CS 2334: Programming Structures and Abstractions
Syllabus (Fall 2010)

General Information

- Lecture Time: M/W/F 11:30-12:20
- Lecture Location: Devon 120
- Lab Times (you must be registered for one):
  - Section 011: Thursday 8:30-10:20
  - Section 012: Thursday 12:30-2:20
  Note: unless prior arrangements have been made, you are expected to attend the section in which you are registered.
- Lab Location: Sarkeys Energy Center M207
- Prerequisites: CS 1323 and Mathematics 1823. You are expected to have a working knowledge of Java, including a familiarity with its basic data types and control structures, and an understanding of basic program abstraction and organization.
- Required Text Books
  - Note: Some students own the Seventh Edition (ISBN-10: 0136012671; ISBN-13: 9780136012672). The coverage between the two editions is similar, though the presentation has changed a bit. See the notes on additional Eighth Edition sections to read
  Students should read the chapters ahead of time that are expected to be covered in the class period (see the class schedule). Students should always bring their textbooks with them to class periods, including lectures, labs, and exams.
- Course web page: [http://www.cs.ou.edu/~fagg/classes/cs2334](http://www.cs.ou.edu/~fagg/classes/cs2334)
- We will also be making heavy use of *Desire to Learn*
- Instructor: Dr. Andrew H. Fagg
  Office: DEH 208
  Phone: 325-8606
  Homepage: [http://www.cs.ou.edu/~fagg](http://www.cs.ou.edu/~fagg)
  Email: fagg--cs.ou.edu
  Office hours: see the office hours page
- Teaching Assistant 1: Joshua Southerland
  Office: DEH 115
  Email: southou -- gmail.com
  Office Hours: see [http://www.cs.ou.edu/~fagg/office.html](http://www.cs.ou.edu/~fagg/office.html)
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Course Goals and Topics

In this course, we develop and apply the fundamental skills of software engineering: design, abstraction, implementation and evaluation. We will practice these skills through a set of laboratory exercises and projects, many of which will involve the development of programs for the CMU Finch.

By the end of this course, you should be able to:

- Analyze simple computing problems and define the requirements that are appropriate to their solution.
- Apply design and development principles to the implementation of a solution to the computing problems. Specifically, implement and manipulate a range of abstract data types including stacks, queues, lists, trees and files.
- Evaluate and analyze the performance of your implementations, and use this information to make further implementation changes.
- Use an integrated development and debugging environment.
• Evaluate and analyze the professional, ethical, legal, security and social issues that are faced by computer scientists.

Topics will include:

- object-oriented programming,
- abstract data types: stacks, queues, lists, trees, strings and files,
- the Eclipse IDE,
- sorting and searching,
- Java collections,
- serialization,
- graphical user interfaces,
- event-driven programming
- the Model, View, Controller paradigm,
- exceptions and assertions,
- recursion,
- applets, and
- ethics in computer science.

Course Policies

• Attendance: We will discuss concepts and examples in class that are not in the textbook. Another student's notes are an inadequate substitute for class attendance. You are responsible for everything that is announced in class.

• Readings: You are responsible for the assigned material found in your textbooks and other assigned reading materials, whether or not it is also covered during the lectures sessions. In other words, you are responsible for the UNION of both sources of knowledge.

• Class Web Page: Most of the material that you will need can be found on the class web page located at: http://www.cs.ou.edu/~fagg/classes/cs2334

• Desire to Learn: This class will also use D2L, located at: http://learn.ou.edu

  Login with your 4+4 (typically the 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 web site provides a number of useful features, including a list of assignments and announcements, an electronic mailing list, newsgroups, and a grade book.

  I will update the main web site and the D2L page several times a week. When I update the site in any significant way, I will post an announcement on D2L telling you what has been added and where it is located. You are responsible for things posted on the site within 48 hours of the post.

• 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 D2L 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. I will not make any attempt to get bounced email messages delivered. If you need assistance in accomplishing any of these tasks, contact 325-HELP.

• Computer Accounts and Software: All students in this class are allowed to request a Computer Science Network (CSN) account. This may be used for writing programs and sending and receiving materials electronically using the CSN Linux machines in DEH 115. All code written for this course MUST run using the compilers or interpreters that will be specified for the assignments. You may do your development work on whatever system you choose but it is your responsibility to ensure that your code runs on the school systems.

• Examinations: There will be two midterms and one final examination. The dates are given in the class schedule. During examinations, students are expected to sit in assigned seats. Missing an examination without a previously approved excuse will result in a grade of zero for that examination.

• Final Examination: The final examination is Monday, Dec 13th from 1:30 to 3:30. The final is comprehensive, as required by College of Engineering policy. No final examinations can be given early, except as required by University policy.

• Newsgroups and Email: The newsgroup on D2L should be the primary method of communication (outside of class). This allows everyone in the class to benefit from the answer to your question, and provides students with more timely answers since both the TA and I check D2L at least once a day. Matters of personal interest should be directed to email instead of to the newsgroup, e.g. informing me of an extended personal illness.

