

PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE  
MASTER SYLLABUS

**FUNDAMENTALS OF TESTING**  
**MET 2800**

**Class Hours: 3.0**

**Credit Hours: 3.0**

**Laboratory Hours: 0.0**

**Date Revised: Spring  
00**

**Catalog Course Description:**

An introductory course in the development, procedure, and analysis of various testing procedures.

**Entry Level Standards:**

Students entering this course must be capable of organizing and communicating an extensive amount of information in a written format.

**Prerequisites:**

None

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

Textbook:

Instructor Developed Material

References:

*TEST OFFICERS GUIDE*: USATTC MEMO 70-7, 1 October 1983, USATTC APO Miami 34004.

*Materials Testing in the Tropics*: USATTC Report 790401, April 1979.

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

<b>Week</b>	<b>Topic</b>
1	Introduction
2	Preparing Cost Estimate
3	Preparing Cost Estimate (cont.)
4	Preparing Cost Estimate (cont.)
5	Preparing Cost Estimate (cont.)
6	Preparing Cost Estimate (cont.)
7	Preparing Test Plan
8	Preparing Test Plan (cont.)
9	Preparing Test Plan (cont.)

- 10 Preparing Test Plan (cont.)
- 11 Preparing Test Plan (cont.)
- 12 Preparing Test Plan (cont.)
- 13 Conducting Test
- 14 Preparing Test Report
- 15 Preparing Test Report (cont.)
- 16 Presentation/Final Exam

## II. Course Objectives\*:

- A. Understand basic testing principles. I
- B. Prepare a detailed cost estimate. II
- C. Write a comprehensive test plan. II, IV
- D. Conduct test and collect data. II, IV
- E. Analyze data and prepare a test report. II, IV, V

\*Roman numerals after course objectives reference goals of the Engineering and Media Technologies department.

## III. Instructional Processes\*:

Students will:

1. Actively listen to class lectures and participate in class discussions that develop and reinforce an understanding of the theories, concepts, principles, and applications of the fundamentals of testing parts and products. *Communication Outcome, Problem Solving and Decision Making Outcome, Information Literacy Outcome, Active Learning Strategies*
2. Work individually or in teams to complete projects, and assignments related to the theories, concepts, principles, and applications covered in the lecture or demonstration portion of the course. *Communication Outcome, Problem Solving and Decision Making Outcome, Technological Literacy Outcome, Numerical Literacy Outcome, Information Literacy Outcome, Active Learning Strategies*
3. Analyze, tabulate, and present collected data in an orderly format to prepare a college level technical report using computer software packages such as Autocad, Microsoft Word, Word Perfect, Excel, EZ-Feature Manufacturing Software, Data Myte Statistical Process Control, Ziess-Numerex Coordinate Measuring software, MD Solids, Working Model 2D. *Communication Outcome, Problem Solving and Decision Making Outcome, Technological Literacy Outcome, Numerical Literacy Outcome, Information Literacy Outcome, Active Learning Strategies, Transitional Strategy*
4. Use research and oral presentation skills to present findings to a subject matter expert, peer group or an evaluation team from industry. *Communication Outcome, Problem Solving and Decision Making Outcome, Technological Literacy Outcome, Numerical Literacy Outcome, Information Literacy Outcome, Active Learning Strategies*

\*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. Define, explain, and associate the terminology used in testing. A
2. Select and identify objectives for a variety of tests. A
3. Identify sequence of events in development cycle. A
4. Develop a cost checklist based on test criteria. B
5. Develop a cost estimate based on checklist and test criteria. B
6. Identify specifications for a part, end item, or system.
7. Select appropriate sample sizes. C
8. Develop a logical and comprehensive test matrix. C
9. Identify critical review steps. C
10. Develop a daily test schedule and checklist. D
11. Analyze data and accept, reject, or retest based on preliminary findings. D, E
12. Process and organize data. D
13. Determine acceptability or rejectability of data and make recommendations. E
14. Document technical information in a neat and orderly format. E

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

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

##### A. Testing Procedures:

Comprehensive Final Exam--10 points

##### B. Laboratory Expectations:

None

##### C. Field Work:

Project 1: Cost Estimate--15 points

Project 2: Test Plan--45 points

Project 3: Test Report--20 points

Guidelines and requirements for each project will be provided by the instructor.

##### D. Other Evaluation Methods:

Participation--10 points

Based on instructor observation during the course, each student will be evaluated on participation activities. Evaluation parameters to include active participation in class discussions, being prepared, striving to achieve more than minimum requirements, and regular attendance.

E. Grading Scale:

A	92-100
B+	88-91
B	83-87
C+	79-82
C	74-78
D	65-73
F	Below 65

**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 (Pellissippi State Catalog). Individual departments/ programs/ disciplines, with the approval of the vice president of Academic and Student Affairs, may have requirements that are more stringent.

B. Academic Dishonesty:

Cheating on a quiz or assigned project will not be tolerated. First offense will result in immediate dismissal and automatic failure of the course. Assistance from other students is encouraged during the learning stages of the course, but each student is responsible for completing their own course assignments.

C. Other Policies:

Make-Up Exams: As a general rule, no make-up exams will be administered during the course.

Safety and Equipment Abuse: Repeated safety violations will result in a reduction of final grade, at the instructor's discretion. Flagrant violations which result in equipment damage or personal injury will result in automatic failure of the course.

Counseling: Counseling is available during posted office hours or by appointment.