



Dear Student,

Welcome to Electronics Fundamentals Online with an In-Person Laboratory at Cuesta College! My name is Bret Allen, and I will be your instructor in the upcoming online version of **Electronic Fundamentals (EET – 213, Wednesday from 7:00 pm – 9:50 pm [CRN:72486])**. This letter is to inform you of some important details regarding the **Fall 2017** online class with an in-person laboratory. Please read these nine (9) pages carefully! The first 2 pages are the welcome letter containing important information and the final 7 pages are the course syllabus. The final page requires you to acknowledge that you understand the course requirements.

Course Overview

The online section of EET-213 (formerly ELTECH – 113) is actually a hybrid in that it is not 100% online. You will have online access to lecture notes as well as quizzes given during a previous semester with complete solutions, a mid-term exam given during a previous semester with complete solutions, and videos of my lectures for the entire lecture component of the course. You will be required to show-up at Cuesta's San Luis Obispo Campus on Wednesdays for the in-person lab, checks ✓ for understanding, discussions, exams, and networking with EET Industry Advisory Committee members for perspective employment.

You will find me to be very approachable and eager to assist in learning this course material. One of my teaching axioms is to find creative ways to simplify complex material. In addition, we take great pride in assisting students with job placement in top companies and have a strong track record. We maintain a strong Industry Advisory Committee and make every attempt to align our curriculum with the needs of local industry. Many of the skills you will learn in the EET program are applicable to industrial companies throughout the country. We have the only non-union State Certified Electrician Trainee Program within over 100 miles of our main campus. Your enrollment in this course makes you immediately eligible for an Electrician Trainee Certification number/card issued by the CA Department of Labor Enforcement. During the first 2 weeks of the course, your instructor will explain the application process and employment opportunities. You will also find State Electrician Program resources (e.g. program description, course sequencing, application forms, hourly requirements, etc.) on your instructor's website. If you have any questions about becoming a State Certified Electrician contact your instructor.

You will find that I emphasize the importance of being able to articulate the material you learn in this course. With many years of industrial experience as an Electrician, Licensed Electrical Contractor, Electrical Engineer, and a Manager/Director with a large power utility, I have been on both sides of the interview table. Being interviewed for jobs and promotions as well as interviewing many applicants for jobs and promotions has given me insight into who usually gets hired and why. Your future with a potential employer is typically decided in a relatively short interview. Your ability to convince an interview panel that you really understand your areas of study and training can push your name to the top of an applicant pool.

As such, I will be placing emphasis on your ability to explain what you have studied in the course. As with anything you will get better with practice. I will not embarrass anyone by putting students on the spot in front of the class. I generally help you to accomplish this with one to one oral quizzes involving your labs and projects. I will let you know when they are scheduled in advance and what to expect so you can prepare. When we have oral quizzes during selected labs. I will help you if you are having a hard time. This has proven to be a very positive experience for students in the

past. Student confidence builds as the semester progresses.

The syllabus can be found beginning on the third page of this document. You may contact me at (805) 215-4725 (cell.) with questions. If I am away from my office when you call please leave an email (ballen@cuesta.edu) and/or a text message on my cell phone.

Leaving an email or text message on my cell phone will typically get the quickest response. The best time to call my cell phone is in the afternoon or evening. You may call me as late as 11:00 pm any weeknight (M-F). I would much prefer that you call me when you have a question. The question and material is fresh in your mind and I can typically help you much quicker than waiting until you may have forgotten some of the details. Do not be concerned about interrupting me. If I cannot take student calls my cell phone will be off and I will return your call in a timely manner. If you get my voicemail, text messages typically get the quickest response.

Book Requirements

You will need to purchase your textbook for the class. The textbook is "Delmar's Standard Textbook of Electricity" by Herman. Thomson (5th or 6th edition). The Lab. Manual will be discussed during the first class meeting and is specified in the syllabus on page 4.

