

## CPSC 410 OPERATING SYSTEMS

**Instructor:** Keith Perkins  
**Office Hours:** Luter Hall 207  
MWF 2-3 PM  
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### Description

The goal of this course is to introduce operating systems concepts, such as I/O processing, interrupt structure and multiprocessing-multiprogramming, job and resource management, batch and interactive processing, threads (coordination & deadlock), computer networking through teleprocessing and system performance evaluation.

### Objectives

The essential objectives of this course are to develop specific skills, competencies and points of view needed by professionals in the field, and gaining factual knowledge, such as terminology, classifications and trends.

Other important objectives are learning to apply course material and solving problems, and learning principles, generalizations or theories.

### Grading

Grades will be based on programming assignments, exams during the semester and a final exam. A final grade will be calculated by using the weights below:

|             |     |
|-------------|-----|
| Assignments | 40% |
| Midterm     | 30% |
| Final Exam  | 30% |

| Points | 100-93     | 93-90       | 90-87       | 87-83      | 83-80       | 80-77       | 77-73      | 73-70       | 70-60      | < 60       |
|--------|------------|-------------|-------------|------------|-------------|-------------|------------|-------------|------------|------------|
| Grade  | A<br>(4.0) | A-<br>(3.7) | B+<br>(3.3) | B<br>(3.0) | B-<br>(2.7) | C+<br>(2.3) | C<br>(2.0) | C-<br>(1.7) | D<br>(1.0) | F<br>(0.0) |

### Textbook

Operating Systems Internals and Design Principles, William Stallings, 7<sup>th</sup> or later Edition, Pearson.  
YOU DO NOT NEED ANY KEYCODES, A USED TEXT IS FINE

### Assignments

Assignments are done individually or in teams of 2 students assigned by the instructor.

You may discuss assignments with classmates but must never share (copy or transcribe) any files. This means that assignments must be the result of **your own academic effort**.

**Topics**

A tentative list of topics is given below.

| TOPICS  |
|---|
| <ul style="list-style-type: none"><li>• C++ introduction</li><li>• Chapter 1 &amp; 2: Computer System &amp; Operating System Overview</li><li>• Chapter 3: Process Description &amp; Control</li><li>• Chapter 4, 5 &amp; 6: Threads &amp; Concurrency (Mutual Exclusion, Coordination &amp; Deadlock)</li><li>• Chapter 7 &amp; 8: Memory Management &amp; Virtual Memory</li><li>• Chapter 9 &amp; 10: Uni- and Multi-processor Scheduling</li><li>• (*)Chapter 11 &amp; 12: I/O &amp; File Management</li><li>• (*) Chapter 13: Embedded Systems</li><li>• (*) Chapter 14 &amp; 15: Computer Security</li><li>• (*) Chapter 16: Distributed Processing</li></ul> |

(\*) wish list

**Disabilities:**

In order for a student to receive an accommodation for a disability, that disability must be on record in the Dean of Students' Office, 3<sup>rd</sup> Floor, David Student Union (DSU). If you believe that you have a disability, please contact Dr. Kevin Hughes, Dean of Students (594-7160) to discuss your needs. Dean Hughes will provide you with the necessary documentation to give to your professors.

Students with documented disabilities are required to notify the instructor no later than the first day on which they require an accommodation (the first day of class is recommended), in private, if accommodation is needed. The instructor will provide students with disabilities with all reasonable accommodations, but students are not exempted from fulfilling the normal requirements of the course. Work completed before the student notifies the instructor of his/her disability may be counted toward the final grade at the sole discretion of the instructor.

**Success:**

I want you to succeed in this course and at Christopher Newport. I encourage you to come see me during office hours or to schedule an appointment to discuss course content or to answer questions you have. If I become concerned about your course performance, attendance, engagement, or well-being, I will speak with you first. I also may submit a referral through our Captains Care Program. The referral will be received by the Center for Academic Success as well as other departments when appropriate (Counseling Services, Office of Student Engagement). If you are an athlete, the Athletic Academic Support Coordinator will be notified. Someone will contact you to help determine what will help you succeed. Please remember that this is a means for me to support you and help foster your success at Christopher Newport.

**Academic Support:**

The Center for Academic Success offers free tutoring assistance for Christopher Newport students in several academic areas. Staff in the center offer individual assistance and/or workshops on various study strategies to help you perform your best in your courses. The center also houses the Alice F. Randall Writing Center. Writing consultants can help you at any stage of the writing process, from invention, to development of ideas, to polishing a final draft. The Center is not a proofreading service, but consultants can help you to recognize and find grammar and punctuation errors in your work as well as provide assistance with global tasks. Go as early in the writing process as you can, and go often!

You may drop by the Center for Academic Success to request a tutor, meet with a writing consultant, pick up a schedule of workshops, or make an appointment to talk one-on-one with a University Fellow for Student Success. The Center is located in Newport Hall, first floor, room 123.