

COURSE OUTLINE OF RECORD

Dept., Number	CSC 4388	Course Title	Systems Design and Development
Semester Hours	3		
Year	2006	URL (if any):	

Current Catalog Description:

This capstone course provides depth in the application and integration of core computer science concepts. Emphasis is placed on the integration of systems analysis/design techniques with concepts of operating systems, data structures, file and database processing, computer architecture and software engineering. Business and scientific systems are studied. This is a project course that requires significant collaborative out-of-class work, written documents and oral presentations. Prerequisites: CSC 3321 and senior standing.

Textbook:

McLeod, Systems Development, John Wiley & Sons, Inc.

Course Goals:

To provide computer science students with the skills to:

1. Conduct system studies for business and/or scientific applications model stages in systems development within the information life cycle use systems tools to model computer software and hardware systems design and implement the management of systems development project.
2. Prepare and deliver oral and written presentations.
3. Integrate computer science theory and skills, critical thinking, and oral/written communication.

Prerequisites by Topic:

1. Algorithms and structured procedural language
2. Data structures
3. File processing and database management concepts
4. Elements of the computer process
5. Computer architecture concepts
6. Software design concepts

Beneficial Optional Prerequisites by Topic:

1. Database management concepts
2. Data communications concepts
3. Graphics concepts
4. Internet applications concepts
5. Applications development concepts

Major Topics Covered in the Course (number of weeks):

Course Overview, Introduction (1.5)
Computer Support Systems (3.0)
Theory, Modeling, and Analysis (6.0)
System Design and Implementation (6.0)
Project Management (6.0)
System Prototyping (3.0)
System Design Ethics (1.5)
System Testing (1.5)
System Maintenance (1.5)
Class Labs (6.0)
Presentations (6.0)
Exams (3.0)

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Laboratory Projects:

Project 1 - (2 weeks)

Project 2 - (3 weeks)

Term Project - (8 weeks)

Estimate Curriculum Category Content (Semester hours)

Area	Core	Advanced	Area	Core	Advanced
Algorithms			Data Structures		.5
Software Design		2	Prog. Languages		
Comp. Arch.		.5			

Oral and Written Communication:

Students must prepare written and oral presentations describing the design projects.

Social and Ethical Issues:

Students participate in an ethics lab that simulates a system design ethical issue, complete and analysis of the issue and justify the position taken.

Theoretical Content:

Decision support system concepts, interface design, and database design are required in all projects.

Problem Analysis:

Students must complete a comprehensive requirements analysis.

Open-Ended Design:

Students must use appropriate design tools and model to illustrate the solution to the problem identified in the requirements analysis.