

# **COURSE OUTLINE**

## **CMSY-250 Systems Analysis and Design 3 Semester Hours**

### **HOWARD COMMUNITY COLLEGE**

#### **Description**

By the end of this course, the student will be able to analyze an organization's existing procedures by using such tools as data analysis sheets, system flowcharts, process charts, GANTT charts, decision tables and documents which define system requirements and specifications. The overall goal of the course is for the student to be prepared to go through the process necessary to improve the functioning of an existing system or to design a new one. Prerequisite: CMSY-121. (3 hours weekly)

#### **Overall Course Objectives**

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

1. Define the system acquisition/development life cycle and discuss each of its phases.
2. Understand how the system life cycle concept is applied to the management of business information system projects.
3. Describe the personal qualifications, education, and experience required for a successful career in systems analysis.
4. Identify and use data flow diagrams and entity-relationship diagrams in the design of an information system.
5. Use decision tables as analytic tools in the design process.
6. Understand how GANTT and PERT charts are used for project management.
7. Communicate effectively project related information.
8. Work with other technical personnel in a team environment.
9. Understand how CASE tools assist the analyst in documenting and analyzing user requirements.
10. Relate change control to the life-cycle methodology, and understand the dependence of information systems upon documentation that is structured and carefully maintained.

## **Major Topics**

The major topics for the course are:

- Introduction to System Acquisition/Development
- System Life Cycle Management and CASE Tools
- System Planning (GANTT and PERT)
- System Requirements
- System Analysis (Decision Tables)
- System Design (Data Flow Diagrams and Entity Relationship Diagrams)
- System Evaluation (Cost Benefit Analysis)
- Software Development (Structured Charts, Flowcharts, and Pseudocode)
- Software Testing
- System Implementation and Training
- System Maintenance
- Configuration Management
- Technical Documentation
- Presentations

## **Course Requirements**

Grading/exams: Grading procedures will be determined by the individual faculty member but will include the following:

Final grades will be calculated on the basis of quizzes, major exams, individual and team assignments, research paper, and class participation.

Writing: Specific writing assignments will be determined by the individual faculty member but will require *at least* the following be accomplished:

- Develop a PERT Chart
- Create a Data Flow Diagram
- Prepare a Cost/Benefit Study
- Design a Form
- Design Menus for entering data

## **Other Course Information**

Meets college definition for: Oral Communication, Cultural Diversity, Fine Arts. This course is a \_\_\_\_\_ core course and a \_\_\_\_\_ elective.