

COURSE OUTLINE **Information Technology (IT) Concepts**

Course Description

IN 105. Information Technology (IT) Concepts. 3 hours credit. This course will enable the student to gain an understanding of the core concepts and technologies which constitute Information Technology.

Course Relevance

Information technology permeates many facets of modern life, from the workplace environments to social networks. The more informed an individual is with respect to information technology, the greater the chances for achieving overall success in personal and professional lives.

Required Materials

Snyder, L., (2008). *Fluency with information technology* (3rd ed.) Pearson Addison Wesley.

Supplemental Materials

USB Digital Drive: 1 GB minimum

Learning Outcomes

The intention is for the student to be able to:

1. Articulate and demonstrate a basic understanding of the fundamental concepts of Information Technology

Learning PACT Skills that will be DEVELOPED and/or documented in this course

Through the student's involvement in this course, he/she will develop his/her ability in the following PACT skill areas:

Technology Skills

1. Discipline-specific technology
 - By developing examples, exercises, and applications related to specific fields, the student will improve understanding of his/her own field or other technological or vocational field.

Major Summative Assessment Task(s)

These learning outcomes and the Learning PACT skills will be demonstrated by:

1. Completing a final exam covering fundamental information technology concepts

Course Content

- I. Themes - Key recurring concepts that run throughout the course:
 - A. Becoming skilled at information technology
 - B. Algorithms and Digitizing Information

- C. Data and Information
- D. Problem Solving
- II. Issues – Key areas of conflict that must be understood in order to achieve the intended outcome:
 - A. Limitations of information technology
 - B. Social impact of computers and technology
- III. Concepts - Key concepts that must be understood to address the issues:
 - A. Fundamentals of computers
 - B. Organization of information systems
 - C. Fundamentals of networks
 - D. Digital representation of information
 - E. Structuring information
 - F. Modeling and abstraction
 - G. Algorithmic thinking and programming
- IV. Skills/Competencies - Actions that are essential to achieve the course outcomes:
 - A. Understand the set-up of a personal computer
 - B. Use basic operating system facilities
 - C. Use a word processor to create a document
 - D. Use a graphics or artwork package to manipulate an image
 - E. Use the internet to locate information
 - F. Use a computer to communicate with others
 - G. Use a spreadsheet to model a simple process
 - H. Use a database to access information
 - I. Use online help and instructional materials

Learning Units

- I. Basic information technology skills
 - A. Defining information technology
 - B. Exploring the human computer interface
 - C. Network Basics
 - D. HTML
 - E. Searching the world wide web
 - F. Online research
- II. Algorithms and digitizing information
 - A. Debugging
 - B. Principles of computer operation
 - C. Algorithmic thinking
 - D. Multimedia
- III. Data and Information
 - A. Social Implications of IT
 - B. Database concepts
 - C. Database queries
 - D. E-commerce and interactive networking
 - E. Privacy and digital security

- F. Limits to computation
- G. Fluency in information technology

Learning Activities

Independent and collaborative learning activities will be assigned to assist the student in achieving the intended learning outcomes. Learning activities will involve the student in the creation and design of applications independently or in collaboration with others. This will include various aspects of design, technology, and project management.

Grade Determination

The student will be graded on assessment tasks, participation and the timely completion of class exercises and tutorials.