

Sault College
of Applied Arts and Technology
sault ste. marie

Course Outline

ELECTRONIC DATA PROCESSING

EDP 208-4

(H.R.M.)

revised September 1973

and September 1979

ELECTRONIC DATA PROCESSING
EDP 208-4

TIME: 4 periods per week for one semester

AIM: This introductory course will be taken by all Hotel & Resort Management students in Semester IV.

GENERAL OBJECTIVES: The course is intended to provide:

1. A basic grounding in Data Processing principles and methods.
2. An insight into the use of Data Processing in the hospitality industry.

SPECIFIC OBJECTIVES:

A list of objectives for each topic in the course is attached.

The objectives represent minimum requirements:

EVALUATION SYSTEM:

The student's final grade will consist of the following components:

Tests (3)	20%
	20%
	20%
Writtent Assignments	20%
Class Participation	20%

1. Each test will cover a specified group of topics from the course outline. Any student who fails to achieve an acceptable grade (C or better) will be required to write another test on the same topics one week later. Any student who still has an I on this test will be required to upgrade this mark during the "make-up" period at the end of the term. The highest grade assigned on any make-up test will be C.
2. Any student who fails to achieve an acceptable grade on either written assignment will be required to re-write and re-submit that assignment.
3. Class participation will include contributions made to class discussions as well as attendance.

Students wishing to receive better than C standing must demonstrate above average performance in each area described above.

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<u>Reference</u>	<u>Topic No.</u>	<u>Topic Description</u>
Micallef-Intro. Text - Ch. 1-3	1	<u>Introduction</u> -what is Data Processing? -why Process Data? -management information; -need for -growth -pressures for improved techniques
Micallef-Ch. 1-2 Awad - Ch. 2 Sanders-Ch. 2 Text - Ch. 1, 6-10	2	<u>Historical Development</u> -the basic data processing functions -manual, mechanical, and electro- mechanical calculating -industry development
Text -Ch. 6-10 Micallef - Ch.4 Sanders-Ch. 2 Awad-Ch.2	3	<u>The Punched Card</u> -design -Hollerith Coding System -definitions -system/3 coding -unit record systems
Text-Ch. 7 Micallef-Ch. 4 Awad-Ch. 6 Sanders-Ch. 2	4	<u>Keypunching</u> -features -principles of operation -handling of cards -verifying
Micallef-Ch. 3 Awad - Ch. 2 Sanders - Ch. 2 Text - Ch. 12	5	<u>Computer Development</u> -electro-mechanical -electronic -the stored program -recent developments
Micallef-Ch. 8 Awad - Ch. 2 Sanders - Ch. 2,5 Text - Ch. 11, 15	6	<u>Computer Classification</u> -computer generations -digital vs. analog -scientific vs. business

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<u>Reference</u>	<u>Topic No.</u>	<u>Topic Description</u>
Micallef-Ch. 9,10 Sanders - Ch. 5 Awad - Ch. 10 Text - Ch. 14	7	<u>Functional Components</u> -the central processing unit -storage-primary
Micallef-Ch. 4,9,10 Sanders - Ch. 8 Elliot & Wasley - Ch. 8 Awad - Ch. 8 Text - Ch. 11	8	<u>Computer Data Representation</u> -hollerith -binary -binary coded decimal -EBCDIC, ASCII -packed data
Micallef-Ch. 12 Sanders-Ch. 6,7,9 Awad-Ch. 11,12,13 Text - Ch. 13	9	<u>Input/Output Devices</u> -data organization -card reader/punch -high-speed printers -magnetic disk -magnetic tape -storage-secondary
Text -Ch.16 Micallef-Ch. 16,17 Sanders-Ch. 11	10	<u>Communicating with a Computer</u> -machine language -assembly level languages -compiler level languages -operating systems -utilities
Text-Ch. 16 Sanders-Ch.11 Awad-Ch. 17, 18	11	<u>Steps in Writing a Program</u> -problem definition -system design -flowcharting -coding -desk debugging -keypunching -compilation -test data preparation -execution -documentation
Text - Ch. 4, 22, 23, 24	12	<u>Impact of Computers in Business</u> -role of computer in decision-making -effect on workers and organizations -strengths and weaknesses -business uses of computers

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<u>Reference</u>	<u>Topic No.</u>	<u>Topic Description</u>
	13	<u>Data Processing in the Hospitality Industry</u> -industry utilization -applications -computer system controls
Text - Ch. 24, 26 Micallef - Ch. 18 Sanders - Ch. 18	14	<u>The Computer Tomorrow</u> -hardware -software -languages -impact on society

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Topic No.

Course Objectives

1

1. The student will know that Data Processing is not limited to computers and be able to discuss the rationale behind this statement.
2. appreciate the underlying reasons for the rapid development which has take place in Data Processing.
3. be able to relate the concept of need for data with a number of specific factors. The student will be able to list and discuss each of these factors with reference to the question "Why Process Data?"
4. be able to present a number of examples which show how pressures for management information have resulted in improved Data Processing methods.

