

Fall 2019
EE430L - Electronic Circuits Lab
Schedule number: 21297 Number of units: 1
Course Syllabus

- 1. Instructor:** John Kennedy
 E101-C
 Ph. 619-594-1053
 Email: kennedy.sdsu@gmail.com
 Office Hours: Tuesday & Wednesday (12:00 - 1:00)
- 2. Prerequisites:** Electrical Engineering 330L and credit or concurrent registration in
 Electrical Engineering 430.
- 3. Lab Time & Location:** Monday: (10:00am – 12:40pm) Rm. E-202F

4. Materials:

1. Lab Manual: (Required)
Practical Electronic Laboratory Skills and Analysis, Second Edition,
by Barry L. Dorr P.E. (Available in the SDSU Bookstore)
2. Lab Fee: (Required)
EE430L has a \$30 lab fee to cover the cost of the electronic components
The fee can be paid at the SDSU cashier's office
3. Engineering Notebook: (Recommended)
Suggested Type- 75 Sheets, 4x4 Quad., 11 3/4" x 9 1/4"
National Brand part # 43-648 (Available in the SDSU Bookstore)
4. Basic Hand Tools for Electronics: (Recommended)
Suggestions of what to purchase will be given in the lab.

5. Course Content:

Design, construction, and laboratory evaluation of BJT and MOSFET amplifiers, current mirrors, feedback circuits, and nonlinear circuits. Tuned amplifiers and frequency response. Advanced use of oscilloscope and laboratory test equipment. Soldering and circuit troubleshooting.

6. Course Outcomes:

1. Gain skills, expertise, and confidence using laboratory test equipment.
2. Design and analyze amplifiers, current mirrors, and class AB power amplifiers using concepts learned in EE330 and EE430.
3. Measure circuit performance parameters such as gain, frequency response, and efficiency, and compare to theoretical predictions.
4. Write professional quality lab reports
5. Learn circuit troubleshooting skills including finding intentionally-introduced printed circuit board errors.
6. Learn to solder, remove, and replace through-hole and surface-mount components in printed circuit boards using rework tools.

7. Grading:

The grading for the course is as follows:

Lab Reports: 65%

Quizzes: 35%

8. Lab Reports:

Hardcopy lab reports are due at the beginning of class on the days indicated on the schedule. General information about the content and format of the lab reports is included in section 2 of the EE430L lab manual. Specific requirements for labs are included in the individual lab sections (3 to 7) of the EE430L manual and may be supplemented with additional handouts given during lab. Half credit will be given for labs submitted within a week of the due date. Labs submitted a week or more after the due date will not be accepted.

9. Quizzes:

Short quizzes will be given at the beginning of class throughout the semester. Quizzes may cover calculations and theory from the lab manual or other concepts covered during lab sessions. Makeup quizzes will not be given to late or absent students.

10. Schedule:

Aug. 26: Lab 1.1 - Introductory Lab Skills and Measurements
Sept. 2: Labor Day (no classes)
Sept. 9: Lab 1.2
Sept. 16: Lab 1.3
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Sept. 23: **Lab 1 Report due at 10am**
Lab 2.1 - Current Mirrors and Differential Amplifiers
Sept. 30: Lab 2.2
Oct. 7: Lab 2.3
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Oct. 14: **Lab 2 Report due at 10am**
Lab 3.1 - Feedback Power Amplifier
Oct. 21: Lab 3.2
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Oct. 28: **Lab 3 Report due at 10am**
Lab 4.1 - Multistage Amplifier
Nov. 4: Lab 4.2
Nov. 11: Veterans Day (no classes)
Nov. 18: Lab 4.3
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Nov. 25: **Lab 4 Report due at 10am**
Lab 5.1 - Non-linear Circuits and Radio Transmission
Dec. 2: Lab 5.2
Dec. 9: Lab 5.3
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Dec. 16: **Lab 5 Report due by 10am (E101-C)**

11. Cheating:

Cheating is the actual or attempted practice of fraudulent or deceptive acts for the purpose of improving one's grade or obtaining course credit; such acts also include assisting another student to do so. Typically, such acts occur in relation to examinations. However, it is the intent of this definition that the term 'cheating' not be limited to examination situations only, but that it includes any and all actions by a student that are intended to gain an unearned academic advantage by fraudulent or deceptive means. Plagiarism is a specific form of cheating which consists of the misuse of the published and/or unpublished works of others by misrepresenting the material (i.e., their intellectual property) so used as one's own work. Penalties for cheating and plagiarism range from a 0 or F on a particular assignment, through an F for the course, to expulsion from the University. For more information on the University's policy regarding cheating and plagiarism, refer to the Schedule of Courses ('Legal Notices on Cheating and Plagiarism') or the University Catalog ('Policies and Regulations'). Cheating will result in an automatic F in the course. Suspected cheating will be reported to the Judicial Affairs Officer at the office of Student's Rights and Responsibility for further penalties including academic probation and suspension from SDSU. I take responsibility to prevent cheating seriously and pursue cases of cheating as aggressively as possible with the office of Student's Rights and Responsibility.

12. Students with Disabilities:

If you are a student with a disability and believe you will need accommodations for this class, it is your responsibility to contact Student Disability Services at (619) 594-6473. To avoid any delays in the receipt of your accommodations, you should contact Student Disability Services as soon as possible. Please note that accommodations are not retroactive, and that I cannot provide accommodations based upon disability until I have received an accommodation letter from Student Disability Services