Engine & Emission Controls I

AUTO2280 001

Instructor Information

[redacted]
Phone: [redacted]
Email: [redacted]
Office Location: [redacted]
Office Hours
Class Hours [redacted]

Consultation days [redacted]
Best Time to Contact: Please know that Your Success is important to me however if the Consult hours/days are not convenient, please contact me for a time we can mutually connect with.
[redacted]

Course Description

This ASE-EF accredited course is the study of automotive engine control and emission related systems. Students demonstrate their proficiency in engine performance, computer control system diagnosis, testing and repair of fuel delivery, air induction, and emission systems components. This lecture/lab course is part 1 of a 2-part course. It is recommended that students take AUTO 2285 in the same semester as this course.

Prerequisite(s): AUTO 2260, with concurrency
Semester(s): All

This ASE-EF accredited course is the advanced study of automotive electrical and electronic systems. This class ties how the electrical system and how mechanical engine functions, affect vehicle tailpipe emissions. Students demonstrate their proficiency in the diagnosis, repair, and introduction to reprogramming of system control modules within modern automotive electrical systems using advanced electronic and computer testing

equipment. This lecture/lab course is part 2 of a 3-part course. It is recommended that students take AUTO 2280 and AUTO 2285 in the same semester as this course. Prerequisite(s): AUTO 2160Semester(s): All

This ASE-EF accredited course is the advanced study of automotive electrical and electronic systems. Students demonstrate their proficiency in the diagnosis, repair, and introduction to programming strategies of system control modules used in modern automotive electrical systems using and the utilization of advanced electronic and computer testing equipment. This lecture/lab course is part 2 of a 3-part course. It is recommended that students take AUTO 2280 and AUTO 2285 in the same semester as this course.

Course Student Learning Outcomes

- Demonstrate proficiency in Master Automobile Service Technology (ASE-EF) Engine Performance Master Automobile Service Technician (MAST) Tasks in accordance with industry standards.
- Assigned lab work to complete in a professional manner, by working in teams in automotive labs that emulate industry automotive shops.

Course Prerequisites

Prerequisites to this course are prior completion of:

TEAU 1010 (Maintenance & Light Repair)

TEAU 1050 (Intro to Auto Service)

TEAU 1100 (Engine Repair 1)

TEAU 1210 (Engine Repair 2)

TEAU 1160 (Electrical & Electronics 1)

TEAU 2160 (Electrical & Electronics 2) **courses with a passing grade of C or better. Semester: Fall & Spring.**

Students are also required to obtain and remain current in SP2/TPC Fusion certifications in:

Automotive Service, Automotive Service Pollution, ALI Lift it Right

These Certifications must remain **current during the semester.**

SP2 Certifications are valid for 1 year from date of issue. If you require a new certification, please notify your instructor for an invitation too the login site.

Students may also be required to do a safety equipment search assignment to learn locations and procedures to follow in case of emergency.

Communication Plan

All course communications will be done through CANVAS Announcements. These messages show up in the upper right of your CANVAS course menu as you log into the course.

If you need to communicate with me, use my email [redacted] or within your CANVAS page, Click on the People tab at the left of the CANVAS home page and select my name, then click on the envelope icon upper right of the screen to send me a message.

I read my email messages @ 30 minutes before the start of class and often after the class has ended after the noon hour.

SLCC Emergency Alerts will be sent via phone number listed a time of registration or you can Click **HERE** to download the SLCC Emergency Alert app to your phone for text messaging. College Closure messages are often sent through this method.

Keys for Success (how to succeed in the course)

1. Obtain and study classroom and shop text.

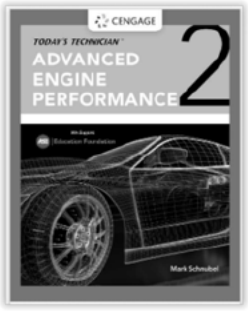
2. Attend Lecture and Lab as scheduled.
3. Complete the reading as assigned.
4. Take notes and participate in theory discussions, lab demonstrations, CANVAS and lab assignments including live work.

5. Complete Lab assignments within specified timeframe listed on CANVAS.
6. Bring your own tools.
7. Please ask questions if you have them!
8. Best Advice... Use Your lab time wisely!

Course Resources:

Within your CANVAS course, you will find a module entitled Course Resources... This module grows each year as I discover new information and websites to provide you with resources to assist your educational experience and automotive database of information... If you have an open source or pay site you would like to see here, please let me know!

