CS342 OPERATING SYSTEMS

Dr. İbrahim Körpeoğlu
http://www.cs.bilkent.edu.tr/~korpe

About the Course

- Will teach operating systems
  - Concepts and components
- Will include projects and programming homeworks
  - Hands-on approach
- Examples from a real operating system
  - Linux
- Will involve lots of programming
  - using C language.
### About the Course: sections

There are 3 sections.

<table>
<thead>
<tr>
<th>Instructors</th>
<th>Sections</th>
<th>Office</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>İbrahim Korpeoğlu</td>
<td>Sections 1 &amp; 2</td>
<td>EA408</td>
<td>x2599</td>
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<tr>
<td>William Sawyer</td>
<td>Section 4</td>
<td>EA429</td>
<td>x3398</td>
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### About the Course: weekly schedule

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<thead>
<tr>
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<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thu</th>
<th>Fri</th>
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<td>09:40</td>
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About the Course: website

Visit regularly

About the Course: textbook

- Mandatory Textbook:
  - Operating System Concepts (7th Edition) by Abraham Silberschatz, Peter Baer Galvin, Greg Gagne
  - Everybody should have and read

  - Next year it will be mandatory

- Book Buy Forum: http://groups.google.com/group/cs342forum09
About the Course: textbook

- Recommended Textbook: Modern Operating Systems (3rd Edition) by Andrew S. Tanenbaum
  - Some content may be included from this book.

About the Course: tentative plan

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<thead>
<tr>
<th>#</th>
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<tr>
<td>1</td>
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<td>Introduction; Operating System Structures</td>
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<td>2</td>
<td>Feb 16</td>
<td>Processes and Threads</td>
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<td>4</td>
<td>Mar 2</td>
<td>CPU Scheduling</td>
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<td>5</td>
<td>Mar 9</td>
<td>Synchronization</td>
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<td>6</td>
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<td>Synchronization; Deadlocks</td>
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<td>Mar 23</td>
<td>Deadlocks; Main Memory</td>
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<td>8</td>
<td>Mar 31</td>
<td>Virtual Memory</td>
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<td>Apr 06</td>
<td>File Systems</td>
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<td>10</td>
<td>Apr 13</td>
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<td>Mass Storage Structure</td>
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<td>12</td>
<td>Apr 27</td>
<td>Input/Output</td>
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<td>13</td>
<td>May 04</td>
<td>Protection</td>
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<td>14</td>
<td>May 11</td>
<td>Distributed Systems</td>
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Web site will be more up-to-date
About the course: projects

- There will be 5-6 projects
- Will involve low level programming in Linux environment
  - Some kernel level projects
- Will use automated tools for testing
- C programming language
  - Please start refreshing your C/C++ knowledge
  - We highly recommend you to read the following book:

About the course: projects

- You need to install Linux on your desktop/laptop
- We suggest Ubuntu version 8.10
- Website will give some links
- It is important that everybody can program in C and in Linux
- You need to perform above a threshold in the projects to pass the course
Other issues

• Ask questions
• Attendance is important
• Use the forum
• Help each other to debug programs
• Be persistent in debugging

Instructor: ibrahim Körpeoglu

• Detailed information on web: http://www.cs.bilkent.edu.tr/~korpe
• Assistant Professor in
  – Bilkent University, Dept of Computer Engineering
• B.S. degree from
  – Bilkent University, Dept of Computer Engineering
• M.S. and Ph.D. degrees from
  – University of Maryland, College Park, Dept of Computer Science
    Thesis on Mobile and Wireless Networking
• Industry Experience in
  – Ericsson, CA
  – IBM T.J. Watson Research Center, NY
  – Bell Labs, NJ
  – Telcordia Technologies (formerly Bellcore), NJ
  (worked on Networking Systems, Protocols, and Algorithms)
Instructor: ibrahim Korpeoglu

- Teaching
  - Operating Systems, Wireless Networking Courses (current)
  - Data Structures, Digital Design, Networking Programming (past)

- Research
  - Computer Networks
  - Wireless and Mobile Networks
  - Sensor Networks
  - Mesh Networks
  - Peer-to-Peer Networks
  - WiFi, WiMAX, Bluetooth, ZigBee Wireless Technologies
  - Distributed Systems, Algorithms and Protocols

Lecture Format

- Start at hour:40; please be on time
- 45 minutes lecture (you can ask questions at any time)
- Last 5 minutes for again questions and finish

- Break (10 minutes); you can get coffee/tea

- Next lecture