Contact Information

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243 South Wabash Avenue
Chicago, IL 60604-2301
Office: Classroom
Office Hours: Tues. 4:45pm-5:45pm, 9:00pm – 9:30pm
Class Hours: Tues. 5:45pm-9:00pm in Lewis 1208

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 hopefully less.

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.
- 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:
    o UML class and sequence diagrams
    o Incremental/iterative development and refactoring
    o Design patterns
    o Testing

Lecture Plan

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

- **Class 1:** [2019/01/08] Intro, Basics
- **Class 2:** [2019/01/15] SOLID Principles, Project Intro
    o [2019/01/18] Drop Deadline
- **Class 3:** [2019/01/22] Objects as Functions and Creational Patterns
- **Class 4*:** [2019/01/29] Objects as Functions and Creational Patterns ctd.
- **Class 5:** [2019/02/05] Observer, Midterm Review
- **Class 6*:** [2019/02/12] Midterm exam (Take-home exam)
- **Class 7:** [2019/02/19] Simulation, Null Objects, Proxies
    o [2019/02/22] Withdrawal Deadline
- **Class 8*:** [2019/02/26] Architectural Patterns, Structural Patterns
- **Class 9:** [2019/03/05] Subclassing and Template Method
- **Class 10*:** [2019/03/12] Final Review [Final Project due]

- **Class 11:** [2019/03/19] Final exam

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 Resrouces

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.

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.

Testimonial from a former student:

> As a side note, I've spent my summer giving my final project, 'MReversi' for Spring se450, a gui, unlimited undo/redo and tcp connectivity so players can play across a network. I've also ported a version to my Java capable phone with j2me. My next step is to give the phone version tcp capability so phone players can play computer players or whatever. I

Another testimonial from a former student:

Overall, I enjoyed and learned a lot in SE450. To date, it has been the most time-consuming class I've taken possibly ever so you were quite accurate in your warnings early on that we students need to seriously make time.

After many years of project work and software implementations at my day job, there was one thing in particular about the final project that, whether intentional or not, very accurately represented "real world" work. That is, the ambiguity of the assignment. No software project I've been involved in has ever been in neat, clearly defined, package as many of the projects and assignments I've worked on at DePaul. Due to the complexity of what you were asking and a certain amount of open-endedness, it would have been less stressful to not have any other assignments during development of the final project, but again, real life doesn't always allow us the privilege of working on only one thing at a time.

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 in class or on the class mailing list.

You must attend the midterm and final exams (unless you are in the DL section).

- The midterm will be due by 2019/02/12. This is an online exam There will not be a lecture this week – use the class time to take the exam.
- The final project will be due 2019/03/12.
- The final exam will be held on 2019/03/19 in class.

A medical note will be required for an absence from exams. Business trips or vacations are not valid reasons for missing the exams.

Online students can take exams either in-class or remotely. Online dates will include the weekend before the in-class date.

Class materials and recorded lectures are available online. Exams are proctored.

Read the policies here:

http://www.cdm.depaul.edu/onlinelearning/Pages/OnlinePolicies.aspx

If you live in Chicago, you can take the exams at the Loop or Lincoln Park campuses. If you live outside the Chicago area, you will need to find a proctor.

Your online section is paired with an on-campus section. These classes are recorded and uploaded into the Course Management system. You can view them within 24 hours of the live class. The first class is 2019/01/08. The lecture will be available online the following day.

Assessment

There will be a midterm exam, a final project, and a final exam. The Final Project will be done in four parts with check-ins on Week 4, 6, 8, and the project due on Week 10. The course grade will be computed as follows:

- Project Check-ins: 15%
- Midterm Exam: 20%
- Final Exam: 25%
- Final Project: 40%

Numerical grades correspond to letter grades roughly as follows:

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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 functionality is working. You will get 0/5 if you don't turn it

in. There are no late check-ins accepted. Project check-ins will be due at 5:30 before class.

The midterm and final exam will be cumulative.

There will be no make-up exams nor extra credit assignments. If there is an extreme emergency and you must miss an exam, 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 policy](#)

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.

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.

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.

Cell Phones/On Call

If you bring a cell phone to class, it must be off or set to a silent mode. Should you need to answer a call during class, students must leave the room in an undisruptive manner. Out of respect to fellow students and the professor, texting is never allowable in class. If you are required to be on call as part of your job, please advise me at the start of the course.