



### **Course Description**

#### **CIS2322 | Systems Analysis and Design Implementation | 4.00 credits**

An analysis and review of existing systems and documentation from installations using small- to large-size computers. Laboratory case studies are emphasized using microcomputer database systems. Prerequisite: CGS1060C and CIS2321. Knowledge of business accounting is recommended.

### **Course Competencies:**

**Competency 1:** The student will apply concepts of systems analysis by:

1. Performing the role of the systems analyst
2. Using effective communication techniques between the systems analyst and users to identify user needs
3. Analyzing business organizational structure to identify business requirements
4. Utilizing Joint Application Development (JAD) methodology to develop system requirements

**Competency 2:** The student will apply knowledge of business processes by:

1. Identifying business system functionality and performance requirements of a given project
2. Selecting and using the appropriate business models for a given project
3. Developing solutions that incorporate internet commerce issues components
4. Incorporating enterprise systems' concepts in problem solutions
5. Evaluating proposed systems for their impact on the strategic plan

**Competency 3:** The student will demonstrate how to apply information system management methodologies by:

1. Creating and developing IT policies, procedures and methodologies that support the strategic plan
2. Designing systems within a specific infrastructure that are consistent to its relationship to applications and user requirements
3. Implementing processes used to maintain organizational efficiencies and resources
4. Researching service provider activities and incorporating them into a solution recommendation
5. Presenting solutions using written and oral DELIVERY METHODS

**Competency 4:** The student will apply system development, acquisition and implementation methodologies by:

1. Applying the Systems Development Life Cycle (SDLC) methodology to business case studies
2. Performing preliminary investigation for business case studies problems
3. Developing a Requirements Document using the results from interviews and questionnaires
4. Using input, process, and output requirements to develop a system implementation plan using software tool
5. Developing an implementation schedule
6. Delivering an oral presentation of design specifications, implementation schedules, training schedules and installation schedules
7. Creating a design specification using Computer-aided Software/System Engineering (CASE) tools

**Competency 5:** The student will demonstrate how to conduct feasibility studies by:

1. Performing the steps required to conduct a feasibility study
2. Using current software tools to analyze candidate comparison
3. Developing a candidate matrix

**Competency 6:** The student will apply user design criteria by:

1. Designing a schema for relational database design
2. Using the components of a database to determine Normal Forms

3. Using screen and form design criteria to create user documents and forms
4. Creating an Entity Relationship Diagram using the Crow's Foot Method

**Competency 7:** The student will apply knowledge of documenting and reporting information systems requirements and components by:

1. Utilizing Unified Modeling Language (UML) tools, techniques and methods to create an analysis report
2. Creating a Functional Decision Diagram (FDD), Data Flow Diagram (DFD) and Use Case diagram for a business case
3. Developing class diagrams

**Competency 8:** The student will demonstrate how to conduct a Cost-Benefit Analysis by:

1. Using return on investment (ROI) to determine candidate feasibility
2. Using Payback Analysis to determine candidate feasibility
3. Developing and presenting a recommendation and justification based on the cost benefit analysis

**Learning Outcomes:**

- Use quantitative analytical skills to evaluate and process numerical data
- Solve problems using critical and creative thinking and scientific reasoning
- Formulate strategies to locate, evaluate, and apply information