CSCI 136: Spring 2020
Handout 6
1 April

Revised Syllabus

Data Structures and Advanced Programming

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Lectures	Posted by noon EST MWF
Labs	Cancelled
Web Page	`https://www.cs.williams.edu/~cs136`
CS Resources	`http://cs.williams.edu/system/`

Texts

We will be using the $\sqrt{7}$ edition the following text book:

- *Java Structures: Data Structures in Java for the Principled Programmer, $\sqrt{7}$ Edition*, by Duane Bailey.

Do not use earlier editions! A PDF version is available on the course website. We have also printed copies of the text book as a course reader. We encourage you to take a copy of the course reader; your term bill will be charged whether you take a copy or not, but we will reuse unclaimed books for future courses.

Course Objectives

Goal. The goal of this course is to enable you to write good programs, and to instill both an intuitive and an analytical understanding of what we mean by "good" in computer science. Throughout the semester, you will design, analyze, code, and verify that your programs work as expected.

Data structures. The primary vehicle for learning the above skills will be through the study of data structures, which are principled methods for storing and manipulating data. Data structures and algorithms, which you will study in CS256, are two sides of the same coin. Both are essential for the construction of the kinds of large, reliable computer programs used by billions of computers users on a daily basis.

The elements of style. In addition to correctness and performance, this course will help you learn how to write programs in a clear and modular manner. Programs written and documented clearly are easier to maintain and result in fewer bugs. Modular code substantially reduces coding effort and also results in fewer bugs. Don't be surprised if you receive feedback that your program needs work even if it correctly implements an assignment's specification.

Lab resources. The programming assignments in this course were designed for the environment hosted on the MacOS computers in TCL 216 & 217. Although our switch to remote learning means that we no longer have in-person access to these resources, the CS deparment has documentation online describing several ways to connect to and utilize the computer science department's lab machines in order to complete your work. We will also provide support for any student that needs to troubleshoot their personal setup. Please let us know if you experience any technical issues.

Typical Course Activities

Workload. The work that you should expect to engage with, beyond the recorded lectures, will involve:

- Reading the text: 12-15 pages, on average, per lecture topic
- Preparing for the weekly concept check (analagous to an ungraded "quiz")
- Completing a weekly collaborative actitivity
- Preparing for the bi-weekly programming lab
- Completing the bi-weekly lab
- Studying for the mid-term and final exam

Some students program quickly but read slowly, and some do the converse. You should expect to spend at least 10 hours a week beyond the scheduled lecture and lab hours on this course. If you find yourself spending substantially more time than that on a regular basis, please reach out to a course instructor.

Weekly Activity. There will be one open-book, collaborative activity per week, posted on Monday in GLOW, and due on Sunday by 11:59pm. Activities are ungraded, but they must be submitted, and they count toward the attendance portion of your grade. Students may discuss all aspects of the activity, including answers, with a class partner of their choice, but every student must submit answers individually. Feedback will be automatically given upon submission in GLOW.

Weekly Check-in. Every week, we ask that every student fill out a short feedback form, available in GLOW, and due Sunday by 11:59pm. This feedback is required—it counts toward the attendance portion of your grade—but it is anonymous. This is your opportunity to anonymously communicate back about your progress in the course.

Quizzes. There will be one open-book, collaborative concept check per week. These "quizzes" will be posted in GLOW on Wednesday, and they will be due by Sunday evening at 11:59pm. Students may discuss all aspects of the quiz, including answers, with a class partner of your choice, but every student must submit answers individually. Students may utilize any and all class materials, and you may utilize any resource online, except that you may not discuss the problems with any person other than your chosen partner.

Labs. Every other week, there will be a lab programming assignment. For logistical reasons, lab meetings are no longer possible. Instead, students may work with a partner of their choice. As before, all programs will be graded on the basis of design, documentation, style, correctness, and efficiency. All labs are due no later than the end of the final exam reading period, Tuesday, May 19, 2020. Labs turned in at this late date will receive a grade, but no detailed feedback will be provided. **In order to receive detailed feedback**, lab assignments should be turned in electronically by 8:00pm on the due date listed on the lab (roughly a week and a half from the date the lab was assigned). So that we know when you have completed a lab, please note that you have completed your lab by updating the `README.md` checkbox that accompanies your lab's starter code. Instructions will be provided on lab handouts.

Exams. There will be one midterm and one final exam. The midterm is a GLOW self-scheduled exam that will be made available on **Wednesday, April 8**, and will be due by **Sunday, April 12**. You may actively work on the exam for **three uninterrupted hours**. The final exam will have a similar format, and it will occur during the college's final exam period. The registrar will notify us with a date once they finalize the exam schedule.

