

PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE  
MASTER SYLLABUS

**INTRODUCTION TO ELECTRICAL ENGINEERING TECHNOLOGY  
EET 1001**

**Class Hours: 0.0**

**Credit Hours: 1.0**

**Laboratory Hours: 3.0**

**Date Revised: Fall  
2001**

Note: This course is not intended for transfer credit.

**Catalog Course Description:**

The student is introduced to electronic instrumentation (with particular emphasis on the oscilloscope) and soldering techniques. An introduction to printed circuit board layout, schematic software and laboratory reports personal computers are also covered.

**Entry Level Standards:**

The student needs only an interest in electronics.

**Prerequisites:**

None

**Textbook(s) and Other Reference Materials Basic to the Course:**

Textbook:

None required. Student will be required to purchase Electronic Trainer Kit to be constructed as part of the course. Approximate cost: \$110.00.

Tools required:

Needle nose pliers, wire cutters, wire strippers, phillips and slot screw driver, and soldering iron -  
Approximate cost: \$40.00.

Reference:

*How to Solder* by Hewlett Packard

**I. Week/Unit/Topic Basis:**

<b>Week</b>	<b>Topic</b>
1	How to Solder and Construct the Trainer
2	Construction of Digital/Analog Trainer
3	Construction of Digital/Analog Trainer
4	Construction of Digital/Analog Trainer
5	Construction of Digital/Analog Trainer
6	Construction of Digital/Analog Trainer

7	Construction of Digital/Analog Trainer
8	Construction of Digital/Analog Trainer
9	Construction of Digital/Analog Trainer
10	Construction of Digital/Analog Trainer
11	Construction of Digital/Analog Trainer
12	Basic Electrical Theory and using Meters
13	Basic Electrical Theory and using Oscilloscope
14	Test Data for the Trainer
15	The Report
16	Finish the Report; Final Exam Period

## II. Course Objectives\*:

- A. Understand proper measurement techniques using multimeters. I, II, III
- B. Understand oscilloscope operation. II, III, IV
- C. Understand soldering techniques. II, VII
- D. Understand Windows/Programs. I, VII
- E. Understand word processing basics. I, VII
- F. Understand schematic layout software. III, IV, VI

\*Roman numerals after course objectives reference goals of the EET program.

## III. Instructional Processes\*:

Students will:

1. Participate in classroom discussions which challenge their abilities to think creatively and visualize complex spatial and mathematical relationships to solve problems. *Problem Solving and Decision Making Outcome*
2. Work in teams to conduct laboratory experiments and also to solve special problem assignments. These activities are designed to foster interpersonal skills in teamwork and develop and enhance leadership skills, students' abilities to express ideas, and students' abilities to reach consensus solutions for the team through negotiation. *Active Learning Strategy, Problem Solving and Decision Making Outcome, Personal Development Outcome*
3. Use electronic test equipment to test electrical circuits constructed from schematics in the laboratory and acquire data. Use computers with applications software to simulate, analyze, and predict the behavior of electrical circuits. Compare expected responses to experimental responses of electrical circuits. Use the Internet for special assignments such as locating data sheets on electronic components. Use computers with word processing software to prepare reports. *Technological Literacy Outcome, Information Literacy Outcome, Numerical Literacy Outcome, Transitional Strategy*

4. Prepare reports on laboratory experiments which include methodology, mathematical analyses of electrical circuit models, a comprehensive comparison of calculated results with experimental results, and conclusions. *Communication Outcome, Numerical Literacy Outcome*

\*Strategies and outcomes listed after instructional processes reference Pellissippi State's goals for strengthening general education knowledge and skills, connecting coursework to experiences beyond the classroom, and encouraging students to take active and responsible roles in the educational process.

#### **IV. Expectations for Student Performance\*:**

Upon successful completion of this course, the student should be able to:

1. Take resistance measurements using a multimeter. A
2. Take voltage measurements using a multimeter. A
3. Take current measurements using a multimeter. A
4. Make DC voltage measurements using an oscilloscope. B
5. Make AC voltage measurements using an oscilloscope. B
6. Make frequency measurements using an oscilloscope. B
7. Solder components on a printed circuit board neatly. C
8. Desolder and replace components on a printed circuit board. C
9. Use word processing to write a report. E
10. Use word processing with text files. E
11. Draw a schematic using available software. G
12. View any file in any directory of either floppy or hard drive. D
13. Copy files from any directory to any other directory. D
14. Delete files in any directory. D
15. View a directory and identify executable programs. D

\*Letters after performance expectations reference the course objectives listed above.

#### **V. Evaluation:**

A. Testing Procedures: 35% of grade

20% - Quiz and lab grades will be averaged to provide 20% of final grade.

15% - Comprehensive exam will provide 15% of final grade.

B. Laboratory Expectations: 65% of grade

40% - Completion of the Trainer will provide 40% of the final grade.

25% - Completion of the Trainer Lab Report will provide 25% of the final grade. This report will be graded on content, grammar, spelling, and form. Students may cooperate and assist each

other in the construction of the Trainer. All tests and the lab report are individual work and must be done by each student without assistance. Each week the student could be given a grade based on mastery of lab practices. This could be combined with test to determine the grade.

C. Field Work:

N/A

D. Other Evaluation Methods:

N/A

E. Grading Scale:

93 - 100	A
85 - 92	B
70 - 84	C
60 - 69	D
0 - 59	F

**VI. Policies:**

A. Attendance Policy:

Pellissippi State Technical Community College expects students to attend all scheduled instructional activities. As a minimum, students in all courses must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course. Individual departments/programs/disciplines, with the approval of the vice president of Academic and Student Affairs, may have requirements that are more stringent. Class Attendance for Lab: Attendance is required to all lab sessions unless excused by the instructor. Students missing more than four unexcused sessions will receive an "F" and no credit will be received. Students tardy past half an hour will be considered absent.

B. Student Conduct:

The student is encouraged to read the regulations for student conduct in the PSTCC Catalog and Handbook.