

Turtle Mountain Community College

CIS 162 Operating Systems

Instructor: Marlin Allery

Credit Hours: 3 Credits

Prerequisite: CSCI 101

Office Location: 111F Career and Technical Education

Office Phone: (701) 477-7992

Office Hours: 8:00-9:00 & 3:00-4:30

Syllabus Revised: August 15th 2019

Days & Times: Monday, Wednesday & Friday 3:00 – 3:50

Catalog Description:

Introduction to the Windows operating system. Concepts and procedures necessary to utilize the Windows environment covered. Exposure to multi-tasking and transferring data between applications using the operating software.

Rationale:

This course is intended for those who want to learn more about operating systems and how they work and are developed. Also, to teach a more in-depth knowledge of the breakdown of how to get a full grasp on each OS and how to use it to the fullest.

Course Goals:

- To teach the fundamentals of numerous Operating Systems
- To expose students to practical examples of the computer as a useful tool
- To acquaint students with the proper procedures to manage and organize document storage options for coursework, professional purposes, and personal use
- To help students discover the underlying functionality of Operating Systems so they can become more productive

Materials of Instruction:

Text: No Textbook for this class

Students will need to download the latest version of *VirtualBox* to complete the lab activities.

There will be online visuals and activities that will be assigned for the class. Students be using a software VirtualBox to implement iso images to be able to test and work with each operating system that they cover in the class. Instructor will provide ways to access free or trial versions of the iso images that will be needed.

There will be a Mid-term and a Final

Requirements:

Grading is on an absolute scale, no curves. Your grade will be based on the following grading scale:

A =	90-100 %		B =	89-80 %		C =	79-70 %
D =	69-60 %		F =	59-0%			

In order to receive the grade indicated in the table above you as the student will be tested on knowledge and demonstration of skills. The final grade will be determined by points including

tests, chapter questions and hands-on case projects. They will all be weighted strictly on the points earned for all things that are assigned.

Method of Instruction:

1. Lectures: A brief overview of each tutorial will be given in two forms either notes or short power point presentations.
2. Assignments: On-going tutorials and Review Assignments.
3. Quizzes: More times than not quizzes will be given at times when attendance is poor. There will be no making up quizzes.
4. Tests: Will be given as determined by the instructor and will be announced well in advance.
5. Procedures: Please contact me either through my email stated at the beginning of the syllabus or call and leave a message by voicemail.
6. Late Assignments: If you do not turn in assignments in on time, every day they are late one letter grade will be deducted and if enough time passes no credit will be given.

Course Units:

WEEKS 1-5

Window Operating Systems	<i>Windows 10</i>
	<i>Windows Server 2016</i>

Module	Sections
1.0 Course Introduction	
	1.1 Course Introduction
	1.2 Windows as a Client
	1.3 Windows 7 User Interface
	1.4 Windows 8.x User Interface Overview
2.0 Hardware Management	
	2.1 Devices and Drivers
	2.2 Display Management
	2.3 Disk Partitions and Volumes
	2.4 Storage Spaces
	2.5 Disk Optimization
	2.6 Removable Storage

2.7 OneDrive Storage

3.0 Network Configuration

3.1 IPv4

3.2 IPv6

3.3 IP Address Configuration

3.4 Wireless Networking Overview

3.5 Wireless Networking Configuration

3.6 Internet Connection Sharing (ICS)

3.7 Windows Firewall

4.0 Application Management

4.1 Desktop Applications

4.2 User Account Control (UAC)

4.3 Application Compatibility

4.4 Application Virtualization

4.5 Windows Store Applications

5.0 DNS

5.1 Authentication and Authorization

5.2 Authentication Management

5.3 Alternative Authentication Options

5.4 NTFS Permissions

5.5 Resource Sharing

5.6 Libraries and HomeGroups

5.7 Printer Sharing and Management

5.8 Auditing

5.9 Encryption

5.10 BranchCache

6.0 Windows Installation

6.1 Windows Versions

6.2 Windows 7 Installation

6.3 Windows 8.x Installation

6.4 Windows Upgrade

6.5 User Profile and Data Migration

6.6 VHD Installation

6.7 Client-Side Virtualization

7.0 System Images

7.1 Print Servers

- 7.2 Image Preparation
- 7.3 Image Capture
- 7.4 Manual Image Deployment
- 7.5 Image Servicing
- 7.6 Domain Image Deployment

8.0 Mobile Computing

- 8.1 Mobile Device Management
- 8.2 Network Access Protection (NAP)
- 8.3 Virtual Private network (VPN)
- 8.4 DirectAccess
- 8.5 BitLocker
- 8.6 BitLocker To Go
- 8.7 Mobile Device Security
- 8.8 Power Management
- 8.9 Mobility Options
- 8.10 Mobile Networking

