Course Description

An introductory graduate course on computer systems topics, focusing on operating systems components and their relevance for application programming. Linking, processes, virtual memory, dynamic memory allocation, system level I/O, networking and network programming, concurrent servers and web services.

Prerequisite(s): CSC 406 Systems I, and CSC 402 Data Structures in Java II with a grade of C- or better.

Course Information

Instructor: Duru Turkoglu, CDM 846 (243 S Wabash), 312-362-8127
dturkogl(at)cdm(*)depaul(*)edu

Schedule: Section 902: Thursday 5:45pm - 9:00pm, CDM 224, Loop
Section 910: Online

Homepages: http://condor.depaul.edu/dturkogl/courses/csc407/
http://d2l.depaul.edu/

Office Hours: Tuesdays 1:30pm - 3:00pm, CDM 846
Wednesdays 1:00pm - 2:30pm, CDM 846
Also by email appointments
Required Textbooks


Objectives

The objectives of this course is to develop a permanent understanding of:

- C programming skills;
- Techniques for improving code performance;
- Basic concepts of UNIX I/O (network applications, distributed systems);
- Static and dynamic linking, and avoid common linking problems;
- Control flow, processes, and apply this knowledge to develop applications: shells, web servers;
- Concurrent programs, multithreading.

Assessment

- The course grade will be composed of:

<table>
<thead>
<tr>
<th>Item</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Homework assignments</td>
<td>15%</td>
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<tr>
<td>Labs</td>
<td>18%</td>
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<tr>
<td>Quizzes</td>
<td>10%</td>
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<tr>
<td>Midterm exam</td>
<td>25%</td>
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<tr>
<td>Final exam</td>
<td>35%</td>
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</tbody>
</table>

- There will be five (5) homework assignments and three (3) labs and four (4) quizzes (quizzes are 902: inclass, 910: online).
- The final exam will be comprehensive, i.e., will require knowledge of the material covered in the entire course. You must complete the final exam to pass the course.
- The grading scale will be as below, where pluses/minus will be given at the high/low ends of each grade range.

<table>
<thead>
<tr>
<th>Range</th>
<th>Letter</th>
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<tbody>
<tr>
<td>90 ≤ ... &lt; 100</td>
<td>A</td>
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<tr>
<td>80 ≤ ... &lt; 90</td>
<td>B</td>
</tr>
<tr>
<td>70 ≤ ... &lt; 80</td>
<td>C</td>
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<tr>
<td>60 ≤ ... &lt; 70</td>
<td>D</td>
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<tr>
<td>0 ≤ ... &lt; 60</td>
<td>F</td>
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</table>
Lecture Plan

The below lecture plan is tentative and subject to change as the course progresses.

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Plan</th>
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<tbody>
<tr>
<td>1</td>
<td>Mar 31</td>
<td>Unix and C overview</td>
</tr>
<tr>
<td>2</td>
<td>Apr 7</td>
<td>Caching</td>
</tr>
<tr>
<td>3</td>
<td>Apr 14</td>
<td>Processes, exceptions, and signals</td>
</tr>
<tr>
<td>4</td>
<td>Apr 21</td>
<td>Virtual memory</td>
</tr>
<tr>
<td>5</td>
<td>Apr 28</td>
<td>Dynamic memory allocation</td>
</tr>
<tr>
<td>6</td>
<td>May 5</td>
<td>Misterm</td>
</tr>
<tr>
<td>7</td>
<td>May 12</td>
<td>System level I/O and networks</td>
</tr>
<tr>
<td>8</td>
<td>May 19</td>
<td>Network programming and web servers</td>
</tr>
<tr>
<td>9</td>
<td>May 26</td>
<td>Concurrent programming, and synchronization</td>
</tr>
<tr>
<td>10</td>
<td>Jun 2</td>
<td>Optimizing program performance</td>
</tr>
<tr>
<td>11</td>
<td>Jun 9</td>
<td>Final Exam</td>
</tr>
</tbody>
</table>

Policies

Course Policies

1. Students in the lectured section (902) must attend class. Students in the online section (910) must watch the online recording within 48 hours of its publication online.

