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### ETEC 113.01: Circuits Laboratory

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# **The University of Montana**

## **Missoula College**

### **Department of Applied Computing and Electronics**

#### **ETEC - 113 – SP15 – Higgins - Circuits Kit Lab**

##### **Course Syllabus:**

##### **Credits: 1**

Last Update: Spring 2015

##### **Faculty Contact:**

Wally Higgins - **Phone:** 243-7922 **E-mail:** [wally.higgins@umontana.edu](mailto:wally.higgins@umontana.edu)

Office Hours: MW 12:00pm - 1:00pm; TR 12:00 - 12:30pm

##### **Course Pre/Co-requisite:**

The course is to/may be taken in conjunction with ETEC 105-106.

##### **Course Description:**

Covers proper techniques of soldering and tool usage, Electronic technical language, hands on troubleshooting skills and basic electronic measurements are involved. The Elenco kit which we will be constructing is used to set up the lab experiments during the last two semesters in the Electronics Technology program.

##### **Course Overview:**

Class periods will be divided into two sessions. A presentation of new topics (i.e. electronic components in the kits) will be given during the first session. During the second session students will have the opportunity to work on their assignments. During the lab class hours students are encouraged to work together in groups and to obtain help from the instructor if necessary.

##### **Course Objectives:**

Upon completion of the course students will be able to: Demonstrate soldering and desoldering skills Identify tools used for basic electrical circuits. Manipulate tools used during basic electrical circuit construction, understand technical instructions, demonstrate proficiency in part recognition, and utilize basic electrical instrumentation.

**Required Materials:**

1. Elenco kit XK-550K – Available from the UM Bookstore at Missoula College or online
2. Engineering Paper
3. Multimeter – we have them for you to use but owning your own is best. I can help you pick one.
4. Small Sponge
5. Adjustable Pliers
6. Wire Strippers
7. Diagonal Cutters
8. Needle-nose Pliers
9. 1/8" Screwdriver
10. ¼" Screwdriver
11. Phillips #2 Screwdriver
12. 1/8" Soldering Iron, plated chisel tip
13. Desoldering Iron/ we have several to use but owning a decent soldering iron for your kit is best
14. Solder Stand
15. Extra solder
16. Ground Strap
17. Tool Box
18. Nut driver

**Assessment Procedures:**

Assessment Area	Grading Scale
Attendance 10%	93 – 100 % A
Kit Assembly 20%	85 – 92 % B
Kit Functioning 30%	70 – 84 % C
Kit Calibration & Construction 40%	60 – 69 % D

**Final Exam:** Completed project due between 8-10am Friday 5/15

**Attendance Policy:**

Students wishing to obtain their best grade for the course will make sure that they attend each work session. If you are going to be absent for any reason notify the instructor at 243-7922 or by email before the class starts. Cell phone ringers will be turned off during Lab.

**Course Outline:**

1. Students will build each section according to the schematics given.
2. Students/faculty will check the measurements after each section.
3. Students will complete the final check out of the trainer.
4. Faculty will go over the final measurements with the student.
5. A completely constructed, fully functioning trainer will be awarded with an A in the course.

**Academic Conduct:**

Academic honesty is expected of all students. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. The Code is available for review online at: <http://www.umt.edu/SA/VPSA/index.cfm/page/1321>

Using the Web to research materials and concepts is an integral part of learning in the twenty-first century. Studying with other students is a productive method of learning. A certain amount of collaborating on concepts with other students and using resources found on the Internet in an assignment is recommended. Copy and paste is not acceptable. It is expected that each student will input his/her assignment into the computer, and each student must be able to explain any assignment turned in. Collaboration on exams is strictly forbidden.

**Dropping and Adding Courses or Changing Sections, Grading or Credit Status:**

University Policy for dropping courses or requesting grading/credit status changes can be found in the catalog or on the web <http://www2.umt.edu/catalog/acpolpro.htm#adding>. All students should be familiar with the policy.

**Disability Accommodations Policy:**

Students with documented disabilities will receive appropriate accommodations in this course when requested in a timely manner. Please be prepared to provide a letter from the DSS Coordinator and a description of the requested accommodation to the instructor.

**Exam, Quiz, and Homework Assignment Policy:**

All quizzes and homework assignments are to be completed on-time. Late assignments will be accepted at the instructor's discretion. Exams are only to be completed on the assigned date. Rescheduling of an exam will be approved at the discretion of the instructor and only in extraordinary situations.

**Technical Support for Online Students:**

Technical support is available through <http://umonline.umt.edu> and by telephone at 406.243.4357 for the IT Central Help Desk and 406.243.6394 for Moodle specific questions.