CSCI 460 Syllabus

Course
Operating Systems

Session
Fall 2017

Class Location and Time
9:00 AM – 9:50 AM Monday, Wednesday and Friday
Social Science 362

Instructor
William Knight

Office
Social Science 403

Office hours
3:00 to 4:00 PM Monday, Wednesday and Friday or by appointment

Email
William.Knight@umontana.edu

Course prerequisites
CSCI 205, CSCI 232
Required Text Book

Operating System Principles and Practice 2nd Edition by Thomas Anderson and Michael Dahlin. Publisher: Recursive Books

Learning Outcomes

After successful completion of this course students should be well acquainted with the role of the operating system in the implementation and management of:

- Programs and processes
- Multi-threaded programs
- CPU Scheduling
- Main Memory
- Virtual Memory
- Process Synchronization
- Deadlocks
- File-System
- I/O Systems
- Protection
- Security

Grade Distribution

Exams (2)................................................................................................................. 20%
Projects (5).......................................................................................................... 50%
Quizzes(5).............................................................................................................. 10%
Homework (10)................................................................................................. 20%
### Grading Scale

<table>
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<tr>
<th>Score Range</th>
<th>Grade</th>
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<tr>
<td>90 – 100</td>
<td>A</td>
</tr>
<tr>
<td>87 – 89</td>
<td>B+</td>
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<tr>
<td>80 – 86</td>
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<td>77 – 79</td>
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<td>70 – 76</td>
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<td>67 – 69</td>
<td>D+</td>
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<tr>
<td>60 – 66</td>
<td>D</td>
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<td>00 – 59</td>
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### Resources

**Required Text**

- Linux Kernel Development 3rd Ed., Robert Love
- Pthreads Programming – A POSIX Standard for Better Multiprocessing, Nichols et al.
- Modern Operating Systems 4th Ed, Tanenbaum and Bos

**Other texts that are often useful**

- Linux Kernel Development 3rd Ed., Robert Love
- Pthreads Programming – A POSIX Standard for Better Multiprocessing, Nichols et al.
- Modern Operating Systems 4th Ed, Tanenbaum and Bos

### Academic Ethics

Ethics in academic activities are important at the University of Montana. We wish to graduate students who are responsible, hardworking, dependable, and who exhibit integrity and independence of thought.

While I do not mind if you discuss your assignments with your classmates, you are expected to design, edit and print your own assignments. You are expected to take tests without outside assistance. All work is expected to be your own.

**Examples:**

- Splitting up the work in an assignment among several students is not acceptable.
- Working together on the solution to an assigned problem, writing-it-up once, and then turning-in a copy, or a copy-and-pasted version, is not acceptable.
- Overly similar work will be considered to be the result of copying. If you collaborate with another person for a graded assignment as in the example activities noted above, all parties involved will receive a zero for that assignment. If there are further assignments in which you have collaborated, the matter will be turned over to the Dean of Academic affairs for possible university imposed sanction. It is, therefore, imperative that if you need help on your assignments that you contact your instructor and NOT someone else.

The official University policies can be found in the [Student Conduct Code](#).
Department Contact
Robyn Berg
SS 401
(406) 243-2866
robynb@cs.umt.edu

Disability Accommodations
The Department of Computer Science is committed to equal opportunity in education for all students, including those with documented physical disabilities or documented learning disabilities. University policy states that it is the responsibility of students with documented disabilities to contact instructor DURING THE FIRST WEEK OF THE SEMESTER to discuss appropriate accommodations to ensure equity in grading, classroom experiences, and outside assignments.

The instructor will meet with the student and the staff of the Disability Services for Students (DSS) to make accommodations.

Religious Observance
Religiously observant students wishing to be absent on holidays that require missing class should notify their professors in writing at the beginning of the semester, and should discuss with them, in advance, acceptable ways of making up any work missed because of the absence.

Excused Absences for University Extracurricular Activities
Students participating in an officially sanctioned, scheduled University extracurricular activity will be given the opportunity to make up class assignments or other graded assignments missed as a result of their participation. It is the responsibility of the student to make arrangements with the instructor prior to any missed scheduled examination or other missed assignment for making up the work.

Other Useful Information
• No make-up exams will be given without prior consent of the instructor.
• Any student wishing to contest a grade received on a test, program or research paper should contact the Instructor in a timely manner.
• Unless otherwise stipulated in the instructions, all programs must be developed in a UNIX environment using C.
• In-class students are required to turn in assignments and take tests on the date specified.
• Late materials will only be accepted at the discretion of the Instructor and are subject to a late penalty.
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<thead>
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<th>Week</th>
<th>Dates</th>
<th>Topic</th>
<th>Monday</th>
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<tr>
<td>1</td>
<td>9/1</td>
<td>Course overview, Introduction</td>
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<td>First day of class</td>
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<tr>
<td>2</td>
<td>9/4 – 9/8</td>
<td>Ch 1: Introduction to Operating Systems</td>
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<td>Labor Day</td>
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<td>3</td>
<td>9/11 – 9/15</td>
<td>Ch 2: The Kernel</td>
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<td>Quiz #1</td>
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<td>Ch 3: Programming Interface</td>
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<tr>
<td>4</td>
<td>9/18 – 9/22</td>
<td>Ch 2: The Kernel</td>
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<td>Project 1 due</td>
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<td>Ch 3: Programming Interface</td>
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<td>5</td>
<td>9/25 – 9/29</td>
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<td>Ch 4: Concurrency</td>
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<td>10/2 – 10/6</td>
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<td>Quiz #3</td>
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<td>10/16 – 10/20</td>
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<td>Midterm</td>
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<td>10/23 – 10/27</td>
<td>Ch 5: Synchronization</td>
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<td>Project 3 due</td>
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<td>Ch 7: Scheduling</td>
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|    | 10/30 – 11/3 | Ch 7: Scheduling  
Ch 8: Address Translation | HW 6 due | Quiz #4 |
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<tr>
<td>10</td>
<td>11/6 – 11/10</td>
<td>Ch 8: Address Translation</td>
<td>HW 7 due</td>
<td>Veterans Day</td>
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<tr>
<td>11</td>
<td>11/13 – 11/17</td>
<td>Ch 9: Virtual Memory</td>
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<td>Project 4 due</td>
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| 12 | 11/20 – 11/24 | Ch 9: Virtual Memory | HW 8 due | Travel Day  
Thanksgiving |
| 13 | 11/27 – 12/1 | Ch 11: File Systems | HW 9 due | Quiz #5 |
| 14 | 12/4 – 12/8  | Ch 11: File Systems  
Ch 13: Directories | HW 10 due | Project 5 due |
| 15 | 12/11 – 12/15 | Last day of class | Study/Reading Day | Finals |
| 16 | 12/18 – 12/22 | Finals | Finals | Finals |