SE350 Object-Oriented Software Development Syllabus

Stefan Mitsch

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OVERVIEW

This course studies the principles, techniques, and tools of object-oriented modeling, design, and implementation. It solidifies real-world aspects of object orientation by putting concepts into practice. Covered topics include principles of object-oriented programming languages and design, UML basics, quality metrics and refactoring of object-oriented design, design patterns and anti-patterns, and testing methodologies.

The course follows the schedule below in Table 1, and is also listed on the web page with links to resources and assignments here: https://facweb.cdm.depaul.edu/smitsch/courses/se350/schedule.html

INSTRUCTOR INFORMATION

- **Instructor** Stefan Mitsch

- **Loop Office** CDM 840, CDM Building, 243 S Wabash Avenue

- **Email** smitsch@depaul.edu

- **Tel** +1-312-362-5938

- **Instructor's Homepage**
  https://facweb.cdm.depaul.edu/smitsch

- **Course's Homepage**
  https://facweb.cdm.depaul.edu/smitsch/courses/se350/
  (for lectures slides, assignments, additional reading, examples, learning outcomes)

- **LMS Homepage**
  https://d2l.depaul.edu

(for grades, homework submission, video recordings, discussion, and announcements)

- **Office Hours**: MON 10:00–11:30AM (please schedule an appointment by email)

PREREQUISITES

If you are not sure that you have satisfied the prerequisites, speak to the instructor before the second lecture.

PREREQUISITE COURSES

- **Data Structures II** (CSC301)

PREREQUISITE SKILLS

- You *must* have programmed with Java before this course.

- Experience with one of the following Integrated Development Environments (IDE) is helpful:

    - VSCode
    - IntelliJ Idea
    - Eclipse
    - Apache NetBeans

TEXTBOOKS

There are no textbooks required. Optional and useful textbooks are listed below:

- E. Gamma, R. Helm, R. Johnson, J. Vlissides: Design Patterns - Elements of Reusable Object-Oriented Software.

- E. Freeman, B. Bates, K. Sierra, E. Robson: Head First Design Patterns.

- M. Fowler: UML Distilled - A Brief Guide to the Standard Object Modeling Language.

- K. Sierra, B. Bates: Head First Java.

Table 1: Course Schedule; reading and assignments are linked at Course Website

Week	Date	Topic	Assignment submit on D2L
1	MON JAN 8 WED JAN 10	Overview Environment Setup Programming Paradigms OOP Basics	-
2	MON JAN 15 WED JAN 17	No class (Martin Luther King Day) OOP Basics Java Coding Conventions	Assgnmt. 1 due FRI JAN 26
3	MON JAN 22 WED JAN 24	OOP Principles	Assgnmt. 2 due FRI FEB 2
4	MON JAN 29 WED JAN 31	Software Design UML Basics	-
5	MON FEB 5 WED FEB 7	Exam Review **Midterm Exam**	-
6	MON FEB 12 WED FEB 14	SOLID Principles	-
7	MON FEB 19 WED FEB 21	Design Patterns	Assgnmt. 3 due FRI MAR 1
8	MON FEB 26 WED FEB 28	Design Patterns	-
9	MON MAR 4 WED MAR 6	Design Patterns	Assgnmt. 4 due FRI MAR 15
10	MON MAR 11 WED MAR 13	Antipatterns Refactoring	-
11	WED MAR 20	**Final Exam (11:30am–1:45pm)**	

The course grade will be based on:

Item	Weight
Homework assignments (4 total)	50%
Midterm Exam	25%
Final Exam	25%

The grade boundaries used for the class are:

Letter Grade	Percentage $\geq$
F	0%
D	60%
D+	68%
C-	70%
C	72%
C+	78%
B-	80%
B	82%
B+	88%
A-	90%
A	92%

- Homework assignments must compile. Homework submissions with source code that does not compile with the build/test system will receive 0 points.

- The exams are multiple choice.

- The final exam is comprehensive, i.e., requires knowledge of the material covered in the entire course.

- To provide the same testing environment for in-class and Online Learning students, the instructor will not answer questions during the exams.

Policies I

Changes to Syllabus

This syllabus is subject to change as necessary during the quarter. If a change occurs, it will be thoroughly addressed during class or posted under Announcements in D2L.

Attendance

1. Students are expected to attend class or watch the online recording within 48 hours of the live class.

2. The midterm exam and final exam dates are posted on the schedule on the course homepage. You must attend the midterm and final exams. A medical note, submitted to the Dean of Students Office (see Policies II below), will be required for an absence. Business trips or vacations are not valid reasons for missing the exam. Please register for the exam as soon as possible.

3. **Lecture slides are a supplement to lectures only.** The slides are not intended to be read in lieu of listening to the lecture.

Homework Assignments

1. Students must keep backup copies of all submitted homework.

2. Homework assignments will be distributed via the course website and submitted via D2L.

3. Students must only submit source code.

4. Submitted source code must compile correctly with the build/test system. Homework submissions with source code that does not compile with the build/test system will receive 0 points.

5. Students must verify that homework has been submitted correctly. NOTE: the D2L interface requires confirmation of the homework submission after the file has been uploaded.

