EE 542 : Internet and Cloud Computing, Summer 2017

(released March 10, 2017, subject to change later)

Class Website: http://**www.uscden.net/webapps/login**

Sec. 30555R (campus), 30556D (DEN), M.W. 9 -11:50 am, Class Room: OHE 120

Instructor: Kai Hwang, Professor of Electrical Engineering and Computer Science,

Office Hours: M.W. 1:20 – 3:20 am in EEB 212,

Email: kaihwang@usc.edu, Teaching Assistant: TBA

Recommended Background: (Not prerequisite) EE 457 or EE 450 recommended or consent by instructor.

Required Textbook: K. Hwang : ***Cloud Computing for Machine Learning and Cognitive Applications*** MIT Press, April 2017. (You must read the book to do HW and prepare for final exam, order it as soon as you can).

Course Description for Summer Session:

This course is designed for graduate students in electrical engineering and computer science. Students will learn the theory, architecture, hardware/software, and programming of computing clouds, machine learning, big data analytics, and cognitive computing applications. You will have the opportunity to gain hands-on experience in using Amazon cloud (AWS), where real-life cloud, big data, or IoT applications will be experimented with Amazon EC2 and S3 resources.

Syllabus and Lecture Contents: (updated March 10, 2017)

Lectures and Dates	**Topics Covered and Book Chapters you must read**
Lec.1 ~ 2 , June 28, July 3	Basics of Clouds and Big Data, Chapters 1, 2
Lec 3 ~ 5, July 3, 10. 12	Cloud Architecture, Project Spec, Chapters 3, 4, 5, **HW #1 due July 10**
Mid-Term Exam	**July 17, 2017** in class for 2 hours, followed by Project matters
Lec. 6 ~ 8 , July 19, 24, 26	Machine Learning, AI and Programming , Chap. 6, 7, 8, **HW#2 due July 31**
Lec. 9 ~ 10, July 31, Aug. 2	Cloud Performance and **Project Report due Aug.2,** Chapters 10
Final Exam	**August 7, 2017** in class for 2.5 hours

Grading Policy and Class Rules:

1. **Two Homework Sets (20 %): Mid-Term Exam (25 %), Cloud Project (20 %), and Final Exam (35 %).** All exams are close-book/close-notes. No make-up exam for any excuses. Summer session schedule is very compressed and you must gear up your time and effort to meet all the course requirements.
2. The **Term Project** requires you to experiment on an existing public cloud like AWS, (or Google cloud, Microsoft Azure). It will be done individually or by 2-student teams depending on size of class and whether you can easily form the team. A **Final Project Report is due on Aug.2.** You have to open up the cloud account immediately after Lecture 1 and finish the AWS experiments and reporting within July, essentially.