Required Text or Materials



Title: Today's Technician: Advanced Engine Performance (MindTap Platform) Will also include Shop Manual
ISBN: 13: 9781305967373
Authors: Mark Schnubel
Publisher: Cengage Publishing
Publication Date: 2018
Edition: 2nd Edition

For more information on textbook accessibility, contact Accessibility & Disability Services at ads@slcc.edu.

Assignment Schedule

Due Date	Assignment Name	Assignment Type	Points
	Applying Ohm's Law Mind Tap	Assignment	20
	Checking for Codes and Monitor Status Mind Tap	Assignment	20
	Chrysler SKIS and VTSS Immobilizer CANVAS Assignment	Quiz	30
	End of Chapter 1 Quiz	Quiz	26
	End of Chapter 2 Quiz	Quiz	38
	End of Chapter 3 Quiz	Quiz	82
	End of Chapter 4 Quiz	Quiz	72
	End of Chapter 5 Quiz	Quiz	130
	GM PASSLOCK Immobilizer CANVAS Assignment	Quiz	32
	Hands On Lab Packet Unit 2	Assignment	100
	Hands On Lab Packet Unit 3	Assignment	160
	Honda Immobilizer Systems CANVAS Assignment	Quiz	10
	Lift it Right Certification	Assignment	100
	PICO Scope Relative Compression Testing. CANVAS Assignment	Assignment	20

Due Date	Assignment Name	Assignment Type	Points
	Reading Wiring Diagrams Mind Tap	Assignment	20
	Roll Call Attendance	Assignment	100
	SP2 Automotive Service Pollution Prevention Certification	Assignment	100
	SP2 Automotive Service Safety Certification	Assignment	100
	Syllabus/Requirements Acknowledgement	Quiz	10
	Testing BCM Power and Ground Circuits Mind Tap	Assignment	20
	Testing For Opens Mind Tap	Assignment	20
	Testing For Shorts Mind Tap	Assignment	20
	Testing Relays Mind Tap	Assignment	20
	Testing Switches Mind Tap	Assignment	20
	Using an Ohmmeter Mind Tap	Assignment	20
	Using Ohm's Law Mind Tap	Assignment	20
	Using the Voltmeter Mind Tap	Assignment	20

Due Date	Assignment Name	Assignment Type	Points
10/3	Unit 1 Test Chapters 1 - 2	Quiz	80
10/10	Unit 2 Test Chapter 3	Quiz	70
10/15	Unit 3 Test Chapter 4	Quiz	84
10/24	Unit 4 Test Chapter 5	Quiz	113
10/30	Final Written Examination	Quiz	210
11/1	Faux final examination	Quiz	0
11/11	VECI Label Assignment/Quiz CANVAS	Quiz	45

Brief Description of Assignments/Exams

Each chapter in the Classroom Text includes multiple choice questions relevant to the reading assignment. The student will answer **only the multiple-choice questions found in CANVAS** assigned to each chapter. **Answers for these questions come directly from your reading NOT from internet sources such as Wiki.** Points will be awarded for every correct answer.

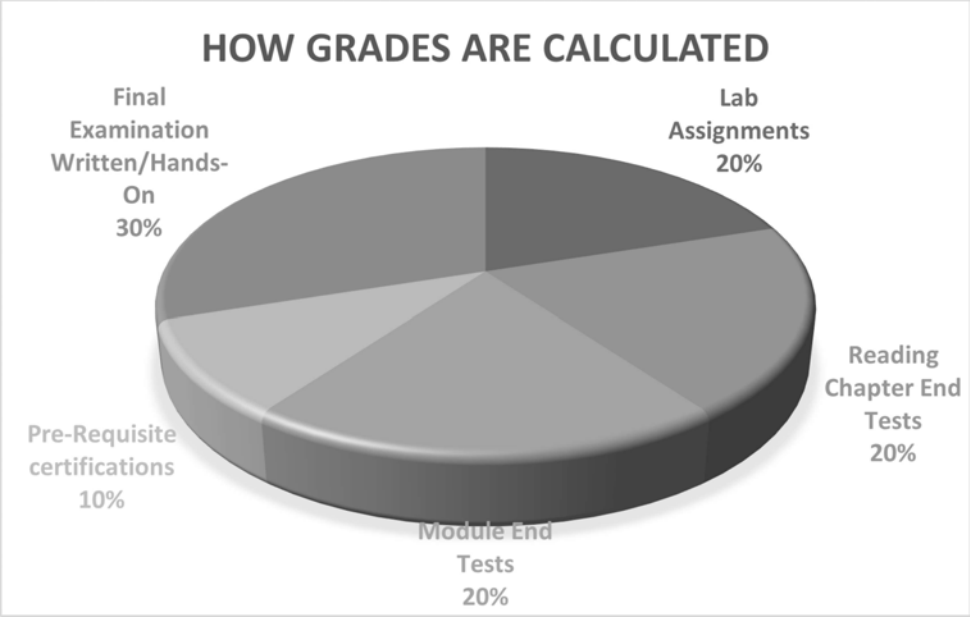
ALL required Chapter AND Unit/Lab Assignments/Links and Due Dates are listed in CANVAS and CANVAS Calendar and Not within CENGAGE and are also found in the assignment calendar that accompanies the syllabus. These tests questions/answers will not be accepted late for full credit unless excused in writing by the instructor, and will after be subject to 1/2 credit at instructor's discretion.

