



## Course Number and Title: CNE 180 Computer Assembly and Maintenance

**Campus Location:**

Georgetown, Dover, Wilmington

**Effective Date:**

2018-51

**Prerequisite:**

ENG 090 or higher, SSC 100 or concurrent

**Co-Requisites:**

None

**Course Credits and Hours:**

4.00 credits

3.00 lecture hours/week

2.00 lab hours/week

**Course Description:**

This course provides an overview of the personal computer and its components. Students explore and assemble personal computers. An introduction to non-component troubleshooting is included.

**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:**

USB flash drive for lab work and broadband internet access

**Schedule Type:**

Classroom Course

Hybrid Course

Online Course

**Disclaimer:**

None

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

1. Install standard personal computer components. (CCC 2, 4; PGC 2, 3)
2. Maintain, troubleshoot, and repair personal computers. (CCC 2, 4; PGC 1, 2, 5)
3. Install, configure, and maintain select operating systems and software. (CCC 2, 4; PGC 1)
4. Configure and troubleshoot basic personal computer client networks. (CCC 2; PGC 1,2, 3, 5)
5. Identify the most effective security practices to select operating system desktop clients. (CCC 1, 2, 4; PGC 1, 2, 3, 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. 1. Install standard personal computer components.
  1. Select standard storage devices and backup media.
  2. Identify standard motherboard components, including types and features.
  3. Differentiate among standard power supply types and characteristics.
  4. Describe the function and types of standard personal computer adapter cards.
  5. Explain the operation of personal computer cooling methods and devices.
  6. Compare and contrast standard memory types, including their characteristics and purpose.
  7. Distinguish among standard display devices and their characteristics.
  8. Demonstrate installation and configuration of standard personal computer printers.
  9. Explain the purpose and characteristics of personal computer microprocessors.
  10. Demonstrate installation and configuration of standard personal computer peripherals.
  11. Explain installation and configuration of standard personal computer components and features.
2. 2. Maintain, troubleshoot, and repair personal computers.
  1. Explain and interpret common hardware and operating system symptoms and their causes for a given scenario.
  2. Identify and interpret common personal computer and printer problems, and choose the troubleshooting method for a given scenario.
  3. Describe common preventative maintenance techniques for a given scenario.
  4. Demonstrate installation, configuration, and maintenance of personal computer components for a given scenario.
3. 3. Install, configure, and maintain select operating systems and software.
  1. Compare and contrast the most current operating systems, editions, and features.
  2. Explain the process and steps to install and configure an operating system for a given scenario.
  3. Explain the boot sequences and start-up utilities for select operating systems.
  4. Choose the appropriate commands and options to troubleshoot and resolve problems for a given scenario.
  5. Distinguish between the types and features of different operating systems directory structures.
  6. Evaluate and resolve common operating system (OS) issues.
4. 4. Configure and troubleshoot basic personal computer client networks.
  1. Compare and contrast the different network types.
  2. Describe the basics of networking fundamentals, including technologies, devices, and protocols.
  3. Distinguish among the common network cables and connectors and their implementations.
  4. Select appropriate tools to troubleshoot client-side connectivity issues for a given scenario.
5. 5. Identify the most effective security practices to select operating system desktop clients.
  1. Explain the basic principles of personal computer security concepts and technologies.
  2. Describe the security features for wireless encryption, malicious software protection, hardware protection, password management, and biometrics.
  3. Choose the process to remove viruses and malicious software for a given scenario.
  4. Develop a plan to implement personal computer security, and troubleshoot common security issues.

### 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. Apply techniques, skills and usage of modern tools of a Computer Network Engineering Technician.
2. Apply analysis tools and problem-solving methods learned in the mathematics, sciences and electrical/electronics courses to conduct, interpret and analyze experiments.
3. Use critical thinking in the design or improvement of quality systems, components or processes.
4. Employ oral and written communication techniques as an integral member of a multidisciplinary work team.
5. Adhere to professional, ethical, and social issues in a diverse workplace.
6. Perform basic management and leadership skills, which will include time management and organization in the Computer Engineering Technology.

**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.