IS 391 Systems Analysis and Design: 3 Credits

SEC:001 / CRN:93687

Pre or Co-requisites

- CS103, CS113, CS115, IS218 or IT202

Location/Days

- Tuesdays/Thursdays 11:30 ECEC 100

Professor

- Thomas Licciardello
- Email: Thomas.Licciardello@NJIT.edu
- Office: GITC 3902B
- Phone: 973-642-7115

- Office hours by appointment, please email for coordination

Resources

- Required Textbook: Systems Analysis and Design in a Changing World

  by John W. Satzinger, Robert B. Jackson, Stephen D. Burd | 7th Edition | Copyright 2016

  ISBN-13 = 9781305117204

- Additional Resources: Supplemental videos and book supplements will be provided in canvas modules

Course Summary & Objectives

This course is designed to be a study of the information systems development life-cycle (SDLC), from the initial stages of planning initiated from a system request, through information requirements analysis and determination, through the ultimate activities involving systems design, and concluding with a discussion of the steps to implement a system. The course offers theory, methodologies and strategies with a strong emphasis on the development of logical and physical processes and data models in analysis and design. By the end of this course, you will gain:

Foundational Knowledge:

- Articulate the key principles and techniques of systems analysis and design (SAD).
- Explain the role of the systems analyst in the development lifecycle.
- Discuss the different approaches to requirements gathering and analysis.
- Describe the importance of domain modeling in systems design.
- Differentiate between traditional and object-oriented approaches to SAD.

Technical Skills:

- Identify and document user needs and requirements using use cases and user stories.
- Develop a data model for a system using appropriate database design principles.
- Design user interfaces that are efficient, usable, and aesthetically pleasing.
- Plan and manage a systems development project using established methodologies.
- Understand different approaches to system deployment and implementation.

Applied Skills:

- Solve real-world problems through the application of SAD principles.
- Effectively communicate with stakeholders about system requirements and design.
- Work collaboratively in a team environment to develop and implement a software system.
- Critically evaluate existing systems and identify opportunities for improvement.
- Adapt your knowledge and skills to the ever-changing world of information technology.

Grading

- Discussions/Participation (logins) = 25%
- Mid-Term = 25%
- Final Exam = 25%
- Team Projects = 25%

Policies

Academic Integrity

Students are expected to follow the University Policy on Academic Integrity. Any code used from an online resource should be cited in a comment. Any attempts to present other people's code as your own will be viewed as plagiarism. All violations of the Academic Integrity policy will be referred to the Dean of Students for review and possible disciplinary action.

Requesting Accommodations

If you are in need of accommodations due to a disability please contact the Office of Accessibility Resources & Services (OARS), Fenster Hall Room 260 to discuss your specific needs. A Letter of Accommodation Eligibility from the OARS authorizing your accommodation will be required.

Resources for NJIT Students

NJIT Service for Students, including Technical Support.

Class Etiquette

Students who are the most successful attend and participate in class. If you have questions, please ask them. This makes the class more dynamic and interesting for everyone.

Proctoring/Exams

NJIT policy requires that all midterm and final exams must be proctored, regardless of delivery mode, in order to increase academic integrity. Note that this does not apply to essays or authentic based assessments. Effective beginning Fall semester 2019, students registered for a fully online course section (e.g., online or Hyflex mode) must be given the option to take their exam in a completely online format, with appropriate proctoring.

Exams will be given in-person using Respondus. Be sure to bring your charged laptop and charger on the day of exams.

Canvas

Students should monitor and use canvas for pertinent class information, announcements, weekly module contents, assignments etc...

Late Assignment Policy

Assignments that are turned in late (after the due date/time) will be subject to penalty as follows:

- Homework - 10% reduction of the grade
- Discussion Board - 10% reduction of the grade
- Project - 20% reduction of the grade
- Quiz / Exam - 20% reduction of the grade
- Compounded for egregious lateness

Outline

Semester Outline: Systems Analysis and Design Traditional Concepts, Systems Analyst Emphasis	
Note: Discussions, HW's, and Team Presentations will be slotted in during the semester, as well as any holidays or breaks. Please refer to Canvas weekly modules and announcements/email as ordering, and timing may change.	
Module 1	Book Supplement A: Introduction to the Role of the Systems Analyst
Module 2	Chapter 1: From Beginning to End: An Overview of Systems Analysis and Design
Module 3	Chapter 2: Investigating Systems Requirements
Module 4	Chapter 3: Identifying User Stories and Use Cases
Module 5	Chapter 4: Domain Modeling
Module 6	Chapter 5: Detailed Use Case Development, Use case Modeling
Module 7	Mid-Term
Module 8	Chapter 6: Foundations for Systems Design
Module 9	Chapter 7: Defining the System Architecture

Module 10	Chapter 8: Designing the User Interface
Module 11	Chapter 9: Designing the Database
Module 12	Chapter 10: Approaches to Systems Development
Module 13	Chapter 14: Deploying the New System
Module14	Final