Systems Analysis and Design 2023-2024 Catalog

[ARCHIVED CATALOG]

CPIN 239 - Systems Analysis and Design

PREREQUISITES: SDEV 140 - Introduction to Software Development or DBMS 130 - Data Management using Structured Query Language or or DBMS 160 - Data Visualization and Analysis or CSIA 105 - Introduction to Cyber Security/Information Assurance.
PROGRAM: Computing and Informatics
CREDIT HOURS MIN: 3
LECTURE HOURS MIN: 3
DATE OF LAST REVISION: Fall, 2020

Students will learn methodologies pertinent to the assessment, design, and implementation of information systems. Students will develop the skills necessary to analyze, design and manage the development of enterprise-scale information systems solutions incorporating contemporary methods and effective organizational and global project management practices. Students will actively participate in discussions, review selected articles, participate in team exercises and collaborate on projects involving analysis and prototyping of systems addressing real-world problems and integrating current and emerging technologies.

MAJOR COURSE LEARNING OBJECTIVES: Upon successful completion of this course the student will be expected to:

1. Define what systems are and how they are developed.
2. Discuss the role of the systems analyst in the development of computer systems.
3. Discuss the Systems Development Life Cycle using data requirements collection analysis and how it is used to create user-centered systems.
4. Differentiate among design methodologies used in systems design.
5. Compare and contrast different project management tools utilized in systems design.
6. Identify the major properties of systems planning as they relate to cost analysis in systems design.
7. Discuss Total Cost of Ownership (TCO) and Return on Investment (ROI) as they relate to an information system.
8. Formulate UML, Structure Charts, Flowcharts, and Data Dictionaries as part of the development process for an information system.
9. Compare and contrast different conversion methods in relation to old and new systems.
10. Evaluate and select components of a system including hardware, software and networking environments.
11. Contrast the usage of database systems and traditional file systems in systems analysis.
12. Present a systems proposal that includes a design based on a selected real-world scenario.
13. Identify business rules and constraints that affect the design and development of an information system.
14. Discuss issues that may arise during implementation, testing and deployment of software used in systems.

COURSE CONTENT: Topical areas of study include -

- Information System
- Systems Analyst
- Systems Development Life Cycle (SDLC)
- Total Cost of Ownership (TCO)

- Return on Investment (ROI)
- Design Methodologies
- Project Management Tools
- Systems Planning
- Cost Analysis
- Computer Hardware/Software
- Documentation
- Database Systems
- Traditional File Systems
- Systems Proposal
- UML
- Flowcharts
- Structure Charts
- Data Dictionaries
- DevOps Cooperation

Course Addendum - Syllabus (Click to expand)
