

Saint Leo University

COM 203 Computer Systems

Course Description:

A technical introduction to computer hardware, software, and networking. Hardware includes processor technology, data representation, storage, and I/O devices. Software includes both application and systems software.

Prerequisite:

COM 140

Textbooks:

Parsons, J.J., June, & Parsons. (2018). *New perspectives computer concepts, 2018: Comprehensive* (20th ed.). Cengage. ISBN# 9781337583398 (Loose-leaf package with MindTap) or ISBN# 9781305956384 (eBook package with MindTap)

Learning Outcomes:

The student will differentiate between roles and jobs in the IT/CIS/MIS fields. The student will understand the cost-performance trade-offs when evaluating computer systems and components. The objective of this course is to provide students with a technical foundation for systems design, systems implementation, hardware and software procurement, and computing resource management. This course should enable a student to achieve the following learning objectives:

1. Describe the organization, architecture, and technology of the main system components in computing hardware. These include the central processing unit (CPU), data representation, data storage subsystems, input/output subsystems, and computer networks.
2. Describe the types of system and application software and software development methodologies, models, and tools.
3. Describe the functions and layers of operating systems and apply this knowledge to evaluate operating systems and the use of their advanced features to facilitate productivity and data security.
4. Compare and contrast the technologies used to implement Local Area and Wide Area Networks.
5. Evaluate risks and take appropriate precautions to protect the confidentiality, integrity, and availability of computer hardware and data resources.
6. **VALUES OUTCOME:** In this class we will study how to organize data and effectively communicate information. Hence, we will learn how to take precautions while recording data and presenting it in a manner that prevents misunderstanding, practicing Saint Leo University's core value of Integrity.

Core Value:

Excellence: Saint Leo University is an educational enterprise. All of us, individually and collectively, work hard to ensure that our students develop the character, learn the skills, and

assimilate the knowledge essential to become morally responsible leaders. The success of our University depends upon a conscientious commitment to our mission, vision, and goals.

Integrity: The commitment of Saint Leo University to excellence demands that its members live its mission and deliver on its promise. The faculty, staff, and students pledge to be honest, just, and consistent in word and deed.

Evaluation:

Tests	(40%)
Term Project	(25%)
Labs	(25%)
Discussion/Participation	(10%)

Tests— you will be required to complete graded tests in some modules in MindTap. Practice quizzes for each test must be completed in order to take the test. Tests will be timed, and you will only be allowed one attempt to complete each test. Complete each test no later than Sunday 11:59 PM EST/EDT of the module in which it is due.

Term Project—The Term Project assignment offers the opportunity to explore/research a specific topic in computer systems in-depth and present your findings in the form of a written report. Your term project must be 5-10 pages including a cover page. This assignment must follow APA style, and will be submitted in two installments: A First Draft due **no later than Sunday 11:59 PM EST/EDT** of Module 5, and a Final Draft due **no later than Sunday 11:59 PM EST/EDT** of Module 7. Review the requirements scoring guidelines within the module pages.

Lab Assignments— Assignments from the textbook will be assigned to reinforce techniques and concepts taught. Submit each Lab Assignment on a Power Point Slide(s) withal comments in the notes section in the module in which it is due.

Discussion—Each module will include a discussion assignment (Module 1 will also include an additional “Introduction” topic). Participation in class discussions is expected to be thoughtful and well-informed. For each module, respond to a discussion question posted on the Discussion Board no later than Thursday 11:59 PM EST/EDT of the respective module. Finally, post responses to at least two classmates no later than Sunday 11:59 PM EST/EDT. Be certain to review the requirements for each discussion question within the module pages.

Grading Scale:

Grade Score (%)

A	94-100
A-	90-93
B+	87-89
B	84-86
B-	80-83
C+	77-79

C	74-76
C-	70-73
D+	67-69
D	60-66
F	0-59

Course Schedule:

Module 1 The Digital Revolution and Computer Industry Basics

Objectives

When you complete this module, you should be able to:

- Identify the aspects of the digital revolution, convergence, and the future of the Digital Revolution.
- Identify the different aspects data representation basics from Binary to ASCII.
- Demonstrate proper use of terminology in the context of data storage and data compression.
- Identify ICT and the different aspects and how law affects IT.

Assignments

Items to be Completed:	Due No Later Than:
Post an introduction to the class	Thursday 11:59 PM EST/EDT
Read/View/Listen to the assigned materials	
Post an initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Complete MindTap Unit Activities	Sunday 11:59 PM EST/EDT
Complete Module 1 Test	Sunday 11:59 PM EST/EDT

Module 2

Digital Basics of Computer Hardware

Objectives

When you complete this module, you should be able to:

- Identify and explain the basics of computers; its various components, from circuits to hardware and more that make up computers and digital devices.
- Explain the processing computers perform and how that relates to the different types of software.
- Identify and explain the various types of computers and its use for personal and businesses alike.
- Identify and explain the various internal components, their function in processing information, how they relate to data representation, and the role they play in a computer system.