Lab assignments will consist of: ASE-EF task sheets and may also consist of live work when available. At the discretion of the instructor, **Lab assignments may consist of NO**

MORE THAN 2 students per team AND HANDS-ON Lab Assignments are to be done within the SLCC automotive lab. As part of the ASE-EF foundations requirements, EACH STUDENT in the team is required to have hands on experience with each task and is to record the findings and record research in his/her own words the outcome of the assignment or research document where later students will be required to demonstrate these proficiencies in a HANDS-ON Final Examination. ASE-EF task sheets may also require instructors signature verifying assignment has been completed to required standard. Students are to turn in individual assignment sheets when completed, and do their own work.

ASE-EF Task sheets may also consist solely of data research for a given subject. EACH student is asked to complete these RESEARCH Assignments on their own as a technician you will spend many hours in industry researching Service & Repair, Specifications etc. to complete your repair tasks to specific manufacturer requirements. Each student has access to 3 sources of Service Information which can be found on www.SLCC.edu/All Access... Mitchell, Alldata and Identifix resources can be also used or viewed off campus and completed from home if desired.

Grading Scale



To pass this course, an overall grade of C (74% or greater) is required as per the SLCC institutional grading system.

Reading and Chapter End Tests: are 20% of your overall grade to assure you can understand and identify core concepts as they apply to theory, emissions law, and systems operation. I allow multiple attempts to score your highest and you will also find book pages outlining the content of the question located in the “Wrong Answer Box” at the bottom of the CANVAS quiz question.

Lab Assignments: are 20% of your grade to assure you gain hands on competency on the removal, replacement, testing and to assure you can apply and implement manufacturers service procedures.

Maintaining your Prerequisite Certifications: is/are 10% of your grade as they are required to keep you functioning in the latest personal safety, vehicle lifting standards and environmental waste handling procedures. Certifications are required by the department, no exceptions.

Module End Testing: is 20% of your overall grade to assure you in blending the reading and lecture concepts together for better understanding and critical thinking. REMEMBER!!! I allow students to use their handwritten notes on Module End Tests ONLY so Please Take Lecture Notes!!!

I also open all module end testing for you to study for your final examination and this also includes the option to find book pages outlining the content of the question in the wrong answer box.

Final Examination(s): This testing is graded at 30% of your overall grade and is necessary to solidify the core and proficiency concepts to your critical thinking skills. Your final exam will consist of a written test and a hands-on competency test.

** **Please Note**** that all CANVAS assignments, Written and Lab assignments are due on **Wednesday October 30th** however if you experience problems in completing by the due date, please contact me before the end of the term to see what we can work out.

How to Navigate to Canvas

Institutional Policies

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.

You can access the document by clicking on the following link: https://slcc.instructure.com/courses/530981/pages/institutional-syllabus

Learning Support and Tutoring Services

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, please visit the Institutional Syllabus under the Tutoring and Learning Support tab: https://slcc.instructure.com/courses/530981/pages/institutional-syllabus. 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

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, please visit the Institutional Syllabus under the Advising and Counseling Support Services tab: https://slcc.instructure.com/courses/530981/pages/institutional-syllabus. 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

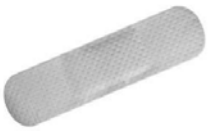
As students you should be aware of all important dates in the semester, such as the day that courses begin and end, as well as the drop date and the last day to withdraw. To learn more about those dates, navigate to the Student Academic Calendar below:

SLCC Student Academic Calendar

Additional Policies

Safety:

Regarding any/all activities held in the lab, safety is of the utmost consideration at all times. Any action which endangers the well-being of any person or of the environment, such as horseplay, the use or improper disposal of hazardous materials will not be tolerated and may result in dismissal from the Program. SAFETY GLASSES AND FACE MASKS ARE REQUIRED FOR ALL LAB WORK. NO EXCEPTIONS! FAILURE TO WEAR SAFETY GLASSES IN THE LAB WILL RESULT IN REMOVAL FROM LAB UNTIL COMPLIANCE.



