

## Contact Information

**Instructor:** Jeffrey Sharpe  
**Email:** [Jsharpe1@depaul.edu](mailto:Jsharpe1@depaul.edu)  
**Address:** School of Computing, DePaul University  
243 South Wabash Avenue  
Chicago, IL 60604-2301  
**Office:** Zoom  
**Office Hours:** Tuesdays 5:00 PM – 5:45 PM  
9:00 PM – 9:45 PM (or the 45 minutes after lecture)  
**Class Hours:** Online – Tuesdays at 5:45 PM – 9:00 PM (synchronous), any time afterwards (async section)

## Communication Policy

Submit all questions regarding class, homework, lectures, information from lectures, etc. to D2L. I cannot be online 24/7 to answer questions. Posting in D2L allows others who may be online to answer questions more immediately. In addition, some people might have the same questions. If someone has the same question and finds the answer on D2L, they will have an immediate answer. If you email me a question that should be posted to D2L, I will ask you to post there to get a response.

Submit all PERSONAL questions/comments to my email above.

I will do my best to respond to all emails/D2L posts within 24 hours, but I'm not always able.

## Overview

We will study object-oriented design and implementation. Among the topics of the course are:

- Principles of object-oriented programming languages.

- Principles of object-oriented design.
- UML class, object, and sequence diagrams.
- Design Patterns.
- Source control.
- Testing methodologies.

Java and UML will be used for source code examples, the project, and the exams.

This syllabus is subject – and likely – to change.

Course Management System: D2L

## Objectives

By the end of this course you should:

- Have a deeper understanding of OO concepts and how to use them
- Have greatly improved design instincts
- Write better code
- Be proficient with:
  - Incremental/iterative development and refactoring
  - Design patterns
  - UML class diagrams
  - git
  - Testing

## Lecture Plan

The following lecture plan is tentative and subject to change as the course progresses.

- **Class 1:** [2021/03/30] Intro, Basics
- **Class 2:** [2021/04/06] SOLID Principles, Project Intro
  - [2021/04/09] Drop Deadline
- **Class 3:** [2021/04/13] Objects as Functions and Creational Patterns
- **Class 4\*:** [2021/04/20] Objects as Functions and Creational Patterns ctd.
- **Class 5:** [2021/04/27] Observer, Midterm Review
- **Class 6\*:** [2021/05/04] Midterm exam (Take-home exam)
- **Class 7:** [2021/05/11] Null Objects, Proxies

- [2021/05/14] Withdrawal Deadline
- **Class 8\***: [2021/05/18] Architectural Patterns, Structural Patterns
- **Class 9**: [2021/05/25] Subclassing and Template Method
- **Class 10\***: [2021/06/01] Guest Lecture (if available)/Wrap up
- **Class 11\***: [2021/06/08] Final Project Report due

Lectures will be take place Tuesday evenings via Zoom. Office Hours will be on Tuesdays before and after the lecture: 5pm-5:45pm **by appointment only**, and 9:00-9:45 on a first come, first serve basis. Please note if the lecture wraps early, I will start and, consequentially, end Office Hours early. Quizzes will be due by the following Tuesday evening at 5:30 as I will go over the answers in the lecture. Project check-ins will be due every two weeks on Tuesdays. The Final Project Report is due on Tuesday, 6/08 at 5:30 PM.

Office Hours will be on Zoom. You can schedule an appointment during the appointment only hours (5:00 - 5:45) through BlueStar, which you can access via CampusConnect.

## Prerequisites

You *must* have the following:

- CSC403 (Data Structures II) or equivalent courses on data structures (linked lists, stacks and queues, trees, graphs priority queues, hash tables).  
You should have written some *code* in this class. You should be happy *implementing* simple linked lists, stacks, queues, and trees. You should be happy *using* all of the above, plus priority queues and hash tables.
- Some experience programming in Java or another C-like language.  
**This course is *not* an introduction to Java.**

If you do not have CSC403, *drop now*.

Useful, but optional:

- CSC 447 Programming Languages (machine models and basic language principles)
- SE 430 Object-Oriented Modeling (OO analysis and the UML)
- SE 433 Unit Testing

- CSC 406/407 or 373/374 Systems (language implementation/multi-threading)

## Textbooks

### Java Resources

[Java2SE API](#)  
(Online)

[Java Tutorial](#)  
(Online)

### Books

[Head First Design Patterns](#) [[Amazon](#), [AddAll](#)]  
by Eric Freeman, Elisabeth Freeman, Kathy Sierra, Bert Bates (O'Reilly, 1995)  
ADD intro to DP.  
Online companion to the book: <http://www.oreilly.com/catalog/hfdesignpat/>

[Design Patterns Explained: A New Perspective on Object-Oriented Design \(2e\)](#) [[Amazon](#), [AddAll](#)]  
by Alan Shalloway, James R. Trott (Addison-Wesley, 2004)  
[Online companion to the book.](#) [Design Patterns Matrix.](#) [Pearson site.](#)

[Design Patterns](#) [[Amazon](#), [AddAll](#)]  
by Erich Gamma, Richard Helm, Ralph Johnson, John Vlissides (Addison-Wesley, 1995)  
Online companion to the book: <http://hillside.net/elements-of-reusable-object-oriented-software-book>

None of these books are required. Your book will be used as a reference for this class and beyond. If you want to use an alternate resource as a reference, you are welcome to do so.

