

Sault College of Applied Arts and Technology sault ste. marie

Course Outline

COMPUTER SYSTEMS

EDP 207-4

revised

September 1975

same for September 1976

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OBJECTIVES:

Unit 1 - Section 1

Emergence of the S/A provides the background concepts most N.B. to the S/A profession. Among the most N.B. of these are the life-cycle concept and the concept of a business as an information system.

Unit 2 - Sections 2-10

Tools and techniques of S/A, introduces skills that are the working tools of the S/A. These include coding, forms, design, charting and written and verbal communications. These skills are introduced at this time for 2 reasons;

1. to reinforce learning by allowing the student the opportunity to apply material with which he has already become familiar and
2. to prevent digressions that might interfere with the ability of the student to perceive the dynamics and continuity of the life-cycle process. e.g. flowcharting, a powerful tool of the S/A which is used throughout the course is brought in here.

Unit 3 - Sections 11-14

The study phase introduces the first of the four life-cycle phases. It prepares the student to perform activities essential to identifying a computer - based business system problem - defining system performance
- conducting a feasibility analysis
- preparing a study phase report

An N.B. feature of this unit is the introduction of a continuing case study to be used throughout. The case study is used to present comprehensive examples of performance definition, feasibility analysis and a study-phase report.

Unit 4 - Sections 15-20

The design phase enables the student to perform basic computer-based system design tasks. These include allocation of functions, input design, output design and file design. The continuing case study illustrates important design techniques and is the basis for an example of a completed design phase report.

Unit 5 - Sections 21-24

The development phase acquaints the student with activities that must be undertaken in order to develop an actual system from a completed design. Two principal topics are preparing for implementation and computer program development. Again the case study is used to provide illustrative examples, including a development phase report.

OBJECTIVES:

Unit 6 - Sections 25-27

The operation phase makes the student aware of the operating environment of computer -based business systems. Changeover, routine operation, performance evaluation, and management of change are described. The life-cycle process is reviewed within the context of the management of change and the importance of documentation is re-emphasized.

Student Performance Objectives

- quizzes held at the close of each section. An overall score of 70% must be attained else the student must re-write that section.
- student workbooks with self-grading sheets are provided. This serves only as a self guide and is not used to grade.
- final system changeover for case study is the major consideration.
- oral participation and performance

GRADING:	Quizzes	20%
	Major project	60%
	Participation	20%

85 - 100 -- A
75 - 84 -- B
60 - 74 -- C

below - I

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1. The first 7,000 years
 - from fingers to computers
 - the domain of the systems analyst
2. The Life Cycle of the Computer - Based Business System
 - the life-cycle concept: the four phases of a computer-based-business system
 - performance management and documentation of the phases of a computer -based business system - an overview
3. The Role of the Systems Analyst
 - the changing role of the S/A
 - human-oriented vs computer-oriented systems
 - the differences between systems and procedures and systems analysis
 - profile of an S/A
4. Systems Concepts: A Business as an Information System
 - a business - a system of systems
 - the business organization chart
 - the info structure of a business
 - the state of the art in business information system design
5. Coding
 - definition of a code
 - coding considerations
 - common types of codes
6. Forms Design
 - principles of forms design
 - basic parts of a form
 - styles and types of forms
 - forms design considerations
 - forms control
7. Charting Techniques
 - importance of effective charts
 - basic charts
 - tables
 - charts for project management
8. Flowcharting
 - introduction to flow charting
 - flowcharting symbols
 - systems flowcharts
 - computer program flowcharts
 - procedure analysis flowcharts

9. Communications
 - the element of communication
 - technical writing
 - presentations
10. Study phase overview
 - study phase activities
 - elements of project control
11. Initial Investigation
 - problem identification
 - the information service request
 - the initial investigation
 - user review
12. System Performance Definition
 - performance definition
 - general constraints
 - specific objectives
 - output description
13. Feasibility Analysis
 - purposes of a feasibility analysis
 - feasibility analysis steps
14. Study Phase Report & Review
 - performance specifications
 - study phase report
 - study phase review
15. Design Phase Overview
 - design phase organization
 - design phase activities
16. System Design
 - allocation of functions
 - manuals tasks
 - equipment functions
 - computer program functions
 - test requirements
17. Input Design
 - the input design process
 - types of punched cards
 - transcript card layout design
 - transcript card design example
 - specialty card design
 - other input media

18. Output Design
 - computer output design considerations
 - computer printer output
19. File Design
 - objectives of the file design
 - file design concepts
 - file design examples
 - data base management systems
20. Design phase report & review
 - design specs.
 - design phase report
 - design phase review
21. Development phase Overview
 - development phase organization
 - development phase activities
22. Preparing for Implementation
 - implementation planning
 - testing
 - training
 - equipment installation
 - conversion
 - implementation management
23. Computer program development
 - steps in computer program
 - component development
 - computer program component
 - coding and debugging example
24. Development phase report and review
 - system specification
 - development phase report
 - development phase review
25. Operation Phase Overview
 - operation phase stages
 - operation phase activities
26. Changeover and Routine Operation
 - changeover
 - routine operation
27. Performance Evaluation & Management of Change
 - performance review board
 - performance evaluation
 - management of change