

Pellissippi State Community College
Master Syllabus

SYSTEMS ANALYSIS & DESIGN
CSIT 2810

Class Hours: 3.0
Laboratory Hours: 3.0
Credit Hours: 4.0
Revised: January 2012

Instructor:
Office:
Phone:
E-mail:

NOTE: This course is not intended for transfer credit.

Catalog Course Description:

This course examines established and evolving methodologies for the analysis, design, and development of a business information system. Students practice software engineering principles and documentation techniques through team projects. Emphasis is placed on business systems characteristics, prototyping, CASE tools, and SDLC phases.

Entry-Level Standards:

The entering student is expected to have a working knowledge of database concepts and should have adequate programming abilities in at least one high-level language. Problem solving skills will be essential. Knowledge of Visual programming as well as object-oriented programming is preferred.

Pre-requisite: CSIT2425 or CSIT programming elective or department approval; and CSIT 1810 and ENGL 1010

Textbooks and Other Supplies:

Required Textbook:

Object-Oriented Systems Analysis and Design: by Noushin Ashrafi, and Hessem Ashrafi.
Pearson/Prentice Hall. ISBN-13: 978-0-13-615432-7

Suggested Reading Materials:

- a. Object-Oriented Classical Software Engineering, 8th Edition by Stephen Schach
- b. UML, A Beginner's Guide, by Jason Roff
- c. Software Engineering, by Ian Sommerville
- d. Object-Oriented Systems Analysis and Design, by George, Batra, Valacich, and Hoffer
- e. Software Project Management, by Joel Henry
- f. Introduction to Java Programming, 8th Ed., by Y. Daniel Liang, Pearson/Prentice Hall
- g. Oracle Database 11g SQL, by Jason Price, McGraw-Hill, 2008

I.	<u>WEEKUNIT</u>	<u>TOPIC BASIS:</u>
	1 Chapter 1	Information Systems
	Chapter 2	The Concept of Object Orientation
	2 Chapter 3	Methodology
	Chapter 4	Gathering Requirements
	3 Chapter 5	Domain Analysis
	4 Chapter 6	Behavioral Modeling I: Use Cases: The basics
	Chapter 7	Behavioral Modeling II: Developing Use Cases
	5 Chapter 8	Structural Modeling
	6 Chapter 9	Dynamic Modeling
	7 Chapter 10	The Design Challenge
	8 Chapter 11	Application Design I: Flow & Control
	9 Chapter 12	Application Design II: The User Interface
	10 Chapter 13	Application Design III: Database & Persistence
	Chapter 14	Patterns
	11 Chapter 15	Components & Reuse
	12 Chapter 16	Architecture
	13 Chapter 17	Implementation
	14 →	Presentation of Team Projects
	15 →	Final Exam Period

II. COURSE Goals*:

The course will:

- A. Build the skills to analyze, design and develop a well-documented project based on end-user request. I, II, III, IV, V
- B. Demonstrate through group discussion how to approach a problem and come up with different solutions. I, V
- C. Enhance effective use of professionally accepted methods and materials in completion of projects. I, II, III, IV, V
- D. Require students to practice elements of the work ethic such as punctuality, professionalism, dependability, cooperation, and contribution. I
- E. Build the skills to participate in a software development team. I
- F. Present a finished product to the client and class. I, II, IV,
- G. Participate in a peer review of team projects. I

*Roman numerals after course objectives reference goals of the CSIT program (Career Program Goals and General Education Goals are listed http://www.pstcc.edu/departments/curriculum_and_instruction/syllabi/)

III. Expected Student Learning Outcomes*:

Students will be able to:

1. Demonstrate an overview of general concepts of system analysis and design. (A, D)
2. Construct a plan by using Project Management tools for system study through teamwork and cooperation. (A, B, C, D)
3. Develop an understanding of the system's life cycle and the tools and techniques available to the analyst. (A, C,D,E)
4. Develop an understanding of different alternative solutions to a given problem. (A,B,C,D)
5. Create Requirement Definition Document based on client request. (A, B, C, D, E)
6. Present the software solution to class. (F)
7. Evaluate team members' project and participation. (G)
8. Develop software solution after a complete system study of the client's request. (B, C, D, E)

* Capital letters after Expected Student Learning Outcomes reference the course goals listed above.

IV. EVALUATION:

- A. Testing Procedures: about 30-35% of grade
Students are evaluated primarily on the basis of tests and team project. Each instructor must provide full details the first week of class via a syllabus supplement. A minimum of two tests is recommended. Tests will cover material presented in class. Tests are not to be missed without a valid excuse.
- B. Laboratory Expectations: about 65-70% of grade
Team Project: Students will be assigned to a project team. Teams will consist of 4 to 6 students. The team may pick a business application from work experience. The team will define the requirements 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, code, and implement the team's system. CASE tools, Visual tools, UML modeling tools, 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 |

V. **POLICIES:**

A. Attendance Policy:

Pellissippi State 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 Online 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. (*Pellissippi State Online Catalog*)

C. Computer Usage Guidelines:

College-owned or –operated computing resources are provided for use by students of Pellissippi State. All students are responsible for the usage of Pellissippi State's computing resources in an effective, efficient, ethical and lawful manner. (*Pellissippi State Online Catalog*)

D. Accommodation for Disabilities:

Students who need accommodations because of a disability, have emergency medical information to share, or need special arrangements in case the building must be evacuated should inform the instructor immediately, privately after class or in her or his office. Students must present a current accommodation plan from a staff member in Services for Students with Disabilities (SSWD) in order to receive accommodations in this course. Services for Students with Disabilities may be contacted by going to Goins 127, 132, 134, 135, 131 or by phone: 539-7153 or TTY 694-6429. More information is available at www.pstcc.edu/departments/swd/.

E. Other:

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.