ Meeting ID 967 4224 6960

Section 02: M, 3p - 4:50p @ MCT158, or online

Section 02: W, 3p - 4:50p @ Meeting ID 951 4582 1697

Dr. Chen Huo

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Office Location: Zoom Meeting ID: 972 4088 9149

Office Hours: T 3-5, W 9p-10p, Th 1-3

Google Calendar (use engr/cs GMail accounts) Link



The content of this schedule may change during the semester.

Course Description: Provides an advanced study of the concepts of object-oriented programming, with an emphasis on applying those concepts to software development. Many object design patterns have emerged as proven ways to structure object-oriented solutions to a wide range of key problems. This course provides hands-on experience with using object design patterns to solve a number of problems that recur in computer science. Students will develop a number of medium to large programs individually.

Prerequisite(s): C or better in CSC111 or ENGR120.

Credit Hours: 4

Text(s):

1. *Head First Design Patterns*, 1st Edition, ISBN-10: 0596007124, Required
2. *A Little Java, A Little Patterns*, 1st Edition, ISBN-10: 0262561158, Optional

Websites and Tools:

1. D2L: Course videos, quizzes, grades
2. Zoom: Online lecture, office hours
3. Repl: Exercises, playground
4. Piazza: Discussions
5. GradeScope: Grading pdfs, Entry Code: 9DBNN8

Grade Distribution:

Quizzes	20%
Labs	35%
Exam1	15%
Exam2	15%
Final Exam	15%
Extra Credits	0 – 5%

Letter Grade Distribution:

≥ 93.00	A	70.00 - 76.99	C
90.00 - 92.99	A-	60.00 - 69.99	D
87.00 - 89.99	B+	≤ 59.99	F
83.00 - 86.99	B		
80.00 - 82.99	B-		
77.00 - 79.99	C+		

Course Policies:

• General

- Slides will be released as notes on D2L after lectures.
- You are expected to take notes. Some contents in the slides and written on the board are not from the textbook.
- We will use Piazza for discussion. You cannot post any *code* related to homework or labs as public posts.
- Quizzes are generally closed book, closed notes.
- Most materials of the course will be managed on D2L.

• Grades

- Grades in the **C** range represent performance that **meets expectations**; Grades in the **B** range represent performance that is **substantially better** than the expectations; Grades in the **A** range represent work that is **excellent**.
- Grades will be maintained on D2L. Students are responsible for tracking their progress by referring to the online gradebook.
- You can dispute your grade for a certain item within **1** week after the grade is released. For example, you cannot dispute your grade of the first homework at the end of the semester.

• Attendance and Absences

- Attendance is expected. Attendance will not be taken explicitly but in the form of quizzes.
- Students must provide valid reasons for excused absences. Students must present copies of orders in the case of military training/operations.
- Students are responsible for all missed work, regardless of the reason for absence. It is also the absentee's responsibility to get all missing notes or materials.

- **Teamwork**

- Detailed instructions will be provided in the first team lab.

Title IX

Shippensburg University and its faculty are committed to assuring a safe and productive educational environment for all students. In order to meet this commitment and to comply with Title IX of the Education Amendments of 1972 and guidance from the Office for Civil Rights, the University requires faculty members to report incidents of sexual violence shared by students to the University's Title IX Coordinator.

The only exceptions to faculty member's reporting obligations are when incidents of sexual violence are communicated by students during classroom discussions, in writing assignments for class, or as part of University-approved research projects.

Faculty members are obligated to report allegations of sexual violence or any other abuse of a student who was, or is, a child (a person under 18 years of age) when the abuse allegedly occurred. Such reporting must be made to the Shippensburg University Police (717) 477-1444, the Department of Human Services (DHS) at 800-932-0313, and the University's Office of the Vice President of Enrollment Management, Student Affairs and Student Success (717) 477-1235.

Information regarding the reporting of sexual violence and the resources that are available to victims of sexual violence is set forth at the following link.

Academic Honesty Policy Summary:

Those students found violating Shippensburg's academic dishonesty policy ¹ will be dealt with on a case by case basis. Minimal punishment should it be a first offense is a zero for the assignment and signing a form admitting to the offense ². Second offenses are handled directly by the office for the Dean of Students. See additional information about academic Dishonesty within the Computer Science Department³.

¹<http://www.ship.edu/catalog/HTML/ugrad09-11/986.htm>

²<http://www.ship.edu/espfor/faculty/dishonesty.pdf>

³https://web.cs.ship.edu/media/2012_AcademicDishonestyPolicy.pdf

Tentative Course Outline:

The weekly coverage might change as it depends on the progress of the class. The students will be advised when to read the corresponding material.

Week	In Class	Reading Assignment
Week 1	Background Lab 0	Textbook intro
Week 2	Labor's Day: no class Lab 1	
Week 3	Strategy Pattern Lab 2	Ch1
Week 4	Observer Pattern Lab 3	Ch2
Week 5	Decorator Pattern Version Control; Team Contract	Ch3 Team Evaluation Form
Week 6	Lab 4 Exam 1 Review	
Week 7	Exam 1 (through Decorator) Singleton Pattern	Ch5
Week 8	Factory Pattern Lab 5	Ch4
Week 9	Command Pattern Lab 6	Ch6
Week 10	Iterator and Composite Pattern Exam 2 (Factory, Singleton, Command, Iterator, Composite)	Ch9
Week 11	Visitor pattern TBD	<i>Head First</i> Page 634 Optional: <i>A Little Java</i>
Week 12	State Pattern Lab 7	Ch10
Week 13	Template Pattern Thanksgiving break	Ch8
Week 14	Adapter Pattern Review	Ch7
Final	Final Exam (contents after Exam 2)	