# PLATO Course Principles of Information Technology, Semester B

## Course Overview

This one-semester course is intended as a practical, hands-on guide to help you understand some of the advanced information technology skills required during your college education. This course has 20 lessons organized into five units, plus five Unit Activities. Each lesson contains one or more Lesson Activities.

This course will cover advanced concepts, such as organizational structure and management functions in IT, as well as legal and ethical procedures that apply to information technology. Further, the course will also cover emerging technologies, programming software, and computer networks. Finally, this course will cover advanced productivity applications, and web design and development.

You will submit the Unit Activity documents to your teacher, and you will grade your work in the Lesson Activities by comparing them with given sample responses. The Unit Activities (submitted to the teacher) and the Lesson Activities (self-checked) are the major components of this course. There are other assessment components, namely the mastery test questions that feature along with the lesson; the pre- and post-test questions that come at the beginning and end of the unit respectively, and an end-of-semester test. All of these tests are a combination of simple multiple-choice questions and technology enhanced (TE) questions.

## Course Goals

This course will help you meet the following goals:

- Describe advanced career opportunities in information technology.
- Explain the legal and ethical procedures that apply to information technology.
- Describe different organizational structures and management functions in information technology.
- Describe high-end peripheral devices used in information systems, and new and emerging technologies in the field of computers.
- Create an interactive multimedia presentation.
- Describe various programming softwares.
- Describe different types of computer networks and their components.
- Describe the concepts of network architecture and types of network topologies.

- Explain the importance of network security.
- Perform advanced operations in productivity applications, such as documents, spreadsheets, databases, and presentation programs.
- Design and create web pages.

## Prerequisite Skills

PLATO Course Principles of Information Technology, Semester B has the following prerequisites:

- basic math knowledge
- ability to visualize and apply creativity and innovation
- familiarity with the writing process and following guidelines

## General Skills

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

- Perform basic operations, and use word processing, spreadsheet, database, and presentation software.
- 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 Plato Student Orientation document, found at the beginning of this course.*

## Credit Value

PLATO Course Principles of Information Technology, Semester B is a 0.5-credit course.

## Course Materials

- Notebook
- Computer with Internet connection and speakers or headphones
- Microsoft Word or equivalent
- Microsoft Excel or equivalent
- Microsoft PowerPoint or equivalent
- Microsoft Excel or equivalent
- Microsoft Access 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 instructor may modify the schedule to meet the specific needs of your class.

## Unit 1: Advanced Career Options and Ethics

**Summary**

In this unit, you will learn about advanced career options and ethics in the field of information technology. You will also learn about organizational structure and management functions in information technology. Additionally, you will familiarize yourself with the various legal and ethical procedures that apply to information technology.

| Day | Activity/*Objective* | Type |
|---|---|---|
| 1 day: 1 | **Syllabus and Plato Student Orientation** <br> *Review the Plato Student Orientation and Course Syllabus at the beginning of this course.* | Course Orientation |
| 3 days: 2–4 | **Advanced Career Opportunities in IT** <br> *Describe career advancement options in information technology.* | Lesson |
| 3 days: 5–7 | **Management Functions in IT** <br> *Describe organizational structure and management functions in IT.* | Lesson |
| 3 days: 8–10 | **Legal and Ethical Issues in IT** <br> *Explain the legal and ethical procedures that apply to information technology.* | Lesson |
| 1 day: 11 | **Para Jumble** | Game |
| 4 days: 12–15 | **Unit Activity/Threaded Discussion—Unit 1** | Unit Activity |
| 1 day: 16 | **Posttest—Unit 1** | Assessment |

# Unit 2: Emerging Technologies and Programming Software

**Summary**
In this unit, you will learn about the high-end peripheral devices used in information systems. You will also learn about new and emerging technologies in the field of computers. Additionally, you will learn about the basic concepts and components of multimedia design to help you create an interactive multimedia presentation. Finally, you will describe various programming softwares used in information technology.

