Course Orientation Sheet (Syllabus) - Electronics Technology (ELET) B1A

Basic Electronics (DC and AC)

Basic Course Description: ET 1 is a one-semester introductory course in basic electronics. Basic electricity, electronic components and basic electronic circuits, schematic diagrams, DC and AC, test equipment use, as well as other topics will be covered Although this is an introductory course, an **algebra-level** math background as well as a **strong reading ability** is essential for success in this course.

Electronics is the foundation for almost all technologies. This course is great for those who are seriously considering a career in electronics, or those who are pursuing a career in the computer sciences, automotive electronics, HVAC systems, industrial electronics, voice/data/ telecommunications, telemetry/control, and instrumentation.

Instructors: Mr. Stephen Mears

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Class Times: Monday through Friday 7:30 am – 2:45 am Room 201

Textbook: **Introduction to Electronics**, Earl D. Gates, Thomson Delmar Learning. 5th Edition ISBN-13:978-1-4018-8900-5

Basic Electronics Lab Pack, provided by ETR

Materials Needed:
Scientific Calculator, Non-programmable, (with Trig functions)
Circuit Breadboard (DIP board), RS #276-174 or 276-169
Alligator Clips, RS #270-375
Basic Hand Tools: Long-Nosed Pliers, Wire Strippers/Cutters, Small Screwdriver

Students will need to have the materials needed by the end of the week.

Note: All test equipment will be available for use in the Electronics lab.

Dress Code:
No Pajamas
No open-toed shoes on field trips
Business-casual on key dates TBD by the instructor

Electronic Devices Policy:

Since it has become a major distraction to each student, his/her classmates, and the instructor, the following policy will be enforced regarding cell phones, iPods, and other electronic devices:

1. Students will put cell phones and pagers on "vibrate" mode during class. Acceptable calls for interrupting your class time are work-related calls, and family/personal emergencies and situations. In those cases, please dismiss yourself from the classroom without causing disruption, and take the call in the hallway or outside. During lab time, short cell phone conversations are acceptable.
2. Cell phone calls during lectures or demonstrations that are not of a work or emergency nature should not be taken. Call back during the break or during lab time.
3. **Text messaging during lecture and lab is not allowed. You are here to learn, and therefore you should do your "texting" on your own time.**
4. **Use of IPods or other devices that play music or show videos is not allowed during the class at any time. When you listen to music or watch videos, you are not concentrating on the learning activities that are going on in class.**
5. If the instructor determines that there is a continued problem with a student not following this policy, that student will be referred to the Dean of Students who will determine if the student will continue in the course.
6. **No electronic devices are to be used for tests, except a calculator, not the calculator in your cell phone.**
7. If you have any questions about this policy, please discuss it with your instructor – particularly if there are any compelling circumstances that require your interruption by cell phone (for example, being "on call," awaiting news of a serious nature, etc.)

Student Success and Student Responsibilities

You are enrolled in a college course that is meant to prepare you for the workforce. Our goal is to provide you with organized lecture, lab activities, and resources that will help you successfully learn the material we present. In return, **we expect you to take responsibility for your success in this course**. The class is certainly challenging, but we feel that you will find it interesting, fun, rewarding, and worthwhile – as long as you take your responsibility as a student seriously.

Make sure these things are true for you as a student:

1. I am adequately prepared for the academic needs of this course:
    - I have taken a recent math course of **at least pre-algebra level**, or have the ability to perform this level of math without help.
    - I have the ability to **read and understand technical-level reading materials,** beyond a basic understanding of English and a basic reading level.
    - I have the ability to **write clearly and take adequate notes in class.**

2. **If** I have academic difficulties in one or more of the areas listed above, I am willing to do what is needed to overcome these difficulties, such as:
    - Seek tutoring assistance from the Learning Center.
    - Take needed Academic Development courses in: study skills, reading, writing, and note taking.
    - Take advantage of math tutorial computer programs in the Learning Center or Math Lab.
    - Ask the professor for suggestions on improving their academic abilities.

3. I can and will set aside uninterrupted study time of at least one hour per day or more as needed if I find the material extra-challenging.

4. I will ask questions in class for clarification if I don't understand.

5. I will strongly consider organizing or participating in a study group outside of class.

6. I will keep up with reading assignments, worksheets, and written materials each week – not wait until just before they are due to complete them.

7. I will view studying for each test as an ongoing process – not something that is done a day or two before the test. I will try to read assignments before they are covered in classroom lecture.

8. I will actively participate in lab work, and share responsibilities equally with my lab partner.

Student Responsibilities

As a student, you are being prepared for a career, and it makes perfect sense that we expect the same things from you that an employer would. Please read these responsibilities carefully. We want you to remain in this course for the entire semester and experience success. Not meeting your responsibilities will put your enrollment and success at risk!

