SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE: SYSTEM PROTOTYPING & PRESENTATION

CODE NO.: EDP307   **SEMESTER:** FIVE

PROGRAM: COMPUTER PROGRAMMER ANALYST

AUTHOR: WILLEM DEBRUYNE

DATE: SEPTEMBER '96   **PREVIOUSLY DATED:** SEPTEMBER '95

APPROVED: _____   96-06-11
                        DEAN   DATE

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TOTAL CREDITS: 5

PREREQUISITE(S): EDP227, EDP229, EDP215

I. COURSE DESCRIPTION:

It has been stated that two of the most severe problems facing Information Systems today is the increasing backlog of service request and decline in user confidence. The reasons for these problems stem from the traditional methodologies of developing systems which are not meeting these needs. The students have studied in detail the traditional development life cycle of business information systems.

They are, therefore, prepared to study this new methodology of prototyping and its apparent advantages of pleasing users, reducing development costs, decreasing communication problems, and so on. The industry is swinging towards prototyping and using tools such as Fourth Generation Languages which prepares the student to meet these new challenges. The 4th G. L. tool to be used this semester will be Visual Basic 4.

The student will use the CASE tool Excelerator to assist them in planning, analysis, design, documentation and construction of a computer based information system in accordance to one or more software development methodologies.

II.   TOPICS TO BE COVERED:

1. Tradition Life Cycle Methodology reviewed.

2. Prototying Methodology, using Visual Basic 4.

3. CASE tool Excelerator for Windows.

4. Student Project.

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III. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

A.   Learning Outcomes:

1. Review the Tradition Life Cycle Methodology for developing and implementing computer based computer systems.

2. Examine the Prototying Methodology for developing and implementing computer based information systems.

3. Use the CASE tool Excelerator for Windows.

4. Analyze and design a computer based system for the School of Business and Hospitality or for an external client.

B.   Learning Outcomes and Elements of the Performance:

Upon successful completion of this course the student will demonstrate the ability to:

1. Review the Tradition Life Cycle Methodology for developing and implementing computer based computer systems.

Elements of the performance:

o   define the role of the systems analyst
o   describe the system development life cycle
o   explain the systems development methodologies
o   explain the steps in determining feasibility
o   create a process model
o   define the project dictionary
o   perform fact-finding techniques (interviews, questionnaires, observation)

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2. Examine the Prototying Methodology for developing and implementing computer based information systems.

Elements of the performance:

o   define prototyping.
o   compare prototyping to T.L.C.M.
o   list the advantages vs disadvantages of prototyping vs T.L.C.M.
o   use prototyping to design and develop a computer based system.

3. Use the CASE tool Excelerator for Windows.

Elements of the performance:

o   understanding Excelerator terminology
o   learn how to log onto Excelerator
o   know how to change Excelerator project defaults
o   understanding effective use of the graphics profile
o   know how to use the action keypad options
o   learn how to print graphics drawings
o   know how to transfer printed output to a file
o   understand how to set print options
o   know how to save project work using the Backup feature
o   know how to transfer backup files into the project
o   understand how to use the Export feature for creating project backup
o   understand how to Import project backup
o   know how to exit Excelerator and the Exit options
o   learn how to move objects, connections, text and other drawing components
o   know how to copy objects
o   know how to delete objects and other graph components
o   understand the screen refresh option
o   learn how to centre the drawing
o   know how to add a line or a block of text to the drawing
o   learn how to add lines and boxes to the drawing
o   understand how to disconnect an object from its XLDictionary ID
o   know how to create and delete a drawing title
o   learn how to create data flow diagrams
o   understand the various methods of connecting objects on the data flow diagram
o   know how to create labels and data dictionary descriptions for the graph components
o   understand how to link data flow diagram components to detailed drawings and descriptions

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- o learn how to create child data flow diagrams for processes
- o know how to use the Analysis feature to validate data flow diagram syntax and level balancing
- o understand how to produce summary reports for data flow diagrams
- o know how to create a presentation graph
- o learn how to describe objects on the graph
- o understand how to link an object to the XLDictionary
- o know how to link a process to user, engineering or other management documentation
- o understand how to create an explosion path for presentation graph objects
- o know how to create a screen flow diagram using Excelerator
- o learn how to create data dictionary record structures and elements from description screens
- o know how to use the XLDictionary feature for creating record structures and elements
- o understand how to create a record description and record type codes
- o know what to include in the element description areas
- o understand the meaning and use of edit rules
- o learn how to print data dictionary entries
- o understand how to delete, copy, and rename data dictionary entries
- o know how to list and inspect the data dictionary entities
- o learn how to use Excelerator for data modelling
- o understand the basic differences between the Entity-Relationship and Data Model Diagrams

4. Analyze and design a computer based system for the School of Business and Hospitality or for an external client.

Elements of the performance:

- o Understand the Visual Basic Language and Environment.
- o Explore the Tool Box controls.
- o Use the Image Viewer application.
- o Interact with end user to obtain detailed system specifications.
- o Prototype the system to the end-user.
- o Use presentation skills to demonstrate the model.
- o Prepare to develop and implement the system.

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IV.   EVALUATION METHODS:

The mark for this course will be arrived at as follows:

Test #1   40%
Excelerator Assign   10%
Project   40%
Participation   10%

                        100%

The grading scheme used will be as follows:

A+   90 - 100%   Outstanding achievement
A   80 - 89%   Excellent achievement
B   70 - 79%   Average achievement
C   60 - 69%   Satisfactory achievement
R   Repeat
X   Incomplete. A temporary grade limited to special circumstances have prevented
      the student from completing objectives by the end of the semester. An X grade
      reverts to an R grade if not upgraded within a specified time.

V.   SPECIAL NOTES

1.   In order to pass this course the student must obtain an overall **test/quiz** average of
      60% or better.

2.   Assignments must be submitted by the due date according to the specifications of the
      instructor. Late assignments will normally be given a mark of zero. Late assignments
      will only be marked at the discretion of the instructor in cases where there were
      extenuating circumstances.

3.   The instructor reserves the right to modify the assessment process to meet any
      changing needs of the class. Consultation with the class will be done prior to any
      changes.

4.   The method of upgrading an incomplete grade is at the discretion of the instructor,
      and may consist of such things as make o up work, rewriting tests, and comprehensive
      examinations.

5.   Students with special needs (eg. physical limitations, visual impairments, hearing

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impairments, learning disabilities) are encouraged to discuss required accommodations confidentially with the instructor.

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

VI.   PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should consult the instructor.

VII.   REQUIRED STUDENT RESOURCES

Text: Using Excelerator for Windows, by A. Connors & M. Bachelor