CAAM 519 - Computational Science I

Fall 2021 Syllabus

Instructor	Mohammad Sarraf Joshaghani
Lecture	Mon/Wed/Fri 11-11:50am
Classroom	Online for the first 2 weeks (then DCH 1075)
Graders	TBA
Email	m.sarraf.j@rice.edu
Website	https://msarrafj.github.io/CAAM519-FA21/
Office Hours	Wed 12-2pm
Office Location	Online (or DCH 2001)

Course Description

The purpose of this course is to familiarize you with a set of useful tools for scientific computing. We will cover topics ranging from Unix operating systems, typesetting utilities (LaTeX), bash programming, version control systems, memory management software and debuggers. We will work exclusively in a Unix-like environment (Linux, Mac OS-X). The course will use a number of popular programming languages for numeric computing (C, C++, and Python).

Objectives

The main objective for this course is to help you begin and maintain research projects that are heavily computing focused.

Materials

Access to a computer, in which you are able to install software and run code, is essential for this course. If you do not have access, please get in touch with me no later than the first week of class so we can figure out a solution. Lecture notes, posted on the course website, will be the primary reading materials for the course. We do not have an official textbook for this course, but some good reference texts and resources are

- Google :-)

- *The C Programming Language* by Brian W. Kernighan and Dennis M. Ritchie

- *The C++ Programming Language* by Bjarne Stroustrup

- *The LATEX Companion* by Frank Mittelbach, Michel Goossens, Johannes Braams, David Carlisle, and Chris Rowley

Assignments and Policies

The course grade will be determined by untimed assignments and projects. We will have approximately one assignment every 1-2 weeks. You are encouraged to discuss these assignments with other students, but the final write-up (including computer code) must be entirely your own work. Likewise, you are encouraged to use online resources to help with technical questions. However, directly copying code from online sources or elsewhere is strictly forbidden. Late assignments will be penalized 25% and will only be accepted up to one class period after the original due date without prior arrangement.

Disability Support Services

If you have a documented disability that may affect academic performance, you should: 1) make sure this documentation is on file with Disability Resource Center (Allen Center, Room 111) to determine the accommodations you need; and 2) contact me to discuss your accommodation needs.

COVID-19 policies

Rice pushed back the semester start day to Wednesday, August 25, 2021. For the first two weeks, the plan is for students to attend classes online to allow additional time for students to get tested and vaccinated in order to keep everyone safe. The online-only plan will be in effect through Friday, September 3. As noted earlier in the message from Crisis Management, students - vaccinated and unvaccinated - must wear a mask in the classroom. While lecturing, vaccinated instructors can forgo wearing a mask if they maintain a distance of at least 10 feet be- tween themselves and their students. Vaccinated individuals who are not formal course instructors but take an instructor-like role (such as a teaching assistant while lecturing, a student defending a thesis or a guest speaker) may similarly choose to forgo wearing a mask if vaccinated and main- taining appropriate distance. Unvaccinated instructors must wear a mask at all times. For more information, please visit `https://coronavirus.rice.edu/policies`.

Title IX

Rice University cares about your well being and safety. Rice encourages any student who has experienced an incident of harassment, pregnancy discrimination, gender discrimination, or relationship, sexual, or other forms interpersonal violence to seek support through The SAFE Office. Students should be aware when seeking support on campus that most employees, including myself, as the instructor, are required by Title IX to disclose all incidents of non-consensual interpersonal behaviors to Title IX professionals on campus who can act to support that student and meet their needs. For more information, please visit `safe.rice.edu` or email `titleixsupport@rice.edu`.