Make sure you are willing to accept these responsibilities a student:

1. I will **demonstrate a great work ethic** while I am in this course. This includes:

- **Being here and ready to work when the class begins,** because I understand that continued lateness – other than unavoidable job-related issues – could mean I will be dropped from the course. I also understand that my instructor is not responsible to warning me about absences before I am dropped. **Three tardies equals one absence for the purpose of attendance enforcement.**
- **Keeping absences to a minimum,** because I understand that more than four days of absences will result in a drop from a class or the assignment of a failing grade regardless of my actual scores.
- **Actively participating and focusing on the tasks at hand**. This means avoiding cell-phone interruptions (except for work or family emergencies), sleeping or inattention in class, or using distracting items such as music players and laptops during lecture.

2. I will **purchase the needed items** such as the textbook (if assigned), course materials packs, solderless breadboard, basic hand tools, and alligator clips, **and come to class prepared with these items.**

3. I will **do my own work**, including assignments and lab response sheets. I understand that turning in material that I have copied from someone else is plagiarism, and will result in a failing grade on that assignment, and continuing to do so will jeopardize my enrollment in this course.

4. I will **be in class on test days,** because I realize that there are no make-ups for missed tests. If I know I will be absent on a test day, I will make arrangements with my instructor prior to the absence.

5. I will **communicate with my instructor regarding work-related scheduling issues, absences for more than one class day in a row,**

6. I will **communicate with my instructor** if I feel that I am struggling in class, have issues that interfere with my continuing on in the class, or before I decide to drop the class because I am discouraged or worried about my grade.

7. I will **assume the responsibility of going on-line and dropping myself** from the course if I cannot continue in the class. I will not assume that I will be automatically dropped by the instructor if I simply stop showing up to class.

8. I will **complete a minimum of 85% of my lab assignments,** in the presence of my instructor during assigned or make-up lab time, because I understand that if this requirement is not met, I will not receive a grade higher than an "F" for the course. **In order to be considered for the 85% requirement, a lab assignment must be complete and signed by the instructor in every place that is required. Incomplete labs will not be counted towards the 85% requirement.**

9. I will **interact with other students in the course during lab time**, because I realize that all employees in this technical field must be able to work with others. I understand, however, that this includes staying focused on the activity at hand, and not merely socializing. I also understand that doing this makes it easier for me to be successful in lab.

10. I will **properly care for the equipment, materials, and workstations** that I use.

Students with Disabilities

Students with disabilities who believe they may need accommodations in this class are encouraged to contact Disabled Student Programs & Services(661-395-4334), FACE 16, as soon as possible to better ensure such accommodations are implemented in a timely fashion."

Important Dates:

- TBD

Last day for refunds for 16-week classes

- TBD

Last day to drop 16-week classes without receiving "W" grades

- TBD

Last day to withdraw from 6-week classes and receive "W" grades

After this date, neither you nor your instructor can drop you from the class!

Final Exam: Tuesday December 7th – 5:30 am – 8:30 pm

Holidays: **November 23rd, 2021 (No Class, Asynchronous ONLY)**

Returned Work Policy: It is the policy of the instructor to not return graded lab materials until the end of the course. This is to discourage copying of lab work from other people in the class. Assignments that are turned in prior to the applicable test may not be returned until the test has been completed. All students must turn in their own copy of each assignment and lab sheet. Please do not put yourself in a bad situation by copying from another person's work, even if it is your partner.

Grade Calculation:

Section Tests	50%
Final Exam	10%
Ch Questions	15%
Lab Assignments	25%

Assignment of Course Grade by Total Percentages:

A = 90% and Above
B = 80% - 89%
C = 70% - 79%
D = 60% - 69%
F = Below 60% and/or failure to complete 85% of assigned labs.

ELETT B1A Student Learning Outcomes

1. Correctly identify the production, characteristics, applications, and voltage change methods of Direct Current and Alternating Current.

2. Correctly calculate quantities in DC and AC circuits containing resistive devices, capacitors, and inductors using Ohm's and Watt's Laws, Kirchoff's Laws, and appropriate circuit analysis methods.

3. Correctly perform measurements using multimeters, oscilloscopes, and signal generators, perform circuit fabrication using electronic schematic diagrams, and perform simple problem-isolation techniques on laboratory circuits.

4. Correctly identify common component symbols and explain the functions of common electronic components.

5. Correctly list the career opportunities in Electronics Technology, the methods for receiving training in those areas and essential workplace skills that are needed for career success in a technical field.

Week	Week Of	Course Topic	Reading Assignment and Homework
1		Introduction and Lab Safety	**Careers in Electronics** **Using a Calculator, Safety Precautions** **CH 1**
2		Basic Electronics Intro	**CH 2**
3		Resistors	**CH 3**
4		Greek Prefix	**CH 4**
5		Ohms Law	**CH 5 AND 7**
6		Meter Use / Power	**CH 7**
7		Series / Parallel / Breadboard	**Sparkfun Article**
8		Breadboard / DC Circuits	**CH 8**
9		Breadboard /DC Circuit Review	**CH 8 cont.**
10		Midterm	
11		Series-Parallel Overview	**Combinational Circuits**
12		Magnetism	**CH 9**
13		Inductance	**CH 10**
14		Capacitance	**CH 11 and Time Constants**
15		Final	**Review for the final exam**
16		Make up work	**YOU MADE IT!**