

Computer Science CS 2334: Programming structures and abstractions

Instructor: Dr. McGovern

Spring 2013

1 Course Overview

This is your second course in programming. We will focus on abstraction and programming methodologies including inheritance, abstract data types, programming tools including integrated development environments, unit tests and test driven development, and ethics.

2 Learning Objectives

The general/overall learning objectives are:

- Implement a program in Java using abstract data types and objects
- Demonstrate sophisticated use of objects, inheritance, polymorphism, and generics in Java programming
- Gain skill, confidence, and experience at programming using an integrated development environment and unit tests
- Understand how ethics applies to computer science including intellectual property rights and privacy

The specific topics we will cover will be chapters 8, 10 through 17, 19 to 23 in the book.
ABET Student Outcomes to be addressed

- B: An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution
- C: An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs

- E: An understanding of professional, ethical, legal, security, and social issues and responsibilities.
- K: An ability to apply design and development principles in the construction of software systems of varying complexity

3 General Information

Class time: MWF 11:30-12:20pm

Class location: Devon Hall 120

Prerequisites: 1323 and Mathematics 1523 or higher, both with a grade of C or higher

Required materials:

- The **Ninth** edition of *Introduction to Java Programming*, by Y. Daniel Liang.
- A Gift of Fire: Social, Legal, and Ethical Issues for Computing and the Internet (**Fourth** Edition)
- Working laptop computer with at least 2 hours of battery life and wireless network access. There will be times during class when it will be useful to look things up online, particularly using the Java API. You are expected to bring your laptop to lab every week and possibly to examinations.
- Java JDK Version 7, Update 5. If you have an earlier version installed and everything is running well, there is no need to update it. You will need to install both the Software Development Kit (SDK) and the Java Runtime Environment (JRE). You may also wish to install the documentation on your computer if you do not always have internet connectivity.
- We will use Eclipse as our integrated development environment (IDE) this semester. If you install the Java SDK before Eclipse, the installation process usually goes smoothly.

Instructor: Dr. McGovern

- *Office:* Devon Hall 251
- *Phone:* 325-5427 (voice mail available)
- *URL for class:* <http://learn.ou.edu>

- *Personal URL:* <http://www.cs.ou.edu/~amy>
- *Email:* amcgovern@ou.edu
- *Office hours:* Monday and Wednesday 3 PM to 4 PM, Friday 1 PM to 2:30 PM. These could possibly change during the semester and will be announced on desire to learn. I am also available by appointment.

Teaching assistants:

- Bryan Hoke
 - *Email:* bryan.hoke@ou.edu
 - *Office hours:* M 10:00am - 11:00am, T 11:00am - 12:00pm, R 2:30pm - 3:30pm
 - *Office:* Devon computer lab
- Faraz Maharloiy
 - *Email:* faraz@ou.edu
 - *Office hours:* TBA
 - *Office:* Devon computer lab

4 Evaluation

This semester you will be learning and practicing many aspects of programming. What you get out of a course will depend on what you put into it! In order to give you a fair grade at the end of the semester, Grades will be computed using the following formula:

- Projects: 40%
- Labs: 20%
- Final exam and midterms: 40%

Participating in class is one of the best ways to learn so please ask questions and attend class.

Grade questions: To maintain fairness in grading, the items should be brought to the person who graded it. To maintain fairness, all disagreements about the grading of projects and labs should be brought to our attention within one week of when the item was returned. For exams, I ask that you either discuss the dispute with me at

the end of the class that I return the item or that you return the exam and discuss it during office hours. In fairness to all students, once a test has been removed from the classroom after it has been returned, the grade is final.

Online Grade Summary: Desire2Learn has a grade book that I will use to store all of your grades. It is your responsibility to verify that the grades on D2L are correct. If an error is found, bring the document to me and I will correct Desire2Learn.

Borderline grades: Borderline final grades will be decided by two factors: class participation and your final exam grade. If you are close to a border and you did well on the final, that can push you over a grade boundary. Likewise, being an active participant in class can push you over a grade boundary.

Final Examination: The final examination is May 6 from 1:30-3:30. No final examinations can be given early, except as required by University policy.

Due dates: Everything is due at the date announced. There are two slack days that you may use on a project or lab assignment. These cannot be used on any exam. Each slack day gives you a 24 hour extension on the project or lab.

5 Course Policies

The following set of rules will help keep us all on the same page all semester and help to ensure fair treatment for all students.

