Comp 7970
Storage Systems

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High Performance Storage Systems
Today’s Goal:

- Course Objectives
- Course Content & Grading
- Introduce you to Storage Systems
- Answer your questions about COMP 7970
- Provide you a sense of the trends that shape the field

COMP 7970: Semester Calendar

See the class webpage for the most up to date version!

http://www.eng.auburn.edu/~xqin/courses/comp7970
COMP 7970, Auburn University

**Teaching**

**Fall 2007**
- COMP 7970 Storage Systems (New Course Announcement)

**Spring 2007**
- CS533 Advanced Computer Architecture (New Course Announcement)
- CS535 Principles of Operating Systems

**Fall 2006**
- CS5996 Distributed Systems
- CS331 Computer Architecture

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COMP 7970, Auburn University

**Slide 01-7**

**COMP 7970**

**Storage Systems**

**Fall 2007**

**Instructor:** Xiao Qin

**Office hours:** TBD

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**Announcements**

- The New Course Announcement of COMP 7970 is available. [Posted Friday 6/1/2007]
- The webpage of COMP 7970 is launched. [Posted Friday 6/1/2007]

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**Course Information**

In this graduate class, we will address advanced topics in the arena of storage systems. We presume that students who will take this class have a basic knowledge of the design of computer systems. This course will be research intensive, driven by decision...
What will you get out of Comp 7970?

- Students who have completed this course should be capable of doing the following:
  - Understand fundamental issues in storage systems design
  - Understand the architecture and characteristics of components on which storage systems are built
  - Improve technical writing and oral presentation skills.

Will it be worthwhile?

- SuperServers
- Departmental Servers
- Workstations
- Personal Computers
**Will it be worthwhile?**

**IBM.**

<table>
<thead>
<tr>
<th>Position</th>
<th>Software Engineer - Storage Systems (Posted on 6/1/2007)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>San Jose, CA</td>
</tr>
<tr>
<td>Company</td>
<td>IBM</td>
</tr>
<tr>
<td>Part of the Job Description</td>
<td>The Storage Systems function at the IBM Almaden Research Center is looking for creative and highly productive software engineers to design and implement storage and data management solutions.</td>
</tr>
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**Will it be worthwhile?**

**EMC²**

<table>
<thead>
<tr>
<th>Position</th>
<th>Managed Svgs Storage Architect (Posted on 5/30/2007)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Livonia, MI</td>
</tr>
<tr>
<td>Company</td>
<td>EMC Corporation</td>
</tr>
<tr>
<td>Part of the Job Description</td>
<td>The architect will be responsible for designing, documenting and maintaining the storage and/or the backup/restore infrastructure in order to meet agreed upon SLAs.</td>
</tr>
</tbody>
</table>

**COMP 7970, Auburn University**
Will it be worthwhile?

<table>
<thead>
<tr>
<th>Position</th>
<th>Software Development Engineer (Posted on 6/1/2007)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Redmond, WA</td>
</tr>
<tr>
<td>Company</td>
<td>Microsoft</td>
</tr>
<tr>
<td>Part of the Job</td>
<td>Our mission is to improve the scalability, reliability, operation costs, and agility of engineering Cloud services at Microsoft. We are working on a broad range of technologies for this space including distributed storage, distributed computation, program analysis, and diagnostics.</td>
</tr>
<tr>
<td>Description</td>
<td></td>
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Topic Coverage

- There are no texts for this course. Handouts, book chapters, and papers will be used as supplement course material. The course material will be posted online.
- Covers (These topics may change)
  - File systems
  - Parallel disk systems
  - Scheduling
  - Data replication
  - Security
  - Virtualization
  - Distributed storage systems
  - Memory-based file systems
  - Energy-efficient storage systems
Course Syllabus

• Prerequisite: OS
• no exams
• Grading
  – Class Participation 20%
  – Proposal 20%
  – Progress Report 20%
  – Presentation 20%
  – Technical Report 20%

Course Syllabus (cont.)

• Scale
  – Letter grades will be awarded based on the following scale. This scale may be adjusted upwards if it is necessary based on the final grades.
  – A+ >= 97  A >= 93  A- >= 90  B+ >= 87  B >= 83  B- >= 80  C+ >= 77  C >= 73  C- >= 70
  – D+ >= 67  D >= 63  D- >= 60  F < 60
Office Hours and Exams

Office hours: Monday 10:00-12:00

Am I going to read papers to you?

• NO!
• Papers provide a framework and complete background, so lectures can be more interactive.
  – You do the reading
  – We’ll discuss it
• Projects will go “beyond”
Questions

Please ask at any time!