**ECSE 4300**

**Operating Systems**

**(Tuesday and Thursday) @ (2:00 pm – 3:15 pm) @ ITE 336**

## Instructor Information

**Professor/Instructor/Facilitator:**

Professor Maifi Khan

Email: [maifi.khan@uconn.edu](mailto:maifi.khan@uconn.edu)

**Teaching Assistant Contact:**

Ehsan UlHaque

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**Course Materials**

**Required Textbook:**

Modern Operating Systems

by Andrew S. Tanenbaum

## Course Policy and Guidelines

**Grading**

* Final (33%)
* Midterm - I (14%) (Feb 29, during class hour)
* Midterm - II (14%) (Apr 4, during class hour)
* Homework (12%)
* Programming Assignments (27%)

**Due Dates and Late Policy**

All course due dates are identified in the assignment documents. Deadlines are based on Eastern Time unless otherwise specified. *The instructor reserves the right to change dates accordingly as the semester progresses. All changes will be communicated in an appropriate manner.*

No Late submission is accepted unless university accepted reasons such as medical conditions or family emergency are provided. However, we will give you a 24 hour window after the deadline. For instance, if the assignment is due on Feb 10, midnight (11:59 pm), we will accept until Feb 11, midnight (11:59 pm). If you submit after that, you will receive partial grade after that based on the following formula.

Each day late will cost you 20% penalty. Meaning, after 5 days of being late, you will receive a 0.

No partial credit if submitted beyond that period.

**You must make prior arrangements if you need an extension.**

Under exceptional circumstances, the instructor may accept late submission.

**Feedback and Grades**

We will make every effort to provide feedback and grades in a timely manner. To keep track of your performance in the course, refer to My Grades in HuskyCT.

## Academic Integrity

**Policy on Academic Integrity/Cheating:**

* **ALL HOMEWORKS AND PROGRAMMING ASSIGNMENTS MUST BE COMPLETED INDIVIDUALLY.**
* This class has a zero tolerance for cheating policy.
* Both the cheater and the student who aided the cheater will be held responsible for the cheating.
* University policy will be applied for cheating or other forms of misconduct.
* Penalty for cheating will be decided by the instructor.

## Course Outline

**Topics Covered:**

- Introduction

- Threads and Processes

- Scheduling

- Memory Management

- File Systems

- Input/output

- Deadlocks

- OS/161 (Required for programming Assignments)

- Basics of Security

## Tentative Class Meeting Schedule

|  |  |
| --- | --- |
| **Week** | **Lecture Topic** |
| Jan 16 | Introduction |
| Jan 18 | Processes and Threads |
| Jan 23 | Processes and Threads  Assignment 1 |
| Jan 25 | Introduction to Linux, C Programming |
| Jan 30 | Interprocess Communication  Assignment 2 |
| Feb 1 | Process and Threads |
| Feb 6 | Memory Management  HW1 |
| Feb 8 | Paging |
| Feb 13 | Paging  HW2  Assignment 3 |
| Feb 15 | Paging |
| Feb 20 | Page replacement algorithms |
| Feb 22 | Design and Implementation issues |
| Feb 27 | Midterm Review |
| **Feb 29** | **Midterm 1** |
| March 5 | Segmentation |
| March 7 | Assignment 4  File system |
| March 12 | Spring Recess |
| March 14 | Spring Recess |
| March 19 | File system |
| March 21 | Deadlock - Detection and Avoidance  HW3 |
| March 26 | Input/Output |
| March 28 | Input/Output |
| Apr 2 | Midterm Review |
| **Apr 4** | **Midterm 2** |
| Apr 9 | Security  Assignment 5 |
| Apr 11 | Security  HW4 |
| Apr 16 | Distributed System |
| Apr 18 | Distributed System |
| Apr 23 | Final Review |
| Apr 25 | Final Review |

## How to Succeed in this Course

All students can succeed in this course and we are here to help you along the way. Please do not hesitate to ask questions or attend office hours. All questions are important here. Success in this course program depends heavily on your personal health and well-being. Recognize that stress is an expected part of the college experience, and it often can be compounded by unexpected setbacks or life changes outside the classroom. Your teaching assistants and I strongly encourage you to reframe challenges as an unavoidable pathway to success. Reflect on your role in taking care of yourself throughout the semester, 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 in your courses or campus life as soon as it occurs and before it becomes too overwhelming. In addition to your academic advisor, I strongly encourage you to contact the many other support services on campus that stand ready to assist you.

You can reach out to any of the followings as needed:

[Dean of Students Office](https://dos.uconn.edu/), [Academic Achievement Center](https://achieve.uconn.edu/), [Writing Center](https://writingcenter.uconn.edu/), [Quantitative Learning Center](https://qcenter.uconn.edu/), [Center for Students with Disabilities](https://csd.uconn.edu/), [Title IX Office](https://titleix.uconn.edu/title-ix-at-uconn/about-title-ix-uconn/), [Student Health and Wellness -- Mental Health](https://counseling.uconn.edu/)

Note that the above list is not exhaustive and there are other available resources at UConn.

## Resources for Students Experiencing Distress

The University of Connecticut is committed to supporting students in their mental health, their psychological and social well-being, and their connection to their academic experience and overall wellness. The university believes that academic, personal, and professional development can flourish only when each member of our community is assured equitable access to mental health services. The university aims to make access to mental health attainable while fostering a community reflecting equity and diversity and understands that good mental health may lead to personal and professional growth, greater self-awareness, increased social engagement, enhanced academic success, and campus and community involvement.