Github

All lab assignments for this course are submitted using Github. Prior to an assignment, a Github repository will be created for you. Repository names generally conform to the following pattern: `https://github.com/williams-cs/cs136_lab<n>_<your github username>`. You will be notified by email when your Github repository is created.

Piazza

Now that we have switched to remote learning, we will be relying more heavily on Piazza for course communication. Piazza accounts are free and secure, and links are provided on the course website. The advantages of Piazza are many, including:

- all students benefit from answers to other student's questions;
- posts appear anonymously to other students;
- anyone can answer a question as soon as it is posted, decreasing the wait time for an answer; and
- course instructors' posts are labeled as such, but instructors can also "endorse" excellent student posts.

To incentivize good citizenship, we will consider awarding bonus points for exceptionally helpful questions and answers. Bonus points will contribute to the attendance component of your grade. However, we remind you that all communications must follow the honor code—do not post solutions!
TAs will also be active on Piazza to answer course-related questions.

Resubmissions

Although due dates for labs are now as generous as they can be (before the end of the final exam reading period), we will retain our resubmission policy. We allow **up to two** assignment resubmissions during the semester. This policy includes the first nine labs and the midterm exam, but not the final lab or final exam. Note that if you wait until the end of term to submit a lab, it will not be eligible for resubmission, because there will not be enough time for us to provide graded feedback to you before you must resubmit.

A resubmission will be accepted at the discretion of the course instructor and allows you to earn back **up to 50% of the missing points**. For example, if you received a 75% on an assignment, you may earn up to 87.5% upon resubmission.

Resubmissions must be submitted in the following manner:

1. They must be submitted before the end of the final exam reading period.
2. They must include both the original work and the new submission.
3. They must be accompanied with a typed document, written in plain language, that explains, for every misunderstanding:
   (a) what the error is in the original work,
   (b) how you fixed the error, and
   (c) why the new version is correct.

Code Reviews

Unfortunately, we are no longer able to offer code reviews.

Grades

Although we will continue to compute your grades using a formula,

Quizzes:	10%
Final exam:	20%
Midterm exam:	20%
Programs/Labs:	40%
Attendance:	10%

your final grade will be recorded as pass/fail. In order to pass this course, you must earn a D- or higher. Note that this means that a grade of P does not adequately reflect mastery of this course. If you plan to continue studying computer science, we strongly encourage you to interpret your numeric grades as an indication of topic mastery, and work to reinforce any topics that you struggled with this semester. Subsequent courses will assume that you have mastered the material in this course.

COVID-19

We appreciate that there will be many challenges when resuming our class work from home, in a less-than-ideal setting, during a time of great uncertainty. All of us face the possibility that we will become ill—perhaps gravely so—during the COVID-19 pandemic. We want you to know that we consider **your health to be your top priority**. Falling ill is not your fault, and your grade should not suffer as a result. We ask that if you contract the virus, that you inform us as soon as possible; we will be happy to communicate your situation back to the Dean of Students Office on your behalf. Should you fall ill, you are welcome to continue participating in the class if you feel healthy enough to do so. If you do not feel healthy, consider your semester as "on hold" with no negative consequences. In coordination with the college deans, we will revisit your academic plan once you regain your health.

Help!!!

There are many resources available when you need it. You are encouraged to discuss any questions, concerns, difficulties, or thoughts about the course with your instructors (Dan and Bill). In addition, TAs are available to help you with challenges you face as you work through the course material and lab assignments. You are welcome at any time to approach course staff to ask for clarification of the assignments, and to discuss your problem-solving process. You do not need to wait until you are stuck and frustrated to speak with us!

If you find yourself facing challenges beyond the typical, please do not stay silent. Reach out to your instructor, a friendly face from the Dean's Office, or one of the many professionals across campus who stand ready to help. All faculty and staff at Williams are bound by the Family Educational Rights and Privacy Act (FERPA) to maintain the privacy of your educational records. We understand that difficulties arise, and we are prepared to help you.
You will not be penalized for seeking help!

Inclusivity

The Williams community embraces diversity of age, background, beliefs, ethnicity, gender, gender identity, gender expression, national origin, religious affiliation, sexual orientation, and other visible and nonvisible categories. We welcome all students in this course and expect that all students contribute to a respectful, welcoming and inclusive environment. If you feel that you are not being welcomed, included, or accepted in this class, please come to us or a college administrator to share your concern. You may be surprised to learn that we both have these conversations with students regularly and very much welcome them. Please let us know how we can support you!