**CSE 535 Mobile Computing Fall 2017, Instructor: Ayan Banerjee**

Book: **Fundamentals of Mobile and Pervasive Computing, by** Frank Adelstein, Sandeep K.S Gupta, Golden Richard, and Loren Schwiebert <https://books.google.com/books?id=NHf11lURNY8C>

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| 8/17/2017 | First day of class, Introductions, What is Mobile Computing? Mobile Apps (Chapter 1) |
| 8/22/2017 | Theory: Mobile Computing models and systems, Adaptation in Mobile Computing ((Chapter 1))  Assignment 1 Introduction |
| 8/24/2017 | Android Programming: Activity  Theory: Context Aware Computing (Chapter 4)  Group Formation Done |
| 8/29/2017 | Android Programming: Broadcast receivers, Services  Theory: context definitions (Chapter 4) |
| 8/31/2017 | Theory: Context Definitions continued |
| 9/5/2017 | Theory: Cognitive Mobile Computing, Implementation of machine learning algorithms in mobile computing infrastructure  Android Programming: Multithreading  Select your project |
| 9/7/2017 | Android Programming: Multithreading example,  Theory: Thread implementation, scheduling, and synchronization issues  Assignment 1 Due |
| 9/12/2017 | Theory: Sensing in Mobile Computing, Gestures, Physiological sensing, brain sensing,  Android Programming: Sensor Interfacing, Gesture recognition  Assignment 2 Introduction  Group 1 (R) & 2 (S) |
| 9/14/2017 | Theory: Mobility and probability theory  Group 3 & 4  Phase 1 results Due |
| 9/19/2017 | Theory: Location Management (Chapter 2)  Android Programming: Location based services  Group 5 & 6 |
| 9/21/2017 | Theory: Security (Chapter 12)  Group 7 & 8 |
| 9/26/2017 | Theory: Security (Chapter 12)  Android Programming: Security  Group 9 & 10 |
| 9/28/2017 | Theory: Mobile Middleware (Chapter 5 and 6)  Group 11 & 12 |
| 10/3/2017 | Assignment 2 Due  Theory: Machine Learning  Exam Review Midterm  Group 13 & 14 |
| 10/5/2017 | Midterm |
| 10/12/2017 | Theory: Mobile Offloading  Android Programming: The Android Wear Platform  Assignment 3 Introduction  Group 15 & 16 |
| 10/17/2017 | Phase 2 results due  Midterm Discussion  Theory: Mobile IP (Chapter 2)  Group 17 & 18 |
| 10/19/2017 | Theory: Performance evaluation of mobile apps  Application interference  Group 19 & 20 |
| 10/24/2017 | Theory: Smartphone GPU  Android Programming: Wear Platform continued  Group 21 & 22 |
| 10/26/2017 | Theory : Power Energy Performance  Android Programming: GPU programming in mobile computing  Group 23 & 24 |
| 10/31/2017 | Theory: Energy Efficiency and energy harvesting in mobile computing  Assignment 3 Due  Group 25 & 26 |
| 11/2 /2017 | Theory: Interfacing external sensors; Security and safety issues  Android Programming: External sensor interfacing  Group 27 & 28 |
| 11/7/2017 | Theory: Fault tolerance in mobile computing (Chapter 9)  Group 29 & 30 |
| 11/9/2017 | Theory: Internet of Things  Group 31 & 32 |
| 11/14/2017 | Theory: Internet of Things continued |
| 11/16/2017 | Android Programming : Sensor Programming  Phase 3 results due  Submit a video link showing how you have completed each task. |
| 11/21/2017 | Theory: Cyber-Physical Mobile Computing Systems |
| 11/28/2017 | Current Research Issues in Mobile Computing |
| 11/30/2017 | Final Review  Final report due |

Final Exam December 7th, 4:50 to 6:40 pm

Instructor: Dr. Ayan Banerjee, [abanerj3@asu.edu](mailto:abanerj3@asu.edu)  
TA: Junghyo Lee, [jlee375@asu.edu](mailto:jlee375@asu.edu)

(Note: For all emails, please include **CSE 535** in the subject line)

Grading Scheme:

Midterm: 20% (anything from class up to 10/3/2017)

Assignments: 20% (Assignment 1 = 5%, Assignment 2 = 7.5%, and Assignment 3 = 7.5%)

Final Exam: 20% (comprehensive)

Project 30% - (this is a group project. Group size is strictly 4. No exception to this rule.)

Research Component 10% - Every two group select one paper from Mobisys, Mobicom, Percom, UbiComp (2014 to 2017). The paper has to be declared to the class before the presentation for the group is due. All classmates read the paper. The instructor will discuss the paper in class. One of the group (reviewer) will write a review of the paper, the other group (scribe) will prepare a review of the review. Everybody reads both the review and the scribe. The grading will be performed as follows:

10% on the review/scribe : This will be evaluated based on the average score out of 15 given by your classmates on your review or scribe.

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| A+ | >100% | C+ | >=78- <79% |
| A | >=94-100% | C | >=70- <77% |
| A- | >=90- <94% | D | >=60- <69% |
| B+ | >=88- <90% | E | <60% |
| B | >=84- <87% |  |  |
| B- | >=80- <83% |  |  |