

PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE
COLLEGE OF ENGINEERING
DEPARTMENT OF COMPUTER SCIENCE
ABET COURSE SYLLABI

IIC2713 INFORMATION SYSTEMS

Credits and contact hours: 10 credits / 10 hours (3 h. Lectures; 1,5 h. Assistanship and 6,5 h. Independent Learning Experiences)

Instructor's name: Valeria Herskovic - Roberto Gejman

Course coordinator's name None

Textbook:

- Burgin, M. (2010) Theory of Information: Fundamentality, Diversity and Unification; World Scientific Singapore
- Laudon, K.; Laudon, J. (2011) Management Information Systems, Prentice-Hall, 12th edition.
- Dennis, A.; Wixom, B.; Roth, B. (2012) System Analysis and Design, Wiley, 5th edition.
- Shelly G.; Rosenblatt, H. (2011) System Analysis and Design, Thompson, 9th edition.

Course Catalog Description: This course aims to communicate the elements that allow students to understand the value of information for an organization, explaining the relationship between information systems and organizational strategy and the role that information technology plays in competitiveness, productivity and value generation in organizations.

Prerequisite Courses: IIC1103 Introduction to Computer Programming

Co-requisite Courses: None

Status in the Curriculum: Required

Course Learning Outcomes:

1. Explain the concept of *information*.
2. Describe organizations and how they need and use information.
3. Explain what an information system is, its components, and the main involved stakeholders.
4. Explain the relationship between information systems and organizational strategy, and the role that information technology plays in productivity, and value creation in an organization.
5. Describe the information systems lifecycle, considering strategies of development and acquisition.
6. Identify, explain, and distinguish types of information systems and their main characteristics.

7. Explain fundamental concepts of information security: what are the existing threats, risks, and safeguards for data and information systems.
8. Evaluate the ethical concerns that information systems raise in society.
9. Know emerging technologies that enable new forms of communication, collaboration and interaction.

**Relation of Course to ABET
Criteria:**

- a. Knowledge of mathematics, science and engineering
- c. Design a system, component, or process
- d. Multidisciplinary teams
- e. Identify, formulate, and solve engineering problems
- f. Professional and ethical responsibility
- g. Effective communication
- h. Broad education necessary for global, economic, environmental and societal context
- i. Recognition of the need for, and an ability to engage in life-long learning
- j. Knowledge of contemporary issues
- k. Techniques, skills, and modern tools for engineering practice.

Topics covered:

1. Information: characteristics, importance, and value.
2. Organizations: information, work, decision-making, and technology.
3. Information systems: definition, classification, and organizational change.
4. Information systems lifecycle: strategies for development and acquisition.
5. Classifications and types of information systems: ERP, CRM, SCM, BI.
6. The role of information systems in organizations.
7. Information assurance and security for information systems.
8. Information systems in society: ethics, privacy.