



## Course Number and Title: ITN 150 IT Networking I

**Campus Location:**

Georgetown, Dover, Stanton, Wilmington

**Effective Date:**

2020-51

**Prerequisite:**

ITN 120, SSC 100 or concurrent

**Co-Requisites:**

None

**Course Credits and Hours:**

3.00 credits

2.00 lecture hours/week

2.00 lab hours/week

**Course Description:**

This course provides the essential knowledge and skills to install, administer, and troubleshoot computer network infrastructures. Students are introduced to computer networking principles and technologies, adhere to computer wiring standards, and use network test equipment and software utilities. Topics include emerging technologies such as unified communications, mobile, cloud, and virtualization technologies. This course prepares students for related industry certifications

**Required Text(s):**

Obtain current textbook information by viewing the [campus bookstore - https://www.dtcc.edu/bookstores](https://www.dtcc.edu/bookstores) online or visit a campus bookstore. Check your course schedule for the course number and section.

**Additional Materials:**

Access to high-speed Internet

**Schedule Type:**

Classroom Course

Video Conferencing

Web Conferencing

Hybrid Course

Online Course

**Disclaimer:**

None

**Core Course Performance Objectives (CCPOs):**

1. Implement a basic network, including network devices, networking services, and applications. (CCC 2, 3, 4, 5; PGC 1, 3, 4, 5)
2. Install, configure, and implement appropriate LAN and WAN technologies. (CCC 2, 3, 5, 6; PGC 1, 3, 4)
3. Install, configure, and implement network security controls. (CCC 2, 3, 5, 6; PGC 1, 3, 4)
4. Troubleshoot and resolve common network issues. (CCC 2,3,5,6; PGC 1,3,4)
5. Implement appropriate network industry standards, practices, and procedures. (CCC 1, 4, 5, 6; PGC 1, 2, 3, 4, 5)

See Core Curriculum Competencies and Program Graduate Competencies at the end of the syllabus. CCPOs are linked to every competency they develop.

### Measurable Performance Objectives (MPOs):

Upon completion of this course, the student will:

1. Implement a basic network, including network devices, networking services, and applications.
  1. Compare and contrast the use of networking services, devices, and applications.
  2. Install and configure networking services, devices, and applications.
  3. Differentiate between common network topologies and infrastructure implementations.
  4. Install and properly terminate various cable types and connectors using appropriate tools.
  5. Implement and configure the appropriate addressing schema (e.g. IP, subnetting).
  6. Explain the basics of switching and routing concepts and protocols.
  7. Compare and contrast technologies that support cloud and virtualization.
  8. Explain the basic elements of unified communication technologies.
2. Install, configure, and implement appropriate LAN and WAN technologies.
  1. Configure switches and routers using proper features.
  2. Use appropriate tools to monitor network traffic, analyze metrics, and report network performance.
  3. Install and configure wireless LAN infrastructure, and implement the appropriate technologies in support of wireless capable devices.
  4. Implement and configure the appropriate network addressing schema.
3. Install, configure, and implement network security controls.
  1. Compare and contrast network risk, vulnerabilities, and threats.
  2. Implement network hardening techniques.
  3. Compare and contrast physical security controls.
  4. Install and configure a basic firewall, virtual private networks (VPNs), and virtual local area networks (VLANs).
  5. Explain the purpose of various network access control models.
  6. Summarize basic forensic concepts.
4. Troubleshoot and resolve common network issues.
  1. Implement a network troubleshooting methodology.
  2. Collect, interpret, and analyze the output of troubleshooting tools.
  3. Troubleshoot and resolve common wireless issues.
  4. Troubleshoot and resolve common media issues (e.g. copper, fiber).
  5. Troubleshoot and resolve common network issues.
  6. Troubleshoot and resolve common security issues.
  7. Troubleshoot and resolve common LAN and WAN issues.
5. Implement appropriate network industry standards, practices, and procedures.
  1. Analyze a scenario, and determine the corresponding model layers (e.g. OSI, TCP/IP).
  2. Deploy appropriate wireless and wired connectivity standards (e.g. BICSI, structured cabling).
  3. Implement the appropriate policies or procedures.
  4. Summarize safety practices.
  5. Install and configure equipment in the appropriate location using best practices.
  6. Explain the basics of change management procedures.
  7. Compare and contrast ports and protocols.
  8. Configure and apply the appropriate ports and protocols.

### Evaluation Criteria/Policies:

Students must demonstrate proficiency on all CCPOs at a minimal 75 percent level to successfully complete the course. The grade will be determined using the Delaware Tech grading system:

92	-	100	=	A
83	-	91	=	B
75	-	82	=	C
0	-	74	=	F

Students should refer to the [Student Handbook - https://www.dtcc.edu/handbook](https://www.dtcc.edu/handbook) for information on the Academic Standing Policy, the Academic Integrity Policy, Student Rights and Responsibilities, and other policies relevant to their academic progress.

### Core Curriculum Competencies (CCCs are the competencies every graduate will develop):

1. Apply clear and effective communication skills.
2. Use critical thinking to solve problems.
3. Collaborate to achieve a common goal.
4. Demonstrate professional and ethical conduct.
5. Use information literacy for effective vocational and/or academic research.
6. Apply quantitative reasoning and/or scientific inquiry to solve practical problems.

**Program Graduate Competencies (PGCs are the competencies every graduate will develop specific to his or her major):**

1. Solve technology-related problems using critical thinking and troubleshooting skills.
2. Articulate the role of the technology professional in organizations to support the ethical use of information technology.
3. Apply fundamental security concepts and strategies for maintaining and securing information technology.
4. Read and interpret technical information and effectively communicate to a wide range of audiences using oral, print, and multimedia strategies.
5. Demonstrate the importance of lifelong learning that empowers personal and professional growth.

**Disabilities Support Statement:**

The College is committed to providing reasonable accommodations for students with disabilities. Students are encouraged to schedule an appointment with the campus Disabilities Support Counselor to request an accommodation needed due to a disability. A listing of campus Disabilities Support Counselors and contact information can be found at the [disabilities services - https://www.dtcc.edu/disabilitysupport](https://www.dtcc.edu/disabilitysupport) web page or visit the campus Advising Center.