ECE 210 Honor Course – SPRING 2018

Course Objectives
To provide students with basic skills and knowledge on the use of scientific computation tools, specifically MATLAB and Python. Students will spend 4 weeks learning each, and would be assigned in-lab exercises to reinforce their learning in both the honors section and ECE 210 itself.

Course Outline

- MATLAB (4 sessions)
  - Mathematical functions, Graphing tools, Vector and Matrix arithmetic (30 Jan & 1 Feb)
  - Vector and Matrix arithmetic, Solving linear and differential equations (6 Feb & 8 Feb)
  - Control flow, Iterative and Vectorized Solutions (20 Feb & 22 Feb)
  - Defining Functions & Recursion (27 Feb & 1 Mar)
- Python (4 sessions)
  - Intro: Syntax, Mathematical functions, Graphing tools (6 Mar & 8 Mar)
  - Data Structures: Lists, Arrays, Multi-dimensional Arrays, Dictionaries (27 Mar & 29 Mar)
  - Signal Processing & Filters (3 Apr & 5 Apr)
  - Intro to Digital Signal Processing (10 Apr & 12 Apr)
- Final Assignment (Due by 24 Apr in class)
  - Final Assignment Demo (24 & 26 Apr)

Course Schedule
There are 2 sessions for this course. Students can attend either session and can interchangeably swap between the sessions for the week. No Honors sessions are conducted during ECE 210 exam weeks.

Tuesdays (5:00 PM to 7:00 PM) (Location: DCL-L416)
Thursdays (5:00 PM to 7:00 PM) (Location: DCL-L416)

Honors Registration (Do by 26th January)
1. Collect an Honor Contract Learning Agreement Form from Engineering Undergraduate Advising Office (206 Engineering Hall)
2. Fill up the form and get the signatures from your ECE210 Course Instructor (Juan Alvarez, Jing Jiang, Su Yan) and submit one of the copies to the course instructor
3. Submit one of the copies to Engineering Hall
4. Sign up on the 210 Honors Piazza page: https://piazza.com/class/jci4tp2o69l2r?cid=4#
5. Fill in this Google Form before the first session: https://goo.gl/rmcirh
6. Attend the sessions

Students should contact instructor for details about policies regarding enrollment after registration date.

Grading & Honors Credit
- All students must complete all 8 Lab Exercises and a Final Assignment to receive Honors credit
  - Students will be given till the Thursday session of the following sessions to complete the lab exercises
- On top of that, students must obtain a minimum of B- for ECE 210 to receive Honors Credit

Instructor
Tejas Jayashankar (jyshnkr2@illinois.edu)