HOSTOS COMMUNITY COLLEGE

DEPARTMENT OF MATHEMATICS and COMPUTER SCIENCE

Course: CST 160 Introduction to Computer Software and Operating Systems

Credit Hours: 3.0

Lab Hours: 2.0

Class Hours: 2.0

Prerequisite: CST 140 or Prior Computer Science/IT background

Course Description:

This is a comprehensive course in the use of operating systems for microcomputers suitable for students' seeking preparation for A+ operating system certification. The concepts, features, and commands of an operating system are applied to a variety of applications. Programming concepts will be introduced. Students will learn how to install, configure, use, manage, and troubleshoot the Disk Operating System (DOS), Microsoft Windows, and other microcomputer operating systems. Through a combination of lectures, hands-on labs, and practice exams, students will be well-prepared to tackle the CompTIA A+ certification at the end of the course. The goal of this class is to help you pass the 220-1002 certification exam.

Student Learning Outcomes:

1. Gain a holistic understanding of the complex world of IT professionals, emphasizing their role in meeting customer needs.

2. Demonstrate expertise in installing and maintaining Windows operating systems, covering Windows 10 and Windows 11, critical settings, backup procedures, and hard drive maintenance.

3. Develop advanced troubleshooting skills for Windows, including post-startup issues, boot process understanding, and security strategies against malicious software.

4. Understand Windows networking, securing workstations, IoT devices, and multifunction routers on a network. Gain proficiency in remote access technologies and troubleshoot network connections.

5. Demonstrate proficiency in supporting macOS, covering desktop navigation, maintenance,

updates, and troubleshooting startup issues.

6. Acquire a solid understanding of the Linux operating system and develop scripting expertise, exploring software techniques and diverse scripting applications.

7. Demonstrate knowledge and proficiency in mobile device security, including backup procedures, securing devices, and troubleshooting common issues.

Textbook: COMPTIA   A++ Guide to Information Technology Technical Support 11th Edition

students can also choose one of the options below
- Option 1: CompTIA A+ Core2 Exam Guide to Operating Systems and Security
  - ISBN: 978-0-357-68414-6
- Option 2: Cengage Unlimited Access 1 term Code (Best Option for any student taking more than one course with Cengage Materials)
  - ISBN: 978-0-357-70000-6

Grading Standards:

Quizzes	10%
Discussion	20%
Board/Participation in Class	10%
Project/Group Project	30%
Final Exam	30%
Total	100%

Discussion: All students are encouraged to actively participate and engage on Blackboard.
Here's how you can earn points:
- Ask a Thoughtful Question:

- Pose a question related to our current module or any topic discussed in class. Make it insightful and encourage your peers to share their perspectives.
- Answer a Peer's Question:

- Once you've posted your question, take the opportunity to answer a question from one of your classmates. Share your knowledge and contribute to the collaborative learning environment we're fostering.

COURSE OUTLINE

The schedule is subject to modification at the discretion of the instructor, and any alterations will be communicated either in class or through Blackboard. It is the students' responsibility to make any changes to this schedule as announced. It is strongly recommended that students check their HOSTOS email (SUBJECT TO CHANGE), Cengage, and Blackboard daily for crucial course-related emails and reach out to the instructor.

PLEASE NOTE:Be aware that despite efforts to maintain the proposed schedule and keep students informed of changes, adjustments may occur with or without notice (including, but not limited to: test dates, times, course material coverage, and the nature and complexity of exams or assessments). Students are urged to monitor Blackboard (SUBJECT TO CHANGE) and Cengage/MindTap regularly for course-related announcements and changes.

IMPORTANT: The textbook utilized in CSC 140 will remain the same for this class. Modules are specifically assigned based on the content outlined in the syllabus, which has been thoroughly proofread.

Weeks	Day & Date	*Class Assignments During Live Session*	Modules (see textbook)	Others Assignments	Cengage Homeworks Assignment/Lab
Week 1	TBD	1. Introduction to the Course: Provide guidance on accessing MindTap, the platform used for the course. 2. Overview of Syllabus: Present an in-depth discussion of the syllabus, covering key topics, assignments, and expectations. 3. Class Requirements Review: Examine and clarify the various requirements for the course, ensuring everyone understands the expectations. 4. Revision of CSC concepts and intro of CSC 160	See Module 11(from textbook)/ MindTap/Cengage	Post your bio by –TBD. Instructions in Blackboard	**SELF PRACTICE Get familiar with MindTap/Cengage/Get ready for your next Lab**
Week 2	TBD	**Setting Up a local Network (review)**	Module 7	Class projects	**Due By …TBD** LVM Labs 3.1-3.6 H Sim Labs 3.1

Week 3	TBD	**Understanding Customer Needs:** The Complex World of IT Professionals What Customers Want: Beyond Technical Know-How Documentation and Support Systems Working in Diverse Software Environments	Module 11	Class projects	LVM Labs 1.1-1.3 H Sim Labs 1.1-1.2
Week 4	TBD	**Installing Windows** Evaluating a System for Windows 10 or Windows 11 Understanding How Windows Supports Networking Final Checklist before Beginning the Installation Installing Windows 10 or Windows 11 What to Do after a Windows Installation Special Concerns When Working in a Large Enterprise	Module 12	Class projects	To be assigned
Week 5	TBD	**Maintaining Windows** Critical Windows Settings and Backup Procedures Maintaining Hard Drives Using a Command-Line Interface (CLI)	Module 13	Class projects	To be assigned
Week 6	TBD	**Troubleshooting Windows after Startup** Windows Under the Hood Survey of Windows Tools and Techniques for Troubleshooting	Module 14	Class projects	To be assigned

		Troubleshooting Windows Problems			
Week 7	**TBD**	**Troubleshooting Windows Startup** Understanding the Boot Process What to Do before a Problem Occurs Tools for Solving Windows Startup Problems Tools to Reinstall Windows Troubleshooting Windows Startup	Module 15	Class projects	To be assigned
Week 8	**TBD**	**Security Strategies** Dealing with Malicious Software on Personal Computers Licensing, Regulated Data, and Security Policies	Module 16	Class projects	To be assigned
Week 9	**TBD**	**Securing and Sharing Windows Resources** Securing a Windows Personal Computer Controlling Access to Folders, Files, and Printers Using Active Directory Domain Services	Module 17	Class projects	To be assigned
Week 10	**TBD**	**Mobile Device Security** Backing Up Mobile Devices Securing Mobile Devices Troubleshooting Mobile Devices	Module18	Class projects	To be assigned
Week 11	**TBD**	**Network Security and Troubleshooting** Securing Workstations and IoT Devices on a Network Securing a Multifunction Router for a SOHO Network	Module 19	Class projects	To be assigned

		Using Remote Access Technologies			
		Troubleshooting Network Connections			
Week 12	**TBD**	**Supporting macOS**	Module 20	Class projects	To be assigned
		Getting to Know the macOS Desktop			
		Maintaining and Supporting macOS			
		Update macOS and Drivers			
		Troubleshooting macOS Startup			
Week 13	**TBD**	**Linux and Scripting**	Module 21	Class projects	To be assigned
		Linux Operating System			
		Scripting Software and Techniques			
		Uses for Scripting			
Week 14	**TBD**	Revision	See lab practice and Manual exercice		To be assigned
Week 15	**TBD**	Final Exam	All assignments are due by TBD		To be assigned