CTS 285
SYSTEMS ANALYSIS & DESIGN

COURSE DESCRIPTION:

Prerequisites: CIS 115
Corequisites: None

This course introduces established and evolving methodologies for the analysis, design, and development of an information system. Emphasis is placed on system characteristics, managing projects, prototyping, CASE/OOM tools, and systems development life cycle phases. Upon completion, students should be able to analyze a problem and design an appropriate solution using a combination of tools and techniques.

Course Hours Per Week: Class, 3. Lab, 0. Semester Hours Credit, 3.

LEARNING OUTCOMES:

Upon successful completion of this course, the student will be able to:

a. Define and describe the five phases of the system development life cycle.
b. State at least five expected benefits from systems projects.
c. Explain at least three ways in which information systems support business requirements.
d. Describe how systems analysts interact with users, management, and other information systems professionals.
e. Develop data flow diagrams and decision tables.
f. Perform a feasibility study.
g. Evaluate systems development alternatives.
h. Solve realistic systems analysis problems.
i. Determine methods for evaluating the effectiveness and efficiency of a system.
j. Work as an effective team member on assigned projects.

OUTLINE OF INSTRUCTION:

I. Introduction
   A. Information system components
   B. Types on information systems
   C. System development life cycles
   D. The systems analyst

II. Systems planning
   A. Systems requests
   B. Objectives
   C. Preliminary investigation
III. Determining requirements
   A. Interviews
   B. Other fact-finding techniques
   C. Recording facts
   D. JAD and RAD
   E. Object-oriented systems development

IV. Analyzing requirements
   A. Data flow diagrams
   B. Data dictionary
   C. Process description

V. Evaluating alternatives
   A. Software alternatives
   B. Evaluating software packages
   C. Hardware alternatives
   D. CASE tools

VI. Systems design
   A. Output design
   B. Input design
   C. File and database design
   D. System architecture

VII. Systems implementation
   A. Quality assurance
   B. Application development
   C. Documentation
   D. Management approval
   E. Installation
   F. Evaluation
   G. System operation

REQUIRED TEXTBOOKS AND MATERIALS:

To be announced by Instructor.