

# Heavy Duty Electrical Circuits

TEDT - 1260 102

## Course Description

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Theory and repair of air conditioning and cab heating systems. Theory and practical experience in basic electrical circuits, principals of magnetism, charging and cranking systems, maintenance, testing, troubleshooting of all electrical applications. Safety will be stressed.

Semester(s) Taught: All

## Course Student Learning Outcomes

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- Demonstrate proficiency in Automotive Service Excellence-Education Foundation (ASE-T6 & T7) Electrical/Electronic Systems Master Medium-Heavy Truck Service Technology (MAST)Tasks in accordance with industry standards.
- General, Battery Service, Starting System, Charging System, and A/C system and controls.

## Engagement Plan

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- I will respond to email within 48 hours. I will offer feedback on major assignments within 24 hours. The best way to contact me is [ddyer7@bruinmail.slcc.edu](mailto:ddyer7@bruinmail.slcc.edu), as I will prioritize this email over other modes of communication.
- We will be meeting every weekday in the classroom of a lecture in class 1.5 -2 hours a day then we will go the lab for practical exercises pertaining to the class lecture. we will be in the lab approximately 3-4 hours daily.

- Lastly, we'll be holding small group Q & A sessions, where we can learn from our peers (and faculty) on some of the more difficult units within the course.

## Keys for Success (how to succeed in the course)

Safety is paramount anyone engaging in unsafe acts that could harm themselves, other students, or the instructors and staff will be removed from the program.

Attendance is key to your success it will be 20 percent of your grade. If you need to take any time off let the instructor know. If you get sick and cannot come to class, be sure to communicate with your instructor. If you miss more than three days consecutively you will be dropped from the class and you will need to reapply for the class. If you miss the first two days you will be dropped from the class. If you decide to leave early without arranging an exception with your instructor, you will be marked absent for the day. If we are in the shop do not leave before concluding the shop exercise for the day or you will be marked absent.

## Required Text or Materials

**Title: Truck Text & CDX Online (2 Year) New 2nd Editions Bundle: Medium/Heavy Duty Commercial Vehicle Systems 2E + 2 Year CDX Online AND Medium/Heavy Duty Diesel Engines 2E + 2 Year CDX Online**

**ISBN:** 9781284274073

**Publisher:** Jones and Bartlett

For more information on textbook accessibility, contact Accessibility & Disability Services at [ads@slcc.edu](mailto:ads@slcc.edu).

## Brief Description of Assignments/Exams

You will have a lecture for 1.5-2 hours a day there will be modules that will need to be completed as homework. These modules are 5 question quizzes and end of chapter tests they will be factored as 20 percent of your grade.

Attendance is 20 percent of your grade.

Lab work will be accompanied with lab sheets or competencies that will be 20 percent of your grade.

Lab final will take place during the last week of class and will be 20 percent of your grade.

Class final exam will be taken the last day of the class, and all work must be completed before the class final unless exceptions have been arranged with your instructor. the lab final is 20 percent of your grade.

## Assignment Schedule

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Due Date	Assignment Name	Assignment Type	Points
	<a href="#">10-1 Quiz</a>	Quiz	5
	<a href="#">10-2 Quiz</a>	Quiz	5
	<a href="#">10-3 Quiz</a>	Quiz	5
	<a href="#">10-4 Quiz</a>	Quiz	5
	<a href="#">10-5 Quiz</a>	Quiz	5
	<a href="#">11-1 Quiz</a>	Quiz	5
	<a href="#">11-2 Quiz</a>	Quiz	5
	<a href="#">11-3 Quiz</a>	Quiz	5
	<a href="#">11-4 Quiz</a>	Quiz	5
	<a href="#">11-5 Quiz</a>	Quiz	5
	<a href="#">11-6 Quiz</a>	Quiz	5
	<a href="#">11-7 Quiz</a>	Quiz	5
	<a href="#">13-1 Quiz</a>	Quiz	5
	<a href="#">13-2 Quiz</a>	Quiz	5
	<a href="#">13-3 Quiz</a>	Quiz	5

