SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE: SYSTEMS ANALYSIS AND DESIGN

CODE NO.   EDP108

PROGRAM   BUSINESS PROGRAMMER

SEMESTER   THREE

DATE   SEPTEMBER, 1992

AUTHOR   FRAN DEW

NEW __   REVISION X

APPROVED _____ 92-06-18

      CHAIRPERSON   DATE

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Total credit time: 60 hours

Prerequisites: EDP100, EDP111

I   PHILOSOPHY/GOALS:

This is an introductory course to make the student aware of the total data
processing environment and of the concepts involved in the top-down design
approach to system development. Students will follow a typical system design
from inception to completion and will be required to make a systems presentation.

II   STUDENT PERFORMANCE OBJECTIVES:

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

1.   understand the concepts, philosophies and trends of Systems Analysis and
      Design

2.   develop skills in use of Systems Analysis tools and techniques

3.   develop skills in use of Systems Design tools and techniques

III   TOPICS TO BE COVERED

1.   Assuming the Role of the Systems Analyst
2.   Understanding Organizational Style and Its Impact
3.   Determining Feasibility and Managing Activities
4.   Sampling and Investigating Hard Data
5.   Interviewing
6.   Using Questionnaires
7.   Observing Decision-Maker Behaviour
8.   Prototyping
9.   Using Data Flow Diagrams
10.   Analyzing System using Data Dictionaries
11.   Analyzing Structured Decision Systems
12.   Analyzing Semistructured Decision Support
13.   Preparing the Systems Proposal
14.   Writing and Presenting the Systems Proposal
15.   Designing Effective Output

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16.   Designing Effective Input
17.   Designing the File or Database
18.   Designing the User Interface
19.   Designing Accurate Data-Entry Procedures
20.   Quality Assurance through Software Engineering
21.   Successfully Implementing the Information System
22.   Introduction to Computer Assisted Systems Engineering

IV   LEARNING ACTIVITIES

1.   Assuming the Role of the Systems Analyst
      Upon successful completion of this unit, the student will be able to
      a   have an appreciation of Systems Analysis and Design concepts

2.   Understanding Organizational Style and Its Impact
      Upon successful completion of this unit, the student will be able to
      a   understand the underlying concepts of business organizations
      b   utilize ENTITY-RELATIONSHIP diagrams
      c   use DATA FLOW diagrams

3.   Determining Feasibility and Managing Activities
      Upon successful completion of this unit, the student will be able to
      a   manage and schedule activities
      b   use Gantt charts and PERT charts

4.   Sampling and Investigating Hard Data
      Upon successful completion of this unit, the student will be able to
      a   understand sampling concepts

5.   Interviewing
      Upon successful completion of this unit, the student will be able to
      a   create questions for an effective interview
      b   use interviewing to collect data
      c   interpret the interview to get meaningful data

6.   Using Questionnaires
      Upon successful completion of this unit, the student will be able to
      a   create questions for an effective questionnaire
      b   use questionnaires to collect data
      c   interpret the questionnaire results to get meaningful data

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7.   Observing Decision-Maker Behaviour
      Upon successful completion of this unit, the student will be able to
      a   use observation as an information-gathering technique
      b   understand the technique called STROBE Structured Observation of
             the Environment

8.   Prototyping
      Upon successful completion of this unit, the student will be able to
      a   understand the use of prototyping
      b   appreciate the advantages and disadvantages of using prototyping

9.   Using Data Flow Diagrams
      Upon successful completion of this unit, the student will be able to
      a   use DFDs to graphically depict data processes and data flows in a
             business system

10.   Analyzing System using Data Dictionaries
      Upon successful completion of this unit, the student will be able to
      a   use DFDs to help catalogue data processes, flows, stores, structures,
             and elements in a data dictionary

11.   Analyzing Structured Decision Systems
      Upon successful completion of this unit, the student will be able to
      a   use techniques, such as Decision Tables, to determine the process of
             decision making in the business

