Essentials: Communication, Content, and Structure

Communications

Class Meetings:	Monday, Thursday 11:10 - 12:25, Room HN1516
Office:	HN1090J
Office Hours:	Mondays, 14:45 - 16:45
Email:	stewart.weiss@hunter.cuny.edu
Telephone:	(212) 772-5469

Resources

Textbooks: *Data Structures & Algorithm Analysis in C++*, 4th Edition. Mark Allen Weiss. Addison-Wesley, New York. 2014. ISBN:978-0-13-284737-7.

Computing Facilities: Registered students will be given user accounts on the UNIX hosts in the 1000G lab of the Computer Science Department, located on the tenth floor of Hunter North. This lab is open 24 hours a day, 7 days a week and access to it is limited to students enrolled in selected courses. In addition, students will be able to use a secure remote login service such as ssh to access these accounts.

Website: All course materials, including lecture notes, slides, assignments, syllabi, and other resources, including this document, are posted on my website, at `http://www.compsci.hunter.cuny.edu/~sweiss/course_materials/csci335/csci335_spr14.php`

Discussion Board: This class will use a Google group as a discussion board. Please see the section below entitled "Course Materials, the Web, and Blackboard" for the details.

Prerequisites

You are required to complete CSci. 235 and Math 155 with a grade of C or better to take this course.

Departmental Learning Goals

Material in this course supports or partially supports the following departmental learning goals: 1a: (understanding the basic foundations and relevant applications of mathematics and statistics, particularly those branches related to computer science) by using mathematics to analyze algorithm performance; 2c: (ability to apply principles of design and analysis in creating substantial programs and have experience working in teams on projects of moderately realistic scope); 3a: (ability to communicate ideas effectively) by requiring homework that is graded in part on clarity and proper use of the English language.

Course Objectives and Content

The principal objective of this course is to further your understanding of the design and analysis of algorithms and data structures. This includes the introduction of new abstract data types, including hashes, heaps,

various forms of trees, graphs, and the sorting problem from a higher perspective than was [supposed to be] presented in CSCI 235. It also covers worst and average case behavior analysis and optimality, and to a much smaller extent, polynomial time complexity classes and theory. Another objective of the course is to develop your software engineering skills a little more, and to give you practical experience for more productive programming. This course demands that you write more complex software than you have done in the preceding courses.

Doing Well in This Course

If you want to do well in this course then you should do all of the following:

- Read the assigned reading ***before*** the lecture, not after it.
- Make a list of questions and ask them during the lecture. If I do not think a question is appropriate for the class, I will answer it at another time.
- Submit all assignments on time.
- Study for exams.
- Do as many of the textbook's sample questions as you have time to do.
- Do your assignments yourself.

Assignments, Exams, and Grading

Your grade is computed strictly from two components, a programming component and an exam component. The programming component is 30% of your grade and the exam component is 70%. Each of these components is a weighted average of program grades and exam grades respectively.

Programming Assignments

I will assign three programming projects during the semester. This is not enough to become proficient. If you want to be proficient and have the time, you should make up your own small problems and write test programs to solve them. Every program must satisfy the programming rules stated in the Programming Rules document provided on the course website. The rules governing lateness, plagiarism, and grading are also contained there. I take plagiarism very seriously. The due dates and weights are listed below.

Programming Assignment	Weight Towards Program Component of Grade	Weight Towards Final Grade	Due Date
1	1/3	10%	Feb. 24
2	1/3	10%	March 31
3	1/3	10%	May 12

Exams

There will be two midterm exams and one final exam. The midterm exams are exams in which you will write pseudo-code to describe algorithms and/or you will solve conceptual problems related to the course material. The final exam is no exception; it will cover the material from the end of the second exam to the end of the semester. *Please note that the final exam is not cumulative.*

Exam	Weight Towards Exam Component of Grade	Weight Towards Final Grade	Exam Date
1	30%	21%	March 3
2	30%	21%	April 7
3	40%	28%	TBA

Incomplete Grades

All assignments must be submitted by their due dates. Late assignments will not be accepted. Failure to take an exam counts as a zero grade on that exam. The only exceptions to these two rules are in the case that you have a legitimate medical or personal emergency that prevents your timely completion of homework or sitting for an exam and have notified me in a timely manner about this emergency. I will schedule a make-up exam or allow a homework extension only in that case. I do not give incomplete (IN) grades except to those students who were unable to complete the work because of legitimate, documented medical or personal problems, and this is entirely at my discretion.