• Academic Misconduct: Feel free to discuss labs and projects with the instructor or the TA. In addition, some of the labs and projects will be performed in collaboration with one other student. **Do not discuss, look at, or copy another student's solution to a lab or project, unless you are explicitly paired with this student. Doing so is considered cheating.**

  You may make use of the net as a reference as you are working on projects and labs. These references must be explicitly documented in your code. However, **downloading specific lab or project solutions from the net is considered cheating.**
Make sure that your computer account is properly protected. Use an appropriate password, and do not give your friends access to your account or your computer system. Do not leave printouts, disks or thumb drives around a laboratory where others might access them.

Programming projects will be checked by software designed to detect collaboration. This software is extremely effective and has withstood repeated reviews by the campus judicial processes.

Upon the first documented occurrence of inappropriate collaborative work, I will report the academic misconduct to the Campus Judicial Coordinator. The procedure to be followed is documented in the University of Oklahoma Academic Misconduct Code (http://www.ou.edu/provost/integrity/AMC2003.pdf). In the unlikely event that I elect to admonish the student, the appeals process is described in http://www.ou.edu/provost/integrity-rights/.

- **Tutors**: Tutors can be an excellent source of support for students who are having difficulty in the class, but only if the tutor is aware of the distinction between teaching students the material so that they can do their own work, and doing work for students. Tutors who do work for students are not only failing to help the students learn, they are abetting academic misconduct. Examples of misconduct include:
  - If your tutor is sitting behind you while you are typing and methodically telling you what to enter, he or she is abetting academic misconduct.
  - If you tutor is emailing files containing partial or complete programming projects to you, you will commit academic misconduct if you use those lines in your program.

A more effective use of tutoring services is to do problems that are similar to the assigned work, instead of doing assigned work. For example, it would be fine to work unassigned problems from the textbook with a tutor. This requires significant discipline, both on the part of the tutor and the part of the student. Copying from a tutor is as unacceptable as copying from another student. If your tutor doesn’t know how to teach properly, please ask them to call or visit me and I will provide training and guidance. If you are tutoring someone else in the class, you can be accused of academic misconduct if this person copies your work.

- **Incomplete**: 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:
  - It is within two weeks of the end of the semester.
  - The student has a grade of C or better in the class.
  - 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.

- **Classroom Conduct**: Because cell phones and laptops can distract substantially from the classroom experience, students are asked not to use either during class (except in cases in which the laptop is required as part of a classroom exercise).

Disruptions of class will also 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.

### Grades

Grades will be computed according to the following distribution:

- Project 1: 5%
- Project 2: 9%
- Project 3: 9%
- Project 4: 9%
- Project 5: 9%
- Midterm 1 (first 1/3 of semester): 10%
- Midterm 2 (second 1/3 of semester): 10%
- Final exam: (comprehensive with a focus on last 1/3 of semester): 20%
- Labs: 15%
- In-class participation: 4%

Grading notes:

- **Final grades**: The final grade cut-offs will be determined at the end of the semester. These cut-offs will be at or below the
traditional 90, 80, 70, etc. cut-offs. However, I do not expect them to be much different than these traditional cut-offs.

- **Project grades**: A group is first given a grade as a function of the quality of their work. If both group members contribute equally to the project (assessed in part by the other group member), then both will receive the group grade. If there is an imbalance in the contributions, then the grades will be scaled accordingly (higher contributors will receive a higher grade and lower contributors will receive a lower grade).

- **Grade questions**: Lab and project grade disputes should first be brought to the TA. If this does not resolve your question, please see the instructor during office hours. Please note that I will examine the entire project or lab in question and your final grade may end up lower. All disagreements about the grading of projects or labs must be brought to the attention of the teaching assistant within one week of when the item was returned. Note that I generally adhere to Dr. Hougen's Principles on Grade Discussions: [http://www.cs.ou.edu/~hougen/classes/grade_discussions.html](http://www.cs.ou.edu/~hougen/classes/grade_discussions.html).

- **Desire to Learn Grade Summary**: D2L has a grade book that is used to store the raw data that is used to calculate your course grade. It is the responsibility of each student in this class to check their grades on D2L after each project or lab is returned. If an error is found, bring the graded document to me or the TA, and we will correct D2L.

- **Examination Grading Questions**: If there is a dispute about the grading of an examination problem, you may stay after class on the day that the tests are returned to discuss it. If you cannot stay at this time, return the paper to me and stop by during my office hours. Once a test has been removed from the classroom after it has been returned, the grade is final and will not be changed, even if it is found to be in error.

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**Projects and Labs**

- **Lab due dates**: Labs are due at 11:29 am on the date that is listed on the schedule (i.e., before class starts).

- **Project due dates**: Project materials are due by 5:00pm on the date that is listed on the schedule.

- **Hand in procedure**: Electronic components (reports and code) must be submitted to the D2L digital drop box for the corresponding assignment.
  
  Hardcopy components may be handed in to the instructor or the TA, or placed under the instructor's door.
  
  Groups must hand in exactly one copy of their work. However, each individual must submit a short text evaluation of the project work via D2L (more information to follow).

- **Late policy**: Because late assignments will seriously impact your ability to follow the next section of the course, you are required to hand in lab assignments on time. Late lab assignments will not be accepted.

  Projects may be handed in late. If late by 0-24 hours, the project grade will incur a 20% penalty; if late by 24-48 hours, a 40% penalty will be imposed. Projects that have not been handed in by 48 hours will receive no credit.

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