

Principles of Information Technology, Semester A

Course Overview

Principles of Information Technology, Semester A is the first part of a two-semester course. It is designed to help you learn the basics of information technology.

You will learn the fundamentals of computer systems, identify basic computer hardware components, describe input and output devices and peripheral devices, and compare different types of storage devices. You'll also learn about operating systems and application software. You'll learn to install, configure, and maintain software and hardware. You'll explore the internet and the World Wide Web, and various ways to communicate using the internet while minimizing security risks. You'll discuss legal and ethical issues in information technology. You'll learn to use word processors, presentation software, and spreadsheets, and learn about techniques to extract information from a database.

This course has 16 lessons organized into four units, plus four Unit Activities. Most lessons contain one or more Lesson Activities.

Course Goals

This course will help you meet the following goals:

- Examine basic computer hardware and software to understand its features and functions.
- Examine hardware and software features and applications.
- Use information technology tools, such as web browsers, email, and search engines.
- Discuss privacy and ethical concerns in the information technology industry.
- Create documents using word-processing, spreadsheets, and presentation software.
- Use mathematical formulas to analyze information.

General Skills

To participate in this course, you should be able to do the following:

- Perform basic operations with word processing software, such as Microsoft Word or Google Docs.
- Understand the basics of spreadsheet software, such as Microsoft Excel or Google Spreadsheets, but prior hands-on experience is not necessary.
- Understand the basics of presentation software, such as Microsoft PowerPoint, but prior hands-on experience is not necessary.
- Perform online research using various search engines and library databases.
- Communicate through email and participate in discussion boards.

For a complete list of general skills that are required for participation in online courses, refer to the Prerequisites section of the Student Orientation document, found at the beginning of this course.

Credit Value

Principles of Information Technology, Semester A is a 0.5-credit course.

Course Materials

- notebook
- computer with an Internet connection and speakers/headphones
- Microsoft Word or equivalent
- Microsoft Excel or equivalent
- Microsoft PowerPoint or equivalent

Course Pacing Guide

This course description and pacing guide is intended to help you stay on schedule with your work. Note that your course teacher may modify the schedule to meet the specific needs of your class.

Course Components and Grading Rubric

The table gives a breakdown of the weight for each component in the course. Weight represents the percentage of the total score coming from each activity.

Course Components	Count	Weight
Pretest. <i>Pretests are optional assessments, typically designed for credit recovery use. If a student shows mastery of a lesson's objective, the student may be automatically exempted from that lesson in the upcoming unit. Typically, teachers do not choose to employ exemptive pretests for first-time credit courses. Pretests are not included as a component of the student's final grade.</i>	4	0%
Module. <i>Each module in this course contains an interactive tutorial and an associated mastery test. Tutorials may include one or more Lesson Activities that constitute tasks associated with the tutorial. The module score comes from a student's score on the mastery test.</i>	16	20%
Discussion. <i>Online discussions allow for higher-order thinking about terminal objectives. An online threaded discussion mirrors the educational experience of a classroom discussion. Teachers can initiate a discussion by asking a complex, open-ended question. Students can engage in the discussion by responding both to the question and to the thoughts of others. Each unit in a course has one predefined discussion topic; teachers may add more discussion topics.</i>	4	20%
Unit Activity. <i>Unit Activities are at the end a unit and constitute one or more small tasks. Their purpose is to deepen understanding of key unit concepts and tie them together. Each Unit Activity includes a simple rubric. The teacher versions include both a rubric and modeled sample answers. Unit Activities are teacher graded.</i>	4	20%
Posttest. <i>The posttest appears at the end of the unit and mirrors the pretest in structure, content, and complexity.</i>	4	20%
End of Semester Test. <i>The end of semester test (EOS) appears at the end of the course. Students are delivered a few items from every tutorial in the course in order to assess the major course objectives.</i>	1	20%
Total	33	100%

*Teachers may manually adjust these weights if desired, per district grading requirements.

Unit 1: Fundamentals of Computer Systems

Summary

In this unit, you'll learn about the evolution and classification of computers, describe number systems used to represent data in computers, and identify basic computer hardware. You'll learn about the features and uses of various wired and wireless peripheral devices and their connector types. You'll learn about the features and functions of operating systems and application software. Finally, you'll learn how to install and configure software and hardware and perform computer maintenance tasks.