Components of Distance Education

There are several ways to learn the material on your own and with my assistance:

- Begin by watching the video lecture(s) assigned during laboratories (found on my website described below); then read and outline all chapter material assigned from your textbook. Not all chapters are covered in your textbook. This textbook is also used for a more advanced course, EET-267. Note: You may choose to read material that is not assigned (optional). This is encouraged if you have time.
- Access my website at: <http://academic.cuesta.org/ballen/>, then click on the following Link - EET-213. This webpage will provide you with several resources including: syllabus, OSHA safety quiz, course lecture notes, previous exams with solutions, as well as videos of my lectures. Detailed solutions to the course Checks ✓ For Understanding will be posted to my website after the weekly exercises are submitted for grading.
- Access distance education resources on Canvas at: <http://cuesta.instructure.com/>
If you are enrolled in the course, you will automatically be emailed an invitation to all resources available through Canvas. Note: There is currently a transition to Canvas as the primary distance-learning platform. All distance education resources have not yet been uploaded to Canvas. Use of the academic website will be discussed during the first class meeting.
- Come to my posted office hours in faculty office 4323 at the San Luis Obispo campus.
- Contact me by telephone at (805) 546-3917 (Cuesta) or on my cell # (805) 215-4725 (Best)
- Contact me by e-mail. **Please begin the subject with "EET-213 Student" on every e-mail.** My e-mail address is ballen@cuesta.edu

Computer Requirements

The following requirements are necessary for this class:

- An e-mail account that is checked regularly
- Access to a PC or Mac
- Internet Connection
- PC and Internet access is available on campus. *Computer access at home is highly recommended.*

EET-213 Distant Lecture, WEB (Instructions in syllabus & discussed at first lab. meeting)**Labs: (Scheduled Wednesdays), CRN: 72486 7:00 pm – 9:50 pm, Room: 4501-D**

Instructor: Bret Allen, *Electronic & Electrical Technology (EET) Department Head*Web page: <http://academic.cuesta.org/ballen/>

Email: ballen@cuesta.edu

Office: 4323 Telephone: 805-546-3917 (Cuesta Office) or 805-215-4725 (Cell/Text, best number)

Office Hours: Tuesday: (1:30pm – 3:30 pm) & Wednesday: (3:30 pm – 6:30 pm)

Schedule: Fall Semester 2017**Midterm:** Due October 18, 2017; Administered via Canvas**Final:** Wednesday, December 20, 2017,
CRN: 72486: 7:00 p.m. – 9:00 p.m., Room 4501-D, SLO Campus**Homework:** Homework may be assigned at instructor's discretion.**Quizzes:** Quizzes will be given on a regular basis to assess how well students are assimilating course material. You are encouraged to remain current with your reading and supplemental learning material in order to be prepared for in-class quizzes, hands-on laboratories, and exams. In class quizzes may or may not be preannounced. Additionally, your instructor may distribute take-home quizzes during any scheduled course meeting. If you have any questions or need assistance preparing for course quizzes contact your instructor during breaks, after class, during scheduled office hours, by special arrangement, or on his personal cell phone at 805-215-4725 between 11:00 AM and 11:00 PM, Monday through Friday.**Checks ✓for Understanding:**

Checks ✓for Understanding will be administered on Canvas. These checks ✓ for understanding consist of 2 or 3 multiple-choice (M/C) questions, which are taken directly from 2 or 3 example problems worked-out on the video(s) assigned from the previous week. These M/C exercises will require you to solve 2-3 questions taken directly from the week's videos with some values changed. As long as you remain current with the week's videos (and other assignments) you will find these problems to be effetely a "repeat" of problems solved in the videos with numeric values changed. **If you remain current they should present a minimal challenge.** If you are not current with the assigned videos they will likely be challenging.

Instructor Contact:

Your instructor has scheduled courses until 10:00 PM Monday through Thursday and encourages you to contact him by cell phone during the indicated hours (11AM – 11PM M-F.) If your instructor is lecturing or in a meeting when you call, you will be transferred to his voicemail. Please leave a **text message** if you get voice mail. This will result in the timeliest response.

Course Overview: Introduces a broad range of topics in electricity and electronics. Fundamentals of DC, AC, transistors, and digital logic are all addressed with heavy emphasis on basic concepts. Circuit analysis methods and troubleshooting will be studied using a hands-on approach.