2. Students must subscribe to and follow the discussion platform in a timely fashion.

3. In class and online, students are strongly encouraged to ask questions and offer comments relevant to the course material.

4. All electronic interactions are an extension of the classroom and should be treated as such. While disagreement can be part of the discourse, online communication should remain respectful and appropriate rather than demeaning and/or unprofessional.

5. Lecture slides are a supplement to lectures only. The slides are not intended to be read in lieu of listening to the lecture.

6. Classroom use of a laptop or tablet must normally be restricted to class-related tasks such as note taking, checking references, testing code examples, etc.

Absence Notifications

Should a student need to be absent from class for a medical or personal reason, the Dean of Students Office can notify faculty of absences not exceeding five days. For additional information, please see: http://offices.depaul.edu/student-affairs/support-services/academic/Pages/absence-notification.aspx

The absence notification does not mean the student is excused from course material, assignments or exams. It is ultimately up to each professor to decide what, if any, accommodation can be provided in light of this absence. It is the student’s responsibility to follow up with the faculty member to inquire about such accommodations.
Academic Integrity and Plagiarism
This course will be subject to the university’s academic integrity policy. More information can be found at http://academicintegrity.depaul.edu/. If you have any questions be sure to consult with your professor.

Academic Policies
All students are required to manage their class schedules each term in accordance with the deadlines for enrolling and withdrawing as indicated in the University Academic Calendar. Information on enrollment, withdrawal, grading and incompletes can be found at: http://www.cdm.depaul.edu/Current%20Students/Pages/PoliciesandProcedures.aspx

Changes to Syllabus
This syllabus is subject to change as necessary during the quarter. If a change occurs, it will be thoroughly addressed during class, posted under Announcements in D2L and sent via email.

Exams
To maintain the academic integrity of its online courses, DePaul CDM requires that students registered in online sections complete proctored exams. Students registered in an on-campus section are not allowed to register for a proctored exam, and must take the exam with the on-campus section. For additional information, please see: http://www.cdm.depaul.edu/onlinelearning/pages/onlinepolicies.aspx

Incomplete Grades
An incomplete grade is a special, temporary grade that may be assigned by an instructor when unforeseeable circumstances prevent a student from completing course requirements by the end of the term and when otherwise the student had a record of satisfactory progress in the course. For additional information, please see: http://www.cdm.depaul.edu/Current%20Students/Pages/Grading-Policies.aspx.

Online Course Evaluations
Evaluations are a way for students to provide valuable feedback regarding their instructor and the course. Detailed feedback will enable the instructor to continuously tailor teaching methods and course content to meet the learning goals of the course and the academic needs of the students. They are a requirement of the course and are key to continue to provide you with the highest quality of teaching. The evaluations are anonymous; the instructor and administration do not track who entered what responses. A program is used to check if the student completed the evaluations, but the evaluation is completely separate from the students identity. Since 100% participation is our goal, students are sent periodic reminders over three weeks. Students do not receive reminders once they complete the evaluation. Students complete the evaluation online in CampusConnect.
Students with Disabilities

Students who feel they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential. To ensure that you receive the most appropriate accommodation based on your needs, contact the instructor as early as possible in the quarter (preferably within the first week of class), and make sure that you have contacted the Center for Students with Disabilities (CSD) at: mailto:csd@depaul.edu

Loop Campus — Lewis Center #1420, 25 E Jackson Blvd.
Phone number: 312-362-8002
Lincoln Park Campus — Student Center #370, 2250 N Sheffield Ave.
Phone number: 773-325-1677
Fax: 312 362 6544
TTY: 773 325 7296

Withdrawal

Students who must withdraw from this course may do so by using the University’s web registration system. For additional information, please see: http://offices.depaul.edu/depaul-central/academics/registration/Pages/withdrawal-policy.aspx.

Retroactive Withdrawal

This policy assists students for whom extenuating circumstances prevented them from meeting the withdrawal deadline. For additional information, please see: http://www.cdm.depaul.edu/Current%20Students/Pages/Enrollment-Policies.aspx.