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Contact Information

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Office: Zoom
Office Hours: Tuesdays 5:00 PM – 5:30 PM
Thursdays 5:00 PM – 6:00 PM
Class Hours: Online

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 24-48 hours.

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 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
    - Debugging with an IDE
    - Testing

Lecture Plan

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

- **Class 1:** Intro, Basics
- **Class 2:** SOLID Principles, Project Intro
- **Class 3:** Objects as Functions and Creational Patterns
- **Class 4*:** Objects as Functions and Creational Patterns ctd.
- **Class 5:** Observer
- **Class 6*:** Null Objects, Proxies
- **Class 7:** Architectural Patterns, Structural Patterns
- **Class 8*:** Subclassing and Template Method
- **Class 9:** Guest Lecture (if available)/Wrap up/Final Exam Review

- **Class 10*:** No Lecture – take your final exam
- **Class 11**: Final Exam due

Lectures will be recorded Tuesday evenings at 5:30pm via Zoom. The Zoom link will be posted in D2L. Students are welcome, **but not required**, to join. Office Hours will be on Tuesdays before the lecture 5:00 – 5:30 and Thursdays 5:00 – 6:00 by appointment only. Project check-ins will be due every two weeks on Thursdays.

Office Hours will be on Zoom. You can schedule an appointment through BlueStar, which you can access via CampusConnect. Occasionally I need to work late; knowing you are coming to office hours will allow me to either get someone to cover at work or at least let you know if I will be a few minutes late, hence why appointments are required.

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.

I expect you to **ask questions** if there is anything that is unclear. YOU are responsible for your grade. I am responsible for helping ensure you understand the course material, which I can't do if I don't know you need help.

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 final exam will be due by 2023/03/14.

A medical note will be required for missing the Final Exam due date. Business trips or vacations are not valid reasons for missing the Final Exam due date.

Block out these dates now!

Class materials and recorded lectures are available online.

Read the policies for online learning here:

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

Assessment

There will be ungraded weekly online quizzes that will confirm your understanding of the course material, a quarter-long individual project with graded check-ins every two weeks, and a final exam. 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:

- Project Check-in 1: 20%
- Project Check-in 2: 20%
- Project Check-in 3: 20%
- Project Check-in 4: 20%
- Final Exam: 20%

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:. You will get full credit if features and design patterns are implemented correctly, and the code is of reasonable quality based on . You will get a 0 if you don't turn it in or the code does not compile. There are no late submissions accepted – however, given many people have full time jobs and lives out side of school, and things sometimes pop up: if you need an extra day or two, I will grant it **no questions asked** provided you email me by 5 PM on the check-in due date.

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. Participation in the discussion forum is the only way to have your grade bumped up to the next level; I will ignore any email asking me to bump up your grades.

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.

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.