Transfer: CSU. (Formerly ELTECH 113)

Text: Herman, Delmar's Standard Textbook of Electricity, 5th – 6th Edition are acceptable, < 3% variation in Editions. ISBN: 13: 9781111539153

Laboratory Manual: Cook, Introductory DC / AC Electronics - Lab Manual, 6th Edition
ISBN: 0131139916

Course Schedule:

Note that each of the 18 weeks in the semester correspond to the lecture notes posted on your instructor's website. The course is set-up to use your textbook as a reference to help you understand the lecture notes, videos, and sample quizzes / sample midterm. As such, you should start with the videos, printout or view the on-line lecture notes then use the assigned reading in conjunction with the index in your textbook to know what ALL applicable pages to be reading to supplement the other material. You will find yourself "jumping around" in the textbook from time-to-time. The course is designed this way because this is how you will use reading materials in industry. Additionally, I have found that students perform better on quizzes and exams when they study using this method. Do not be surprised if some chapters in your textbook do not appear in the on-line lecture notes. There are some subjects addressed in your textbook that are beyond the scope of this course. Feel free to read them, however in general you will not be tested on their material. The Course Schedule is VERY specific about mandatory reading.

In addition to using your textbooks' index as a resource to better understand the online course material, your instructor will assign weekly reading from your Delmar textbook to supplement your mastery of the course material. Some material from these reading assignments will be used in developing approximately 35 - 40% of your quiz/exam questions. Your weekly Checks ✓ For Understanding will be derived from the video(s) assigned for the week.

Course Schedule: *(weekly breakdown)*

<u>Week</u>	<u>Start Date</u>	<u>✓ for Understanding Due</u>	<u>Online DE Lecture Material to Study, & Weekly Lecture Notes on Website</u>	<u>Relevant Units from Delmar text: [U #], Assigned Videos: [V #], & Handout: [Unit #]</u>
1.	8-23	none	Introduction to DC and Key Concepts	-Delmar Units: 1 & 2 -Assigned Video(s): V1 & V2 -Handout: Unit 1
2.	8-30	V1&V2	Power & Resistance	-Delmar Units: 2, 5 & 6 -Assigned Video(s): V3 & V4 -Handout: Unit 2
3.	9-6	V3&V4	Voltage Dividers & Parallel Circuits	-Delmar Units: 6, 7, & 9 -Assigned Video(s): V5 & V6 -Handout: Unit 3
4.	9-13	V5&V6	Current Dividers & Loaded Voltage Dividers	-Delmar Units: 7, 8, & 9 -Assigned Video(s): V7 & V8 -Handout: Unit 4
5.	9-20	V7&V8	Internal Resistance & Variable Resistors	-Delmar Units: 5 & 13 -Assigned Video(s): V9 & V10 -Handout: Unit 5
6.	9-27	V9&V10	Parallel & Combination Circuit Analysis	-Delmar Units: 7, 8, & 9 -Assigned Video(s): V11 & V12 -Handout: Unit 6
7.	10-4	V11&V12	Pythagorean Theorem & Trig Review	-Delmar Units: 15 -Assigned Video(s): V13 & V14 -Handout: Unit 7
8.	10-11	V13&V14	Introduction to AC & Capacitors; Midterm Review	-Delmar Units: 16 & 20 -Assigned Video(s): V15 & V16 -Handout: Unit 8 -Review for Mid-Term
9.	10-18	Mid-Term ON Canvas	Midterm Due; Continue Intro to AC	-Delmar Units: 16 & 20 -Assigned Video(s): V15 & V16 -Handout: Unit 8
** <u>(MID-TERM EXAM DUE ON 10/18/17, COVERS DC MATERIAL & AC Intro.)</u>				
10.	10-25	V15&V16	RC Series Circuits	-Delmar Units: 21 & 22 -Assigned Video(s): V17 -Handout: Unit 9
11.	11-1	V17	RC Parallel Circuits	-Delmar Units: 23 -Assigned Video(s): V18 -Handout: Unit 9
12.	11-8	V18	RL Series Circuits	-Delmar Units: 17 & 18 -Assigned Video(s): V19 -Handout: Unit 10
13.	11-15	V19	RL Parallel Circuits	-Delmar Units: 19 -Assigned Video(s): V20 -Handout: Unit 10

