

**STATE UNIVERSITY OF NEW YORK  
COLLEGE OF TECHNOLOGY  
CANTON, NEW YORK**



**COURSE OUTLINE**

**SOET 430 - SYSTEMS ANALYSIS**

**Prepared By: Judith Beider**

**CANINO SCHOOL OF ENGINEERING TECHNOLOGY**  
Computer Information Systems / Information Technology  
May 2015

- A. **TITLE:** Systems Analysis
- B. **COURSE NUMBER:** SOET 430
- C. **CREDIT HOURS:** 3
- D. **WRITING INTENSIVE COURSE:** No.
- E. **COURSE LENGTH:** 15 weeks
- F. **SEMESTER(S) OFFERED:** Fall/Spring
- G. **HOURS OF LECTURE, LABORATORY, RECITATION, TUTORIAL, ACTIVITY:**  
3 lecture hours per week
- H. **CATALOG DESCRIPTION:** This course will enable students to learn and apply the skills a systems analyst needs to improve organizational processes. It will allow them to see the viewpoints and necessary inputs of all the stakeholders of an information system. The students will focus on the assessment of the users' interaction with technology and business functions, and on the analysis of data flow and its conversion into information. A familiarity with MS Office (or similar product) is expected.
- I. **PRE-REQUISITES/CO-COURSES:**  
 a. Pre-requisite(s): Junior/Senior status; GER math.  
 b. Co-requisite(s): None
- J. **GOALS (STUDENT LEARNING OUTCOMES):**  
By the end of this course, the student will be able to:

<b><u>Course Objective</u></b>	<b><u>Institutional SLO</u></b>
1. Identify the different types of stakeholders of an Information System and describe the role each one has to play in its development.	<b>1. Crit. Thinking 2. Prof. Competence 3. Communic. Skills</b>
2. Describe the role of IT in assessing business and operational requirements, as well as in supporting management decision-making.	<b>1. Crit. Thinking 2. Prof. Competence 3. Communic. Skills</b>
3. Examine causes of IS project failures and identify ways to avoid them. Explain the use of critical path analysis in project management and illustrate its use on assigned tasks.	<b>1. Crit. Thinking 2. Prof. Competence 3. Communic. Skills</b>
4. Recognize the importance of all the requirements gathering, documenting and managing before assessing any technical solutions for an IS..	<b>1. Crit. Thinking 2. Prof. Competence</b>
5. Identify and summarize the ethical and the security concerns facing IT professionals due to their access to private, as well as secret information.	<b>1. Crit. Thinking 3. Communic. Skills 4. Inter/Intra Pers. Skills</b>

6. Write a feasibility analysis and a system proposal based on the evaluation of several candidate solution; use this methodology either for an information system, or for a project from your field of expertise.	<b>1. Crit. Thinking</b> <b>2. Prof. Competence</b> <b>3. Communic. Skills</b>
7. Apply effective communication and inter-personal skills needed to work in today's business environment.	<b>3. Communic. Skills</b> <b>4. Inter/Intra Pers. Skills</b>

**K. TEXT:**

Whitten, Bentley, *Systems Analysis and Design Methods*, 7<sup>th</sup> edition, McGraw-Hill, 2007

**L. REFERENCES:**

IGI Global Case Studies recommended by class instructor

**M. EQUIPMENT: Technology Enhanced Classroom**

**N. GRADING METHOD: A – F**

**O. MEASUREMENT CRITERIA/METHODS:**

- Assignments
- Case Studies
- Exams
- Class Participation

**P. DETAILED COURSE OUTLINE:**

**I. The Context of Systems Analysis and Design Methods**

- a. The Players – System Stakeholders
- b. Business Drivers for Today's Information Systems
- c. Technology Drivers for Today's Information Systems
- d. The System Development Process

**II. Information Systems Building Blocks and Development**

- a. IS Architecture: Knowledge – Process - Communication
- b. IS Development: Processes – Approaches - Tools

**III. Analyzing the Business Case: Project Management Overview**

- a. The Project Management Life Cycle
- b. Factors that Affect Systems Projects
- c. The Causes of Failed Projects

**IV. Systems Analysis Methods Overview**

- a. The Scope Definition – Creation of the Project Plan
- b. The Problem Analysis Phase
- c. The Requirements Analysis Phase
- d. The Logical Design Phase
- e. The Decision Analysis Phase

**V. Information/Requirements Gathering**

- a. Fact Finding Techniques
- b. Interactive Methods
- c. Unobtrusive Methods
- d. Documenting Requirements
- e. Managing Requirements

## **VI. Introducing Modeling Concepts with Use Cases**

- a. Use Cases, Actors and Relationships
- b. Use Case Model Diagram
- c. Applications to System Requirements and Project Management

## **VII. Data and Process Modeling**

- a. Data Modeling Concepts: Entities, Attributes, Relationships
- b. System Modeling Concepts: External Agents, Data Stores, Process Concepts, Data Flows
- c. Data and Process Model Synchronization

## **X. Process Specifications and Structured Decisions**

- a. Process Description Tools
- b. Which Analysis Technique to Choose
- c. Logical versus Physical Models

## **XI. Preparing the Systems Proposal**

- a. Feasibility Analysis
- b. Cost-Benefit Analysis Techniques
- c. Putting together the System Proposal

## **Q. LABORATORY OUTLINE: N/A**