CS 471 Operating Systems - Fall 2017 -

Course Description
Catalog Description
This course is 3 credits. Prerequisites: a grade of C or better in CS 270 and CS 361. There will be Laboratory work required.

Topics include:

- Operating system structures
- Multiprogramming and multiprocessing
- Process management
- Memory and other resource management
- Storage management
- I/O systems
- Distributed systems
- Protection and security

These concepts will be illustrated through example systems such as Unix and Windows.

Readings and Materials
Readings

Required Materials

Optional Materials
Reference material and links to videos

Course Objectives
At the end of the course, the student will be able to:

1. Recognize the general purpose and need of the online course
2. Explain the need for an operating system
3. Describe the functionality of an operating system
4. Discern the structure of an operating system and its components
5. Discern the key role of processes and threads
6. Explain inter-process communication
7. Analyze synchronization problems in computer systems
8. Analyze operating system algorithms for performance
9. Identify mechanisms to detect and handle deadlocks
10. Assess operating system policies in terms of the cost they incur
11. Discern the limitations of main memory
12. Explain the need for memory mechanisms such virtual memory, paging and segmentation.

13. Describe different mechanisms for secondary storage management

14. Discern the general structure of a distributed system

15. Recognize the need for coordination among processes in a distributed application

16. Evaluate protection and security policies in an operating system

17. Configure an operating system and evaluate its characteristics

18. Build operating system software

---

**How the Course Works**

This online course employs several methods of delivery and learning activities including online lectures and presentations, threaded discussions, Web sites, video clips, reading and written assignments, self-assessment checks, examinations, e-mail, and electronic access of information.

---

**Grading Criteria**

Your grade in this class will be based on the following:

<table>
<thead>
<tr>
<th>Examination</th>
<th>Points</th>
<th>Weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid-Term Examination</td>
<td>125</td>
<td>20%</td>
</tr>
<tr>
<td>Final Examination</td>
<td>125</td>
<td>20%</td>
</tr>
<tr>
<td>Participation</td>
<td>25</td>
<td>5%</td>
</tr>
<tr>
<td>Journal</td>
<td>25</td>
<td>5%</td>
</tr>
<tr>
<td>Course Project</td>
<td>100</td>
<td>15%</td>
</tr>
<tr>
<td>Homework</td>
<td>100</td>
<td>35%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>500</td>
<td>100%</td>
</tr>
</tbody>
</table>

The grading scale is as follows (+ and - modifiers will be applied as appropriate):

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>95-100</td>
</tr>
<tr>
<td>A-</td>
<td>90-94</td>
</tr>
<tr>
<td>B+</td>
<td>87-89</td>
</tr>
<tr>
<td>B</td>
<td>84-86</td>
</tr>
<tr>
<td>B-</td>
<td>80-83</td>
</tr>
<tr>
<td>C+</td>
<td>77-79</td>
</tr>
<tr>
<td>C</td>
<td>74-76</td>
</tr>
<tr>
<td>C-</td>
<td>70-73</td>
</tr>
<tr>
<td>D+</td>
<td>67-69</td>
</tr>
<tr>
<td>D</td>
<td>64-66</td>
</tr>
<tr>
<td>F</td>
<td>Below 64</td>
</tr>
</tbody>
</table>

**Late Assignments**

http://ple.odu.edu/courses/201710/cs471/syllabus
Any assignment submitted after its deadline is considered late. The following penalties for late assignments apply:

* 0-24 hours late: -5%
* 25-48 hours late: -10%
* 49-72 hours late: -20%
* after 72 hours not accepted

This time limit includes weekends -- they are counted just like weekdays.

I reserve the right to specify that late submissions will not be accepted for particular assignments

---

**Student Responsibilities**

By attending Old Dominion University you have accepted the responsibility to abide by this code:

_I pledge to support the honor system of Old Dominion University. I will refrain from any form of academic dishonesty or deception, such as cheating or plagiarism. I am aware that as a member of the academic community, it is my responsibility to turn in all suspected violators of the honor system. I will report to Honor Council hearings if summoned._

I do not tolerate academic dishonesty at any level and such conduct will result a substantial penalty for all parties involved.

