

COURSE OUTLINE

Computer Science/Information Systems 180 (C-ID Number: ITIS 140) Systems Analysis (C-ID Title: Introduction to Systems Analysis and Design)

I. Catalog Statement

Computer Science/Information Systems 180 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.

Total Lecture Units: 3.0

Total Laboratory Units: 0.0

Total Course Units: 3.0

Total Lecture Hours: 48.0

Total Laboratory Hours: 0.0

Total Laboratory Hours To Be Arranged: 0.0

Total Faculty Contact Hours: 48.0

Prerequisite: CS/IS 101

II. Course Entry Expectations

Prior to enrolling in the course, the student should be able to:

- demonstrate the importance of the technology infrastructure in an organization; identify major hardware components of a computer system; explain how to evaluate hardware components and what to look for in acquiring computer hardware; understand the interdependence of hardware and software; compare open vs. proprietary platforms;
- describe distinctions between system software and application software; explain common functions of system software; identify types of application software; understand how to evaluate software when planning a system; compare open vs. proprietary software;
- describe ethical concerns associated with information systems including privacy, access, reliability, legal, ethical, and accuracy; identify types of computer crime; select, access, and use appropriate sources.

III. Course Exit Standards

Upon successful completion of the required coursework, the student will be able to:

- gather customer requirements for a software project;
- create software development designs, documentation, and plans for a customer project;
- create prototypes to refine the customer's software project;
- present the results of a software project to a gathering of his/her peers.

IV. Course Content

Total Faculty Contact Hours = 48.0

- A. Identification of Opportunities for IT-enabled Organizational Change (**3 hours**)
- B. Business Process Management (**3 hours**)
- C. Analysis of Business Requirements (**3 hours**)
- D. Structuring of IT-based Opportunities into Projects (**3 hours**)
- E. Project Specification (**3 hours**)
- F. Project Prioritization (**3 hours**)
- G. Analysis of Project Feasibility (**3 hours**)
- H. Fundamentals of IS project Management in the Global context (**3 hours**)
- I. Using Globally Distributed Communication and Collaboration Platforms (**3 hours**)
- J. Analysis and Specification of System Requirements (**3 hours**)
- K. Different Approaches to Implementing Information Systems to Support Business Requirements (**3 hours**)
- L. Specifying Implementation Alternatives for a Specific System (**3 hours**)
- M. Impact of Implementation Alternatives on System Requirements Specification (**3 hours**)
- N. Methods for Comparing Systems Implementation Approaches (**3 hours**)
- O. Organizational Implementation of a New Information System (**3 hours**)
- P. Different Approaches to Systems Analysis & Design: Structured SDLC, Unified Process/UML, Agile Methods (**3 hours**)

V. Methods of Instruction

The following methods of instruction may be used in the course:

- lecture;
- computer examples;
- lab work.

VI. Out of Class Assignments

The following out of class assignments may be used in the course:

- problem-solving assignments (create software development designs, documentation, and plans for a customer project) ;
- project (Phase-oriented deliverables), such as: Use Cases, Use Case Diagrams, Class Diagrams, Sequence Diagrams, and prototype system.

VII. Methods of Evaluation

The following methods of evaluation may be used in the course:

- quizzes;
- midterm examinations;
- In-class presentation;
- hands-on projects;
- final examination.

VIII. Textbook(s)

Dennis, Alan. *Systems Analysis and Design*. 5th ed. Hoboken: Wiley, 2012. Print.
10th Grade Textbook Reading Level. ISBN: 978-1118057629

IX. Student Learning Outcomes

Upon successful completion of the required coursework, the student will be able to:

- articulate the types of business needs that can be addressed using information technology-based solutions;
- initiate, specify, and prioritize information systems projects and determine various aspects of feasibility of these projects;
- define problems, opportunities, or mandates that initiate projects;
- manage information systems projects using formal project management methods.