

Muskegon Area Career Tech Center
Internet, Network & Security Technologies
COURSE SYLLABUS

INSTRUCTORS NAME(S): Susan Rhem-Westhoff

PARA-PROFESSIONAL: NA

DATE: 12/21/05

CAREER CLUSTER DESCRIPTION FOR INFORMATION TECHNOLOGY:

Building Linkages in IT Occupations Framework: For Entry Level, Technical, and Professional Careers Related to the Design, Development, Support and Management of Hardware, Software, Multimedia, and Systems Integration Services.

PROGRAM DESCRIPTION FOR COMPUTER INFORMATION NETWORK SYSTEMS:

Skills and knowledge in information technology will continue to prove invaluable and necessary regardless of the career path a student follows. Each of the top seven fastest growing occupations for 2000 to 2010 falls within an information technology or computer-related field. This includes the following occupations: security professionals, computer software engineers, computer support specialists, network systems and data communications analysts, desktop publishers and database administrators.

In the CTC Internet, Network, & Security Technologies program, students gain the most up-to-date skills and hands-on experience in Internet technologies, Web site design and development, networking, network security, and Web server administration. They may also focus on video game development and programming while learning scripting and programming languages including JavaScript, PHP and Visual Basic .NET. They build wired and wireless networks and install and configure firewalls. During the second year of this program, students are introduced to the hottest fields in IT –computer security and video game development. They train and acquire the skills to become certified Security Professionals and /or game developers. The INST program offers students access to state of the art technology while achieving a valuable and marketable skill!

PROGRAM CIP CODE: 11.1000

TEXTBOOK(s):

- Internet Business Foundations, CIW Foundations Series, Version 1.0, ComputerPREP/Prosoftlearning
- Site Development, CIW Foundations Series, Version 1.0, ComputerPREP/Prosoftlearning
- Networking Fundamentals, CIW Foundations Series, Version 1.0, ComputerPREP/Prosoftlearning
- Internet System Management & Advanced Internet System Management, CIW Server Administration Series, Version 5.1, ComputerPrep/Prosoftlearning
- Internetworking & Advanced Internetworking, CIW Internetworking Series, Version 5.1, ComputerPREP/Prosoftlearning
- Network Security and Firewalls, Version 6.1, Operating Systems Security, Version 3.1, & Security Audit, Attacks and Threat Analysis, Version 6.1, ComputerPREP/Prosoftlearning Professional Series, ComputerPREP/Prosoftlearning
- Introduction to Networking, NetPrep Courseware from WestNet Learning
- Introduction to Local Area Networks, NetPrep Courseware from WestNet Learning
- Introduction to Wide Area Networks, NetPrep Courseware from WestNet Learning, Reference Text
- Introduction to TCP/IP, NetPrep Courseware from WestNet Learning
- Introduction to Wireless Networking, Courseware from WestNet Learning (CWNA), Reference Text
- Working Smart, Textbooks by Shulman and Kowaldo
- <http://www.minot.k12.nd.us/votech/careerdevelopment.htm>

SOFTWARE:

- MS-DOS 6.22, Windows 2000 Professional
- Windows 2002 & 2003 Server
- Windows XP Professional
- Microsoft Office Suite 2003
- Linux Fedora Core 5
- CIW, Foundations Series on CD from Prosoftlearning
- CIW Server Administration Series from Prosoftlearning
- CIW Internetworking Series from Prosoftlearning
- CIW Security Professional Series from Prosoftlearning

- CIW Foundations AssessPREP From ComputerPREP
- CIW Security Professional AssessPREP From ComputerPREP
- CIW Server Administration AssessPREP from ComputerPREP
- CIW Internetworking AssessPREP from ComputerPREP
- Novell Intranetware 5.0, from Novell
- NetPrep Courseware from WestNet Learning – <http://www.westnetinc.com>
- Macromedia Dreamweaver Suite

ASSESSMENT:

- CIW Associates Certification Foundations Exam
- CIW Server Administration Series Exam
- CIW Internetworking Series Exam
- CIW Security Professional Series Exam

SPECIAL FEATURES OF THE PROGRAM: Students are prepared for industry recognized certification in Web design and development, Web server administration, Internet security, network administration, and wireless network administration. Students will also learn to use scripting and object oriented languages for advanced Web design such as javascript, PHP, Coldfusion, Perl, Vbscript, ASP .NET and Visual Basic .NET with an emphasis on Web services. The students will have experience developing applications for wireless handheld devices and learn scripting languages such as WMLScript for wireless browsers. The challenge of securing a wireless network will also be introduced. Studies are related to college, university, and technical school courses in the engineering, computer science and information systems areas. System trouble analysis and problem-solving techniques are developed. Work-based learning opportunities are available. Articulated college credit is available from Muskegon Community College and Baker College.

