MS&E 238 - Leading Trends in Information Technology
Course Syllabus (Summer 2016)

Lecturer  
Daniel Barreto

Course Description  
This course will be focused on the new trends and disruptive technologies in IT. Emphasis will be given to the way technologies create a competitive edge and generate business value. There will be a broad range of views presented by different guest speakers, including entrepreneurs, analysts, and IT executives of Fortune 1000 companies. This year the course will have a special emphasis in cloud computing, artificial intelligence (machine learning), big data and mobility technologies.

Units  
3 Units (MS&E 238A available for 1 Unit)

Prerequisites  
A basic knowledge of Information Technology (computer software and hardware).

Website  
http://msande238.stanford.edu

Class Times  
Friday 2:30PM – 5:20PM

Grading  
Class Participation: 20%
Readings & Homework: 30%
Final Project: 50% (Term Paper or Programming Project)

Tentative Schedule

Lecture 1  
Course Overview
Information Technology Fundamentals
Enterprise Hardware & Software
Virtualization
Evolution of IT
Guest Speakers Presentation

Lecture 2  
Cloud Computing

- What does “X as a Service” mean (X=Platform, Infrastructure or Software)
- Service Models & Business Benefits
- Scalability, Reliability & Security
- Development frameworks (e.g. AWS, Azure, AppEngine)
- Guest Speaker Presentations
Lecture 3  Artificial Intelligence
  - Machine learning and deep neural nets
  - Guest Speaker Presentations

Lecture 4  Big Data
  - Big Data technologies
  - Applications and implications
  - Guest Speaker Presentations

Lecture 5  Mobile Computing and the “Post-PC” Era
  - Smartphones & Tablets: Why now?
  - Mobile Platforms (e.g. iOS, Android, BB, Windows)
  - Applications Markets
  - Guest Speaker Presentations

Lecture 6  Guest Speaker & Student Presentations

Lecture 7  Student Presentations