6. Homework submissions are due midnight on Fridays. See D2L for details. **Late submissions will not be accepted.**

7. Homework submissions must be submitted online via D2L. **Email submissions will not be accepted.**

8. Submitted work must be worked on individually. You must not use or look at anyone else's solution, and you must clearly acknowledge any code that you obtain from other sources (such as books, magazines, the Internet, or AI-supported coding copilots). If you are in any doubt, contact the instructor well before the submission date for advice. You may use as much code as you like (without acknowledgement) from the examples discussed in class. **Plagiarism will result in penalties up to and including failing the course.**

Expectations

1. Java, UML, and several tools will be used. Students are expected to learn these languages and tools without the level of guidance that would be available for 100 and 200 level classes.

2. The course requires that students actively engage the material on your own. Students should not only read the notes and example programs, but also do self-tests, modify code, and run it. As always, figure out what you can definitely code, code it, try it, and then consider extending the boundaries.

3. Students are strongly encouraged to ask questions and offer comments relevant to the day's topic.

4. All electronic interactions are an extension of the classroom and should be treated as such. While disagreement can be part of the discourse, online communication should remain respectful and appropriate rather than demeaning and/or unprofessional.

5. Classroom use of a laptop or tablet must normally be restricted to class-related tasks such as note taking, checking references, testing code examples, etc.

Policies II

Retro-Active Withdrawal

CDM understands certain extenuating circumstances can hinder one's ability for academic success and completion of course work. Please see https://www.cdm.depaul.edu/Current%20Students/Pages/Enrollment-Policies.aspx for additional information.

Absence Notifications

In order to petition for an excused absence, students who miss class due to illness or significant personal circumstances should complete the Absence Notification process through the Dean of Students office. The form can be accessed at https://studentaffairs.depaul.edu/dos/academicprocesses.html. Students must submit supporting documentation alongside the form. The professor reserves the sole right whether to offer an excused absence and/or academic accommodations for an excused absence.

Academic Integrity and Plagiarism

All students are expected to abide by the University's Academic Integrity Policy which prohibits cheating and other misconduct in student coursework. Publicly sharing or posting online any prior or current materials from this course (including exam questions or answers), is considered to be providing unauthorized assistance prohibited by the policy. Both students who share/post and students who access or use such materials are considered to be cheating under the Policy and will be subject to sanctions for violations of Academic Integrity.

More information can be found at https://academicintegrity.depaul.edu/. If you have any questions be sure to consult with your professor.

Academic Policies

All students are required to manage their class schedules each term in accordance with the deadlines for enrolling and withdrawing as indicated in the University Academic Calendar. Information on enrollment, withdrawal, grading and incompletes can be found at: https://cdm.depaul.edu/enrollment

Incomplete Grades

An incomplete grade is defined in the Student Handbook as follows (note that the policy in the undergraduate student handbook applies to both undergraduate and graduate students): A temporary grade indicating that the student has a satisfactory record in work completed, but for unusual or unforeseeable circumstances not encountered by other students in the class and acceptable to the instructor is prevented from completing the course requirements by the end of the term. Please see https://www.cdm.depaul.edu/Current%20Students/Pages/Grading-Policies.aspx for additional information.

Students with Disabilities

Students seeking disability-related accommodations are required to register with DePaul's Center for Students with Disabilities (CSD) enabling you to access accommodations and support services to assist your success. The CSD loop campus location can be reached at:

- Lewis Center 1420, 25 East Jackson Blvd.

- Phone number: 312 362 8002

- Fax: 312 362 6544

- TTY: 773 325 7296

Students can also email the office at csd@depaul.edu Students who are registered with the Center for Students with Disabilities are also invited to contact me privately to discuss how I may assist in facilitating the accommodations you will use in this course. This is best done early in the term (preferably within the first week of class). Our conversation will remain confidential to the extent possible.

University Counseling & Psychological Services

University Counseling & Psychological Services (UCAPS) helps remove barriers to learning and support academic success by providing free, goal-focused, collaborative, short-term, confidential, individual, and group counseling services for DePaul's students. UCAPS has a diverse multi-disciplinary staff that includes licensed mental health professionals in psychology, counseling, and social work. Students[1] can talk to a therapist or schedule a brief screening and consultation appointment in the following ways:

- To speak directly to a therapist 24 hours a day, 7 days a week, students should call 773-325-CARE (2273) and Press "1" when prompted.

- To schedule a brief screening and consultation (BSC) appointment, students should call 773-325-CARE (2273) during regular business hours and Press "2" when prompted.

- Students can visit go.depaul.edu/ucaps and click the 'Schedule a Consultation' button to use online scheduling for a Brief Screening & Consultation (BSC) appointment. Online scheduling is available Monday through Friday from 8:00 am to 4:30 pm. All BSCs scheduled online are for phone appointments. To schedule an in-person or telehealth BSC, please call 773-325-CARE (2273) and Press "2" when prompted.

Dean of Students' Office

The Dean of Students' Office (DOS) helps students navigate the college experience, particularly during difficulty situations such as personal, financial, medical, and/or family crises. For a list of support services and advocacy information, please visit https://studentaffairs.depaul.edu/dos/.

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[1]Services are provided based on student eligibility. For full eligibility details please visit go.depaul.edu/ucaps.

Online Course Evaluations

Evaluations are a way for students to provide valuable feedback regarding their instructor and the course. Detailed feedback will enable the instructor to continuously tailor teaching methods and course content to meet the learning goals of the course and the academic needs of the students. The evaluations are anonymous; the instructor and administration do not track who entered what responses. A program is used to check if the student completed the evaluations, but the evaluation is completely separate from the student's identity. Since 100% participation is our goal, students are sent periodic reminders over three weeks. Students do not receive reminders once they complete the evaluation. Students complete the evaluation online in CampusConnect.