EE241 COMPUTER TOOLS FOR ELECTRICAL ENGINEERS

Instructors: Murat Saraçlar (murat.saraclar@boun.edu.tr) and Hamdi Torun (hamdi.torun@boun.edu.tr)

TAs: Gürkan Aydemir, Numan Su, Mustafa Can Gürsoy, Can Karamanlı

Lecture Time & Place: Section 1 Friday 9:00 – 9:50 Tesla, Section 2 Friday 13:00 – 13:50 Tesla

Lab Time & Place: Monday 11-13, 13-15, 15-17; Wednesday 11-13, 13-15, 15-17

Office Hours: Friday 14-15 (Murat Saraçlar), Tuesday 15-16 (Hamdi Torun)

Textbooks:

1. MATLAB A Practical Introduction to Programming and Problem Solving, Attaway, 3rd Edition
2. Introduction to MATLAB and SIMULINK, Beucher and Weks, 3rd Edition
3. PSpice for Basic Circuit Analysis, Joseph G. Tront, 2nd Edition

Important Note: Cheating is strictly forbidden in this course. This includes all the gradeable work: homeworks, projects and exams. In case of cheating, your grade for that assignment will be zero. In addition, your grade will be lowered by one letter grade for repeated violations.

Topics:

- MATLAB SECTION (First 6 weeks)
    - Lecture 1: Introduction to MATLAB (A 1-2; B&W 1.1-1.2.4, 1.2.10)
    - Lecture 2: Matlab Programming (A 3-6, 10; B&W 1.6-1.7)
    - Lecture 3: Input/Output and Data Structures (A 8-9; B&W 1.2.6-1.5)
    - Lecture 4: Plotting (A 11; B&W 1.2.5)
    - Lecture 5: GUIDE (A 13.3, handout)
    - Lecture 6: SIMULINK (B&W 2.1-2.4)
- PSPICE SECTION (Next 6 weeks)
    - Lecture 1: Introduction to SPICE and Getting Started
    - Lecture 2: Simple DC Circuits
    - Lecture 3: Other DC Analyses
    - Lecture 4: Operational Amplifiers
    - Lecture 5: Time Domain Analysis
    - Lecture 6: Frequency Domain Analysis

Assessment:

- First Midterm 20% (MATLAB): Week of November 1st, 2016
- Final* 20% (PSPICE)
- First Project 15% (MATLAB)
- Second Project 15% (PSPICE)
- Lab** 30% (MATLAB and PSPICE)

    * Eligibility condition to take the final exam:
    - You should <u>not</u> miss more than 2 labs.
    - You should obtain a minimum grade of 20% for each of the projects.

    ** You will be allowed to make-up only one missed lab.