12.   Analyzing Semistructured Decision Support
      Upon successful completion of this unit, the student will be able to
      a   understand analytic and heuristic decision makers
      b   use multiple-criteria methods to solve semistructured problems

13.   Preparing the Systems Proposal
      Upon successful completion of this unit, the student will be able to
      a   forecast hardware and software needs based on the user's
             information needs

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14. Writing and Presenting the Systems Proposal
Upon successful completion of this unit, the student will be able to
a   organize the contents of a systems proposal
b   write a professional report
c   orally present a proposal

15. Designing Effective Output
Upon successful completion of this unit, the student will be able to
a   use various techniques to display information

16. Designing Effective Input
Upon successful completion of this unit, the student will be able to
a   design meaningful input forms and display terminal screens

17. Designing the File or Database
Upon successful completion of this unit, the student will be able to
a   appreciate effectively designed files and databases

18. Designing the User Interface
Upon successful completion of this unit, the student will be able to
a   design interfaces that help users and businesses get needed information into and out of the system
b   understand the various user interfaces and input devices
c   appreciate a worker's ergonomically correct work space

19. Designing Accurate Data-Entry Procedures
Upon successful completion of this unit, the student will be able to
a   understand the necessity of efficient and accurate data
b   use various techniques to validate data

20. Quality Assurance through Software Engineering
Upon successful completion of this unit, the student will be able to
a   use various techniques as design and documentation tools
b   test data systems with a variety of techniques

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2   21.   Successfully Implementing the Information System
                Upon successful completion of this unit, the student will be able to
                a   use various techniques to ensure that the information system is
                        operational
                b   use various techniques to convert from the existing system to the
                        new system

        22.   Introduction to Computer Assisted Systems Engineering (CASE), using
                Excelerator.
                Upon successful completion of this unit, the student will be able to
                a   understand the uses of a CASE tool, Excelerator
                b   use Excelerator in a basic fashion

V   EVALUATION METHODS

Tests (3 @ 25%)   75%
Term Project   20%
Participation   5%

                     100%

Grading: A+ 90 and over
             A   80 and over
             B   70 and over
             C   55 and over
             R   under 55

VI   REQUIRED STUDENT RESOURCES

Text: "SYSTEMS ANALYSIS AND DESIGN"
             by Kendall and Kendall Second Edition
                 1992

        available in the Campus Shop

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VII   SPECIAL NOTES

Assignments received after the due date are subject to a 10% per day penalty.

Students with special needs, such as physical limitations, visual impairments, hearing impairments, or learning disabilities, are encouraged to discuss required accommodations, confidentially, with the instructor.

Your instructor reserves the right to modify the course as she deems necessary to meet the needs of students.

SYSTEMS ANALYSIS AND DESIGN

TEST AND PROJECT SCHEDULE

TESTS

Three tests, at 25% each, total **75%** of your final mark

TEST ONE	October 6	Chapters 1-6
TEST TWO	November 10	Chapters 7-12
TEST THREE	December 21	Chapters 13-21

TERM PROJECT

The term project is worth **20%** of your final mark

PROJECT PRESENTATION   December 16

The detailed marking scheme is on the following page

THE TERM PROJECT IS WORTH A TOTAL OF 20 MARKS.

Analysts in the Group

_____   _____

_____   _____

____   (5)   Report Structure
a   refer to Chapter 14, Writing and Presenting the Systems
        Proposal
b   the report is to be between 10 and 15 pages long, double
        spaced, not including the appendices.

_____
_____
_____

____   (5)   Report content, including
___   analysis of present system
___   two possible system solutions
___   recommendation of best system solution
___   system testing and maintenance procedures
___   implementation and evaluation procedures

_____
_____
_____

____   (5)   Correct Grammar, including sentence structure

_____
_____
_____

____   (5)   Oral Presentation
___   each member of the group contributes to the presentation
___   effective use of charts and other visual aids

_____
_____
_____

____   (20)   TOTAL

_____
_____