

Syllabus

College of Computing and Digital Media DePaul University

Fall 2021

First day of class : Tuesday 09/13/2021

Classroom section: M 5:45 – 9Pm, CDM 00222 at Loop Campus

Instructor: Wael Kessentini

Office: CDM 841

Tel: (312) 362-7080

Office Hours: TU 12:00 – 1:30pm

E-mail: WKESSENT@DEPAUL.EDU

Course 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.

JAVA and UML will be used for source code examples, the assignments, and the exams.

Course Management System: D2L

Course 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
 - Design patterns
 - UML class diagrams

Prerequisites

You must have the following:

- CSC403 (Data Structures II) or equivalent courses on data structures
- Some experience programming in Java
- We will be implementing our designs in Java. *This is not an introductory Java course. You will practice coding in this course and must be comfortable implementing simple data structures.*

Grading

- Assignments -- 35%
- Presentations -- 15%
- Mid-term exam -- 20%
- Final exam -- 30%

- o Written exam. On-line students may take the exam in class
- o No late submission will be accepted unless with a prior approval from the instructor.
- o Any sort of collaboration in the assignments with others without an explicit approval of the instructor will not be tolerated and may result in a failing grade.

Grading scale

A : total ≥ 93	C+ : 80 > total ≥ 77
A- : 93 > total ≥ 90	C : 77 > total ≥ 73
B+ : 90 > total ≥ 87	C- : 73 > total ≥ 70
B : 87 > total ≥ 83	D+ : 70 > total ≥ 67
B- : 83 > total ≥ 80	D : 67 > total ≥ 63
	D- : 63 > total ≥ 60
	F : total < 60

Note: the grading rubric is a rough guideline, and may change based on the overall distribution of the class.

Suggested Text

- Design Patterns Explained: A New Perspective on Object-Oriented Design
by Alan Shalloway, James R. Trott (Addison-Wesley, 2004)

- Head First Design Patterns
by Eric Freeman, Elisabeth Freeman, Kathy Sierra, Bert Bates (O'Reilly, 1995)

- Design Patterns (original)
by Erich Gamma, Richard Helm, Ralph Johnson, John Vlissides (Addison-Wesley, 1995)
Java Texts:

- Java How to Program, Early Objects, 11th Edition by Paul Deitel, Harvey Deitel. ISBN-13: 978-0134743356

- Head First Java, 2nd Edition by Kathy Sierra, Bert Bates. ISBN-13: 978-0596009205

None of these books are required. If you want to use an alternate resource as a reference, you are welcome to do so. 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.

Email

Students should be sure their email listed under "demographic information" at <http://campusconnect.depaul.edu> is correct.

Tentative Schedule (may change)

Week	Lecture Topics	Assignment Release date
09/13/2021	<ul style="list-style-type: none">• Introduction	
09/20/2021	<ul style="list-style-type: none">• Design principles and UML part 1	
09/27/2021	<ul style="list-style-type: none">• UML part 2	Assignment 1
10/04/2021	<ul style="list-style-type: none">• Design to code and introduction to design patterns	
10/11/2021	<ul style="list-style-type: none">• Midterm exam	Research Presentation Description
10/18/2021	<ul style="list-style-type: none">• Design Patterns 1	Assignment 2
10/25/2021	<ul style="list-style-type: none">• Design Patterns 2	
11/01/2021	<ul style="list-style-type: none">• Design Patterns 3	
11/08/2021	<ul style="list-style-type: none">• Design Patterns 4	Assignment 3
11/15/2021	<ul style="list-style-type: none">• Review/Student Presentations	
11/22/2021	<ul style="list-style-type: none">• Final Exam	

Student Presentation:

In the presentation, each group of student will choose a design pattern himself (topics NOT covered in the class), read it thoroughly and discuss its intent, motivation, structure, consequences and known uses in the class. The design pattern can be selected from research articles or other reference material found in library or internet. For example, <http://c2.com/cgi/wiki?CategoryPattern> has a partial list of

design pattern patterns. You will find more by searching Internet. Each group of students will prepare less than 20 slides for the talk. Relevant paper or reference material, presentation slides and demo application source code shall be submitted to D2L by the end of day of your scheduled presentation. Failure to upload presentation material prior due will result in 5 grade point penalty. Each presentation must follow a demonstration of an application that utilized the design pattern. The demo must contain proper mapping of design pattern classes to concrete classes.

Students must sign up your presentation topic in a google Excel sheet (I will provide a link to the excel file later during the quarter).

COVID-19 Health and Safety Precautions

Keeping our DePaul community safe is of utmost importance in the pandemic. Students, faculty and staff are expected to (1) wear a mask as required at all times while indoors on campus; (2) refrain from eating and drinking in classrooms; (3) keep current with their COVID-19 vaccinations or exemptions; (4) stay home if sick; (5) participate in any required COVID-19 testing; (6) complete the online Health and Safety Guidelines for Returning to Campus training; and (7) abide by the City of Chicago Emergency Travel Advisory. By doing these things, we are Taking Care of DePaul, Together. The recommendations may change as local, state, and federal guidelines evolve. Students who do not abide by the mask requirement may be subject to the student conduct process and will be referred to the Dean of Students Office. Students who have a medical reason for not complying with any requirements should register with DePaul's Center for Student with Disabilities (CSD).

Academic Integrity Policy

This course will be subject to the academic integrity policy passed by faculty. More information can be found at <http://academicintegrity.depaul.edu/>

Plagiarism

The university and school policy on plagiarism can be summarized as follows: Students in this course should be aware of the strong sanctions that can be imposed against someone guilty of plagiarism. If proven, a charge of plagiarism could result in an automatic F in the course and possible expulsion. The strongest of sanctions will be imposed on anyone who submits as his/her own work any assignment which has been prepared by someone else. If you have any questions or

doubts about what plagiarism entails or how to properly acknowledge source materials be sure to consult the instructor.

Incomplete

An incomplete grade is given only for an exceptional reason such as a death in the family, a serious illness, etc. Any such reason must be documented. Any incomplete request must be made at least two weeks before the final, and approved by the Dean of the College of Computing and Digital Media. Any consequences resulting from a poor grade for the course will not be considered as valid reasons for such a request.

Resources for 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: Student Center, LPC, Suite #370, Phone number: (773)325.1677 Fax: (773)325.3720 TTY: (773)325.7296

Proctored exams for OL courses

If you are an online learning student living in the Chicagoland area (within 30 miles of Chicago), you will need to come to one of DePaul's campuses to take an exam. Online learning students outside of the Chicagoland area are required to locate a proctor at a local library, college or university. You will need to take the exam within the window your instructor gives.