EE321 - Electrical Circuits II, MWF 9:10-10:00, Sloan 46
Spring Semester, 2020

This syllabus will be updated in the 2nd week of classes after Dr. Torabi arrives.

Instructor (1st week only): Dr. Ben Belzer; Office: EEME 401; Phone: 335-4970; Email: belzer@eecs.wsu.edu
Office Hours: MWF 1:00-2:00PM, or by appointment.

TA: TBD. Office Hours: TBD. Email: TBD

Homework Help Session: Every Thursday; time TBD depending on schedule survey filled out by each student during the first week. Students work on homework problems in groups, with help from the instructor and the TA.

Course Prerequisites: EE261 with grade of C or better, or equivalent. MATLAB, a computer programming environment, will be used on several homework assignments and on the course project.


A. Gilat, MATLAB, An Introduction with Applications, Wiley, 2005

Copies of the course text and references will be placed on one-day reserve at Owen Library.

Course Web Page: http://www.eecs.wsu.edu/~ee321/. Class announcements, lecture notes and homework assignments will be posted here. Homework solutions will be handed out in class, not posted on the web page.

Grading:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework</td>
<td>15%</td>
</tr>
<tr>
<td>Course Project</td>
<td>20%</td>
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<tr>
<td>Midterm Exams (3)</td>
<td>40%</td>
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<tr>
<td>Final Exam</td>
<td>25%</td>
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Homework policy: The homework and course project assignments will be assigned and collected in class. Students may hand in an assignment the next class after the assignment was due for a 20% reduction in grade. Papers handed in more than one class late will not be graded.

Exams: Exams are closed book, closed notes. Students may bring a single 8.5 x 11 study sheet to the midterm exams; both sides of the study sheet may be used. Two 8.5 x 11 study sheets will be allowed on the final exam.

Simple hand calculators are the only computing device allowed on exams.

Midterm dates: This syllabus will be updated with the three midterm dates by end of 2nd week of classes.

Exam make-up policy: Medical emergencies or deaths in the student’s immediate family will be the only accepted excuses for missing an exam. In cases of a missed midterm with valid excuse, the course grade percentage of the other midterms will be adjusted upwards accordingly, such that the total for all midterms accounts for 40% of the course grade. For a missed final exam with valid excuse, the student must schedule a make-up exam with the instructor. Missed exams without a valid excuse will receive a grade of zero.

Course Project: The course project will involve analysis of a circuit by several different methods, using circuit theory and MATLAB. A typed project report will be required. The project will be assigned during the 3rd week of classes; there will be an intermediate due date in the 6th week to ensure students have started the project and are on the right track. The project’s final due date will be during the 11th or 12th week of classes. Projects are to be individual efforts; no collaboration with other students is allowed on the course project.

Academic Integrity: The EECS academic integrity policy is on-line at http://www.eecs.wsu.edu/~schneidj/Misc/academic-integrity.html. It is your responsibility to read and know the policy. Under the policy, any student caught cheating in any EECS class is subject to de-certification, meaning that he/she will not be permitted to continue in any EECS degree program. For EE321, “cheating” is defined as follows: (1) Exams: any collaboration between students on exams is cheating; this includes copying from someone else’s exam, as well as making your own exam solutions available to another student. Using any material beyond the allowed study sheets also constitutes cheating. (2) Homework assignments: collaboration on homework assignments is allowed, but turning in an exact copy of someone else’s work is not. (3) Course project: Collaboration on the course project is not allowed. Copying text from another source (e.g., a textbook, another student’s report) into your report is cheating. Use your own words to write your report. Using equations from another source in your report is allowed if the source is cited in the report’s bibliography.

Special Needs Students: Reasonable accommodations are available for students who have a documented disability. If you have a disability and need accommodations to fully participate in this class, please either visit or call the Access Center (Washington Building, Room 217; 509-335-3417; http://accesscenter.wsu.edu) to schedule an appointment with an Access Advisor. All accommodations MUST be approved through the Access Center.

Campus Safety: Students should review the campus safety plan at http://safetyplan.wsu.edu. Students should visit the Office of Emergency Management website at http://oem.wsu.edu for a comprehensive listing of university
policies, procedures, statistics, and information related to campus safety, emergency management, and the health and welfare of the campus community.

EE321 Syllabus

WSU Catalog description of EE321:
“Electrical Circuits II 3 Prereq EE 261 with grade of C or better; major or minor in EE. State space analysis, Laplace transforms, network functions, frequency response, Fourier series, two-ports, energy and passivity.”

Course Outline, with approximate number of classes per topic:

Review of EE261 (1 class, notes)

State Variable Approach (3 classes, notes and handouts)

Laplace Transforms (5 classes, Text Chapter 12)
  Step and impulse functions
  Operational transforms
  Inverse Laplace transform, Partial fraction expansions, Initial and final value theorems

Circuit Analysis using Laplace Transforms (12 classes, Text Chapter 13)
  Circuit analysis in the s-domain
  Transfer Function
  Impulse Response
  Convolution

Frequency Selective Circuits (6 classes; Text Chapter 14 and Appendix E)
  Filters, Bode Plots

Fourier Series (6 classes; Text Chapter 16)
  Trigonometric Fourier Series, Application to Circuits

Active Filters (3 classes; Text Chapter 15)

Mutual Inductance and Transformers (2 classes, Text Chapter 6, Chapter 9, Chapter 13)

Two-Ports (1 class, Text Chapter 18)

Final Exam Monday May 4, 8-10 AM