Class Calendar

The last day to drop a class without a "W" is February 18. The last day to withdraw is April 24. There are no classes on Monday, February 17 nor during the spring recess from April 14 through April 21. Thursday, February 20 follows a Monday schedule, which does not affect our meetings, as we meet on both days of the week anyway. The last day of class is Thursday, May 15.

Programming and System Access

All students enrolled in the class are given accounts on the Computer Science Department's network. This entitles you to around-the-clock access to the 1000G lab, which is equipped with Linux workstations. This lab is normally open "24/7". The account also enables you to work work from home or another remote computer by connecting to any of the lab machines remotely. The details are described below.

The advantage of working in the lab, as opposed to working remotely, is that you will be sitting at the console of a Linux host and will not be subject to potential disconnections that can take place when working remotely. You will also be much less affected by network problems than if you connect remotely from outside of Hunter. The disadvantage is that you have to be in school to do this.

When you are in the lab there are a few important rules that must be followed:

- Never power down a machine for any reason.
- Never leave a machine without logging out.
- Never use lockscreen to lock the screen in your login.

There are several other rules regarding lab use; they are posted there. Please take the time to read them and then follow them.

The Computer Science Department makes a UNIX host, named

`eniac.cs.hunter.cuny.edu`,

available to students who have accounts on the network. You will be able to access this host from any computer that has *ssh* client software. Once you login to `eniac`, you are requested to login from `eniac` to

one of the machines in the 1000G lab, which are named `cslab1`, `cslab2`, `cslab3`, and so on, up to `cslab29`. You cannot *ssh* directly to those machines from outside of Hunter College for security reasons.

Many computers come with a version of *ssh* already installed. If yours does not, you can get one for free. There are several free versions of *ssh*. *OpenSSH* is an open source version developed for the *OpenBSD* project. *PuTTY ssh* is a free version for the Windows operating systems, available at

`http://www.chiark.greenend.org.uk/~sgtatham/putty/.`

Macintosh computers come with a command-line *ssh* client.

Course Materials, the Web, and Blackboard

All lecture notes will be posted on the course's home webpage (whose URL is above), which does not require special privileges to access. The only thing for which I use Blackboard is for posting of grades, which will be posted in the grade center there. For the purpose of discussions and course-related questions, the class has a Google group with the following properties:

Name:	`hc_csci335_spr14`
Home page:	`http://groups.google.com/group/hc_csci335_spr14`
Email address:	`hc_csci335_spr14@googlegroups.com`

You will receive an invitation to join this group to your Hunter College email address. You should accept this invitation. Your Hunter email address can be used for reading and sending messages to the group, but unless you have a Google email address, you will not be able to access the group's home page to read old messages. If you do not have a Google email address, I suggest that you obtain one. If you do, you can request to join the group with that address. In fact, you can request to join the group with any email address you choose, and I will accept the request.

I require that you use the following protocol if you have a question:

1. Check whether the question you want to ask has been posted and answered in the Google group.
2. If it has been answered, you are finished. If not, send the question to the Google group.
3. Anyone in the group can answer the question. If no one else answers the question in a timely manner, I will post an answer to it.

I will ignore any non-personal questions sent to my Hunter email address. Personal questions (such as a questions about a grade or a missed class or alternative times to meet with me) should be sent via private email to my Hunter email address, not to the Google group.

Academic Honesty

Unless I state otherwise, all assignments and projects are to be your work alone. If someone else does part of this for you, it is considered to be academic dishonesty. Hunter College regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The college is committed to enforcing the CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures. In this class, I will enforce the University's Policy on Academic Integrity and bring any violations that I discover to the attention of the Dean of Students Office.

ADA Compliance

In compliance with the *American Disability Act of 1990* (ADA) and with *Section 504* of the *Rehabilitation Act of 1973*, Hunter College is committed to ensuring educational parity and accommodations for all students with documented disabilities and/or medical conditions. It is recommended that all students with documented disabilities (emotional, medical, physical an /or learning) consult the *Office of AccessABILITY* located in Room E1124 to secure necessary academic accommodations. For further information and assistance, the student can call (212-772-4857)/TTY (212-650- 3230).