9.0 Networking

- 9.1 Troubleshooting Tools
- 9.2 System Events
- 9.3 Performance Monitoring
- 9.4 Resource Monitoring
- 9.5 Reliability and Performance Maintenance
- 9.6 Optimization
- 9.7 Remote Management
- 9.8 Remote Assistance

10. System Protection

- 10.1 System Updates
- 10.2 Update Deployment and Management
- 10.3 System Backup
- 10.4 Windows 7 Data Recovery
- 10.5 Windows 8.x Data Recovery
- 10.6 System Recovery

11. Security

- 11.1 Application Restriction
- 11.2 Secure Boot
- 11.3 Internet Explorer
- 11.4 Internet Options
- 11.5 Windows Defender

WEEKS 5-8

Linux	<i>Multiple OS will be Covered</i>
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Module	Sections
0.0 Introduction	0.1 Introduction
1.0 Using Linux	1.1 The Shell 1.2 Help 1.3 Environment Variables 1.4 Aliases 1.5 Text Editors 1.6 Redirection and Piping 1.7 Directories 1.8 Files 1.9 Links 1.10 Filesystem Hierarchy Standard (FHS) 1.11 Locating and Searching Files
2.0 Installation and Localization	2.1 Installation Design 2.2 Linux Installation 2.3 Localization
3.0 Boot and Shutdown	3.1 Linux Boot Process 3.2 BootLoaders 3.3 Runlevels 3.4 Init Scripts 3.5 System Shutdown
4.0 User Interfaces and Desktops	4.1 X Window System 4.2 Display Managers 4.3 Accessibility
5.0 Software Installation	5.1 Red Hat Package Manager (RPM)

5.2 Debian Package Manager (DPKG)

5.3 Shared Libraries

6.0 Users and Groups

6.1 User and Group Overview

6.2 User Management

6.3 Group Management

7.0 Disk and File System Management

7.1 Disk Partitions

7.2 File Systems

7.3 Mounting File System

7.4 File System Maintenance

7.5 Disk Quotas

7.6 Ownership

7.7 Permissions

7.8 Archive and Backup

8.0 Hardware Installation

8.1 Device Drivers

8.2 Kernel Module Management

8.3 Hotplug and Coldplug Devices

9.0 Processes and system Services

9.1 Processes

9.2 Process Management

9.3 Task Management

9.4 Print Management

9.5 Time Management

9.6 Mail Transfer Agent (MTA)

9.7 Structured Query Language (SQL)

10.0 System Monitoring

10.1 System Log Files

10.2 Scripts

10.3 Text Stream Processing

11.0 Networking

11.1 Networking Overview

11.2 Network Interface Configuration

11.3 Routing Configuration

11.4 Hostname and DNS Configuration

11.5 Network Troubleshooting

12.0 Security

12.1 Root Usage

12.2 User Security and Restriction

12.3 Network Security

12.4 File Auditing

12.5 Login Blocking

12.6 Xinetd and Inetd Super Daemons

12.7 OpenSSH

12.8 SSH Port Tunneling

12.9 Public Key Authentication

12.10 Gnu Privacy Guard (GnuPG)

Apple	<i>OS</i>
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Tablet and Phone	Apple
	Android
	Windows

Disability Statement:

If you have emergency medical information to share with me, if you need special arrangements in case the building must be evacuated, or if you need accommodations in this course because of a disability, please make an appointment with me. My office location and hours are posted at the top of the syllabus. If you plan to request disability accommodations, you are expected to register with Annette Charette, Student Support Counselor at 477-7842 Extension 1155.

Attendance and Participation:

It is highly recommended to attend and participate in class. I have a policy that if you miss more than ten times it is an automatic failure of the course. If you have an emergency and cannot make it to class DO NOT wait until the next day or next class to let me know what happened. DO NOT tell someone else; notify me described in the Methods of Instruction section.

Class Procedures:

All assignments will be submitted via email or uploaded into a drop box in Jenzabar. Late assignments will result in partial or NO credit. If instructor is out of the class or if you have an emergency, use contact info attached to the syllabus and email or leave message on telephone.

Statement on Cultural Content or Methods in Course:

The mission of the Turtle Mountain Community College is to create an environment in which the cultural and social heritage of the Turtle Mountain Band of Chippewa can be brought to bear throughout the curriculum. We will try to invite a guest speaker into our classroom to go over the history of our ancestors and how they managed people without the use of technological devices like computers. We will have a guest speaker that will be presenting in the class for a graded assignment.

Statement of Academic Honesty:

Students are expected to maintain scholastic honesty. Scholastic dishonesty includes but is not limited to cheating on a test, plagiarism, and collusion. When an infraction occurs, instructors have the authority to act personally. Instructors will report action to the Dean of Academic Programs. A student has the right to appeal the instructor's action in accordance with the student appeal policy.

Assessment:

Student Learning Outcomes will be assessed through a pre and post testing for each semester.