Course Schedule: *(weekly breakdown - continued)*

<u>Week</u>	<u>Start Date</u>	<u>✓ for Understanding</u>	<u>Online DE Lecture Material to Study, & Weekly Lecture Notes on Website</u>	<u>Relevant Units from Delmar text: [U #], Assigned Videos: [V #], & Handout: [Unit #]</u>
14.	11-22	V20	RLC Series Circuits	-Delmar Units: 24 -Assigned Video(s): V21 -Handout: Unit 11
15.	11-29	V21	RLC Series & Parallel Circuits	-Delmar Units: 24 & 25 -Assigned Video(s): V22 -Handout: Unit 11
16.	12-6	V22	RLC Series & Parallel Circuits Continued	Homework: Finalize Crib Sheets Final
17.	12-13	none	REVIEW FOR FINAL EXAM	Homework: Finalize Crib Sheets Final

18..... **FINAL EXAM (Wednesday, December 20, 2017)**
CRN: 72486 @ 7:00 pm - 9:00 pm, Room: 4501-D

Note: This schedule may be subject to change.

**Exam dates in bold

Make-up policy: If there is an emergency and you are unable to take the midterm in the scheduled timeframe, you must make arrangements with the instructor. The midterm may only be made-up after the scheduled time if the instructor has been notified (prior to the exam) of an exigent, verifiable circumstance that prevents you from taking the midterm at the designated time. The final exam must be taken on the date and time specified in this syllabus. There are generally no exceptions.

Grading:

Grade Proportions:

✓'s for Understanding	200 Points
Labs	180 Points
Quizzes:	170 Points
Mid-term:	200 Points
<u>Final:</u>	<u>250 Points</u>
 Total:	 1000 Points (or) 100%

Grade Scale:

93 - 100%	= A
<u>90 - 92 %</u>	<u>= A-</u>
87 - 89 %	= B+
83 - 86 %	= B
<u>80 - 82 %</u>	<u>= B-</u>
77 - 79 %	= C+
<u>70 - 76 %</u>	<u>= C</u>
67 - 69 %	= D+
63 - 66 %	= D
<u>60 - 62 %</u>	<u>= D-</u>
Below 60%	= F

Deadlines For Withdraw: Your instructor may drop you if you miss two (2) successive classes without notification and due cause; however, it is the student's responsibility to drop the class through Banner or Admissions and Records if you must drop the course. Check the Cuesta home page for withdraw deadlines or contact your instructor.

Students “Wait-Listed” or attempting to Add the Course:

For student and personnel safety there is a limit to the number of students that the power laboratory can safely accommodate. Due to the fact that there is generally some attrition as the semester progresses your instructor will add students beyond the laboratory capacity at his/her discretion. If you are either on the student waitlist or attempting to add the course, be advised that it is **your responsibility** to contact the instructor on the first day to request an add code. Due to OSHA safety regulations it is not always possible to accommodate every student who wants to add the course.

If the instructor provides you with an add code for the course it is the STUDENT'S RESPONSIBILITY to add the course through Banner or at the Admissions and Records office located next to the library on the main campus.

Official Cuesta Add Policy per Admissions & Records (re-phrased for students):

Adding Students to Credit Courses

1. Add authorization codes will be included with class rosters, which will be available in confidential faculty rosters found the faculty's portal, myCuesta, under My Web Services – Faculty and Advisors – “Class Attendance Rosters” link under the Faculty Tab

2. These add authorization codes should NOT be distributed to selected students until the first day of class.

3. Students who wish to add your class must obtain an add authorization code directly from the instructor. **It is the instructor's discretion to issue add codes to waitlisted students after the class begins.** It is recommended that you distribute add authorization codes based upon students' priority on the Waitlist before adding walk-in students not on the Waitlist. Per Academic Senate, *“Faculty are encouraged, but not required to use the waitlist as an add priority list when giving out add codes at the beginning of a term.”*

Students are responsible for processing add authorization codes by the deadline date, which is one-day prior to Census date (January 20). **No Exceptions.** *Apportionment is based on the number of students actively enrolled as of the census date.*

4. The deadline for students to add your class is the day before the Census date. Add codes will not be accepted in myCuesta or walk-in registration on or after the class Census date because the deadline to add is one-day prior to Census. This deadline will be strictly enforced in compliance with Board Policy AP 5070.

