CSCI 1730 - C++ and Systems Programming - Fall 2018

Instructor: Hao Peng <penghga@uga.edu>

eLC: http://elc.uga.edu/
Piazza: https://piazza.com/uga/fall2018/csci1730peng

Meeting Times

Unless cleared by the instructor, you should only attend the lecture breakout sections for which you are assigned.

CRN	Lecture Time	Room	Breakout Time	Room	GTA
37844	TR 09:30 AM -- 10:45 AM	Miller Plant Sci 2401	M 12:20 PM -- 01:10 PM	Boyd 306	TBA
37846	TR 09:30 AM -- 10:45 AM	Miller Plant Sci 2401	W 01:25 PM -- 02:15 PM	Boyd 208	TBA

Instructors, TAs, & Office Hours

IOR = Instructor of Record, GTA = Graduate Teaching Assistant, UTA = Undergraduate Teaching Assistant

Person	Role	Email	Office Hours
HP Hao Peng	IOR	penghga@uga.edu	T 11:00 AM -- 12:00 PM in Boyd 610 R 02:00 PM -- 03:00 PM in Boyd 610
TBA TBA	GTA	tba@uga.edu	TBA in Boyd 307
TBA TBA	UTA	tba@uga.edu	TBA in Boyd 307

Course Description

This four-hour course covers the basics of UNIX Systems Programming, including file and directory structures, basic and advanced file I/O, process creation, and interprocess communication. Throughout the semester, the language basics of C and C++ will be covered in order familiarize students with the use of C and C++ in systems programming.

Prerequisites & Co-requisites

CSCI 1301	Introduction to Computing and Programming (Prerequisite)
CSCI 1302	Software Development (Required Co-requisite if you haven't already taken it)

Course Texts & Reference Material

Required Texts

[APUE]	Stevens & Rago. "Advanced Programming in the UNIX Environment" (3rd Ed.) (ISBN-13: 9780321637734)
[DEITEL]	Deitel & Deitel. "C++ How to Program" (10th Ed.) (ISBN-13: 9780134448237)

Recommended Texts

[KRC]	Kernighan & Ritchie. "C Programming Language" (2nd Ed.) (ISBN-13: 9780131103627)
[HOOVER]	Hoover. "System Programming with C and UNIX" (1st Ed.) (ISBN-13: 9780136067122)

Reference Materials

[OTHER]	Additional texts and notes may be suggested for reading throughout the semester. If your instructor posts something for you to read, you are expected to read it and to try to understand it, even if it's not part of an official assignment.

Grading Policy

Letter Grade Breakdown

Interval	Grade	Notes
$[94, \infty)$	A	
$[90, 94)$	A-	
$[87, 90)$	B+	
$[84, 87)$	B	
$[80, 84)$	B-	
$[77, 80)$	C+	
$[74, 77)$	C	
$[70, 74)$	C-	Not a C or better.
$[65, 70)$	D	Technically still passing.
$[0, 65)$	F	Failing.

Tentative Points Breakdown

Category	Percent	Notes
Breakouts	20%	
Regular Projects	25%	
Final Project	15%	
Exam 1	20%	In-class exam
Exam 2	20%	In-class exam

Free Tutoring Services

The Division of Academic Enhancements (DAE) offers free tutoring services for UGA students. For more information, please visit `http://dae.uga.edu/tutoring/computer-science/`. Please be **very careful** to not let your tutor write the code for you. This could lead to academic honesty issues.

Piazza Discussion Board

This term we will be using Piazza for class discussion. The system is highly catered to getting you help fast and efficiently from classmates, the TAs, and the instructor. Rather than emailing general questions to the teaching staff, you should always post your questions on Piazza so that the rest of class may also benefit from it. **Extra credits** will be awarded to students who help their fellow classmates by answering Piazza questions. Our Piazza class page may be found at: `https://piazza.com/uga/fall2018/csci1730peng/home`.

Programming Languages & Coding Assignments

You will implement your programming assignments in C or C++, depending on the specific assignment. All submissions that involve code are expected to include a `README` file explaining how to compile and run the code in the submission. All submissions must compile and run on the departmental `nike` server.

The SSH hostname for `nike` is `nike.cs.uga.edu`. It is recommended that after you login to `nike`, you `ssh` into one of the four `vcf` cluster nodes, `vcf0`–`vcf5`. Your password for the nodes in the `vcf` cluster is the same as your `nike` password.

All programming assignments should be submitted to the "**cs1730b**" (note the "b") account on `nike`. If you make a submission related mistake, you are allowed one chance to resubmit the assignment during the entire semester. Anymore submission related mistakes beyond the first time will automatically result in a grade of 0.

If have trouble logging into `nike`, please contact `support@cs.uga.edu` as soon as possible. Forgetting your username or password and waiting on System Support is **NOT** an excuse for late work.

If you prefer, you may choose to **work in groups** for the coding assignments of this class. The contributions of each member in a group should be roughly equal and must be documented in detail in the `README` file. Each member is also expected to fully understand the entire assignment and is able to reproduce an assignment if requested.

Please also note that **instructor and TAs will not debug code through email**. Always start on your assignments early and see one of us in person for help.

Lab Brainstorms & Reflections

Each breakout lab will have a planning component in the form of brainstorm submissions. Students will submit a couple sentences to an eLC dropbox that outlines their understanding of the problem presented in the lab description as well as a plan of attack for solving that problem. These brainstorm submissions are generally due before the end of the student's lab period. Students should include the names of any other students they collaborate with when submitting their brainstorm.

