CSci 5980: Storage Systems for Big Data

Time: Tuesday and Thursday 1:00 to 2:15 pm
Location: STSS 312
Spring 2015, 3 Credits
Instructor

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Walter Library 421
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Office Hours: Tuesday and Thursday 11:00 to 12:00
Teaching Assistants

There will be no TA for this class.
What is CSci 5980 about?

- Introductory to storage systems
- Fundamental principles and general concept
- What are the new developments in storage technologies and devices?
- Focus on both software and hardware aspects
- Familiar with techniques to support big data
Course Materials

- No text book
- A set of papers will be provided
- One (?) paper will be assigned for each lecture
- Each student is expected reading the paper before coming to the class
- Interactive discussion will be the format for each lecture
Class Information

http://www-users.cselabs.umn.edu/classes/Spring-2015/csci5980-as/

Grades will be based on class attendance (40%) and final exam (60%)

Class attendance include showing up in each lecture, reading the paper assigned and actively involved with discussion
Covered Subjects

- Introduction
- Emerging storage devices: HDD, flash memory based SSD, NVRAM, SWD, OSD, and Kinetic Drives
- Storage System Architectures: tiered storage, storage hierarchies, cloud storage
- File Systems
Subjects (Cont.)

- Applications: data deduplication, big graphs, checkpointing, key-value store and long-term data preservation
- New Storage Trends: software defined storage