Class Hours: 3.0       Credit Hours: 4.0
Laboratory Hours: 3.0   Revised: Spring 2011

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.

Prerequisites:

CSIT 2425 or CSIT programming elective or department approval; and CSIT 1810 and ENGL
1010

Textbook(s) and Other Course Materials:

Required Textbook:


Suggested Reading Materials:

   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 Object-Oriented Analysis and Design with UML and the
g. Object-Oriented Systems Analysis and Design, by Noushin Ashrafi and
   Hessam Ashrafie.
I. Week/Unit/Topic Basis:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
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</thead>
</table>
| 1    | The Context of Systems Analysis and Design Methods  
      | Information System Building Blocks |
| 2    | Information Systems Development  
      | Project Management |
| 3    | Systems Analysis |
| 4    | Fact-Finding Techniques for Requirements Discovery  
      | Modeling System Requirements with Use Cases |
| 5    | Data Modeling and Analysis |
| 6    | Process Modeling |
| 7    | Object-Oriented Analysis and Modeling Using the UML |
| 8    | Feasibility Analysis and the System Proposal |
| 9    | Systems Design |
| 10   | Application Architecture and Modeling  
      | Database Design |
| 11   | Output Design and Prototyping  
      | Input Design and Prototyping  
      | User Interface Design |
| 12   | Object-Oriented Design and Modeling Using the UML  
      | Systems Construction and Implementation |
| 13   | Systems Operations and Support |
| 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*:

The student 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 60-65% of grade

Team Project: Students will be assigned to a project team. Teams will consist of 3 to 5 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:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93 - 100</td>
<td></td>
</tr>
<tr>
<td>B+</td>
<td>88 - 92</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>83 - 87</td>
<td></td>
</tr>
<tr>
<td>C+</td>
<td>78 - 82</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>73 - 77</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>65 - 72</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Below 65</td>
<td></td>
</tr>
</tbody>
</table>

V. Policies:

A. Attendance Policy:

Pellissippi State expects students to attend all scheduled instructional activities. As a minimum, students in all courses (excluding distance learning 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 the Learning Division, may have requirements that are more stringent. In very specific circumstances, an appeal of the policy may be addressed to the head of the department in which the course was taken. If further action is warranted, the appeal may be addressed to the vice president of the Learning Division.

B. Academic Dishonesty:

Academic misconduct committed either directly or indirectly by an individual or group is subject to disciplinary action. Prohibited activities include but are not limited to the following practices:

• Cheating, including but not limited to unauthorized assistance from material, people, or devices when taking a test, quiz, or examination; writing papers or reports; solving problems; or completing academic assignments.
• Plagiarism, including but not limited to paraphrasing, summarizing, or directly quoting published or unpublished work of another person, including online or computerized services, without proper documentation of the original source.
• Purchasing or otherwise obtaining prewritten essays, research papers, or materials prepared by another person or agency that sells term papers or other academic materials to be presented as one’s own work.
• Taking an exam for another student.
• Providing others with information and/or answers regarding exams, quizzes, homework or other classroom assignments unless explicitly authorized by the instructor.
• Any of the above occurring within the Web or distance learning environment.

C. Accommodations 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/.

D. Other Policies:

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.

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.