

## ET- 260 Solid State Electronics I

ET-260 -02 (3861)  
Wednesday 5:00PM - 6:50PM  
Room: ET- 113

ET-260L -02 (3862)  
Wednesday 7:00PM - 9:45PM  
Room: ET-113

Instructor: William E. Lopez  
[William.Lopez@csulb.edu](mailto:William.Lopez@csulb.edu)  
Personal webpage: [www.welopez.com](http://www.welopez.com)  
Mode of Delivery: In Person

Textbook: Electronic Principles 9<sup>th</sup> Edition  
Albert Malvino, David J. Bates  
ISBN: 978-1-259-852269-5

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Grades are based on tests, homework and attendance as follows:

|            |     |
|------------|-----|
| (2) Tests  | 33% |
| Homework   | 33% |
| Attendance | 33% |

Letter grades are as follows:

|         |   |
|---------|---|
| 90-100% | A |
| 80-89%  | B |
| 70-79%  | C |
| 60-69%  | D |
| 00-59%  | F |

Homework assignments

Ch. 1 Introduction Pg. 25 Prob. 1-17 odd skip 13

Ch. 2 Semiconductors (no homework)

Ch. 3 Diode Theory Pg. 82 Prob. 1-13 odd

Ch. 4 Diode Circuits Pg. 132 Prob. 1-23 odd

Ch. 5 Special Purpose Diodes Pg. 184 Prob. 1-15 odd  
Pg. 185 Prob. 25-27 odd

Ch. 6 BJT Fundamentals Pg. 235 Prob. 1-11 odd 19,21,23

Ch. 7 BJT Biasing Pg. 274 Prob.  
1,3,5,7,15,17,21,23,27,34,37

Ch. 8 Basic BJT Amplifiers Pg. 321 Prob.  
1,3,5,9,14,16,23

Ch. 9 Multistage, CC and CB Amplifiers

Ch. 10 Power Amplifiers Pg. 409 Prob. 1,2,3,13,14,16  
Pg. 411 Prob. 26, 27, 28, 35,43

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### ET-260L Solid State Lab

Grades are based on tests, completed labs and attendance as follows:

|            |     |
|------------|-----|
| (2) Tests  | 33% |
| (9) Labs   | 33% |
| Attendance | 33% |

Lab 1 Diodes Introduction

Lab 2 Part 1 and 2 Rectifier Circuits  
Lab 2 Part 3 Bridge Rectifier Circuit

Lab 3 Zener Diodes

Lab 4 LEDs

Lab 5 Transistor Introduction

Lab 6 Transistor Switch, Current Source

Lab 7 NPN Transistor Bias, Q-Point

Lab 8 PNP Transistor Bias

Lab 9 Common Emitter Amplifier

Lab 10 Class A Amplifier

Lab 11 Class B Amplifier

Lab 12 Class C Amplifiers

## ABET Student Outcomes

The course satisfies following [ABET](#) student outcomes:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

## Course Objectives:

This class is the first of two semesters of Solid State Electronics, the second being ET-341. We study diodes, Zener diodes, special purpose diodes, transistors, amplifiers, and many applications of solid state devices. There will be readings from the textbook, homework and tests. There will be experiments every week. As in other ET classes, the student will be expected to supply some small tools and supplies. This is a hands-on class and there will be a constant use of meters, signal generators, power supplies and oscilloscope.

Course Structure and Delivery mode: The class is in person. Contact the instructor by e-mail or text. All class materials are contained in my personal webpage: [www.welopez.com](http://www.welopez.com) I will send e-mails with assignments, labs and other information.

## Office hours:

### Fall Semester:

|           |                             |             |
|-----------|-----------------------------|-------------|
| Monday    | 4:30-5:00 PM; 9:45-10:15 PM | Room ET-113 |
| Tuesday   | 4:30-5:00 PM; 9:45-10:15 PM | Room ET-113 |
| Wednesday | 4:30-5:00 PM; 9:45-10:15 PM | Room ET-113 |
| Friday    | 2:00-2:30 PM; 4:45-5:30 PM  | Room ET-113 |