Assignments

Items to be Completed:	Due No Later Than:
Read/View/Listen to the assigned materials	
Post an initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Complete MindTap Unit Activities	Sunday 11:59 PM EST/EDT
Complete Lab Assignment 1	Sunday 11:59 PM EST/EDT
Complete Module 2 Test	Sunday 11:59 PM EST/EDT

Module 3

Networks

Objectives

When you complete this module, you should be able to:

- ☐ Identify network basics and terminology.
- ☐ Explain and describe the history of the Internet, what makes up the Internet, IoT for today, and basics of the Internet.
- ☐ Evaluate and choose appropriate equipment to setup a LAN/WLAN.
- ☐ Demonstrate how to setup and monitor a network.
- ☐ Explain how file sharing works within a network and the different ways of accessing and sharing stored information.

Assignments

Items to be Completed:	Due No Later Than:
Read/View/Listen to the assigned materials	
Post an initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Complete MindTap Unit Activities	Sunday 11:59 PM EST/EDT
Submit Lab Assignment 2	Sunday 11:59 PM EST/EDT
Select a topic for Term Project assignment	Sunday 11:59 PM EST/EDT
Complete Module 3 Test	Sunday 11:59 PM EST/EDT

Module 4

Web Basics

Objectives

When you complete this module, you should be able to:

- Identify the history and evolution of the web.
- Demonstrate an understanding of the basics of websites, function of hypertext (HTTP(s)) and URLs, and basics of HTML.
- Demonstrate building a website and use of web development tools.

Assignments

Items to be Completed:	Due No Later Than:
Read/View/Listen to the assigned materials	
Post an initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Complete MindTap Unit Activities	Sunday 11:59 PM EST/EDT
Submit Lab Assignment 3	Sunday 11:59 PM EST/EDT
Complete Module 4 (Web) Test	Sunday 11:59 PM EST/EDT
Complete Module 4 (Social Media) Test	Sunday 11:59 PM EST/EDT

Module 5

Software Types and File Management

Objectives

When you complete this module, you should be able to:

- ☐ Identify the software types (categories), essentials, distribution forms, and legal aspects of software.
- ☐ Identify the types of productivity software, apps, and applications of their values and uses.
- ☐ Identify file management utilities.
- ☐ Demonstrate how software is utilized to store files and the tools used in managing files on systems and in the Cloud.

Assignments

Items to be Completed:	Due No Later Than:
Read/View/Listen to the assigned materials	
Post an initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Complete MindTap Unit Activities	Sunday 11:59 PM EST/EDT
Complete Module 5 Test	Sunday 11:59 PM EST/EDT
Submit Final Term Project First Draft	Sunday 11:59 PM EST/EDT

Module 6

Digital Security

Objectives

When you complete this module, you should be able to:

- Explain the basics in protecting against Unauthorized Use.
- Describe encryption, authentication, strong passwords, and password managers.
- Describe the different types of Malware and how they infect systems.
- Describe types of online intrusions, social engineering tactics, how they infect, and how to detect.

Assignments

Items to be Completed:	Due No Later Than:
Read/View/Listen to the assigned materials	
Post an initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Complete MindTap Unit Activities	Sunday 11:59 PM EST/EDT
Complete Module 6 Test	Sunday 11:59 PM EST/EDT

Module 7

Information Systems

Objectives

When you complete this module, you should be able to:

- Describe the basics of Information Systems.
- Describe enterprise applications.
- Explain the basics of systems analysis.
- Explain system security.

Assignments

Items to be Completed:	Due No Later Than:
Read/View/Listen to the assigned materials	
Post an initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Complete MindTap Unit Activities	Sunday 11:59 PM EST/EDT

Submit Final Term Project	Sunday 11:59 PM EST/EDT
Complete Module 7 Tests	Sunday 11:59 PM EST/EDT

Module 8 Objectives

Programming Basics

When you complete this module, you should be able to:

- Demonstrate the basics of programming.
- Demonstrate the proper use of basic programming tools.
- Demonstrate the basics of algorithms and pseudocode.

Assignments

Items to be Completed:	Due No Later Than:
Read/View/Listen to the assigned materials	
Post an initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Complete MindTap Unit Activities	Sunday 11:59 PM EST/EDT
Complete Lab Assignment 4	Sunday 11:59 PM EST/EDT
Complete Module 8 (Programming) Test	Sunday 11:59 PM EST/EDT