

SYLLABUS

TITLE:	Computer Science
CODE:	INF 110
PREREQUISITE:	N/A
CREDITS:	2 credits 30 contact hours 1 term

DESCRIPTION

Study of the most important aspects of data and information automation in business organizations and society in general. The course presents how technology can be integrated into the organization to extend and support not only performance but also the development of human skills and research. In addition, the importance of ethical conduct in the management of information through computerized systems is presented. Emphasis is placed on the impact of computer technologies by integrating pre-programmed packages such as word processors and electronic worksheets as research and results presentation tools.

JUSTIFICATION

Technological developments in the field of computers have allowed organizations to handle a large amount of information. The manager's contact with information systems requires a knowledge of the fundamental aspects of data processing. The manager faces situations where the information they can obtain is of utmost importance in the impact of their business management. As such, the future manager is required to know and evaluate both the source and the means of information, which will allow them to solve problems at the right time, in the most accurate way.

COMPETENCES

The course develops the following competences in students:

- **Ethical sense and social justice**

OBJECTIVES

After completion of the course, students will be able to:

1. Form an integrated view of the organization, technology, and management.
2. Recognize the impact of the Internet and the World Wide Web on their daily lives and society.
3. Properly use different tools in the search for information that facilitate the management, organization, and evaluation of information.
4. Develop teamwork skills, tolerate, and respect ideas and positions contrary to their own.
5. Handle information and technology appropriately and responsibly, demonstrating a sense of ethics in their professional and personal performance.
6. Develop self-learning skills.
7. Show changing attitudes towards new learning experiences.
8. Recognize the importance of expressing their ideas correctly, logically, clearly and coherently, orally and in writing, in the area of computer science.
9. Evaluate, select, and employ an appropriate application program to solve a problem, according to the needs of change.
10. Analyze the information needs of a company and present alternatives for action to develop information systems.
11. Know the different levels of information systems in the company.
12. Effectively use the information systems applied to their area of competence.

CONTENTS

- I. General Concepts
 - A. Information systems
 1. Use of the computer in various areas
 2. Impact of the computer on our society
 3. Ethical issues regarding the use of information and technology
- II. Management, Organization and Evaluation Of Information
 - A. Searches
 - B. References and citations
 - C. Virtual libraries
 - D. Plagiarism
 - E. Evaluation of information
 - F. Storage of data and information

- III. The Internet and the World Wide Web
 - A. Computer-to-computer communication and network concepts
 - 1. Communication networks
 - 2. Classification of network types
 - 3. Network topologies
 - B. Online resources and services
 - 1. Email
 - 2. Websites
 - 3. Search engines
 - 4. Synchronous communication (chat, instant messaging)
 - 5. Others
- IV. Computer Ethics
 - A. Privacy
 - B. Freedom of expression and censorship
 - C. Copyright
 - D. Cyber crimes
 - 1. Malware
 - 2. Piracy
 - 3. Identity theft
 - 4. Information theft
- V. Use Of Technology In Research And Decision-Making
 - A. Characteristics of the information
 - 1. Exact
 - 2. Relevant
 - 3. On time
 - B. Research competencies
 - 1. Word processor application
 - 2. Use of the internet
 - 3. References
 - 4. General APA format
 - 5. Research presentation
 - C. Decision-making - using technology as support
 - 1. Chart preparation

- a. Circular graph
 - b. Bar graph
 - c. XY graph
2. Use of functions
 - a. Basic functions
 - b. Sum
 - c. Subtraction
 - d. Multiplication
 - e. Division
3. Sum (SUM)
4. Round (ROUND)
5. Average (AVERAGE)
6. Highest (MAX) and Lowest (MIN) Value
7. Monthly Payment Calculation (PMT)
8. Conditional summation (SUMIF)
9. Logical comparisons (IF)

METHODOLOGY

The following strategies from the active learning methodology are recommended:

- Conferences
- Discussion of exercises and cases
- Laboratory
- Research Project
- Use of distance learning system to access the online component of the course
- Oral presentation through multimedia resources (electronic presentations)
- Use of resources available on the Internet
- Software management

EVALUATION

Exams	20%
Laboratories	20%
Group project	20%

Online assignments	20%
Final work	20%
Total	<u>100%</u>

Assignments will be done on the computer that will be part of the midterm evaluations.

RESOURCES

Computer room with IBM PC or compatible microcomputers; Pre-programmed packages in the areas of word processing, electronic worksheet, and electronic presentations.

Access to the Internet and the World Wide Web.

LEARNING ASSESSMENT

The institutional assessment rubric is applied to the course's core activity.

BIBLIOGRAPHY

Gates, B. (2009). *The speed of thought: Succeeding in the digital economy*. Warner Books.

Hajek D., Herrera C. (2019). *Introduction to Computers*. Independently published.

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McLeod, R. (1997). *Management information systems* (7th ed.). Prentice-Hall.

Montclair State University (n.d.). *Introduction to Microsoft Excel 2016*.

<https://www.montclair.edu/media/montclair.edu/oit/documentation/office2016/Introduction-to-Excel-2016.pdf>

MountAllison University (n.d.). *Microsoft EXCEL Training*.

https://www.mta.ca/uploadedFiles/Community/Administrative_departments/Human_Resources/Training_and_professional_development/Classroom/Excel%20Training%20-%20Level%201.pdf

Parsons, J. J., Dan, O. (2017). *New Perspectives on Computer concepts 2018: Comprehensive* (20th ed.). Cengage Learning.

Vermaat, M., Sebok, S.L., Freund, S.M., Campbell, J.T., & Frydenberg M. (2018). *Discovering Computers 2018: Digital Technology, Data and Devices*. Shelly Cashman Series. Cengage Learning.

Zacker, C. (n.d.). *Microsoft Official Academic Course: Microsoft Word 2016*. Wiley.
https://www.dit.ie/media/ittraining/msoffice/MOAC_Word_2016_Core.pdf.

JOURNALS

ABI Business Index

Compute

Computer World

Journal of the Association of Computing Machinery

Journal of Systems Management

ELECTRONIC RESOURCES

<http://www.presentersonline.com>

<http://www.computerhistory.org>

<http://www.cbi.umn.edu>

<http://www.cyberstreet.com>

<http://www.thocp.net/biographies/biographies.htm>

<http://www.digitalcentury.com>

For more information resources related to the course's topics, access the library's webpage <http://biblioteca.sagrado.edu/>

REASONABLE ACCOMMODATION

For detailed information on the process and required documentation you should visit the corresponding office. To ensure equal conditions, in compliance with the ADA Act (1990) and the Rehabilitation Act (1973), as amended, any student in need of reasonable accommodation or special assistance must complete the process established by the Vice Presidency for Academic Affairs.

ACADEMIC INTEGRITY

This policy applies to all students enrolled at Universidad del Sagrado Corazón to take courses with or without academic credit. A lack of academic integrity is any act or omission that does not demonstrate the honesty, transparency, and responsibility that should characterize all academic activity. Any student who fails to comply with the Honesty, Fraud, and Plagiarism Policy is exposed to the following sanctions: receive a grade of zero in the evaluation and / or repetition of the assignment in the seminar, a grade of F (*) in the seminar, suspension, or expulsion as established in the Academic Integrity Policy effective in November 2022.

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