**Time Management**

Students are expected to spend 10 hours per week on the course materials and assignments. Out of 10 hours, students are expected to spend approximately 3 hours per week to read the material and another 3 hours/week for the homework and discussions.

**Utilizing Online Components**

Refer to the START HERE section within the Blackboard menu and the course tour

**Study Guide Strategies**

[Link to study guide strategies](#)

**Papers Citation Styles: MLA, APA, Chicago & CBE**

[Link to papers citation styles](#)

**Attendance**

Since this is an on-line course, there is no mandatory attendance policy. However, students are expected to actively participate in the discussions, homework submissions, and journal writing. Each of these components is graded and counted toward the final grade.

---

**Course Policies**

**Online Classroom Conduct (Netiquette)**

Students are expected to follow good Netiquette rules. Netiquette is the accepted behavior for online participation. The following is a list of general guidelines for this course:

- Check your grammar and spelling
- Keep your comments focused on the topic
- Strive to write succinctly and clearly
- Share your knowledge and include supportive evidence for your comments
- Do not use all capital letters as that is viewed as shouting
- Avoid flaming—disrespectful language is unacceptable

Select the link to find more information on Netiquette.

**Attendance**

Since this is an on-line course, there is no mandatory attendance policy. However, students are expected to actively participate in the discussions, homework submissions, and journal writing. Each of these components is graded and counted towards the final grade.

**Tests and Make-ups**

The same information for homework will apply for tests and make-up work: If a situation has occurred that requires your time and attention which will prevent submitting your work on time, please notify your instructor 24 hours before the scheduled due date.

---

**Course Disclaimer**

http://ple.odu.edu/courses/201710/cs471/syllabus
Every attempt is made to provide a syllabus that is complete and that provides an accurate overview of the course. However, circumstances and events may make it necessary for the instructor to modify the syllabus during the semester. This may depend, in part, on the progress, needs, and experiences of the students.

University Policies

Honor Pledge

"I pledge to support the honor system of Old Dominion University. I will refrain from any form of academic dishonesty or deception, such as cheating or plagiarism. I am aware that as a member if the academic community, it is my responsibility to turn in all suspected violators of the honor system. I will report to Honor Council hearings if summoned."

By attending Old Dominion University you have accepted the responsibility to abide by this code. This is an institutional policy approved by the Board of Visitors. For more information please visit the Honor Council.

Special Needs

Old Dominion University is committed to achieving equal educational opportunity and full participation for persons with disabilities. It is the university's policy that no qualified person be excluded from participation in any university program or activity, be denied the benefits of any university program or activity, or otherwise be subjected to discrimination with regard to any university program or activity. This policy derives from the university's commitment to Non-discrimination for all persons in employment, access to facilities, student programs, activities and services. For additional information visit the Office of Educational Accessibility online or at 1525 Webb Center.

Disability Services.

In compliance with PL94-142 and more recent federal legislation affirming the rights of disabled individuals, provisions will be made for students with special needs on an individual basis. The student must have been identified as special needs by the university and an appropriate letter must be provided to the course instructor. Provision will be made based upon written guidelines from the University's Office of Educational Accessibility. All students are expected to fulfill all course requirements.

University Email Policy

The Old Dominion University e-mail system is the official electronic mail system for distributing course-related Communications, policies, Announcements and other information. In addition, the University e-mail user ID and password are necessary for authentication and access to numerous electronic resources (online courses, faculty Web pages, etc.)

Withdrawal

A syllabus constitutes an agreement between the student and the course instructor about course requirements. Participation in this course indicates your acceptance of its teaching focus, requirements, and policies. Please review the syllabus and the course requirements as soon as possible. If you believe that the nature of this course does not meet your interests, needs or expectations, if you are not prepared for the amount of work involved - or if you anticipate that the class meetings, assignment deadlines or abiding by the course policies will constitute an unacceptable hardship for you - you should drop the class by the drop/add deadline, which is located in the ODU Schedule of Classes. For more information, please visit the Office of the Registrar.