Due Date	Assignment Name	Assignment Type	Points
	<a href="#">13-4 Quiz</a>	Quiz	5
	<a href="#">13-5 Quiz</a>	Quiz	5
	<a href="#">13-6 Quiz</a>	Quiz	3
	<a href="#">13-7 Quiz</a>	Quiz	5
	<a href="#">14-1 Quiz</a>	Quiz	5
	<a href="#">14-2 Quiz</a>	Quiz	5
	<a href="#">14-3 Quiz</a>	Quiz	5
	<a href="#">14-4 Quiz</a>	Quiz	5
	<a href="#">14-5 Quiz</a>	Quiz	5
	<a href="#">15-1 Quiz</a>	Quiz	5
	<a href="#">15-2 Quiz</a>	Quiz	5
	<a href="#">15-3 Quiz</a>	Quiz	5
	<a href="#">15-4 Quiz</a>	Quiz	5
	<a href="#">15-5 Quiz</a>	Quiz	5
	<a href="#">15-6 Quiz</a>	Quiz	5
	<a href="#">16-1 Quiz</a>	Quiz	5
	<a href="#">16-2 Quiz</a>	Quiz	5
	<a href="#">16-3 Quiz</a>	Quiz	5
	<a href="#">16-4 Quiz</a>	Quiz	5
	<a href="#">16-5 Quiz</a>	Quiz	5
	<a href="#">58-1 Quiz</a>	Quiz	5
	<a href="#">58-10 Quiz</a>	Quiz	5

Due Date	Assignment Name	Assignment Type	Points
	<a href="#">58-11 Quiz</a>	Quiz	5
	<a href="#">58-12 Quiz</a>	Quiz	5
	<a href="#">58-2 Quiz</a>	Quiz	5
	<a href="#">58-3 Quiz</a>	Quiz	5
	<a href="#">58-4 Quiz</a>	Quiz	5
	<a href="#">58-5 Quiz</a>	Quiz	5
	<a href="#">58-6 Quiz</a>	Quiz	5
	<a href="#">58-7 Quiz</a>	Quiz	5
	<a href="#">58-8 Quiz</a>	Quiz	5
	<a href="#">58-9 Quiz</a>	Quiz	5
	<a href="#">8-1 Quiz</a>	Quiz	5
	<a href="#">8-2 Quiz</a>	Quiz	5
	<a href="#">8-3 Quiz</a>	Quiz	5
	<a href="#">8-4 Quiz</a>	Quiz	5
	<a href="#">8-5 Quiz</a>	Quiz	5
	<a href="#">Chapter 10 Pretest</a>	Quiz	0
	<a href="#">Chapter 10 Test</a>	Quiz	25
	<a href="#">Chapter 11 Pretest</a>	Quiz	0
	<a href="#">Chapter 11 Test</a>	Quiz	25
	<a href="#">Chapter 13 Pretest</a>	Quiz	0
	<a href="#">Chapter 13 Test</a>	Quiz	25
	<a href="#">Chapter 14 Pretest</a>	Quiz	0

Due Date	Assignment Name	Assignment Type	Points
	<a href="#">Chapter 14 Test</a>	Quiz	25
	<a href="#">Chapter 15 End of Chapter Questions</a>	Quiz	0
	<a href="#">Chapter 15 Pretest</a>	Quiz	0
	<a href="#">Chapter 15 Test</a>	Quiz	25
	<a href="#">Chapter 16 End of Chapter Questions</a>	Quiz	0
	<a href="#">Chapter 16 Pretest</a>	Quiz	0
	<a href="#">Chapter 16 Test</a>	Quiz	25
	<a href="#">Chapter 58 End of Chapter Questions</a>	Quiz	0
	<a href="#">Chapter 58 Pretest</a>	Quiz	0
	<a href="#">Chapter 58 Test</a>	Quiz	25
	<a href="#">Chapter 8 Test</a>	Quiz	25
	<a href="#">Final Exam</a>	Quiz	40
	<a href="#">Final Lab</a>	Assignment	18
	<a href="#">Introduce Yourself</a>	Discussion	0
	<a href="#">Introduce Yourself</a>	Discussion	0
	<a href="#">Introduce Yourself</a>	Discussion	0
	<a href="#">Introduce Yourself</a>	Discussion	0
	<a href="#">Introduce Yourself</a>	Discussion	0

Due Date	Assignment Name	Assignment Type	Points
	<a href="#">MHT6A006 - Perform A/C system performance test; determine needed action.</a>	Assignment	100
	<a href="#">MHT6B003 - Inspect A/C condenser for airflow restrictions; determine needed action.</a>	Assignment	100
	<a href="#">MHT6C001 - Inspect engine cooling system and heater system hoses and pipes; determine needed action.</a>	Assignment	100
	<a href="#">Module 1: Shop Exam 1</a>	Assignment	10
	<a href="#">Module 7: Shop Activity 3</a>	Assignment	10
	<a href="#">Module 8: Shop Activity 5</a>	Assignment	10
	<a href="#">Roll Call Attendance</a>	Assignment	100