Academic Misconduct: Academic misconduct hurts everyone but particularly the student who does not learn the material. All work submitted for an individual grade should be the work of that single individual and not her friends. It is fine to ask a fellow student for help as long as that help does not consist of copying any computer code, or solutions to other assignments. Students working on joint projects may certainly help one another and are expected to share code within the project group. However, they may not share beyond the group.

1. Collaboration is encouraged for homework and projects. For the projects, you will work within your groups. For the homework, you may form study groups so long as each homework is in your own words. Write your study partners' names on your homework when you turn it in.

2. Do not show another student (or group) a copy of your projects or homework before the submission deadline. The penalties for permitting your work to be copied are the same as the penalties for copying someone else's work.

3. Make sure that your computer account is properly protected. Use a good password, and do not give your friends access to your account or your computer system. Do not leave printouts or mobile drives where others might access them.

Upon the first documented occurrence of academic misconduct, I will report it to the Campus Judicial Coordinator. The procedure to be followed is documented in the University of Oklahoma Academic Misconduct Code¹. In the unlikely event that I elect to admonish the student, the appeals process is described in <http://integrity.ou.edu/>.

Project code: Your project code and writeups must be written exclusively by you or your group. **Use of any downloaded code or code taken from a book (whether documented or undocumented) is considered academic misconduct and will be treated as such.**

Classroom Conduct: Disruptions of class will not be permitted. Examples of disruptive behavior include:

- Allowing a cell phone or pager to repeatedly beep audibly.
- Playing music or computer games during class in such a way that they are visible or audible to other class members.
- Exhibiting erratic or irrational behavior.
- Behavior that distracts the class from the subject matter or discussion.
- Making physical or verbal threats to a faculty member, teaching assistant, or class member.
- Refusal to comply with faculty direction.

In the case of disruptive behavior, I may ask that you leave the classroom and may charge you with a violation of the Student Code of Responsibilities and Conduct. If you have repeated disruptive issues, I will seek to withdraw you from the class.

Laptops in class: Laptops may be used to program along with the rest of the class or to take notes. If I find that you are using your laptop to surf the net, participate in IM

¹http://integrity.ou.edu/files/Academic_Misconduct_Code.pdf

chats, or game, you will be asked to leave. This type of behavior is distracting to the other students.

Class Web Page: Login to the Desire2Learn website using your 4+4 (first four letters of your last name followed by the last four digits of your student number), using your standard OU password. If you have difficulty logging in, call 325-HELP. This software provides a number of useful features, including a list of assignments and announcements, an electronic mailing list, newsgroups, and grade book. All handouts are available from Desire2Learn. You should check the site daily. When I update the site, I will post an announcement telling you what has been added and where it is located. You are responsible for things posted on the site with a 24 hour delay.

Class Email Alias: Urgent announcements will be sent through email. It is your responsibility to:

- Have your university supplied email account properly forwarded to the location where you read email.
- Make sure that your email address in Desire2Learn is correct, and forwards email to the place where you read it. I'll send out a test message during the first week of class. If you do not receive this message, it is your responsibility to get the problem resolved immediately.
- Have your email program set up properly so that replying to your email will work correctly the first time. You can send email to yourself and reply to yourself to test this.

If you need assistance in accomplishing any of these tasks, contact 325-HELP.

Newsgroups and Email: The newsgroup on Desire2Learn should be the primary method of communication, outside of class. This allows everyone in the class to benefit from the answer to your question. If you email me a question of general interest, I may post your question and my answer to the newsgroup. Matters of personal interest should be directed to email instead of to the newsgroup, e.g. informing me of an extended personal illness. Posting guidelines for the newsgroup are available on Desire2Learn.

Religious Holidays: It is the policy of the University to excuse the absences of students that result from religious observances and to provide without penalty for the rescheduling of examinations and additional required classwork that may fall on religious holidays.

Incompletes: The grade of I is intended for the rare circumstance when a student who has been successful in a class has an unexpected event occur shortly before the end of the class. I will not consider giving a student a grade of I unless the following three conditions have been met. 1. It is within two weeks of the end of the semester. 2. The student has a grade of C or better in the class. 3. The reason that the student cannot complete the class is properly documented and compelling.

Accommodation of Disabilities: The University of Oklahoma is committed to providing reasonable accommodation for all students with disabilities. Students with disabilities who require accommodations in this course are requested to speak with the professor as early in the semester as possible. Students with disabilities must be registered with the Office of Disability Services prior to receiving accommodations in this course. The Office of Disability Services is located in Goddard Health Center, Suite 166, phone 405/325-3852 or TDD only 405/325-4173.