Day	Activity/Objective	Type
1 day: 1	Syllabus and Student Orientation <i>Review the Student Orientation and Course Syllabus at the beginning of this course.</i>	Course Orientation
4 days: 2–5	Introduction to Computers and Number Systems <i>Identify the evolution of computers and the number systems used to represent data on computers.</i>	Lesson
4 days: 6–9	Basic Computer Hardware <i>Identify basic computer hardware.</i>	Lesson
4 days: 10–13	Peripheral Devices <i>Identify various peripheral devices, including their features and functions.</i>	Lesson
4 days: 14–17	System Software and Application Software <i>Recall the key features and functions of operating systems and application software.</i>	Lesson
4 days: 18–21	Maintaining and Upgrading Computers <i>Explain how to install and configure software and hardware, as well as computer maintenance tasks.</i>	Lesson
4 days: 22–25	Unit Activity and Discussion—Unit 1 <i>Identify system information and software applications on a computer.</i>	Unit Activity / Discussion
1 day: 26	Posttest—Unit 1	Assessment

Unit 2: Using the Internet

Summary

In this unit, you'll learn how the internet works, define common terms associated with the internet, and discuss its impact on business and society. You'll learn to use a web browser and search engines to find information on the World Wide Web. You'll learn how to use email, online discussion groups, and instant messaging services for sharing information. Finally, you'll discuss security risks of using the internet, and practices and laws that protect internet users.

Day	Activity/Objective	Type
4 days: 27–30	The Internet <i>Recall how the internet works and identify its impact on business and society.</i>	Lesson
4 days: 31–34	Browsing the Web <i>Identify key features of the World Wide Web and practice using web browsers.</i>	Lesson
4 days: 35–38	Ways to Communicate Using the Internet <i>Recall how to use email, online discussion groups, and instant messaging services for sharing information.</i>	Lesson
4 days: 39–42	Privacy and Data Security <i>Identify security and privacy issues related to internet use.</i>	Lesson
5 days: 43–47	Legal and Ethical Issues in Information Technology <i>Identify legal and ethical issues relating to the use of software and internet resources.</i>	Lesson
4 days: 48–51	Unit Activity and Discussion—Unit 2 <i>Use the internet to practice academic skills such as researching, writing essays, and sending emails.</i>	Unit Activity / Discussion
1 day: 52	Posttest—Unit 2	Assessment

Unit 3: Word-Processing and Presentations

Summary

In this unit, you'll explore the basic features of word-processing software. You'll learn to use a word processor to create well-written and well-formatted documents, including your professional résumé. Finally, you'll learn to use presentation software to create effective presentations.

Day	Activity/Objective	Type
4 days: 53–56	Using Word Processors <i>Identify the features of word-processing software and practice creating documents.</i>	Lesson
4 days: 57–60	Creating Your Résumé Using a Word Processor <i>Identify and apply formatting techniques in a word processor to create your professional résumé.</i>	Lesson
5 days: 61–65	Making Presentations <i>Use presentation software to create and deliver presentations.</i>	Lesson
4 days: 66–69	Unit Activity and Discussion—Unit 3 <i>Use a presentation program to create a multimedia presentation.</i>	Unit Activity / Discussion
1 day: 70	Posttest—Unit 3	Assessment

Unit 4: Spreadsheets and Databases

Summary

In this unit, you'll explore spreadsheets and database software. You'll learn to record and format data in a spreadsheet. You'll apply math formulas to analyze data in a spreadsheet. Finally, you'll discuss the uses and benefits of a database management system and learn how to extract information from a database.

Day	Activity/Objective	Type
4 days: 71–74	Working with Spreadsheets <i>Identify basic features and functions of spreadsheet software and apply them to create a spreadsheet.</i>	Lesson
4 days: 75–78	Using Spreadsheets for Data Analysis <i>Identify how to use mathematical operations to analyze data in a spreadsheet.</i>	Lesson
5 days: 79–83	Introduction to Database Management Systems <i>Identify the uses and benefits of a database management system.</i>	Lesson
4 days: 84–87	Unit Activity and Discussion—Unit 4 <i>Record and format data in a spreadsheet and use math formulas and functions to analyze the data.</i>	Unit Activity / Discussion
1 day: 88	Posttest—Unit 4	Assessment
1 day: 89	Semester Review	
1 day: 90	End-of-Semester Exam	Assessment

Course Map

You will achieve course level objectives by completing each lesson's instruction, assignments, and assessments. For a detailed look at how the materials meet these objectives, review the [course map for Semester A](#).