***JOB TITLES AVAILABLE AT MACTC:**

Web Site Developer	SOC-1031.00
Web Site Designer	SOC-1031.00
Web Site Administrator	SOC-1031.00
Network Server Administrator	SOC-1071.00
Network Technician	SOC-1032.00
Computer Security Specialist	SOC-1071.00

JOB TITLES REQUIRING FURTHER TRAINING/CERTIFICATION

Computer & Information Systems Mgr	SOC-3021.00
Computer Software Engineer	SOC-1031.00
Computer Programmer	SOC-1021.00
Database Administrator	SOC-1061.00
Data Communication Analyst	SOC-1081.00
Computer Systems Analyst	SOC-1051.00
Wireless Network Administrator	
Network Server Administrator	SOC-1071.00
Network Architect	SOC-1041.00
Systems Programmer	SOC-1031.00

- Because of the nature of INST job titles available for training at MACTC, the student should strongly consider post-secondary training or special certification programs to enhance employability.

Related Occupation Reprints from the Occupational Outlook Handbook, (<http://www.bls.gov/oco>) Bureau of Labor Statistics (<http://www.stats.bls.gov>) and the Dictionary of Occupational Titles (http://www.wave.net/upg/immigration/dot_index.html).

- Computer Hardware Engineer
- Computer Software Engineers
- Computer Operators
- Computer Programmers
- Computer Support Specialists and Systems Administrators
- Computer and Information Systems Managers
- Network Systems Administrators
- IT Security Specialist
- Network Analysts

Computer and Data Processing Services
Computer, Automated Teller, and
Office Machine Repairers
Data Entry and Information Processing Workers
System Analysts, Computer Scientists, and
Database Administrators
Desktop Publishers

College Programs: The following post-secondary institutions allow for articulated college credit(s) through MACTC. Please reference the following URL for articulation agreements, applications and courses available for articulation credit with Baker College and Muskegon Community College:

<http://www.muskegonisd.org/ctc-new/careers/articulation/>

Baker College (Certificate Programs):	http://www.baker.edu/
Certified Novell Engineer:	Follow Baker College Web site list of undergraduate programs.
Computer Service Technician:	Follow Baker College Web site list of undergraduate programs.
Microsoft Certified Systems Engineer:	Follow Baker College Web site list of undergraduate programs.
UNIX Systems Technology:	Follow Baker College Web site list of undergraduate programs.
Web Design:	Follow Baker College Web site list of undergraduate programs.
Baker College (Associate Degree Programs)	http://www.baker.edu/
Computer Networking Technology:	Follow Baker College Web site list of undergraduate programs.
Microsoft Option	
Computer Networking Technology:	Follow Baker College Web site list of undergraduate programs.
Novell Systems Option	
Baker College (Associate Degree Programs):	http://www.baker.edu/
Computer Programming:	Follow Baker College Web site list of undergraduate programs
Computer Information Systems/ Micro Applications:	http://www.baker.edu/
Baker College (Bachelor Degree Programs):	http://www.baker.edu/
Security + Degree/Certification	
Muskegon Community College:	http://www.muskegon.cc.mi.us/
Computer Information Systems:	http://www.muskegoncc.edu/servlets/mcc?/home/sapkowsk/www/programs/p74.htm
Davenport University:	http://www.davenport.edu/du/prospectivestudents/default.htm
PC Specialist:	http://www.davenport.edu/du/currentstudents/grandrapids/programs/oncampus/technology/associates/davpcspecialist.htm
Systems Analysis:	http://www.davenport.edu/du/currentstudents/grandrapids/programs/oncampus/technology/associates/davsystemsanalysis.htm
	No articulated credit available.
Ferris State University:	http://www.ferris.edu/
Computer Information Systems:	http://www.ferris.edu/htmls/colleges/business/cis-as.htm
Computer Network Systems:	http://www.ferris.edu
3-D Animation and Computer Gaming	
	No articulated credit available, agreements are in process.
Grand Rapids Community College:	http://www.grcc.cc.mi.us/
Computer Applications Technology:	http://igrcc.grcc.cc.mi.us/ShowPage.cfm?PageID=1098
Computer Information Systems:	http://igrcc.grcc.cc.mi.us/ShowPage.cfm?PageID=1102
	No articulated credit available.
Michigan Technological University:	http://www.mtu.edu/
College of Engineering:	http://www.doe.mtu.edu/
	No articulated credit available.

Michigan State University: <http://www.msu.edu/home/>
College of Engineering: <http://www.msu.edu/academics/#eng>
No articulated credit available.

University of Michigan: <http://www.umich.edu/>
College of Engineering: <http://www.engin.umich.edu/>
No articulated credit available.

Western Michigan University: <http://www.wmich.edu/>
College of Engineering: <http://www.wmich.edu/engineer/>
No articulated credit available.