| Day | Activity/*Objective* | Type |
|---|---|---|
| 3 days: 17–19 | **Peripheral Devices** <br> *Describe high-end peripheral devices used in information systems.* | Lesson |
| 3 days: 20–22 | **Emerging Technologies** <br> *Describe new and emerging technologies in the field of computers.* | Lesson |
| 3 days: 23–25 | **Multimedia Applications** <br> *Create an interactive multimedia presentation.* | Lesson |
| 3 days: 26–28 | **Programming Software** <br> *Describe various programming software.* | Lesson |
| 1 day: 29 | **Space Jumble** | Game |
| 3 days: 30–32 | **Unit Activity/Threaded Discussion—Unit 2** | Unit Activity |
| 1 day: 33 | **Posttest—Unit 2** | Assessment |

# Unit 3: Networking Technology

**Summary**
In this unit, you will learn about the different types of computer networks and their components. You will also learn about network protocols and topologies. Additionally, in this unit, you will familiarize yourself with the different types of network communication technologies. Finally, you will learn about the importance of network security and various network troubleshooting techniques.

| Day | Activity/*Objective* | Type |
|---|---|---|
| 3 days: 34–36 | **Computer Networks** *Describe computer networks.* | Lesson |
| 2 days: 37–38 | **Types of Networks** *Describe the characteristics of computer networks.* | Lesson |
| 2 days: 39–40 | **Open Systems Interconnection (OSI) Model** *Describe the seven layers of the OSI model.* | Lesson |
| 3 days: 41–43 | **Network Security** *Explain the importance of network security.* | Lesson |
| 1 day: 44 | **Para Jumble** | Game |
| 4 days: 45–48 | **Unit Activity/Threaded Discussion—Unit 3** | Unit Activity |
| 1 day: 49 | **Posttest—Unit 3** | Assessment |

# Unit 4: Advanced Productivity Applications

**Summary**
In this unit, you will learn about advanced operations in productivity applications, such as documents, spreadsheets, databases, and presentation programs. You will apply formatting techniques to a research paper using approved publication standards. You will also apply logical functions and conditional formatting techniques available in spreadsheet software. In addition, you will familiarize yourself with the steps to create non-linear presentations. Finally, you will apply advanced features of database technology to generate customized reports.

| Day | Activity/*Objective* | Type |
|---|---|---|
| 3 days: 50–52 | **Formatting Documents Using Publication Standards** <br> *Describe and apply formatting techniques to a research paper.* | Lesson |
| 3 days: 53–55 | **Spreadsheets: Logical Operations** <br> *Describe and apply logical functions and conditional formatting techniques available in spreadsheet software.* | Lesson |
| 3 days: 56–58 | **Spreadsheets: Lookups, Statistics, and Visualization** <br> *Describe and apply features available in spreadsheet software, such as lookup tables, charts, and graphs.* | Lesson |
| 3 days: 59–61 | **Presentation Software: Non-Linear Presentations** <br> *Describe and apply steps to create non-linear presentations.* | Lesson |
| 3 days: 62–64 | **Advanced Features in Database Technology** <br> *Describe and apply advanced features of database technology to generate customized reports.* | Lesson |
| 1 day: 65 | **Space Jumble** | Game |
| 4 days: 66–69 | **Unit Activity/Threaded Discussion—Unit 4** | Unit Activity |
| 1 day: 70 | **Posttest—Unit 4** | Assessment |

# Unit 5: Web Design and Development

**Summary**
In this unit, you will learn about the principles of web page design, and identify the tools and languages required for designing web pages. You will familiarize yourself with the process of developing a website. You will also learn the role of storyboarding techniques and markup languages, such as HTML, in developing a website.

| Day | Activity/*Objective* | Type |
|---|---|---|
| 3 days: 71–73 | **Web Page Design** <br> *Design and create web pages.* | Lesson |
| 3 days: 74–76 | **Web Design and Development Tools** <br> *Identify web development tools and languages used for developing web pages.* | Lesson |
| 3 days: 77–79 | **HTML** <br> *Describe the basic structure of a document that codes a web page, and create web pages using HTML.* | Lesson |
| 3 days: 80–82 | **The Website Development Process** <br> *Describe the process of website development.* | Lesson |
| 1 day: 83 | **Para Jumble** | Game |
| 4 days 84–87 | **Unit Activity/Threaded Discussion—Unit 5** | Unit Activity |
| 1 day: 88 | **Posttest—Unit 5** | Assessment |
| 1 day: 89 | **Semester Review** | |
| 1 day: 90 | **End-of-Semester Test** | Assessment |