# Information Technology Networking

**Catalog Year: 2020, Required Hours: 1200**

## Required Core Courses (600 hours required)

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<th>Course Code</th>
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<th>Hours</th>
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<tr>
<td>ITSEC1015</td>
<td>IT Essentials</td>
<td>90.00</td>
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<tr>
<td>ITSEC1615</td>
<td>A+ Certification I</td>
<td>150.00</td>
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<td>ITSEC1620</td>
<td>A+ Certification II</td>
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<tr>
<td>ITSEC1022</td>
<td>Help Desk Tech I</td>
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<td>ITSEC2023</td>
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<td>ITSEC1040</td>
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### ITSEC1015 IT Essentials (90.00 hours)

In this course, students will learn basic skills to enable them to fix computers, upgrade hardware and software, remove malware and adware, build an entire computer, and ensure that systems and computers are running smoothly. Basic networking skills and techniques will be taught in this course. Students will learn basic terminology needed to converse in the IT field. This course covers information on the various careers available in IT to help students gain a broader view on what careers they may be interested in pursuing.

### ITSEC1615 A+ Certification I (150.00 hours)

This course introduces hardware components of computers and mobile devices, networks and printers plus installation, maintenance, and troubleshooting. It helps prepare students for one of two CompTIA A+ industry standard exams focused on these areas.

- **Competencies:**
  - Learn and understand the function of each PC component
  - Install and configure hardware, including mobile devices
  - Perform preventative maintenance
  - Troubleshoot hardware and OS using diagnostic tools and troubleshooting techniques
  - Install software applications and tools
  - Learn and apply networking and security concepts
  - Develop professional communication and service skills

### ITSEC1620 A+ Certification II (150.00 hours)

This course focuses on operating systems installation, configuration, and maintenance; security of resources, troubleshooting skills, and operational procedures. It helps prepare students for one of two CompTIA A+ industry standard exams focused on these areas.

- **Competencies:**
  - Install, configure and upgrade common operating systems
  - Troubleshoot operating systems using diagnostic tools and troubleshooting techniques
  - Install software applications and tools
  - Learn and apply networking and security concepts
  - Develop professional communication and service skills
  - Learn best practices for safety and environmental impacts

### ITSEC1022 Help Desk Tech I (90.00 hours)

This course introduces students to the skills, and technologies in the help desk/service desk industry. Students will learn about the role of the help desk/service desk, including components for success and a combination of skills required for a technical customer support career. Students will learn to develop strong listening and communication skills, and how to create winning telephone skills and a persona. Students will engage in content that will help curate problem solving, process and project management skills as well as hone their technical writing skills. Students will apply the skills and techniques learned in this course by working 30 hours in the OWTC Service Desk. Through this participation, students will work effectively to contribute to a successful team through goals, conflict management, and creating positive working relationships.

### ITSEC2023 Help Desk User Support (90.00 hours)

This course focuses on the technical tools and information resources needed to develop effective user support skills.

- **Competencies:**
  - Determine client support needs using good communication skills
  - Troubleshoot and problem solve client issues
  - Learn to train end users
  - Understand budgeting and management priorities
  - Use professional help desk and office software

### ITSEC1040 Portfolio Development (30.00 hours)

This course helps students prepare for employment by learning job-seeking skills, developing an online/electronic portfolio and knowing the best practices for a successful job search and job interview.

- **Competencies:**
  - Identify your skills and attributes
  - Create a current resume
  - Create a cover letter of application
  - Create a networking list and references list
  - Learn interviewing skills
  - Demonstrate competency in a job interview
  - Understand and develop the components of an online/electronic portfolio
# Elective Courses (600 hours required)

<table>
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<th>Hours</th>
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<tr>
<td>ITEC1508</td>
<td>Networking Essentials</td>
<td>90.00</td>
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<td>ITEC1505</td>
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<td>ITEC1220</td>
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<tr>
<td>ITEC2519</td>
<td>Administering Windows Desktop</td>
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<tr>
<td>ITEC1045</td>
<td>Windows Server Essentials</td>
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<tr>
<td>ITEC2255</td>
<td>Security+</td>
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<tr>
<td>ITEC1630</td>
<td>Cybersecurity Analyst</td>
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**ITEC1508 Networking Essentials**

This course provides students with an overview of a wide range of networking technologies, including: hardware, topology, protocols, architecture, network operating systems and administration, security and troubleshooting. It gives students a basis to pursue IT industry networking certifications such as Network+, Security+, and Microsoft.

Competencies:
- Learn basic operation of network devices and media
- Understand network topologies and technologies
- Know the purpose and function of network architecture and protocols
- Develop greater understanding of network hardware and operating systems
- Learn security risks and outline a security policy
- Understand network support and troubleshooting options and methods

**ITEC1505 Network+**

Network+ prepares students to install, configure and troubleshoot a PC network. It covers topics such as protocols, network operating systems and topologies, client/server architecture, wireless networking and security. It also helps prepare students for the CompTIA industry certification exam.

