

# C-ID Descriptor

## Introduction to Systems Analysis and Design

### Descriptor Details

- **Descriptor Title:** Introduction to Systems Analysis and Design
- **C-ID Number:** 140
- **Units:** 3.0
- **Date of Last Revision:** 2/26/2025 11:15:06 AM PST

### General Description

The course presents a systematic methodology for analyzing a business problem or opportunity, determining what role, if any, computer-based technologies can play in addressing the business need, articulating business requirements for the technology solution, specifying alternative approaches to acquiring the technology capabilities needed to address the business requirements, and specifying the requirements for the information systems solution in particular, in-house development, development from third-party providers, or purchased commercial-off-the-shelf packages.

### Prerequisites

Business Information Systems/Computer Information Systems (C-ID ITIS 120 or C-ID BUS 140)

### Corequisites

No information provided

### Advisories

The course is built on the assumption that most organizational systems are developed based on various types of packaged systems, system components, or implemented by using outsourced development capabilities (whether on- or off-shore). Using a course project is highly recommended.

## Content

1. Identification of opportunities for IT-enabled organizational change
2. Business process management
3. Analysis of business requirements
4. Structuring of IT-based opportunities into projects
5. Project specification
6. Project prioritization
7. Analysis of project feasibility
8. Fundamentals of IS project management in the global context
9. Using globally distributed communication and collaboration platforms
10. Analysis and specification of system requirements
11. Different approaches to implementing information systems to support business requirements
12. Specifying implementation alternatives for a specific system
13. Impact of implementation alternatives on system requirements specification
14. Methods for comparing systems implementation approaches
15. Organizational implementation of a new information system
16. Different approaches to systems analysis & design: structured SDLC, unified process/UML, agile methods

The above material is taken from

<http://www.acm.org/education/curricula/IS%202010%20ACM%20final.pdf>

## Lab Activities

No information provided

## Objectives

*At the conclusion of this course, the student should be able to:*

1. articulate the types of business needs that can be addressed using information technology-based solutions.
2. initiate, specify, and prioritize information systems projects and to determine various aspects of feasibility of these projects.
3. clearly define problems, opportunities, or mandates that initiate projects.

4. use at least one specific methodology for analyzing a business situation (a problem or opportunity), modeling it using a formal technique, and specifying requirements for a system that enables a productive change in a way the business is conducted.
5. within the context of the methodologies they learn, write clear and concise business requirements documents and convert them into technical specifications.
6. communicate effectively with various organizational stakeholders to collect information using a variety of techniques and to convey proposed solution characteristics to them.
7. manage information systems projects using formal project management methods.
8. articulate various systems acquisition alternatives, including the use of packaged systems (such as Enterprise Resource Planning [ERP], Customer Relationship Management [CRM], Supply Chain Management [SCM], etc.) and outsourced design and development resources.
9. use contemporary Computer-Aided Software Engineering (CASE) tools for the use in process and data modeling.
10. compare the acquisition alternatives systematically.
11. incorporate principles leading to high levels of security and user experience from the beginning of the systems development process.
12. design high-level logical system characteristics (user interface design, design of data and information requirements).
13. analyze and articulate ethical, cultural, and legal issues and their feasibilities among alternative solutions.

### **Evaluation Methods**

Evaluation will include hands-on projects and a combination of examinations, presentations, discussions, or problem-solving assignments.

### **Textbooks**

- Shelly, G. B., Cashman, T. J. & Rosenblatt, H. J. - Systems Analysis and Design
- Dennis, A. - Systems Analysis and Design
- Kendall, K. E. & Kendal, J. E. - Systems Analysis and Design
- Dennis, A., Wixom, B. H. & Tegarde, D. - Systems Analysis and Design with UML