Most students prefer *Head First Design Patterns*, but some prefer *Design Patterns Explained*. The original *Design Patterns* is a classic, but out of date; it is a decent reference, but a poor book to learn from for a beginner.

## Expectations

The course will be conducted using Java and some of its many APIs.

I expect you to be able to work your way through the APIs without guidance from me.

As grad students, I expect you all to be professional. I expect assignments turned in on time, without excuses.

I expect you to **ask questions** if there is anything that is unclear. YOU are responsible for your grade. I am responsible for delivering the lectures and making sure I answer questions/provide clarifications if you need it.

The course requires that you actively engage the material on your own. You should not only read the example code given in class, but also modify and run it. I will upload all non-trivial code samples to D2L.

**Spend at least a few hours a week playing with the examples given in class, or your own Java code.**

## Attendance

**You** are responsible for understanding the material presented in class. If you don't understand something, ask questions or show up to office hours!

You are responsible for any announcements made on the class mailing list or in the News section of D2L.

- The midterm will be due by 2021/05/06. This is an online exam There will not be a lecture this week – use the time you would normally watch the lecture to take the exam.
- The last project check-in will be due 2021/06/01.
- The final project report will be due 2021/06/08 at 5:00 PM.
- There is no Final Exam for this course.

A medical note will be required for missing any deadlines. Business trips or vacations are not valid reasons for missing deadlines.

**Block out these dates now!**

Class materials and recorded lectures are available online.

Read the policies for online learning here:

## Assessment

There will be a take-home midterm exam, a quarter-long project with a report due at the end of the quarter, and weekly online quizzes. The quarter-long project will be done in four parts with check-ins on Weeks 4, 6, 8, and 10. The course grade will be computed as follows:

- Quizzes: 20%
- Project check-ins: 20%
- Project: 40% (includes report)
- Midterm Exam: 20%

Numerical grades correspond to letter grades roughly as follows:

93-100 = A  
90-92 = A-  
88-89 = B+  
83-87 = B  
80-82 = B-  
etc...

**Project check-ins will be graded pass/fail.** You will get 5/5 points if you turn it in and all required implementations are working or have a good faith effort. You will get 0/5 if you don't turn it in **or requirements are only partially completed.** There are no late check-ins accepted.

There will be no make-up exams or extra credit assignments. If you are active on the discussion forum and your grade is within 1% of a higher grade, I will bump it up. If there is an extreme emergency and you must miss a deadline, you must notify me in advance and provide documented evidence of the emergency.

All assignments must be submitted through the online system. *Email submissions will not be accepted.*

Program submissions will be assessed on whether they achieve the set task *and* the quality of the code. **If the code does not compile, it will receive a 0.**

[DePaul's academic integrity resources](#)

## Course Policies

### Changes to Syllabus

This syllabus is subject to change as necessary during the quarter.

### 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. They are a requirement of the course and are key to continue to provide you with the highest quality of teaching. 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](#).

### Academic Integrity and Plagiarism

This course will be subject to the university's academic integrity policy. More information can be found at <http://academicintegrity.depaul.edu/>. If you have any questions be sure to consult with your professor. Not knowing if you are committing plagiarism is not an excuse.

### 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:

<http://www.cdm.depaul.edu/Current%20Students/Pages/PoliciesandProcedures.aspx>

### Students with Disabilities

Students who feel they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential.

To ensure that you receive the most appropriate accommodation based on

your needs, contact the instructor as early as possible in the quarter (preferably within the first week of class), and make sure that you have contacted the Center for Students with Disabilities (CSD) at: [csd@depaul.edu](mailto:csd@depaul.edu).

Lewis Center 1420, 25 East Jackson Blvd.

Phone number: (312)362-8002

Fax: (312)362-6544

TTY: (773)325.7296

### **Attitude**

A professional and academic attitude is expected throughout this course. Measurable examples of non-academic or unprofessional attitude include but are not limited to: talking to others when the instructor is speaking, mocking another's opinion, cell phones ringing, emailing, texting or using the internet whether on a phone or computer. If any issues arise a student may be asked to leave the classroom. The professor will work with the Dean of Students Office to navigate such student issues.

### **Civil Discourse**

DePaul University is a community that thrives on open discourse that challenges students, both intellectually and personally, to be [Socially Responsible Leaders](#). It is the expectation that all dialogue in this course is civil and respectful of the dignity of each student. Any instances of disrespect or hostility can jeopardize a student's ability to be successful in the course. The professor will partner with the Dean of Students Office to assist in managing such issues.

---