Each breakout lab will also have a reflection component. Along with each lab's final submission, students will include a `README` file. Among other things, this `README` file will contain a reflection section. This reflection will be a brief summary that compares and contrasts what you planned to do (from your brainstorm) and what you actually did. The goal of this reflection exercise is to make students for mindful of planning ahead.

The grade for each lab submission will include points for the brainstorm and reflection submissions. Submissions that do not include a brainstorm or reflection will not be graded.

Lab Submission Deadlines

Lab brainstorms are generally due before the end each lab period. The rest of a lab is generally due before the next lab session. Deviations to these due dates may be made by the course instructor. **Students who do not physically attend lab will not have their submissions graded**. If there is an extraneous circumstance and you need to miss lab, then please let your lab TAs know as soon as possible, preferably before missing lab.

Late Work

Work that is turned in late is subject to a 10% deduction in the number of potential points for each 24 hour period (including weekends) that has passed since the time when the assignment was due. Assignments may be submitted up to 48 hours late.

Policy for Re-grades

You may request a re-grade of any graded item any time within 7 calendar days (i.e., not 7 class days) of receiving the grade on eLC. Please always **turn on at least the grade and announcements related notifications** in eLC Notifications settings. To make a regrade request, you should follow the following procedures:

1. Make a **private** post on Piazza to the TA who graded your assignment (**UTA grades labs; GTA grades projects**) and the instructor. Please explain to your TA in detail why your assignment should be considered for regrading.
2. If necessary, you may need to see your TA in person in order to resolve the issue.
3. After attempting the above and the issue is still not resolved, please see your instructor.

Make-up Exams

Students may request to make up an exam or quiz only under exceptional circumstances, such as family or medical emergencies, and must have a way to verify their exception.

Student use of Technology in the Classroom

Access to the Internet can be a valuable aid to the classroom-learning environment. Unless otherwise noted, students are encouraged to use laptops, smart phones, and other devices in order to explore concepts related to course discussions and topics. Students are discouraged from using technology in ways that distract from the learning community (e.g. Facebook, texting, work for other classes, etc.) and if found doing so, will be asked to leave the classroom for the day.

Academic Honesty

As a University of Georgia student, you have agreed to abide by the University's academic honesty policy, "A Culture of Honesty,"and the Student Honor Code. All academic work must meet the standards described in "A Culture of Honesty" found at: `http://www.uga.edu/honesty`. Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Questions related to course assignments and the academic honesty policy should be directed to the instructor.

The Computer Science Department recognizes honesty and integrity as necessary to the academic function of the University. Therefore all students are reminded that the CS faculty requires compliance with the conduct regulations found in the University of Georgia Student Handbook. Academic honesty means that any work you submit is your own work.

Common forms of academic dishonesty, which students should guard against, are:

- copying from another student's test paper or laboratory report, or allowing another student to copy from you;
- fabricating data (computer, statistical) for an assignment;

- helping another student to write a laboratory report or computer software code that the student will present as his own work, or accepting such help and presenting the work as your own;
- turning in material from a public source such as a book or the Internet as your own work.

Three steps to help prevent academic dishonesty are:

- Familiarize yourself with the regulations.
- If you have any doubt about what constitutes academic dishonesty, ask your instructor or a staff member at the Office of the Vice President for Instruction.
- Refuse to assist students who want to cheat.

In addition to the terms expressed above, you also agree not to make any portion of your assignments for this class publicly available for others to view. This includes, but is not limited to, posting snippets of your code on help websites. Engaging in activities similar to this will be seen as either giving or receiving unauthorized assistance. With regard to question and answer websites (e.g., StackOverflow, Yahoo Answers, etc.), you may ask general questions about programming on such websites that relate to your assignments in this class, however, you must phrase such questions in a way that make them independent of the specific problem you are having. If you receive help from such sites, then you should document the source of your help in your code. Of course, you are still not allowed to simply copy large portions of code from the Internet and submit it as your own work. If you need specific help with portions of your code, then you must consult with the instructor or teaching assistants first (unless expressly and explicitly stated otherwise in the assignment description).

All faculty, staff and students are encouraged to report all suspected cases of academic dishonesty. All cases of *suspected* academic dishonesty (cheating) will be referred to the Office of the Vice President for Instruction for academic dishonesty. Penalties imposed by the Office of the Vice President for Instruction may include a failing grade in the course and a notation on the student's transcript. Repeated violations are punishable by expulsion from the University.

Collaboration Policy

Collaboration is a big part of this class. We do allow for discussion and help among students, but we expect you to document any significant help that you receive in your breakout lab brainstorms and assignment `README` files. You must always include the names of your collaborators when submitting an assignment. You should be able to reproduce anything you submit. If the instructor or a TA does not think that you can reproduce a submission, then they can call you out on it and appropriate actions will be taken as per the Academic Honesty Policy (outlined above).

Additional Information

Students with a disability or health-related issue who need a class accommodation should make an appointment to speak with the instructor as soon as possible.

When emailing the instructor or TA, please include a `[cs1730]` tag in the subject line. Note, we receive a lot of email, so it sometimes takes us a while to sort through our inboxes. Please allow 24-hours for a response on a weekday, and 48-hours for a response on the weekend or holiday/break. Communication via Piazza is preferred.

Remember, the course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary. Last updated August 13, 2018.