PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE
MASTER SYLLABUS

Class Hours: 3.0  Credit Hours: 3.0
Laboratory Hours: 0.0  Revised: Spring 05

Catalog Course Description:
An introductory course in the development, procedure, and analysis of various testing procedures. Topics include developing a test matrix and testing plan, conducting tests, data collection methods, data analysis, and final reporting. In addition, the topics of product reliability and ISO certification are presented.

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

Prerequisites:
ENGL 1010

Textbook(s) and Other Course Materials:

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

I. Week/Unit/Topic Basis:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction</td>
</tr>
<tr>
<td>2-6</td>
<td>Preparing Cost Estimate</td>
</tr>
<tr>
<td>7-10</td>
<td>Preparing Test Plan</td>
</tr>
<tr>
<td>11-12</td>
<td>Conducting Tests</td>
</tr>
<tr>
<td>13-14</td>
<td>Preparing Test Report</td>
</tr>
<tr>
<td>15</td>
<td>Presentation/Final Exam</td>
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</tbody>
</table>

II. Course Objectives*:
A. demonstrate their understanding of basic testing principles. (A-C, F, G)
B. prepare a detailed cost estimate. (B, C)
C. write a comprehensive test plan. (F, G)
D. conduct tests and collect data. (B-D)
E. analyze data. (D, F)
F. prepare a test report. (A-C, F, G)

*Letters after course objectives reference MET Program Outcomes (as required by ABET).

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, Mathematics Outcome, Technological 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, Mathematics Outcome, Technological 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, FeatureCAM Manufacturing Software, Coordinate Measuring software, MD Solids, Working Model 2D. Communication Outcome, Mathematics Outcome, Technological Literacy Outcome, Active Learning Strategies

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, Mathematics Outcome, Technological Literacy Outcome, Active Learning Strategies

*Strategies and outcomes listed after instructional processes reference TBR's goals for strengthening general education knowledge and skills, connecting course work 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:

  Project 1: Cost Estimate (20 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.

C. Field Work:

  N/A

D. Other Evaluation Methods:

  Participation (5 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:

  Final grade for this course will be based on the following alphabetic/numerical scale.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>92-100</td>
</tr>
<tr>
<td>B+</td>
<td>88-91</td>
</tr>
<tr>
<td>B</td>
<td>83-87</td>
</tr>
<tr>
<td>C+</td>
<td>79-82</td>
</tr>
<tr>
<td>C</td>
<td>74-78</td>
</tr>
<tr>
<td>D</td>
<td>65-73</td>
</tr>
<tr>
<td>F</td>
<td>Below 65</td>
</tr>
</tbody>
</table>

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:

C. Accommodations for disabilities:

If you need accommodation because of a disability, if you have emergency medical information to share, or if you need special arrangements in case the building must be evacuated, please inform the instructor immediately. Privately after class or in the instructor's office. To request accommodations students must register with Services for Students with Disabilities: Goins 127 or 131, Phone: (865) 539-7153 or (865) 694-6751 Voice/TDD.

D. 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.