SAFETY GLASSES AND FACE MASKS ARE REQUIRED FOR ALL LAB WORK. NO EXCEPTIONS! FAILURE TO WEAR SAFETY GLASSES IN THE LAB WILL RESULT IN REMOVAL FROM LAB UNTIL COMPLIANCE.

Shop Clean-Up:

Participation in lab cleanup projects is mandatory, although it is best to clean up as you go. Failure to participate in the end of term lab cleanup project will result in a grade reduction.

Tool Requirements:

The student is required to have the minimum tool requirement as indicated by the department tool list. Personal tools, may be stored at SLCC however is done so at the student's own risk and any tools or boxes left in lab storage areas or open labs longer than 9 months will be considered abandoned and will be sent to the Campus Lost and Found where if still

not claimed within timeframe, will be shipped to the SLCC surplus to be auctioned or donated at college discretion.

SLCC and its employees are not responsible for lost or stolen tools. For a listing of auto program required tools, see SLCC Automotive page or click this link

Uniform Requirements:

Students are to wear appropriate shop clothing and foot wear during all lab activities. Long pants, a uniform style shirt, closed toed shoes and safety glasses. SLCC has shop work shirts which may be purchased at the campus Parts Store for a nominal fee.

Parking & Vehicle Storage:

Please see http://www.slcc.edu/parking/parking-regulations.aspx (Links to an external site.)

- All personal vehicles must be licensed and insured to be on campus and/or brought into labs.
- Parking permit is not required on Miller Campus however, please park in designated areas only. Parking permits can be purchased on-line at http://www.slcc.edu/parking/parking-permits/index.aspx (Links to an external site.) Parking permits are issued by your license plate.
- Personal Vehicles left in the parking lot more than 15 days may be towed and/or be subject to impound and fees at the owner's expense.
- Students driving on campus are expected to observe the same rules of the road as if on a public road or highway.

Lockers:

Lockers are also available in the common areas by each restroom (both floors of the MATC building) on a first come first serve basis. You will need to bring your own lock and lockers should be promptly cleaned out at the end of the Fall/Spring Semester or Facilities will remove the lock and clean out the lockers FOR YOU! Use these at your own risk.

Lab Usage & Lab Requirements:

Students may utilize personal vehicles for lab assignments where applicable. Lab Assignments are performed **in lab** and under the supervision of the instructor or designated lab personnel. For the safety of our students, lab vehicles and shop equipment, students must be present for pertinent lecture and/or must demonstrate the necessary safety, knowledge & skills to perform the individual lab assignment before being allowed to do so. This course is an accelerated course and it may be difficult to make up lab days if missed as some lab assignments are staged hours before the class begins and may need be taken down to accommodate the next class. Class Attendance is paramount.

Please note that the SLCC Automotive labs are to be used for the instruction of the student's current course discipline and is important to realize this course is not intended to promote a hobby shop environment. Students wishing to perform lab work on their personal vehicles MUST have a repair order for that vehicle and a signed disclaimer by the student or owner of the vehicle before work or testing is to be performed and all work must be authorized by instructor before work is performed.

SLCC Automotive Labs are not to be used for any personal or professional financial gain. Students abusing this privilege will be referred to the dean of students for academic review.

SLCC has a limited number of lab vehicles available for students to perform lab assignments. These vehicles may be used at the instructors discretion for chosen assignments. NOTE SLCC LAB VEHICLES ARE NOT TO BE DRIVEN ON PUBLIC ROADS.

Proper vehicle handling procedures must also be observed. This includes but is not limited to:

- Respect of customers vehicle
- Cleanliness
- Use of fender covers
- Correct vehicle lifting procedures
- Correct wiring terminal probing procedures
- While on campus, a valid driver's license is required to drive any vehicle on campus or operate any SLCC vehicle within any lab or parking venue.

- ALL Students shall show proper respect for vehicles, tools and other property and persons and shall follow the guidelines of the SLCC Code of Student Rights and Responsibilities.

Additional Items:

Please note that from time to time, changes to the Syllabus are made to comply with SLCC and/or department policies. Should such changes be made, students will be notified by CANVAS announcement.

Don't Forget to do the Syllabus Acknowledgement! Click on the assignment and check the required box!!