Laboratories: As indicated in the grading section above labs will make up 18% of your overall course grade. Individual laboratories will be discussed in class and you will generally be working in groups of 2 or 3. Your instructor will distribute handouts for individual labs with instructions and diagrams. I recommend that you purchase an inexpensive three ring binder to keep all of your lab worksheets. Each laboratory worksheet has a section for you to make notes, show basic calculations, and implement what you are learning. There is also a section for instructor feedback as well as scoring. Please note that no students will be authorized to work on labs alone because of safety, OSHA standards and OJT industry best practice. If you have any questions please ask your instructor.

Start class on time: Be to class on time so the class is not disturbed by late arrivals. If you must arrive late due to a work conflict or exigent circumstance, please notify your instructor.

Class Ethics: All assignments, quizzes, and exams in this class are individual assignments unless the instructor specifically labels them as “group” assignments. Any student who turns in any course work that is not a result of her/his own design, creation, or study will receive a course grade of “F”.

Student Learning Outcomes (SLO’s) for this course:

1. Identify fundamental properties of electricity.
2. - Determine the function of voltage, current, and resistance in a simple circuit.
3. - Measure voltage, current, and resistance in terms of volts, amps, and ohms.
4. - Apply the concept of alternating current to series and parallel circuits.
5. - Demonstrate the use of an Oscilloscope for AC circuit measurements.
6. - Apply concept of reactance to calculate voltage and current values in an AC circuit.

Respect: Every student is entitled to an environment that promotes learning. We all learn in different ways and at different rates. No student should be made to feel unwelcome because they ask questions or need additional attention from the instructor.

Accommodations: If you are a student with a verified disability please make an appointment with the instructor to discuss your need for accommodation(s) as soon as possible. This is a confidential process between the student, the instructor and the DSPS Department at Cuesta. Your instructor will assist you in obtaining all resources and accommodations you are entitled to under state and federal law. If you believe you have a physical, mental, or learning disability that has not yet been verified, your instructor will confidentially assist you in the verification process.

Academic Honesty: All students are expected to follow the guidelines for academic honesty listed in Cuesta’s most recent catalog.

Critically important keys to mastering this course material and achieving the ability to articulate your understanding to others in a clear and concise manner:

- 1) The more you participate in class discussions and laboratory group exercises the better you will become at explaining the course material to others. This constitutes ongoing and direct preparation for industry interviews.
- 2) Your level of success will be a direct result of how much continuous effort you put into this course and continually strive to remain in pace with scheduled online lecture material.
- 3) Technical material (such as the electronic / electrical theory & laboratories) is rarely learned the first time; it takes repetition which results in a sort of mental “muscle memory”
- 4) Involving more physical senses during class discussion, individual study using outlining techniques, highlighting, etc. (putting pen to paper) makes learning happen faster and last longer.
- 5) When you are enthusiastic and consistent with the material you are learning you will generally get more out of the course.

Acknowledgment: EET-213 (Fall-2017, CRN: 72486)

By signing below, you are acknowledging that you have read and that you understand the terms, conditions, and scheduling in this syllabus. Although the scheduling may be subject to change due to unforeseen or exigent circumstances on behalf of the college, student, or the instructor; you agree to abide by the terms set forth in this syllabus. (*Note: you do have the option to withdraw from this course. Refer to the Cuesta website for deadlines. If you elect to withdraw from the course a "W" will be posted to your transcripts. If you do not withdraw from the course by the official deadline you will receive a letter grade.*) Please be sure to read the entire syllabus and ask your instructor to clarify any questions before signing. You also acknowledge that it is your responsibility to officially add the course if provided an add code by your instructor.

Print Name: _____ Student ID#: _____
First Name Last Name

Signature

Date