



## COURSE OUTLINE

<b>Course Number</b> NET 120	<b>Course Title</b> Window Desktop Operating System Administration	<b>Credits</b> 3
<b>Hours:</b> Lecture/Lab/Other 2/2/0	<b>Co-requisite</b> ENG 101	<b>Implementation</b> Semester & Year Fall 2022

### Catalog description:

Students learn to install the Windows desktop OS; create users/groups; administer file/print resources; manage hardware; optimize performance and reliability; configure desktops using control panel, registry, system policies; and configure network protocols and services. Covers resource auditing, data storage management, network monitoring, and security, plus introduction to DNS and Active Directory. Hands-on exercises reinforce Microsoft certification exam objectives.

**General Education Category:**  
Not GenEd

**Course coordinator:**  
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**Required texts & Other materials:**  
TESTOut Web Material ISBN:( 978-1-935080-45-9)

### Course Student Learning Outcomes (SLO):

***Upon successful completion of this course, the student will be able to:***

1. Install and configure Windows desktop, Use Microsoft Management Console and Task Scheduler  
(ILG: 4; PLO: 1, 3)
2. Use Windows Control Panel, Use the Registry, Manage Disks (ILG: 2, 4, 11; PLO: 2, 5 )
3. Install and configure Network Protocols (ILG: 4; PLO: 4, 5 )
4. Use the DNS Service, Use Active Directory (ILG: 11; PLO: 6 )
5. Set Up and Manage User Accounts, Set up and manage groups, Set up and configure printers  
(ILG: 9, 11; PLO: 1, 5, 8)
6. Secure resources with NTFS Permissions, Administer Shared Folders, Audit resources and events (ILG: 4; PLO: 1, 7 )
7. Configure Local Security Policy, Manage data storage, Backup and restore data (ILG: 11; PLO: 1, 2, 6 )
8. Monitor access to network resources, Understand the Windows boot process (ILG: 4; PLO: 7)
9. Implement, manage and troubleshoot hardware devices and drivers (ILG:11; PLO: 1, 2, 6 )

## **Course-specific Institutional Learning Goals (ILG):**

**Institutional Learning Goal 2. Mathematics.** Students will use appropriate mathematical and statistical concepts and operations to interpret data and to solve problems.

**Institutional Learning Goal 4. Technology.** Students will use computer systems or other appropriate forms of technology to achieve educational and personal goals..

**Institutional Learning Goal 9. Ethical Reasoning and Action.** Students will understand ethical frameworks, issues, and situations.

**Institutional Learning Goal 11. Critical Thinking:** Students will use critical thinking skills understand, analyze, or apply information or solve problems.

## **Program Learning Outcomes for Windows Desktop Operating Systems (PLO)**

1. Understand, configure, and install hardware and software, including Internet user software;
2. Understand, describe, and apply network protocols and standards;
3. Explain computing practices and procedures found in most organizations;
4. Use printed and online technical documentation;
5. Describe how the Internet works;
6. Work effectively individually and in workgroups to install and implement information technology;
7. Demonstrate written and oral communication skills.
8. Pass industry certifications, including A+, NET+, Linux+, and Security+; Microsoft's MCTS, MCITP, MCSA, and MCSE; and Cisco's CCNA.

## **Units of study in detail – Unit Student Learning Outcomes:**

### **Unit I [Unit I Introduction] [Supports Course SLO # 1]**

#### **Learning Objective**

***The student will be able to...***

- Understand Windows Administration course and lab facilities are structured.
- Identify basic principles of windows administration.
- Identify and use software application tools

### **Unit II [Unit II Windows Installation] [Supports Course SLO # 2]**

#### **Learning Objectives**

***The student will be able to...***

- Become familiar with the basics Windows Administration of:
  - Windows Installation
  - Windows Activation
  - Windows Post-Installation Configuration
  - Web Browser Configuration
  - Windows Upgrade
  - User Profile and Data Migration

### **Unit III [Unit III System Imaging] [Supports Course SLO # 6]**

#### **Learning Objectives**

***The student will be able to...***

- Configure System Images
- Configure Image Servicing
- Explain Provisioning Packages

- Configure and explain Sideloaded Apps
- Develop and manage:
  - Windows Operating System Roles
  - Windows Operating System Roles Facts
  - Using Local User Accounts for Sign-in
  - Joining a Workgroup
  - Using Online User Accounts for Sign-in
  - Using Domain User Accounts for Sign-in
  - Using Azure AD User Accounts for Sign-in
  - Manage Groups in Azure Active Directory
  - Windows User Management Facts

**Unit IV [Unit IV Windows Device and User Management] [Supports Course SLO # 5]**

**Learning Objectives**

*The student will be able to...*

- **Configure Devices and Drivers**
- **Setup Device Driver Troubleshooting**
- **Configure Display Management**
- **Explain Local Storage**
- **Configure OneDrive Storage**

**Unit V [Unit V Hardware Management] [Supports Course SLO # 5]**

**Learning Objectives**

*The student will be able to...*

- **Configure and explain:**
  - IPv4 IP Protocols, IPv4 Addresses, Subnet Masks and VLSM
  - IPv4 Address Facts, Subnetting Facts, **IPv6** Addresses
  - IPv6 Facts, IP Configuration, IPv6 Addressing Facts
  - Pv4 to IPv6 Migration Facts

