



COMPUTER TECHNOLOGY

NOCTI certification available to all students.

The Computer Technology course, which is open to all students in their junior or senior year, will allow students to become knowledgeable about many aspects of computer technology. This program is offered at the Orleans Center only.

During the First Year of the Computer Technology Program, students are introduced to standard software packages, operating systems, hardware architecture and basic web design.

During the Second Year, students study advanced applications and multimedia or in-depth hardware and networking.

CISCO NETWORKING ACADEMY

During Semesters 1 and 2, students are introduced to basic computer concepts, Local Area Networks, electronics, cables, design and documentation, router configuration, operating systems, and in-depth hardware architecture. During Semesters 3 and 4, students study advanced networking skills and router programming and configuration.

After Graduation, students are eligible to take CISCO Certification exams that demonstrate their skills as network technicians or administrators. Students who graduate from the course may be eligible to earn 6 to 26 college credits.

CCNA – CISCO Certified Networking Associate – Possible positions include network administrator, network engineer, or network support technician.

EQUIPMENT AND RESOURCES

The main lab has 40 Pentium PC's equipped with sound and network cards. The seniors are responsible for the main lab's network and each PC's performance. The small lab is for software and hardware evaluation. The small lab is also equipped with system boards, expansion boards, cables, tools, and resources to make cables, repair PC's, and explore the PC architecture.

MODULES OF INSTRUCTION

Introduction to Computers

History

Operating systems overview

Basic Components

Applications, Data and File organization

Windows 2000

Windows 2000

Components

Word Processing (MS Word)

Introduction to Word Processors

Components

Modify your desktop

Navigation

Files, Folders, shortcuts &
Icons

Using Explorer

Using Find

Using Paint, WordPad, &
Calculator

Multimedia (Macromedia Flash)

Components

Navigation

Navigation	Site Introductions
Saving Files	Adding Sound
Fonts and Formatting	Adding Video
Inserting ClipArt and WordArt	Editing Video
Introduction to Tables and Columns	
	Operating Systems
Presentations (MS PowerPoint)	Definition of an Operating System
Introduction to PowerPoint	DOS
Components	Windows 9x
Navigation	Windows 2000
Slide transitions	
Object Animation	Software Installation
	Software application
Spreadsheets (MS Excel)	Installation
Introduction to Spreadsheets	OS System Installation
Components	Protecting Data
Navigation	
Fonts and Formatting	The System Board
Inserting ClipArt and WordArt	Types of System Boards
Calculations	The CPU and the Chipset
	ROM BIOS
Databases (MS Access)	RAM
Introduction to Databases	Wait States
Components	Buses and Expansion Slots
Navigation	On-Board Ports
Creating a Table	Hardware Configuration
Queries	Interrupt Request Number (IRQ)
Forms and Reports	DMA Controller
Importing and Linking	Power Supply Connections
	Floppy Drives and Other Essential Devices
Web Design (Macromedia Dreamweaver)	Floppy Drives
Introduction to Web Design	Keyboards
HTML	Computer Video
Components	Pointing Devices
Navigation	
Tables	Hard Drives
Forms	Physical organization
	Using DOS to manage a Hard Drive
Graphics and Animation (Macromedia Fireworks)	Formatting and Optimizing the Hard Drive
Introduction to Graphics	Hard Drive Technology
Components	Removable Drives
Navigation	
Animations	Data Recovery
	Troubleshooting
Hard Drive Installation and Support	& Data Recovery
Install a Hard Drive	
Utility Software	

Troubleshooting Fundamentals
Perspectives
Protect yourself, the Hardware
& Software
Tools to help support PCs
Handling Viruses
How to Isolate Computer Problems
& devise a course of action
Troubleshooting Guidelines
Peripheral Devices

Customizing a PC System w/ Peripheral
Equipment
The Right Tools for the Job
Basic Principles
Using ports & Expansion Slots for
Add-on Devices
CD-ROM Drives
DVD-ROM Drives

Managing Memory
Physical Memory
How Memory is used
Memory Troubleshooting Guidelines
Upgrading Memory

Electricity and Power Supplies
Introduction to Basic Electricity
Measuring the Voltage of a Power
Supply
Exchanging the Power Supply
Energy Star Computers
Surge Protection and Battery Backup

Networking Fundamentals and the Internet
Overview of Networking
Networking w/ Windows 2000
PCs and the Internet
Examples of Network Services
Network Troubleshooting Guidelines

During and at the end of each topic, students are evaluated with projects and tests. Each student creates a portfolio of their work, including a CD to take with them at the end of the year.

When the students have successfully completed their two-year study, they will be eligible for MOUS certification, A+ Certification or a CCNA certification.

JOB OPPORTUNITIES

It should be noted that while a one-year program may limit employment opportunities, a two-year program will provide a solid foundation for the following job opportunities.

- Word Processing Specialist
- Spreadsheet Specialist
- Database Specialist
- Data Analyst
- Computer Technician
- Networking Technician
- Multimedia Specialist

CAREER ADVANTAGES

The computer field is one of the fastest growing parts of our economy. Taking the computer course at the Orleans Education Center gives you a head start in this exciting and challenging environment. We train you for entry-level computer operations, word processing, spreadsheet, database specialist, multimedia, and networking specialist or college preparation for programmers. Join us for a look at the future with computers.

There are two-1/4 unit optional modules of Intro to Occupations taught in the program. If you need two-1/4 required modules of Intro to Occupations, see your guidance counselor, who can make special arrangements for us to provide them for you. In addition, a Math, Science, and/or English credits are also available; please see your guidance counselor for additional information.

EMPLOYMENT OUTLOOK

The growth rate for people with computer skills and knowledge of computer applications is expected to be strong. Additional training post-graduation will allow students to become a strong candidate in the computer technology field.

COLLEGE OPPORTUNITIES

Genesee Community College

CIS 102 Introduction to Computers – 3 credits
CIS 116 Microcomputer Applications – 3 credits
CSN 120 Networking Technologies – 3 credits
CSN 150 Computer Systems – 4 credits

Pending

CIS 125 Programming & Problem Solving – 3 credits
CIS 203 Web Publishing – 3 credits
CIS 208 Database – 3 credits
CSN 205 Internetworking Technologies – 4 credits

Art Institute of Pittsburgh

CPU 101 Computer Literacy – 3 credits