ECE 322 - Systems Programming
University of Massachusetts Amherst
The College of Engineering
Department of Electrical and Computer Engineering

News

09/07/2022   First lecture 12:20-1:10pm in Hasbrouck Lab room 134

Overview

The primary objectives of the course are to provide a deep introduction to both i) "systems" software programming in a Unix environment and ii) the basic suite of tools for engineering system software. Systems programming topics include process control, static and dynamic linking, exceptional control flow, system-level I/O, network programming, inter-process communication, and concurrent programming.

Organization

The prerequisite for the course is ECE 241 (or CMPSCI 187). The required textbook is Computer Systems: A Programmer's Perspective. As the book title indicates, we will cover all topics from a "programmer's perspective" with a focus on how each topic affects software performance and design. The course will focus primarily on C programming. Since Unix is written in C, it is the language of choice for systems-level programming. The course assumes you are familiar with a C-like language, such as Java, but does not assume you already know or are familiar with C. The classic book that describes C is The C Programming Language, which was written by the original authors of C and Unix.

The class will consist of three lectures on MWF from 12:20-1:10pm in Hasbrouck Lab room 134.

Course grades will be determined based on the following breakdown:

- 6 Assignments: 50%
- Midterm Exam: 25%
- Final Exam: 25%

Please note that all projects and assignments are due by midnight (11:59pm) on the due date.

Academic Honesty Statement

Maintaining the integrity of scholarship and research within institutions of higher education requires a cultural commitment. The University Academic Honesty Policy Applies in this and all courses. This policy can be found on the University Web Page (https://www.umass.edu/honesty/). Academic dishonesty includes but is not limited to cheating, fabrication, plagiarism, and abetting or facilitating dishonesty. Since students are expected to be familiar with this policy and the commonly accepted standards of academic integrity, ignorance of such standards is not normally sufficient evidence of lack of intent. Concerns about academic dishonesty may be reported to the course instructor, another trusted faculty or staff member, the department head, or anonymously through the department (refer to departmental webpage) or College's classroom experience form (https://tinyurl.com/UMassEngineerClassroom).

Cheating and Plagiarism Policy

The University Academic Honesty Policy Applies in this and all courses. This policy can be found on the University Web Page (https://www.umass.edu/honesty/). Appendix B covers plagiarism, cheating, fabrication, and facilitating dishonesty. Students are expected to be familiar with the definitions and examples provided.

Health and Wellbeing

You are not alone at UMass - many people care about your wellbeing and many resources are available to help you thrive and succeed. The College recognizes that coursework is challenging and that classes are not the only demand in your life. Success in this course and the College of Engineering depends heavily on your personal health and wellbeing. Recognize that while stress is an expected part of the college experience, it can be compounded by unexpected setbacks or life changes outside the classroom. Strive to reframe challenges as an unavoidable pathway to success. Reflect on your role in taking care of yourself throughout the term, before the demands of exams and projects reach their peak. Please feel free to reach out to me about any difficulty you may be having that may impact your performance as soon as it occurs and before it becomes too overwhelming.

You can learn about the confidential mental health services available on campus by calling the Center for Counseling and Psychological Health (CCPH) by visiting their website at umass.edu/counseling. They provide a lot of resources beyond individual therapy. Check-out some of their great, free resources, including Togetherall and Welltrack. There are many other resources on campus for students facing personal, financial or life challenges to find support, stay in school, and graduate (https://www.umass.edu/studentlife/single-stop).

Within the College, you may reach out to myself, your academic advisor, the Office of Student Affairs (http://engineering.umass.edu/current-students/academics-advising) or the Office of Diversity, Equity, and Inclusion (engindiversity@umass.edu). I encourage you to contact support services on campus that stand ready to assist you. Remember that as your instructor, I am here to help you find the resources you need.

Accessibility Support Services

Your success in this class is important to me. We all learn differently and bring different strengths and needs to the class. The University of Massachusetts Amherst is committed to making reasonable, effective, and appropriate accommodations to meet the needs of all students and help create a barrier-free campus. Beyond disability accommodations, if there are aspects of the course that prevent you from being fully included in the class, please let me know as soon as possible. Together we'll develop strategies to meet both your needs and the requirements of the course.

If you have a documented disability on file with Disability Services, you may be eligible for reasonable accommodation for this course. If your disability requires accommodation, please notify me as early as possible in the course - preferably no later than the first week - so that we may plan in a timely manner. Returning students and new students who have met with an AC over the summer to discuss their accommodations, can send their "Letter of Accommodation Eligibility" to faculty or instructors of record through Clockwork beginning Tuesday, August 16th. If you have a disability but are not yet affiliated with Disability Services, please register with Disability Services, and let me know. Information on services and materials for registering are also available on their website ((https://www.umass.edu/disability/students). If you are eligible for exam accommodations, your exams will typically be administered by the exam proctoring center. Contact Disability Services immediately, and comply with their exam scheduling policies, including the requirement that you book your exams at least seven days in advance of the exam date.

Inclusivity

Everyone should feel that they are an integral part of the community and that all individuals and their perspectives are respected. A diversity of perspective and experience provides a valuable source of ideas, problem solving strategies, and engineering creativity. If you feel that your contribution is not being valued or respected for any reason, please speak with me privately. If you wish to communicate with someone else in the College or University, there are several ways to do so anonymously or to provide contact information if you so choose:

1. Notify the University Diversity, Equity, and Inclusion Office through the "Report a Climate Incident" form:
https://www.umass.edu/diversity/incident-report-form
Note that this form requires sharing name and contact information.
2. Speak with Assistant Dean Dr. Paula Rees (rees@umass.edu).
3. Report an incident anonymously to the College of Engineering Diversity, Equity, and Inclusion Office
-Climate Concerns and Suggestions - https://tinyurl.com/UMassEngineerClimate
-Classroom Experience - https://tinyurl.com/UMassEngineerClassroom
4. Reach out to the departmental DEI Committee
-Anonymous ECE feedback form: https://ece.umass.edu/ece-diversity-equity-inclusion (scroll down for feedback link)

We are all members of an academic community with a shared responsibility to cultivate a climate where all individuals are valued and where both they and their ideas are treated with respect.

Pronouns and Names

Everyone has the right to be addressed by the name and pronouns that they use for themselves. Students can indicate their preferred/chosen first name and pronouns on SPIRE, which appear on class rosters. Please let me know what name and pronouns I should use for you if they are not on the roster. Please kindly correct me and fellow classmates when we make mistakes. To learn more, please see this resource:
https://www.umass.edu/stonewall/sites/default/files/pronouns_intro.pdf

Gender Respect and Title IX

The University of Massachusetts Amherst aspires to be a university environment that is free of discrimination, sexual harassment, and sexual violence. If you or someone you know has experienced sexual assault, sexual misconduct, or sexual discrimination please see https://www.umass.edu/titleix/ for information about resources and reporting options. A report to the Title IX Coordinator, Kerri Thompson Tillett, J.D., may be made at any time through the online reporting tool, the Title IX Coordinator's email (TitleIXCoordinator@umass.edu), telephone number (413.545.3464) or mail. UMass Amherst is committed to supporting community members who report concerns of prohibited conduct. Please reach out to me if you would like assistance connecting with any of these resources/options.