Competencies
- Understand the OSI model of networking with corresponding protocols and connectivity devices.
- Configure and use the TCP/IP protocol suite and utilities.
- Install, configure, and upgrade network software and components.
- Provide for network security measures.
- Provide for network fault tolerance and disaster recovery options.
- Troubleshoot a network in all aspects and at all levels

**ITEC1220 Help Desk Tech II**

This course is designed for students who want to pursue a job in IT service desk/help desk. Students will work in the OWTC Service Desk to learn and apply advanced procedures with an emphasis on documentation, call and time management, and customer service.

**ITEC2519 Administering Windows Desktop**

This course includes advanced administration of Windows Professional. It will include installation, configuration, troubleshooting, and maintenance of Workstations as well as hardware considerations and network configuration. Prepares student for exams such as Microsoft Certified Professional (MCP), which is one exam in the Microsoft Certified Systems Administrator (MCSA) and Microsoft Certified Systems Engineer (MCSE) certifications.

**ITEC1045 Windows Server Essentials**

This course provides in-depth knowledge of Windows server including installation, local and remote management, Active Directory, networking and virtualization. It prepares students with skill sets for the Microsoft certification exam.

Competencies:
- Installation of Windows Server and deployment features
- Gain expertise in all aspects of local and remote server management
- Understand and implement Active Directory and group policies, plus many other services
- Learn to create and configure virtualization with Hyper-V

**ITEC2255 Security+**

This course centers on the knowledge and skills required to provide the essential principles for network security and risk management. It prepares students with skill sets for the Security+ certification exam.

Competencies:
- Install and configure systems to secure applications, networks, and devices
- Perform threat analysis and respond with appropriate security techniques
- Learn strategies and practices for risk reduction
- Troubleshoot common security issues
- Operate with an awareness of applicable policies, laws, and regulations
- Support the principles of confidentiality, integrity, and availability

**ITEC1630 Cybersecurity Analyst**

This course is designed for intermediate-level security skills and knowledge. It helps prepare students for the CompTIA Cybersecurity Analyst (CySA+) exam, which is measured through management of security threats and vulnerabilities, responses to cyber incidents, security architecture and tool sets.

Competencies:
- Analyze network data and apply threat management tools and processes
- Understand, analyze, and implement vulnerability management/ processes to secure a network environment
- Understand critical components of cyber incident response: identify threat/behavior, use appropriate tools, identify proper communication, implement best course of action, create summary report
- Apply security architecture and tool sets in any given scenario
### ITEC2215 Server+  
**90.00**

This course focuses on server hardware and operating systems, networking and security, storage, cloud-based virtualization solutions, and troubleshooting. It prepares students with skill sets for the Server+ certification exam.  

**Competencies:**  
- Understand server hardware, operating systems, and storage  
- Understand network concepts and security  
- Learn troubleshooting methodology, problems and solutions  
- Understand preparing for disaster recovery, business continuity, and best practices

### ITEC2710 Linux+ Certification I  
**60.00**

This course prepares students to work at the Linux command line, install and configure a workstation. It helps prepare students for the CompTIA industry certification exam.  

**Competencies:**  
- Design hard disk layout and install boot manager  
- Determine and configure hardware settings and boot system  
- Change run levels and shutdown or reboot system  
- Demonstrate use of package management  
- Learn and use GNU and Unix command line to manage files and processes  
- Manage devices, Linux file systems, and file system hierarchy

### ITEC2715 Linux+ Certification II  
**60.00**

This course prepares students to work at the Linux command line, perform maintenance tasks, setup networking and security. It helps prepare students for the CompTIA industry certification exam.  

**Competencies:**  
- Manage and automate system administration tasks  
- Maintain essential system services and printers  
- Customize and use the shell environment and write simple scripts  
- Demonstrate an understanding of basic network fundamentals and troubleshooting  
- Setup and perform security administration and encryption

### ITEC1800 Powershell Basics  
**60.00**

This course is designed for students new to the IT and technology job market. It covers essential concepts in IT to how computers work to maintenance and security. Students will learn to configure an operating system, use basic troubleshooting techniques, and implement basic security. It serves as an introductory course prior to A+ Certification.  

**Competencies:**  
- Identify and understand the essentials of the information technology industry  
- Understand how computers work  
- Become familiar with common and advanced devices  
- Install and configure an operating system  
- Troubleshoot, maintain and upgrade computers  
- Understand networking basics  
- Understand and implement basic security

### ITEC2305 Network Traffic Analysis  
**60.00**

Students in this course will learn a basic understanding of network traffic analysis procedures. They will identify structure flow of network traffic along the OSI model. Students will be introduced to analysis tools and terminologies. Students will explore packet structure, protocols, effects and the importance of security measures such as encryption, and hands-on practice to identify anomalies.

