PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE
MASTER SYLLABUS

SYSTEMS ANALYSIS & DESIGN
CSIT 2810 (formerly CST 2810)

Class Hours: 3.0  Credit Hours: 4.0

Laboratory Hours: 3.0  Date Revised: Spring 03

NOTE: This course is not intended for transfer credit.

Catalog Course Description:

A study of system analysis techniques. Management teams analyze, design and select hardware/software, and implement solutions to practical problems. A laboratory will be scheduled to enhance the student's ability to use tools and techniques of systems analysis and design in solving the problems.

Entry Level Standards:

The entering student is expected to be familiar with database concepts. The student should have moderate programming abilities in at least one high-level language as well as basic reading, writing, and word processing skills. Problem solving skills will be essential. Knowledge of Visual programming is preferred.

Prerequisites:

CSIT 1810, 1560 or department approval; ENGL 1010

Textbook(s) and Other Course Materials:

Suggested Reading Materials:
Systems Analysis and Design: An Active Approach, by George Marakas

I. Week/Unit/Topic Basis:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1</td>
<td>Players in the Systems Game, Information System Building Blocks</td>
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<td>2</td>
<td>Information System Development; Project Management</td>
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<td>3</td>
<td>Systems Analysis</td>
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<td>4</td>
<td>Requirements Discovery</td>
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<td>5</td>
<td>Data Modeling and Analysis; Review, Test 1</td>
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<td>6</td>
<td>Processing Modeling</td>
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<td>7</td>
<td>Feasibility Analysis and the System Proposal; Systems Design</td>
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8 Systems Design; Application Architecture and Modeling
9 Database Design; Output Design and Prototyping
10 Input Design and Prototyping; Review, Test 2
11 User Interface Design
12 Systems Construction and Implementation; Systems Operations and Support
13 Object-Oriented Analysis and Modeling; Object-Oriented Design and Modeling
14 Presentation of Team Projects
15 Presentation of Team Projects; Wrap up, Review
16 Final Exam

II. Course Objectives*:

A. Become familiar with the steps in developing and designing a system. V, VIII
B. Become familiar with the qualifications of a systems analyst and tools that are available to an analyst for solving a problem. IV, IX, X
C. Demonstrate through group discussion how to approach a problem and come up with different solutions. I, XII
D. Develop and write a system proposal. V, XI
E. Implement a system. III, VI
F. Analyze different alternatives available in getting hardware and software. II
G. Become familiar with the major guidelines in evaluating hardware/software, and vendors. VII, IX

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

III. Instructional Processes*:

Students will:

1. Analyze, design and develop a well-documented project based on end-user request. Communication Outcome, Personal Development Outcome, Problem Solving and Decision Making Outcome, Cultural Diversity, Technological Literacy Outcome, Information Literacy Outcome, Transitional Strategy, Active Learning Strategy
2. Participate in a software development team. Communication Outcome, Problem Solving and Decision Making Outcome, Personal Development Outcome, Transitional Strategies, Active Learning Strategy
3. Use professional tools to produce software components and documentation. Technological Literacy Outcome, Personal Development Outcome, Transitional Strategy, Active Learning Strategy
4. Practice elements of work ethic such as punctuality, professionalism, dependability, cooperation, and contribution. Personal Development Outcome
5. Use professionally accepted methods and materials in completion of applications. Technological Literacy Outcome, Personal Development Outcome, Transitional Strategy, Active Learning Strategy

Present a finished product to the class. Communication Outcome, Personal Development Outcome
6. **Outcome, Transitional Strategy, Active Learning Strategy**

Participate in a peer review of team projects. **Problem Solving and Decision Making**

7. **Outcome, Communication Outcome, Transitional Strategy, Active Learning Strategy**

Use the Internet as a medium for obtaining documentation and instruction. **Communication Outcome, Technological Literacy Outcome, Information Literacy Outcome, Personal Development Outcome, Transitional Strategy, Active Learning Strategy**

*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. Demonstrate an overview of general concepts of system and system analysis and design. A,C,E

2. Understand the tools which are available in providing preliminary and detailed investigation and a major guideline in developing general and detailed design specification. A,B,C,D,E

3. Develop an understanding of the system's life cycle and the tools and techniques available to the analyst. A,B,C,D,E

4. Develop an understanding of different alternative solutions to a given problem and cost/benefit analysis associated with each. A,B,C,D,E

5. Develop an understanding of the Rent/Buy/Lease methods. F

6. Develop an understanding of Request for Proposal and different methods of evaluation including benchmarking. B,D

7. Develop an understanding of different criteria used in evaluating hardware/software and making a final decision. A,B,F,G

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

V. **Evaluation**: 

A. Testing Procedures:

Students are evaluated primarily on the basis of tests and laboratory assignments. Each instructor must provide full details the first week of class via a syllabus supplement.

A minimum of three tests is recommended. Tests will cover material presented in class. Tests are not to be missed without a valid excuse.

B. Laboratory Expectations:

Lab attendance is required. Assignments will be given and must be completed and handed in at the designated date.

Team Project: Students will be assigned to a project team. Teams will consist of 2 to 3 students. The team may pick a business application from work experience, or may do some research at the library and invent a system. The team will define and formulate its project during the first few weeks, then apply the tools and techniques of systems analysis and design learned in class to develop, design, and code the team's system. CASE tools, such as Designer 2000/Developer 2000, Database, MS Project, various programming languages, and prototyping tools may be used in development of the team project.
The prospect of working in a team carries the possibility that not all team members will pull their fair share of the load. For this reason, there will be a confidential peer evaluation during the semester. Individual evaluations are the property of the instructor and will not be shared with other team members under any circumstances.

C. Field Work:

Students are required to read all library materials/handouts assigned in class.

D. Other Evaluation Methods:

Students are expected to do in-class group discussion on various cases/projects. Class participation, group work and homework will also comprise the final grade for the course. Each instructor must provide full details the first week of class via a syllabus supplement.

E. Grading Scale:

93 – 100 A  
88 – 92 B+  
83 – 87 B  
78 – 82 C+  
73 – 77 C  
65 – 72 D  
Below 65 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 (Pellissippi State Catalog).

B. Academic Dishonesty:

Plagiarism, cheating and other forms of academic dishonesty are prohibited. A student guilty of academic misconduct, either directly or indirectly through participation or assistance, is immediately responsible to the instructor of the class. In addition to other possible disciplinary sanctions that may be imposed through the regular Pellissippi State procedures as a result of academic misconduct, the instructor has the authority to assign an F or a zero for the exercise or examination or to assign an F in the course.

C. Other Policies:

Students are expected to promptly attend all lecture and lab classes as assigned. If a class is missed, student must make up all work and get notes and/or handouts.