Introductions

• Professor: Ioan Raicu
  – http://www.cs.iit.edu/~iraicu/
  – http://datasys.cs.iit.edu/

• TA: TBA

• Everyone else
  – Background?
  – What do you want to get out of this course?
This course is a tour through various topics and technologies related to Cloud Computing.
Explore solutions and learn design principles for building large network-based systems, to support compute and data intensive computing across geographically distributed infrastructures.
Discussions often grounded in real Cloud Computing systems:
- Amazon EC2 and S3, Microsoft Azure, Google AppEngine, Eucalyptus, Nimbus, OpenStack, Google's MapReduce, Yahoo's Hadoop, Microsoft's Dryad, Sphere/Sector, etc.
Course Overview (cont)

• Understand methods and approaches to:
  – Design, implement, and evaluate cloud computing systems

• Course involves:
  – Lectures, outside invited speakers, homeworks, programming assignments, quizzes, and an exam

• Prerequisites:
  – None required
  – Highly recommended: CS450 (Operating Systems)
  – Recommended: CS550 (Advanced Operating Systems)
  – Helpful: CS542, CS546, CS551, CS570, and CS595 (Data-Intensive Computing)

• Required texts:
  – Distributed and Cloud Computing: Clusters, Grids, Clouds, and the Future Internet by Kai Hwang, Jack Dongarra & Geoffrey C. Fox
Course Topics

- Distributed System Models
- Parallel Computing
- Virtualization
- Cloud Platform Architectures
  - Amazon AWS
  - Microsoft Azure
  - Google App Engine
  - Google MapReduce / Yahoo Hadoop
  - Eucalyptus, Nimbus, OpenStack
- Service-Oriented Architectures
- Cloud Programming
- Grid Computing
- Peer-to-Peer Computing
• Written homeworks
  – 10 assignments
  – Will strengthen the theory behind cloud computing
  – Must be completed individually

• Programming Assignments
  – ~4 assignments
  – Will give hand on experience with cloud computing programming
  – Must be completed individually
Late Policy

- Assignments will be due at the beginning (11:25AM) of the lecture on the due date; there will be a 5 minute grace period.

- Written homeworks
  - 5 min ~ 24 hours late: 25% penalty
  - 1 day ~ 2 days late: 50% penalty
  - 2+ days late: 100% penalty

- Programming Assignments
  - 15% penalty per every day that it is late
  - 6+ days late: 100% penalty

- Quiz
  - There will not be any makeup quizzes; do not miss the quizzes

- Exams
  - There will not be any makeup exam; do not miss the final exam
• Written Homeworks (~10): 20%
• Programming Assignments (~4): 40%
• Quizzes (4): 20%
• Exam (1): 20%
• We will be using the textbook *Distributed and Cloud Computing: Clusters, Grids, Clouds, and the Future Internet* by Kai Hwang, Jack Dongarra & Geoffrey C. Fox.
• Write me:
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• Call me:
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• Mailing list
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• Office hours:
  – Professor: Wednesday, 12:40PM–1:40PM (SB 237D)
  – TA: TBA