Units: 1.0

Schedule/Location: W, 13:00–15:50 / Salazar 2003

Instructor: Mohamed Salem
Office: Salazar 2010B
Phone: (707) 664-3543
Email: mohamed.salem@sonoma.edu (Please add [EE221] to email subject)
Hours: MT, 12:00–14:00; R, 16:00–17:00 (drop by/email)

Prerequisites: EE 110.

Corequisites: EE 220.

Textbook: Handouts will be posted on the course webpage.

Web: https://moodle.sonoma.edu/C/

Description: Laboratory work on material treated in EE 220 emphasizing elementary design principles.
Course Policies

Labs:

- Procedures are posted on the course webpage at least one week in advance.
- Lab reports are due at 13:00 in class one week after the lab.
- Lab reports must include all measured data.
- Total points per lab report are scaled to 100.
- Late reports will be awarded up to 60 points if received within five days of due date.
- No make-up labs will be accepted after 17:00, Wednesday, Dec. 06, 2017.
- Students must obey the safety rules of the lab at all times.

Exams:

- One mid-term exam tentatively scheduled after completing lab.
- Total mid-term points are scaled to 100.
- One final exam scheduled between 13:00-15:50 on Wednesday, Dec. 06, 2017.
- Total final exam points are scaled to 100.
- No exam may be taken outside scheduled time without prior arrangement with instructor.
- No exams can be made up if student does not show up at the scheduled or arranged time.
- No external devices other than an approved calculator may be used while taking any exam.

Assessment and Grading:

Final grade is based on the weighting shown below

<table>
<thead>
<tr>
<th>Performance in class:</th>
<th>10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab reports:</td>
<td>60%</td>
</tr>
<tr>
<td>Mid-term exam:</td>
<td>15%</td>
</tr>
<tr>
<td>Final exam:</td>
<td>15%</td>
</tr>
</tbody>
</table>

Grade scale for total percentage points and corresponding letter grade is given below

<table>
<thead>
<tr>
<th>0</th>
<th>60</th>
<th>63</th>
<th>67</th>
<th>70</th>
<th>73</th>
<th>77</th>
<th>80</th>
<th>83</th>
<th>87</th>
<th>90</th>
<th>95</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>D-</td>
<td>D</td>
<td>D+</td>
<td>C-</td>
<td>C</td>
<td>C+</td>
<td>B-</td>
<td>B</td>
<td>B+</td>
<td>A-</td>
<td>A</td>
<td></td>
</tr>
</tbody>
</table>

Note: This course is a prerequisite for EE 230 and EE 231 – you must complete the course with grade C or better.
**Academic Integrity**

You are responsible to behave ethically and honestly. Copying, cheating, forgery, and other unethical or dishonest actions are not tolerated, will result in a zero grade, and may be reported to SSU authorities. For more information on SSU policy on academic cheating and plagiarism please refer to: [http://www.sonoma.edu/uaffairs/policies/cheating_plagiarism.htm](http://www.sonoma.edu/uaffairs/policies/cheating_plagiarism.htm)

**Classroom Learning Civility Clause**

In any environment in which people gather to learn, it is essential that all members feel as free and safe as possible in their participation. To this end, it is expected that everyone in this course will be treated with mutual respect and civility, with an understanding that all of us (students, instructors, professors, guests, and teaching assistants) will be respectful and civil to one another in discussion, in action, in teaching, and in learning.

Should you feel our classroom interactions do not reflect an environment of civility and respect, you are encouraged to meet with your instructor during office hours to discuss your concern. For additional information and resources, please refer to SSU policy on civility and tolerance at: [http://www.sonoma.edu/students/civility_tolerance.pdf](http://www.sonoma.edu/students/civility_tolerance.pdf)

**Disability Support Services**

Reasonable accommodations are available for students who have documented temporary or permanent disabilities. All accommodations must be approved through Disability Support Services located in Salazar Hall, Room 1049 in order to notify your instructor(s) as soon as possible regarding accommodation(s) needed for the course.

- Phone: (707) 664-2677
- Email: disability.services@sonoma.edu
- Web: [http://www.sonoma.edu/dss/students/dss_services.html](http://www.sonoma.edu/dss/students/dss_services.html)

For more information on SSU policy on disability access for students, please refer to: [http://www.sonoma.edu/uaffairs/policies/disabilitypolicy.htm](http://www.sonoma.edu/uaffairs/policies/disabilitypolicy.htm)

**Other Policies**

Be sure you understand the policies that specifically affect you as a student of this course, such as:

- Add/Drop Policy: [http://www.sonoma.edu/catalog/08-10/17regulations.pdf#adddrop](http://www.sonoma.edu/catalog/08-10/17regulations.pdf#adddrop)
- Grade Appeal Policy: [http://www.sonoma.edu/uaffairs/policies/grade_appeal.htm](http://www.sonoma.edu/uaffairs/policies/grade_appeal.htm)
Course Learning Objectives (CLOs)

By the end of this course, the student should be able to:

A. apply the underlying principles of basics circuit design
B. use simulation software to better understand circuit design
C. demonstrate understanding of the principles of high-pass and low-pass filters
D. design linear circuits with ideal Operation Amplifiers
E. develop critical thinking skills through circuit analysis and design

Student Learning Outcome vs Course Learning Objectives

<table>
<thead>
<tr>
<th>ABET Students Outcomes</th>
<th>CLOs</th>
<th>Level of Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) an ability to apply knowledge of mathematics, science, and engineering</td>
<td>A-E</td>
<td>3</td>
</tr>
<tr>
<td>(b) an ability to design and conduct experiments, as well as to analyze and interpret data</td>
<td>A-D</td>
<td>4</td>
</tr>
<tr>
<td>(c) an ability to design a system, component, or process to meet desired needs</td>
<td>A-D</td>
<td>4</td>
</tr>
<tr>
<td>(d) an ability to function on multi-disciplinary teams</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>(e) an ability to identify, formulate, and solve engineering problems</td>
<td>A-E</td>
<td>4</td>
</tr>
<tr>
<td>(f) an understanding of professional and ethical responsibility</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>(g) an ability to communicate effectively</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>(h) the broad education necessary to understand the impact of engineering solutions in a global and societal context</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>(i) a recognition of the need for, and an ability to engage in life-long learning</td>
<td>E</td>
<td>2</td>
</tr>
<tr>
<td>(j) a knowledge of contemporary issues</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>(k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice</td>
<td>B, E</td>
<td>2</td>
</tr>
</tbody>
</table>

Level of support (0-5): 0=No support, 1=Lowest support, 5=Highest support

Assessment Methods

Assessment of student learning:

1. Examination (mid-term and final exams)
2. Lab reports

Assessment of course quality:

1. Student survey
2. Student verbal and peer instructor feedback