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5. be able to list and describe each of the nine basic Data Processing functions.
6. be able to describe a number of developments in the area of manual, mechanical and electro-mechanical calculating. These developments will be discussed in class.
7. be able to trace the development of punched card Data Processing from Jacquard through Hollerith and Powers.
8. be able to list a number of "unit-record" devices and relate their capabilities to the basic functions in Objective No. 5.

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9. The student will be able to describe the physical characteristics of a punched card.
10. be able to explain the Hollerith coding structure.
11. be able to give definitions for a number of terms related to punched cards - (Examples- face, zone, digit, edge, field, leading zero, alphanumeric, numeric, column).
12. be familiar with the System/3 coding system. The student will be able to list the advantages of the System/3 card over the Hollerith card.

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13. be familiar with the more basic features of the keypunch.
14. be able to operate the keypunch with sufficient skill to punch his/her computer programs.
15. be aware of and able to explain proper techniques in handling Data Processing cards.
16. be able to define and explain the use of the terms: verification, duplication, left zeros, notching, keystroke rate, sight verification, following

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Topic No.

Course Objectives

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- 17. have an appreciation for the tremendous development which has taken place in the Data Processing industry.
- 18. be able to itemize the differences between electro-mechanical and electronic processing.
- 19. be able to name a number of early computers and will know the specific contribution made by each to the state of the art. (eg. -first electronic computer, first stored program computer, first commercial computer)
- 20. have an appreciation for recent advances in terms of size, speed and cost. The student will be expected to list a number of examples which highlight these changes.

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- 21. understand the criteria by which computers can be said to be of a certain "generation."
- 22. be able to name the characteristics of each "generation" of computers.
- 23. be able to define the difference between digital and analog computers and the general use for which each was designed.
- 24. be able to explain how the classification of computers into "business" and "scientific" came about. The student will also be able to explain why this classification is no longer important today.

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- 25. The student will be able to name and describe the function of each of the five components found in every computer.
- 26. have a logical understanding of the means by which information is accepted, manipulated, and created in any computer system.
- 27. have an appreciation for the development which has taken place in primary storage.
- 28. be able to name a number of different types of primary storage. The student will be able to describe the characteristics of each type and will be able to discuss the relative advantages and disadvantages of each type.
- 29. be able to explain the construction of core storage. In particular the student will be expected to explain how cores are magnetized in one direction or another and how a number of cores may be used to represent a character.

Topic No.

Course Objectives

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- 30. be able to explain the coding structure of the Hollerith, Binary, and Binary Coded Decimal systems.
- 31. be able to explain the reasons for the development of more modern coding systems such as EBCDIC and ASCII.
- 32. be able to explain use of each of the codes in terms of their occurrence in modern computers.
- 33. know the meaning of the term "packed." The student will also be able to explain the advantages of packed data.

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- 34. have an appreciation for the importance of Input/Output devices in business data processing.
- 35. be able to explain the general operation of each device covered in class.
- 36. be able to discuss the basic difference between peripheral devices and the CPU. The student will also be able to describe the means by which modern computers attempt to minimize the inefficiency created by this difference.
- 37. be able to discuss the relative advantages/disadvantages of each device in terms of speed, capacity and cost.
- 38. be able to discuss the concept of secondary storage, both on-line and off-line.

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- 39. be able to explain the importance of programming languages, utilities and operating systems in the efficient operation of a modern computer.
- 40. be able to name a number of programming languages and describe their use in industry.
- 41. be able to explain a number of terms such as machine language, compiler, object program, source program, etc.
- 42. be able to explain the development of programming languages from machine language through assembly and compiler level languages. Of particular importance in this area will be the advantages/disadvantages of each.

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- 43. appreciate the fact that the development of a computer program involves a large number of tasks. He/she will be aware that unless each of these tasks is performed accurately the end product will be inadequate.
- 44. be able to list each of the ten steps in writing a program (as indicated in the course outline)
- 45. be able to discuss each of the above steps in detail. The student will be expected to explain what actually takes place in each step as well as the reason(s) for performing it.

Topic No.

Course Objectives

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- 46. The student will be able to explain the impact of the computer when used as a business tool to assist manager to make decisions.
- 47. be able to describe the impact of computers on individuals and organizations.
- 48. be able to list the strengths and weaknesses of computers.
- 49. be able to describe the more common applicatio for which computers are used in business.

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- 50. be able to describe the utilization of electronic data processing methods by the hospitality industry.
- 51. be able to describe the role of the computer in a variety of applications.
- 52. be able to list a number of controls used to enusre the accuracy of data processed by the computer.

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- 53. have an appreciaton for the role which the computer is likely to play in the future (based on the opinions of various authors and the instructor.)
- 54. have an appreciation for the trends which are expected to develop in terms of Hardware - Peripheral & CPU
Software - Programming Lang
uages & Applicati
- 55. be able to list a number of improvements likely to take place in the near future. These will be drawn from the areas covered in objective 54.