### Spring Semester:

|           |                             |             |
|-----------|-----------------------------|-------------|
| Monday    | 4:30-5:00 PM; 9:45-10:15 PM | Room ET-113 |
| Tuesday   | 4:30-5:00 PM; 9:45-10:15 PM | Room ET-113 |
| Wednesday | 4:30-5:00 PM; 9:45-10:15 PM | Room ET-113 |
| Friday    | 4:30-5:00 PM; 9:45-10:15 PM | Room ET-113 |

## Plagiarism/Academic Integrity Policy

*There is **zero tolerance** for cheating, plagiarism, or any other act of violation of Academic Integrity policy. Work that you submit is assumed to be original unless your source material is documented appropriately, using proper citation. Using the ideas or words of another person, even a peer, or a web site, as if it were your own, is plagiarism. Any individual or group caught cheating on homework, lab assignments, or any exam/quiz will be subjected to full extent of academic actions allowed under University regulations. At a minimum, any student caught violating Academic Integrity Policy will receive no credit for the work concerned and one grade lower letter grade. To learn more about the University policy on Cheating and Plagiarism, visit:*

[Academic Information and Regulations-Cheating and Plagiarism](#)

## University Withdrawal Policy

Class withdrawals during the final 3 weeks of instruction are not permitted except for a very serious and compelling reason such as accident or serious injury that is clearly beyond the student's control and the assignment of an Incomplete grade is inappropriate (see [Grades](#)). Application for withdrawal from CSULB or from a class must be filed by the student [online](#) whether the student has ever attended the class or not; otherwise, the student will receive a grade of "WU" (unauthorized withdrawal) in the course. More information regarding the University guidelines on Dropping and Withdrawing at:

[Dropping and Withdrawal](#)

## Student Grievance Policy

Please check CSULB grievance policy and procedure at:

[Student Grievance Procedures](#)

## Special Needs Accommodations

Online courses are required to meet ADA accessibility guidelines. Students with a disability or medical restriction who are requesting a classroom accommodation should contact the [Bob Murphy Access Center \(BMAC\) and also notify the instructor](#). BMAC personnel will work with the student to identify a reasonable accommodation in partnership with appropriate academic offices and medical providers. Only approved BMAC petitions will be accommodated.

Any student who is facing academic or personal challenges due to difficulty in affording groceries/food and/or lacking a safe and stable living environment is urged to contact the [CSULB Student Emergency Intervention & Wellness Program](#). Additional resources are available via [Basic Needs Program](#). The students can also email [supportingstudents@csulb.edu](mailto:supportingstudents@csulb.edu), call (562)985-2038, or if comfortable, reach out to the instructors as they may be able to identify additional resources. For mental health assistance please check out [CSULB Counseling and Psychological Services \(CAPS\)](#).

## Emergency Preparedness

Students are strongly encouraged to familiarize themselves with the [Personal Preparedness Instructions](#) and other resources under "Emergency Preparedness" link on [CSULB University Police web site](#).

## Disclaimer

In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in this course is subject to change.

## Additional Information

### Technology Requirements

Please contact the department if you need support with access to the Internet, electronic devices, or any other issues related to remotely accessing your course.

### Tutoring

Take advantage of free peer tutoring (virtual) provided by Engineering Student Success Center (ESSC): [Engineering Tutoring](#)

## **Additional Resources**

There are many services on campus to help you achieve success in your courses. Links to the following services are also available in BeachBoard course homepage under “CSULB Student Resources”:

- [Counseling and Psychological \(CAPS\)](#)
- [Disabled Student Services](#)
- [Enrollment Services](#)
- [Financial Aid](#)
- [Learning Assistance Center](#)
- [Student Health Services](#)
- [Tutoring at CSULB](#)
- [University Library](#)
- [Writers Resource Lab](#)

## **Student Feedback about the Course**

*Student Feedback is highly encouraged. Please feel free to contact the instructor to share any concern or opinion about the course throughout the semester and participate in the **anonymous survey**. Early Feedback will provide the instructor the opportunity to address your concern and implement required modifications in a timely manner.*

## **Personal Assistance**

*Any student who is facing academic or personal challenges due to difficulty in affording groceries/food and/or lacking a safe and stable living environment is urged to contact the [CSULB Student Emergency Intervention & Wellness Program](#). Additional resources are available via [Basic Needs Program](#). The students can also email [supportingstudents@csulb.edu](mailto:supportingstudents@csulb.edu), call (562)985-2038, or if comfortable, reach out to the instructors as they may be able to identify additional resources*