**Unit VI [Unit VI Network Configuration] [Supports Course SLO # 7]**

**Learning Objectives**

*The student will be able to...*

- Develop a solid understanding and ability to articulate and present network architecture(s)
- Have a basic understanding of how various computer languages work.
- Identify and understand hardware and software interrupts, be familiar with advanced Intel microprocessors.
- Understand the detail of the system BIOS, familiar with the Windows internal architecture.
- Understand and work with computer viruses and security, understand and work with various performance and diagnostic software. Prepare for certifications exams

**Unit VII [Unit VII Application Management] [Supports Course SLO # 5]**

**Learning Objectives**

***The student will be able to...***

- Develop a sound familiarization with application management protocols
  - Modify file associations, Repair desktop applications
  - Manage startup applications on Windows 10 , Configure startup items
  - Manage desktop applications, Configure UAC Group Policy settings
  - Configure UAC settings to prompt for changes, Configure UAC settings to elevate automatically

**Unit VIII [Unit VIII System Access] [Supports Course SLO # 5]**

**Learning Objectives**

***The student will be able to...***

- Explain family Intel microprocessor architecture
  - Authentication and Authorization, User Rights and Account Policies
  - Credential Management, Authentication Management
  - User Rights and Account Policies, Credential Management
  - Alternative Authentication Options, NTFS Permissions
  - Auditing, Dynamic Access Control (DAC) and Encryption

**Unit IX [Unit IX Resource Sharing] [Supports Course SLO # 5]**

**Learning Objectives**

***The student will be able to...***

- Explain the difference between identification, authentication, and authorization:
  - Under what circumstances would you choose to enable public folder sharing?
  - When using public folder sharing, where are the public folders located?
  - What are the differences between domain(s), public, private, and network profiles?
  - How can you create an administrative share?
  - Shared Resource Troubleshooting

**Unit X [Unit X Mobile Computing] [Supports Course SLO # 5]**

**Learning Objectives**

***The student will be able to...***

- Explain why a company choose to implement co-management
- What are the benefits of integrating Intune in an environment?
- How does modern management differ from traditional management?
- How are traditional Group Polices different from policies in the cloud using Intune?
- Mobile Device Management - Intune Enrollment
- Mobile Device Management - Intune Policies and Profiles
- Identify, explain, configure, demonstrate and manage:
  - BitLocker, Mobile Device Security, Power Management
  - Mobility Options, Mobile Networking, Mobile Apps
  - Mobile Application Management with Intune

**Unit XI** [Unit XI System Monitoring] [Supports Course SLO # 5]

**Learning Objectives**

***The student will be able to...***

- Understand explain, configure, demonstrate and manage:
- System Configuration Tools
- Performance Management
- Resource Monitoring
- Reliability and Performance Maintenance
- Windows Optimization
- System Events
- Remote Management
- Remote Desktop and Remote Assistance

**Unit XII** [Unit XII System Protection] [Supports Course SLO # 5]

**Learning Objectives**

***The student will be able to...***

- Be familiar with the Intel microprocessor architecture.
- Windows Updates
- Advanced Windows Updates
- System Restore
- System Backup
- Recovery Tools and Environment

**Unit XIII** [Unit XIII Threat Protection] [Supports Course SLO # 5]

**Learning Objectives**

***The student will be able to...***

- Configure Windows security
- Configure Windows Defender Antivirus with Intune
- Configure enterprise-level disk encryption with Intune
- Create security baselines in Microsoft Intune
- Configure and use Windows Defender Credential Guard
- Configure and use Windows Defender Exploit Guard
- Use Windows Defender Advanced Threat Protection
- Configure and use Windows Defender Application Control
- Use Windows Defender Application Guard
- Configure the Windows Defender Firewall
- Configuring WDFAS
- Configuring an IPsec Connection in WDFAS
- Configuring Windows Defender Firewall using PowerShell

**Evaluation of student learning:** [Evaluates SLOs #1, 2, 3, 4, 7]

Students' achievement of the course objectives will be evaluated through the use of the following:

- TESTOut Lab assignments assessing students' computer hardware comprehension skills related to the unit objectives.
- TESTOut Lab Chapter quizzes assessing students' comprehension of software computer concepts related to the unit objectives.
- Research and Final Research presentation assessing students' comprehension through the use of word, PowerPoint and graphics to demonstrate knowledge,
- Basic programming Labs and Quizzes assignments assessing students' basic comprehension of hardware functions and skills related to the unit objectives.
- Exams and Final Research Presentation assessing students' comprehension of computer concepts and applications related to the unit objectives.

**Grade Criteria**

Item	Percent	Description
TESTOut Labs	10%	Activity-based lab Assignment in Excel
TESTOut Quizzes	10%	15 Question quiz for each unit of Computer Concepts
Exams	35%	3 Assignment based on your IT Topics leading to the final project
Final Research Presentation	45%	Professional Presentation