Due Date	Assignment Name	Assignment Type	Points
	<a href="#">Tasksheet</a> <a href="#">MHT5A002:</a> <a href="#">Demonstrate</a> <a href="#">knowledge of</a> <a href="#">electrical/electronic</a> <a href="#">series, parallel, and</a> <a href="#">series-parallel circuits</a> <a href="#">using principles of</a> <a href="#">electricity (Ohm's</a> <a href="#">Law).</a>	Assignment	10
	<a href="#">Tasksheet</a> <a href="#">MHT5A003:</a> <a href="#">Demonstrate proper</a> <a href="#">use of test</a> <a href="#">equipment when</a> <a href="#">measuring source</a> <a href="#">voltage, voltage</a> <a href="#">drop (including</a> <a href="#">grounds), current</a> <a href="#">flow, continuity, and</a> <a href="#">resistance.</a>	Assignment	10
	<a href="#">Tasksheet</a> <a href="#">MHT5A004:</a> <a href="#">Demonstrate</a> <a href="#">knowledge of the</a> <a href="#">causes and effects</a> <a href="#">of shorts, grounds,</a> <a href="#">opens, and</a> <a href="#">resistance problems</a> <a href="#">in</a> <a href="#">electrical/electronic</a> <a href="#">circuits; identify and</a> <a href="#">locate faults in</a> <a href="#">electrical/electronic</a> <a href="#">circuits.</a>	Assignment	10



Due Date	Assignment Name	Assignment Type	Points
	<a href="#">Tasksheet</a> <a href="#">MHT5A007: Demonstrate knowledge of the function, operation, and testing of fusible links, circuit breakers, relays, solenoids, diodes, and fuses; perform inspection and testing; determine needed action.</a>	Assignment	10
	<a href="#">Tasksheet</a> <a href="#">MHT5E001: Diagnose causes of brighter-than-normal, intermittent, dim, or no-light operation; determine needed action.</a>	Assignment	10
	<a href="#">Tasksheet</a> <a href="#">MHT5E003: Inspect cables, wires, and connectors in the lighting systems.</a>	Assignment	10

Due Date	Assignment Name	Assignment Type	Points
	<a href="#">Tasksheet</a> <a href="#">MHT5E005: Diagnose faults in switches, relays, bulbs/LEDs, wires, terminals, connectors, sockets, and control components/modules of exterior lighting systems; determine needed action.</a>	Assignment	10
	<a href="#">Tasksheet</a> <a href="#">MHT5E006: Diagnose faults in switches, relays, bulbs/LEDs, wires, terminals, connectors, sockets, and control components/modules of interior lighting systems; determine needed action.</a>	Assignment	10
	<a href="#">Tasksheet</a> <a href="#">MHT5E007: Diagnose faults in switches, relays, bulbs/LEDs, wires, terminals, connectors, sockets, and control components/modules of auxiliary lighting circuits; determine needed action.</a>	Assignment	10

Due Date	Assignment Name	Assignment Type	Points
	<a href="#">Tasksheet</a> <a href="#">MHT6A002: Identify heating, ventilation, and air conditioning (HVAC) components and configuration.</a>	Assignment	10

## Grading Scale

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A 100% - 85%

B 84% - 70%

E less than 70%

## How to Navigate to Canvas

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## Institutional Policies

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As members of our academic community, we would like to invite you to review the Institutional Syllabus which covers important policies and procedures. This document contains important links for students on the code of student rights and responsibilities, academic integrity, and grading policies, Title IX and other important acknowledgements. By familiarizing yourself with this information, you can help us create a safe and respectful environment for everyone.

For more information, navigate to the Institutional Policies tab on the [Institutional Syllabus](#) page.

## Learning Support and Tutoring Services

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We are pleased to offer a range of tutoring and learning support services to help you achieve your academic goals. Whether you need assistance with a specific subject or want to improve your study skills, you have many options for tutoring or other support.

To learn more about the services we offer and how to access them, visit the [Institutional Syllabus](#) page under the Tutoring and Learning Support tab. We encourage you to take advantage of these resources to help you succeed in your studies. If you have any questions or would like to schedule a tutoring session, please don't hesitate to reach out to us. We are here to support you in any way we can.

## [Advising and Counseling Support Services](#)

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At our institution, we are committed to supporting your academic and personal growth. That's why we offer a range of advising and counseling services to help you navigate the challenges of college life. To learn more about the resources available to you and how to access them, visit the [Institutional Syllabus](#) page under the Advising and Counseling Support Services tab. Our advising team and the support centers across campus are here to support you in achieving your goals and overcoming any obstacles you may face.

## [Student Academic Calendar](#)

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As students you should be aware of all important dates in the semester, such as the day that courses begin and end, as well as the drop date and the last day to withdraw. To learn more about those dates, navigate to the Student Academic Calendar below:

[SLCC Student Academic Calendar](#)