### ITEC2350 Cloud Computing Essentials  
**60.00**

Students in this course will learn introductory topics for cloud computing beyond CompTIA Network + and Security + certifications. Students will explore key components and characteristics of IaaS, PaaS, and SaaS. This course will include a breakdown of the NIST SP 800-145 and activities to reinforce each of the characteristics. Students will also explore various vendors available, and hands-on deployment of cloud computing.

### ITEC2370 Cloud +  
**90.00**

Students in this course will learn an overview of deployment, maintenance and security of cloud environments. Students will gain an ability to implement analysis and configuration of cloud deployment. Key concepts include planning, analyzing and testing system requirements. Students will apply appropriate security measures and technologies, maintaining and managing virtual networks while troubleshooting misconfigurations and other network problems.

### ITEC1305 Virtual Computing  
**120.00**

This course explains virtualization technology and concepts with hands-on activities and projects essential to master and apply those skills. Students will gain experience using the latest virtualization products available.  

**Competencies:**  
- Develop solid understanding of virtualization concepts and products  
- Install and configure virtualization products such as VMWare and Microsoft Hyper-V  
- Apply virtualization in cloud-based services
Ogden-Weber Technical College
200 N. Washington Blvd, Ogden, UT 84404
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ITEC2730   Telecommunications  90.00
An overview of telecommunications, electronics for telecommunications, transmission media, wireless communications, voice communications, data communications, WAN and Broadband technologies, converged data/voice networks, telecommunication policy, and business aspects of telecommunication.
Competencies:
• Understand transmission lines
• Understand various types of communication methods
• Learn WAN and Broadband technologies
• Learn convergence of data/voice networks and telecommunication policies

BTEC1200   MS Office Essentials  120.00
This course introduces features of Microsoft Office software programs to develop expertise with Word, Excel, and Outlook. It provides valuable skills for technicians to support business objectives.
Competencies:
• Word – Create files, galleries, and documents with Office applications in a detailed working environment.
• Excel – Modify and create spreadsheets utilizing formulas, importing text, and drop down menus in a business setting.
• Outlook – Create calendars, contacts, to-do items and email options with intuitive projects and instruction for office and business situations.

ITEC2400   Industry Certification Prep I  30.00
Students in this course will apply and utilize skills learned in the IT program to prepare for industry certification exams. Students will access additional testing materials and other exam prep, and will be held accountable for the hours spent preparing for the industry certification exam.

ITEC2440   Industry Certification Prep II  30.00
Industry Certification Prep II
Students in this course will apply and utilize skills learned in the IT program to prepare for industry certification exams. Students will access additional testing materials and other exam prep, and will be held accountable for the hours spent preparing for the industry certification exam.

ITEC2420   Industry Certification Prep III  30.00
Students in this course will apply and utilize skills learned in the IT program to prepare for industry certification exams. Students will access additional testing materials and other exam prep, and will be held accountable for the hours spent preparing for the industry certification exam.

ITEC2430   Industry Certification Prep IV  30.00
Students in this course will apply and utilize skills learned in the IT program to prepare for industry certification exams. Students will access additional testing materials and other exam prep, and will be held accountable for the hours spent preparing for the industry certification exam.

ITEC2440   Industry Certification Prep V  30.00
Students in this course will apply and utilize skills learned in the IT program to prepare for industry certification exams. Students will access additional testing materials and other exam prep, and will be held accountable for the hours spent preparing for the industry certification exam.

ITEC2450   Industry Certification Prep VI  30.00
Students in this course will apply and utilize skills learned in the IT program to prepare for industry certification exams. Students will access additional testing materials and other exam prep, and will be held accountable for the hours spent preparing for the industry certification exam.

ITEC2070A   Information Technology Internship/Externship I  30.00
Prepares student for the Information Technology industry by providing professional exposure to the technologies they have learned in the program. This course is intended to be taken at the end of training.
Competencies:
• Student will gain broad, practical, experience directly relating to the coursework they have completed at the college

ITEC2070B   Information Technology Internship/Externship II  30.00
Prepares student for the Information Technology industry by providing professional exposure to the technologies they have learned in the program. This course is intended to be taken at the end of training.
Competencies:
• Student will gain broad, practical, experience directly relating to the coursework they have completed at the college

ITEC2070C   Information Technology Internship/Externship III  30.00
Prepares student for the Information Technology industry by providing professional exposure to the technologies they have learned in the program. This course is intended to be taken at the end of training.
Competencies:
• Student will gain broad, practical, experience directly relating to the coursework they have completed at the college

ITEC2070D   Information Technology Internship/Externship IV  30.00
Prepares student for the Information Technology industry by providing professional exposure to the technologies they have learned in the program. This course is intended to be taken at the end of training.
Competencies:
• Student will gain broad, practical, experience directly relating to the coursework they have completed at the college

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