CSI 2300: Object-Oriented Computing
Winter 2018

Computer Science Department
School of Engineering and Computer Science
Oakland University

General Information

Instructor: Dae-Kyoo Kim
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Co-Instructor: Alaa Alaerjan (asalaerjan@oakland.edu)
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Date Range: January 03, 2018 – April 25, 2018
Lectures: Tuesday, Thursday 10:00 AM – 11:47 AM
Class Room: DH 200

Course Information

Course Description:
Introduction to object-oriented computer programming using a high-level programming language such as Java. Classes, member functions, inheritance, polymorphism and operator overloading. Design methodologies and introduction to software engineering principles and practices. Basic data structures are introduced. Prerequisite: EGR 141 or CIT 130 or CSE 130 or CSE 142 or equivalent. (4 credits)

Learning Objectives:
This is a required core course for all computer engineering and computer science students. Its primary goal is to introduce the concepts of object-oriented programming and fundamental design methodologies. By the end of this course, successful students will be able to (letters in parenthesis indicate ABET student outcomes):

- Use the concepts of object-oriented programming to create Java programs that solve a variety of problems. (**CS**: [a, b, c,j], **IT**: [a, b, c])
- Incorporate the use of conditions, loops, and recursions in the design of object-oriented programs. (**CS**: [a, c, k], **IT**: [a, c, k])
- Apply fundamental Unified Modeling Language techniques to the design of object-oriented programs. (**CS**: [a, b, c, j], **IT**: [a, b, c, i])
- Incorporate the concepts of inheritance and polymorphism in the design of Java classes. (**CS**: [c, k]; **IT**: [c, k])

- Incorporate the use of string and array objects in the design of Java classes. (**CS**: [c], **IT**: [c])
- Use Java's Abstract Windowing Toolkit (AWT) and the Swing component set in the design of Graphical User Interfaces (GUIs). (**CS**: [c]; **IT**: [c])

Required Text: Lewis & Loftus, Java Software Solutions: Foundations of Program Design, 9th Edition, Addison-Wesley, 2017, ISBN: 9780134543284.

Supplementary Text: UML Distilled: A Brief Guide to the Standard Object Modeling Language, Third Edition (Paperback) by Martin Fowler, Addison-Wesley, Professional; 3 edition (September 19, 2003) ISBN: 9780321193681.

Topics Covered (with tentative schedule):

- Fundamental concepts of Object-Oriented Programming and Object-Oriented Design (01/04-01/11)
- Java data and expressions (01/11-01/18)
- Defining, creating and using classes and objects (01/18-01/25)
- Overview of the Unified Modeling Language (UML) (01/25-02/08)
- Control structures: conditions and loops (02/08-02/15)
- Design and development of simple Java programs (throughout semester)
- Designing Graphical User Interfaces (GUIs) (throughout semester)
- Using arrays (03/01-03/08)
- Class inheritance and polymorphism (03/08-03/22)
- Exception handling (03/22-04/05)
- Fundamental concepts of recursion (04/05-04/12)

Course Website: All course information (lecture notes, projects, announcements, questions, etc.) will be posted in Moodle (https://moodle.oakland.edu/). Students are responsible for checking Moodle on a regular basis. Note: Firefox is the preferred browser for Moodle. A free download is available at http://www.mozilla.com/firefox/.

Course Software: NetBeans, which is an Integrated Development Environment (IDE), will be used in this course. It can be downloaded at https://netbeans.org/downloads/. You will also need StarUML which is a UML modeling tool. It can be downloaded at http://staruml.io/download for free.

Assignments: There will be six individual programming assignments throughout the semester. All submissions must be made through Moodle. No late submission will be accepted unless approved prior to the due date by the instructor. Assignments are scheduled as follows:

Assignment	Assigned	Due
Assignment 1	Jan 9 (Tues)	Jan 23 (Tues)
Assignment 2	Jan 23 (Tues)	Feb 6 (Tues)
Assignment 3	Feb 6 (Tues)	Feb 27 (Tues)

Assignment 4	Feb 27 (Tues)	Mar 13 (Tues)
Assignment 5	Mar 13 (Tues)	Mar 27 (Tues)
Assignment 6	Mar 27 (Wed)	Apr 10 (Tues)

Exams:

- Midterm: Feb 15 (Thursday), 2018, topics covered from Jan 3 to Feb 13.
- Final: April 19 (Thursday), 2018 (8:00-10:00 AM), in the same classroom. Topics covered since Midterm till April 17.

Attendance: Attendance will be taken five times randomly throughout the semester. Advance notice for absence due to a situation that is beyond your control can be considered.

Grading:

- Attendance: (10%)
- Programming Assignments: (40%)
- Midterm: (25%)
- Final: (25%)
- Grading Scale:

90+	4.0	
80 – 89	3.x	linearly in-between
70 – 79	2.x	linearly in-between
60 – 69	1.x	linearly in-between
0 – 59	0.0	

Note: The total grade shown in Moodle does not reflect the above proportions. So, do your own calculation using the proportions.

Policies

– Due dates are strict. Late submissions with rational reasons that are unexpected or beyond your control may be accepted.

– No form of plagiarism (e.g., copying or referencing other individual/group work), of any material submitted for grading, is permitted. All students must be aware of the contents of Academic Conduct Regulations (https://www.oakland.edu/deanofstudents/conduct-regulations/).