Students who feel they may benefit from speaking with a mental health professional can find support and resources through the [**Student Health and Wellness-Mental Health**](https://counseling.uconn.edu/) (SHaW-MH) office. Through SHaW-MH, students can make an appointment with a mental health professional and engage in confidential conversations or seek recommendations or referrals for any mental health or psychological concern.

Mental health services are included as part of the university’s student health insurance plan and also partially funded through university fees. If you do not have UConn’s student health insurance plan, most major insurance plans are also accepted. Students can visit the **Student Health and Wellness-Mental Health located in Storrs on the main campus in the Arjona Building, 4th Floor,** or contact the office at **(860) 486-4705, or** [**https://studenthealth.uconn.edu/**](https://nam10.safelinks.protection.outlook.com/?url=https%3A%2F%2Fcounseling.uconn.edu%2F&data=02%7C01%7Csuzanne.lafleur%40uconn.edu%7C8de70653941b46a391c008d82eaa9de5%7C17f1a87e2a254eaab9df9d439034b080%7C0%7C0%7C637310657616301680&sdata=sV755zd9%2F4RCEkS3OHYwdjGjGkZRLNVdHklZLtnhHSI%3D&reserved=0)for services or questions**.**

## Accommodations for Illness or Extended Absences

Please stay home if you are feeling ill and please go home if you are in class and start to feel ill. If illness prevents you from attending class, it is your responsibility to notify me as soon as possible. You do not need to disclose the nature of your illness, however, you will need to work with me to determine how you will complete coursework during your absence.

If life circumstances are affecting your ability to focus on courses and your UConn experience, students can email the Dean of Students at dos@uconn.edu to request support. Regional campus students should email the Student Services staff at their home campus to request support and faculty notification.

COVID-19 Specific Information: People with COVID-19 have had a wide range of symptoms reported. Additional information including what to do if you test positive or you are informed through contract tracing that you were in contact with someone who tested positive, and answers to other important questions can be found here:<https://studenthealth.uconn.edu/updates-events/coronavirus/>

## Student Responsibilities and Resources

As a member of the University of Connecticut student community, you are held to certain standards and academic policies. In addition, there are numerous resources available to help you succeed in your academic work. Review these important [standards, policies and resources](https://onlinestudent.uconn.edu/learn--more/#POL), which include:

* The Student Code
  + Academic Integrity
  + Resources on Avoiding Cheating and Plagiarism
* Copyrighted Materials
* Credit Hours and Workload
* Netiquette and Communication
* Adding or Dropping a Course
* Academic Calendar
* Policy Against Discrimination, Harassment and Inappropriate Romantic Relationships
* Sexual Assault Reporting Policy

## Students with Disabilities

The University of Connecticut is committed to protecting the rights of individuals with disabilities and assuring that the learning environment is accessible. Students who require accommodations should contact the Center for Students with Disabilities, Wilbur Cross Building Room 204, (860) 486-2020 or<http://csd.uconn.edu/>.

Blackboard measures and evaluates accessibility using two sets of standards: the WCAG 2.0 standards issued by the World Wide Web Consortium (W3C) and Section 508 of the Rehabilitation Act issued in the United States federal government.” (Retrieved March 24, 2013 from [Blackboard's website](http://www.blackboard.com/platforms/learn/resources/accessibility.aspx))

## Software/Technical Requirements

The software/technical requirements for this course include:

* HuskyCT/Blackboard ([HuskyCT/ Blackboard Accessibility Statement](http://www.blackboard.com/Platforms/Learn/Resources/Accessibility.aspx), [HuskyCT/ Blackboard Privacy Policy](http://www.blackboard.com/footer/privacy-policy.aspx))
* [Adobe Acrobat Reader](http://www.adobe.com/products/acrobat/readstep2.html) ([Adobe Reader Accessibility Statement](http://www.adobe.com/accessibility/products/reader.html), [Adobe Reader Privacy Policy](http://www.adobe.com/privacy.html))
* Personal Computer
* Dedicated access to high-speed internet
* Other required software will be listed in the assignment descriptions as needed.

## Help

This course uses the learning management platform, [HuskyCT](http://huskyct.uconn.edu/). If you have difficulty accessing HuskyCT, you have access to the in person/live person support options available during regular business hours through the [Help Center](http://helpcenter.uconn.edu/). You also have [24x7 Course Support](http://www.ecampus24x7.uconn.edu/) including access to live chat, phone, and support documents.

## Student Technology Training

Student technology training is now available in a new HuskyCT short course created by students for students. It will prepare you to use the IT systems and services that you will use throughout your time at UConn, whether learning online or on-campus.  It is available at

<https://lms.uconn.edu/ultra/courses/_80016_1/cl/outline> .

## Evaluation of Course Experience

Students will be given an opportunity to provide feedback on their course experience and instruction using the University's standard procedures, which are administered by the [Office of Institutional Research and Effectiveness](http://www.oire.uconn.edu/) (OIRE).

**Statement on Copyright**:

*My lectures, notes, handouts, and displays are protected by state common law and federal copyright law. They are my own original expression and I’ve recorded them prior or during my lecture in order to ensure that I obtain copyright protection. Students are authorized to take notes in my class; however, this authorization extends only to making one set of notes for your own personal use and no other use. You are not authorized to record my lectures, or provide copies of materials to anyone else, or make a commercial use of them without prior permission from me*.