



## Course Number and Title: CTS 102 - Vehicle Systems and Reporting Malfunctions

**Campus Location:**

Georgetown

**Effective Date:**

2019-51

**Prerequisite:**

ENG 090 or ENG 091, MAT 005, SSC 100 or concurrent

**Co-Requisites:**

None

**Course Credits and Hours:**

2.00 credits

2.00 lecture hours/week

0.00 lab hours/week

**Course Description:**

This course familiarizes the student with tractor-trailer vehicle systems and the proper procedures for handling and reporting vehicle malfunctions.

**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:**

None

**Schedule Type:**

Classroom Course

**Disclaimer:**

None

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

1. Explain the function of key tractor-trailer vehicle systems, including check points, and relate to safe and efficient operation. (CCC 1, 2; PGC 2, 8)
2. Identify common tractor-trailer vehicle malfunctions. (CCC 2; PGC 8)
3. Identify troubleshooting steps necessary to affect diagnosis and repair of the malfunctions. (CCC 2; PGC 2)

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. Explain the function of key tractor-trailer vehicle systems, including checkpoints, and relate to safe and efficient operation.
  1. Identify the location, function, operation, and common failures of the following vehicle components: frames, suspension, and axles; engines; fuel systems, air intake and exhaust systems; lubrication systems; cooling systems; electrical systems; drive trains; brake systems; wheels; rims and tires; steering systems; and coupling systems.
  2. Explain the importance of periodic inspections and authorized maintenance and repairs.
  3. Explain the importance of periodic inspections and repair to prevent enroute breakdowns, longevity of parts, safety, and economy of operation.
  4. Discuss the importance of periodic inspections and maintenance as they relate to longevity of parts, safety, and economy of operation.
2. Identify common tractor-trailer vehicle malfunctions.
  1. Identify the critical inspection points of the vehicle systems, and relate them to the performance of authorized maintenance and repairs.
  2. Identify the inspection, repair, and maintenance regulations of the Federal Motor Carrier Safety Regulations.
  3. Describe emergency repairs to enable a vehicle to reach a maintenance facility.
3. Identify troubleshooting steps necessary to affect diagnosis and repair of the malfunctions.
  1. Discuss appropriate repair procedures under the supervision of qualified and/or authorized personnel.
  2. Perform troubleshooting procedure of simulated mechanical systems failure.

**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.

**Final Course Grade:**

Calculated using the following weighted average

Evaluation Measure	Percentage of final grade
Summative Assessments- 2 quizzes (equally weighted)	50%
Summative Assessment – 1 exam	50%
TOTAL	100%

**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. Operate a tractor-trailer equipped with a multi-range, non-synchronized transmission on the public roadways.
2. Identify mechanical defects in the performance of pre-trip, en route, and post-trip vehicle inspections.
3. Operate a tractor-trailer in reverse through a series of maneuvering exercises accordance to State of Delaware licensing standards.
4. Perform safe coupling and uncoupling of typical tractor-trailer units.
5. Explain safe cargo handling and documentation.
6. Explain safe and legal procedures at an accident scene and proper reporting of accidents.
7. Plan an interstate trip including map reading/route selection, calculating driving time and fuel consumption, estimating distances, personal expenses, and personal needs.
8. Identify, explain and comply with the Federal Motor Carrier Safety Regulations Part 390– 397, 380, 382 and 383.
9. Explain the driver's role in the trucking industry and the role of trucking in our nation's economy and security.
10. Create a professional job search and job retention plan.

**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.