Instructor: Chiu C. Tan
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Office hours: Friday 4:00pm to 6:00pm or by appointment

Course Information:
Name of course: Topics in Computer Science: Introduction to Mobile and Cloud Computing
Course number: CIS 5590
Credit hours: 3
Prerequisite: Students are expected to have taken undergraduate courses in operating systems and/or networking, and have working knowledge of common programming languages like Java, C/C++ or Python. Having taken graduate operating systems or networking courses (e.g. CIS 8512, CIS 8544, CIS 9669) will be useful, but not required.

Lecture schedule:
When: Thur 5:30pm to 8:00pm
Where: Tuttleman 403B
Class website: Blackboard and www.cis.temple.edu/~cctan/teaching.html

Disability Disclosure Statement: Any student who has a need for accommodation based on the impact of a documented disability, including special accommodations for access to technology resources and electronic instructional materials required for the course, should contact me privately to discuss the specific situation by the end of the second week of classes or as soon as practical. If you have not done so already, please contact Disability Resources and Services (DRS) at 215-204-1280 in 100 Ritter Annex to learn more about the resources available to you. We will work with DRS to coordinate reasonable accommodations for all students with documented disabilities.

Statement on Student and Faculty Academic Rights and Responsibilities Policy: Freedom to teach and freedom to learn are inseparable facets of academic freedom. The University has a policy on Student and Faculty and Academic Rights and Responsibilities (Policy #03.70.02) which can be accessed through the following link: http://policies.temple.edu/getdoc.asp?policy_no=03.70.02.

Course Goals: Mobile computing and cloud computing are increasingly being paired together, e.g. Windows Mobile & Azure and iPad/iPhone & iCloud. The combination of mobile and cloud computing brings together the best of both words: the portability and ubiquity of the mobile computing, together with the seemingly infinite resources of cloud computing. Research in this area requires background knowledge from several related fields, such as wireless networking (802.11, cellular, etc.), mobile computing (energy management, localization, sensing, etc.), and cloud computing (virtualization, data management, security, etc.), as well as new research problems resulting from the intersection of these topics.
Course Objectives: The objectives of the class are to
- Introduce students to basic systems and algorithms used in mobile and cloud computing;
- Present open research problems in mobile and cloud computing;
- Provide an opportunity to explore possible future research and/or hands-on training in mobile and cloud computing.

To accomplish this objective, the course will cover the following topics
- Data storage for mobile/cloud systems
- Wireless communications between mobile/cloud systems
- Computation offloading between mobile/cloud systems
- Security of mobile/cloud systems
- Applications of mobile/cloud systems

Course Materials:
Textbook: There will be no required textbook for the class. Reading materials will drawn from leading conferences and journal publications.
On-line resources: On-line resources and instructor supplied slides and documentation will be found in Blackboard.

Course Evaluations:
- 5% Attendance and participation. This is a graduate level class, and everyone is expected to contribute to the discussion.
- 5% Student paper presentations. There will also be 1-2 student presentations of recent research papers, depending on enrollment. List of presentation papers will be found on blackboard. The grading guidelines for student paper presentations is as follows.
  - 20% Explanation of the motivation for the paper
  - 40% Explanation of key technical contributions
  - 40% Analysis of paper’s strengths and weaknesses, and potential followup research
- 20% Quizzes. There will a combination of in-class/take-home quizzes. You can expect approximately 1 quiz per week. The in-class quiz will cover materials from previous lectures. The take-home quizzes may involve programming. All quizzes are equally weighted.
- 20% Comprehensive final exam. This will be based on university final exam schedule.
- 50% Research project. Students will complete a publication-quality report for their project. This can be accomplished either as an individual project, or as group project of 2 students, subject to approval. See the project description document on Blackboard for list of project topics. We will provided limited support for mobile devices and cloud computing accounts. The breakdown for the grading of the research project is as follows.
  - 30% Intermediate checkpoints (This include 3 project progress reports (1,2,3) and 1 project progress presentation. See schedule on blackboard for deadlines.)
  - 50% Research contributions
  - 10% Final project presentation
  - 10% Quality of final report writeup. The writeup must adhere to IEEE or ACM conference format.

Course policy:
- You are expected to attend all lectures on time. If you cannot come to lecture, please email me in advance.
- You must pass the final exam, and complete the project to pass the class.
- You are responsible for checking Blackboard regularly for any class updates. All paper readings and slides will be placed on Blackboard.
- You can refer to any resource (textbook, website, papers, etc.) and discuss with your classmates, but you must document your sources, and write up your own solution.

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1IEEE latex template can be found in http://www.ieee.org/conferences_events/conferences/publishing/templates.html. The ACM latex template can be found in http://www.acm.org/sigs/publications/proceedings-templates.
• All submissions will be done via email, and must be in pdf format.
• Late work (specified by submission after the stated deadline) will not be accepted without prior approval. If you believe you have a legitimate reason for late submission (medical, conference presentations, etc.), please inform me in advance in writing via email. I will respond to your request by email.
• There will be no makeup quizzes, presentations, or final exam, without prior approval. If you believe you have a legitimate reason for missing a quiz, presentation, or final exam (medical, conference presentations, etc.), please inform me in advance in writing via email. I will respond to your request by email.
• If you are doing a project with a group, all members in the group will receive the same grade. Groups, once formed, cannot add or remove members without prior approval.
• Appeals regarding grades should be directed to me by email no later than one week after the grades are returned. After that, all grades are assumed to be final.