COURSE OUTLINE

CSD202

Prepared: Approved:

Course Code: Title	CSD202: SYSTEMS ANALYSIS AND DESIGN
Program Number: Name	2090: COMPUTER PROGRAMMER
Department:	COMPUTER STUDIES
Semester/Term:	17F
Course Description:	In this course we will follow a structured, methodical approach to systems analysis and design.The student will gain a thorough understanding of the System Development Life Cycle (SDLC) through the preparation of deliverables (documents, discussions, coding) at each stage. We will also compare and contrast some of the newer development methodologies such as the modified SDLC, Rapid Application Design (RAD), Object Oriented Analysis and Design (OOA&D), and others. The most important component of system development will always be communication. Therefore, communication is the key to success in software development and thus oral, written and interpersonal communication skills will be the main focus of this course. Students will work individually, and within a team environment, to develop their analytic/system design skills and prepare a complete system proposal.
Total Credits:	5
Hours/Week:	3
Total Hours:	45
This course is a pre-requisite for:	CSD318
Course Evaluation:	
Other Course Evaluation & Assessment Requirements:	Grade Definition Grade Point Equivalent A+ 90 100% 4.00 A 80 89% B 70 - 79% 3.00 C 60 - 69% 2.00 D 50 59% 1.00 F (Fail) 49% and below 0.00

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CR (Credit) Credit for diploma requirements has been awarded.
S Satisfactory achievement in field /clinical placement or non-graded subject area.
U Unsatisfactory achievement in field/clinical placement or non-graded subject area.
X A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.
NR Grade not reported to Registrar`s office.
W Student has withdrawn from the course without academic penalty.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Lab Assignments	30%
Projects	20%
Tests/Quizzes	50%

Books and Required Resources:

Systems Analysis and Design - Custom Publication by Rosenblatt
Publisher: Nelson

Course Outcomes and Learning Objectives:

Course Outcome 1.

Discuss the elements of Systems Analysis and Design

Learning Objectives 1.

- Describe the impact of information technology
- Define systems analysis and design and the role of a systems analyst
- Define an information system and describe its components
- Explain how to use business profiles and models
- Explain Internet business strategies and relationships, including B2C and B2B
- Identify various types of information systems and explain who uses them
- Distinguish among structured analysis, object-oriented analysis, and agile methods
- Explain the waterfall model, and how it has evolved
- Discuss the role of the information technology department and the systems analysts who work there

Course Outcome 2.

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Analyze a basic business case

Learning Objectives 2.

- Explain the concept of a business case and how a business case affects an IT project
- Describe the strategic planning process and why it is important to the IT team
- Explain the purpose of a mission statement
- Conduct a SWOT analysis and describe the four factors involved
- Explain how the SDLC serves as a framework for systems development
- List reasons for systems projects and factors that affect such projects
- Describe systems requests and the role of the systems review committee
- Define operational, technical, economic, and schedule feasibility
- Describe the steps and the end product of a preliminary investigation

Course Outcome 3.

Describe the various tools and techniques that relate to Managing the Systems Project

Learning Objectives 3.

- Explain project planning, scheduling, monitoring, and reporting
- Draw a project triangle that shows the relationship among project cost, scope, and time
- Describe work breakdown structures, task patterns, and critical path analysis
- Explain techniques for estimating task completion times and costs
- Describe various scheduling tools, including Gantt charts and PERT/CPM charts
- Analyze task dependencies, durations, start dates, and end dates
- Describe project management software and how it can assist you
- Discuss the importance of managing project risks
- Understand why projects sometimes fail

Course Outcome 4.

Describe the Systems Analysis Phase – Requirements Modeling

Learning Objectives 4.

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- Describe systems analysis phase activities
- Explain joint application development (JAD),
- rapid application development (RAD), and agile methods
- Use a functional decomposition diagram (FDD) to model business functions and processes
- Describe the Unified Modeling Language (UML) and examples of UML diagrams
- List and describe system requirements, including outputs, inputs, processes, performance, and controls
- Explain the concept of scalability
- Use fact-finding techniques, including interviews, documentation review, observation, questionnaires, sampling, and research
- Define total cost of ownership (TCO)
- Conduct a successful interview
- Develop effective documentation methods to use during systems development

Course Outcome 5.

Describe the Data and Process Modeling Phase

Learning Objectives 5.

- Describe data and process modeling concepts and tools, including data flow diagrams, a data dictionary, and process descriptions
- Describe the symbols used in data flow diagrams and explain the rules for their use
- Draw data flow diagrams in a sequence, from general to specific
- Explain how to level and balance a set of data flow diagrams
- Describe how a data dictionary is used and what it contains
- Use process description tools, including structured English, decision tables, and decision trees
- Describe the relationship between logical and physical models

Course Outcome 6.

Understand fundamental concepts of Object Modeling

Learning Objectives 6.

- Explain how object-oriented analysis can be used to describe an information system

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• Define object modeling terms and concepts, including objects, attributes, methods, messages, classes, and instances
• Explain relationships among objects and the concept of inheritance
• Draw an object relationship diagram
• Describe Unified Modeling Language (UML) tools and techniques, including use cases, use
case diagrams, class diagrams, sequence diagrams, state transition diagrams, and activity diagrams
• Explain the advantages of using CASE tools in developing the object model
• Explain how to organize an object model

Course Outcome 7.

Understand how to Develop Strategies

Learning Objectives 7.

• Describe the concept of Software as a Service
• Define Web 2.0 and cloud computing
• Explain software acquisition alternatives, including traditional and Web-based software development strategies
• Describe software outsourcing options, including offshore outsourcing and the role of service providers
• Explain advantages and disadvantages of in-house software development
• Discuss cost-benefit analysis and financial analysis tools
• Describe a request for proposal (RFP) and a request for quotation (RFQ)
• Describe the system requirements document
• Explain the transition from systems analysis to systems design

Course Outcome 8.

Understand how to design an effective user interface

Learning Objectives 8.

• Explain the concept of user interface design and human computer interaction, including basic principles of user-centered design

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- Explain how experienced interface designers perform their tasks
- Describe rules for successful interface design
- Discuss input and output technology issues
- Design effective source documents and forms
- Explain printed output guidelines
- Describe output and input controls and security
- Explain modular design and prototyping techniques

Date: Friday, September 1, 2017

Please refer to the course outline addendum on the Learning Management System for further information.