

Syllabus

Instructor
Dr. K. Kalpakis
Computer Science & Electrical Engineering Department
Office: ITE 348
Phone: (410) 455-3143
Email: kalpakis@csee.umbc.edu
Office Hours: TueThu 4:00pm–5:00pm, and by appointment.

Course Homepage
http://www.csee.umbc.edu/~kalpakis/Courses/421/

Meeting Time and Place

<table>
<thead>
<tr>
<th>Instructor:</th>
<th>Dr. K. Kalpakis</th>
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</thead>
<tbody>
<tr>
<td>Meeting Time:</td>
<td>TueThu 2:30pm - 3:45pm</td>
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<tr>
<td>Meeting Place:</td>
<td>ITE 227</td>
</tr>
<tr>
<td>Office Hours:</td>
<td>TueThu 4:00pm-5:00pm</td>
</tr>
</tbody>
</table>

Teaching Assistant

<table>
<thead>
<tr>
<th>Name</th>
<th>Email</th>
<th>Office Hours</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>Amol Deshpande</td>
<td><a href="mailto:amold1@umbc.edu">amold1@umbc.edu</a></td>
<td>TueThu 4:00-5:00pm</td>
<td>ITE 240</td>
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Class Lab
The CMSC–421 Lab is in ITE 240. For hours and lab rules see the class homepage.

Important Dates

- Midterm Exam, Tuesday, March 25, 2014, 2:30pm–3:45pm.
- Last class, Tuesday, May 13, 2014, 2:30pm–3:45pm
- Final Exam, Thursday, May 15, 2014, 1:00pm–3:00pm.

Prerequisites
CMSC–341, and (CMSC–211 and CMSC–311) or CMSC–313 or (CMPE–310 and CMPE–312).
If you do not meet the prerequisites, you will be asked to drop the course. In addition, students must know C.

Text
The course texts are


List of Topics

- Introduction and historical perspective
- Process Management, inter-process communication, and Threads
- Process and CPU Scheduling
- Process Synchronization (semaphores and monitors), and deadlocks
- Address spaces, multiprogramming, and I/O
- Memory management, address translation, and virtual memory
- File systems and Secondary Storage
- Security and Protection
- Special topics (TBA, tentative)

Course Objectives

Each student will (a) learn the fundamental concepts of designing and implementing or extending modern Operating Systems, (b) gain deep understanding of the operations of modern Operating systems, (c) apply software development tools and skills, and (d) practice his/her communication skills.

Required Work

Required work consists of (1) taking the midterm exam and final exam, (2) two or more homework
assignments, and (3) two or more substantial programming projects. Further, you are expected to actively participate in class discussions. Academic dishonesty will be dealt severely according to University Policy.

**Ground Rules for Assignments**

There will be homework and project assignments.

- Assignment details, due dates, etc will be posted at the class homepage. Students are strongly advised to check the class homepage on a regular basis. Failure to do so is not an acceptable excuse for missing an assignment or for not adhering to the assignment’s instructions.

- You may develop the programs for your assignments using the computers in the class lab, or any other computer available to you. However, no matter what computer you use to develop your programs, you must make sure that your programs can run successfully on the computers in the class lab.

- All assignments must be submitted electronically. No late assignments will be accepted, unless University Policy states otherwise.

- In submitting an assignment, students must adhere to the submission instructions specified by that assignment.

- The written part of each assignment must be typed using a word–processor of your choice (you may include hand–written mathematical formulas and/or diagrams as images in your documents). No matter how you prepare the written part of your assignment, it must submitted in the Adobe PDF format. No other formats are going to be accepted.

- No collaboration. Each assignment is to be done and written individually by each student. Students should not collaborate on any assignment.

- Students may be asked to come in and explain their solution(s) to an assignment to the instructor(s) and/or TAs. Failure to satisfactory demonstrate authorship of a solution is a violation of Academic Integrity policy.

Students are strongly advised to keep up with the assignments and other coursework. Homework and project assignments do demand the amount of time allocated to them.

**Exams**

There will be a midterm exam and a comprehensive final exam. The final exam will be joint for all the sections. All the exams will take place in class and will be closed–book and closed–notes.

Make–up exams are very rare and are possible only in the extreme conditions specified by University Policy. You should make prior arrangements with the instructor if you expect to miss an exam.

Each student should have his student photo identification card or driver’s license when taking an exam. Failure to produce a proper photo ID may result in getting a zero on that exam.
### Activity Weight

<table>
<thead>
<tr>
<th>Activity</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Homeworks and projects</td>
<td>40%</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>25%</td>
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<tr>
<td>Final Exam</td>
<td>35%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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</table>

Table 1: Course Activities and their relative weights.

### Communication

Students are strongly advised to check the class homepage, their section specific webpage, and the course Blackboard area [http://blackboard.umbc.edu](http://blackboard.umbc.edu) on a regular basis for news, announcements, and assignments. Failure to do so is not an acceptable excuse for missing an assignment or announcement.

Students are welcome to use the course Blackboard area to discuss topic matters. However, student's are advised not to solicit or post solutions to any assignment or otherwise violate Academic Integrity policy.

### Class Lab

The class has a lab in ITE 240. You will be able to access the lab using your UMBC student ID swipe cards. You must observe all the rules regarding usage of the lab. Failure to observe those rules will result in suspending your lab access. The TAs will be holding their office hours in the lab.

### Grading Policy

The course grades will be determined as follows. For each course activity in Table 1, each student will receive an activity score, which will be the average of the student’s scores on the assignments for that activity. An activity score is a number in the range 0...100. A term score will be computed by taking the weighted sum of the activity scores, using the relative weights given in Table 1. The instructor will convert term scores into letter grades by using the following mapping:

- $[90, 100] \Rightarrow A$
- $[80, 90) \Rightarrow B$
- $[70, 80) \Rightarrow C$
- $[60, 70) \Rightarrow D$
- $[60, 100] \Rightarrow P$
- $[0, 60) \Rightarrow F$

Incomplete grades will be issued only under those extreme situations described by University Policy for granting incompletes. Failure to complete assignments on time is not a sufficient reason for an incomplete.

**Necessary, but not sufficient, conditions to pass the course are as follows:** you must have a homeworks/projects activity score of at least 50% of the total points, and at least 30% points for each exam, including the final exam.
Academic Integrity Policy
By enrolling in this course, each student assumes the responsibilities of an active participant in UMBC’s scholarly community in which everyone’s academic work and behavior are held to the highest standards of honesty. Cheating, fabrication, plagiarism, and helping others to commit these acts are all forms of academic dishonesty, and they are wrong. Academic misconduct could result in disciplinary action that may include, but is not limited to, suspension or dismissal. To read the full Undergraduate Student Academic Conduct Policy consult [http://www.umbc.edu/provost/integrity_policy.html](http://www.umbc.edu/provost/integrity_policy.html)

There is no tolerance for academic dishonesty in this course. Any and all academic dishonesty acts will be treated severely, as prescribed in the UMBC’s Undergraduate Student Academic Conduct Policy.

ADA Compliance
We recognize that some of you may have disabilities that require special attention from the instructional staff. Please make us aware of them at your earliest so that UMBC can make suitable arrangements.