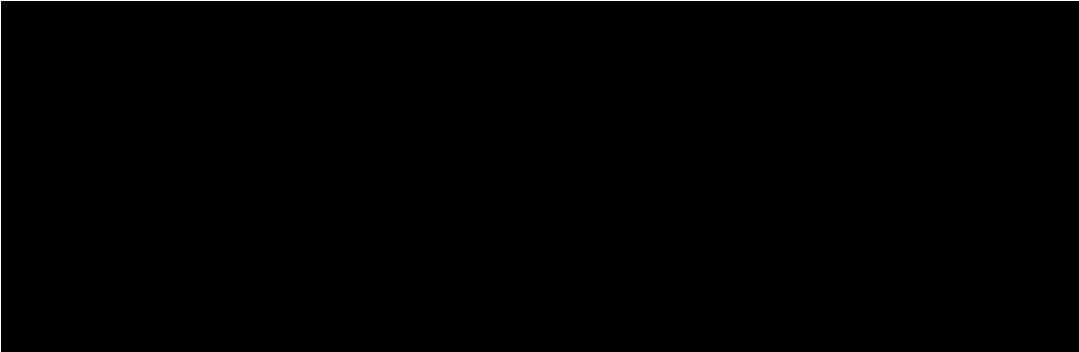


Automotive Engine Repair II

TEAU1210 251

Instructor Information



Course Description

This ASE-EF accredited course continues the study of automotive engine systems. Students demonstrate their proficiency in the diagnosis, repair, and rebuilding procedures of modern automotive engines. This lecture/lab course is part 2 of a 2-part course. It is recommended that students take TEAU 1050, TEAU 1150, TEAU 1140, TEAU 1160, TEAU 1240, TEAU 1250, and TEAU 1270 in the same semester as this course.

Prerequisite(s): TEAU 1100 and TEAU 1010 (with concurrency)

Course Student Learning Outcomes

- Demonstrate proficiency in ASE-EF Engine Repair Master Automotive Service Technician (MAST) Tasks in accordance with industry standards.
- General Engine Diagnosis.
- Cylinder Head and Valvetrain Diagnosis and Repair.
- Engine Block Assembly Diagnosis and Repair.
- Lubrication and Cooling System Diagnosis and Repair.

Course Prerequisites

1. AUTO 1010, 1150, 1100, 1140,1150 and 1160 WITH A PASSING GRADE (74% or Greater). Students may be required to present academic transcript to enroll in this course.
2. COMPLETION AND CURRENT SP2 Automotive Service Safety AND Automotive Service Pollution Prevention certification. Fall Registration for 2022 will require Lift It Right Certifications also.

Communication Plan

Example language:

- I will respond to email within daily. I will offer feedback on major assignments within 48 hrs.. The best way to contact me is via the Canvas Inbox, as I will prioritize this email over other modes of communication.
- In this course I will be posting interactive announcements which will offer specific opportunities for class questions and extra credit every other week.
- Additionally, I will be participating in the discussion forums with you to share my perspective within the discipline and to offer some nuances of interpretation that may not be present in your textbook.
- 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)

To prepare the student to succeed in this class: Obtain classroom text, attend Lecture and Lab as scheduled, complete the reading as assigned, take notes and participate in theory discussions, lab demonstrations, CANVAS and lab assignments including live work. Lab assignments are to be completed within specified timeframe listed on CANVAS. Best Advice... Use Your lab time wisely!

Brief Description of Assignments/Exams

Course Requirements

Exams

- There will be one exam per chapter worth up to 30 points per chapter (13) totaling 387 points
 - Each exam will be administered online through the Canvas and Cengage portals
 - Each exam will be available the day the chapter is reviewed in lecture and will be open until the end of the following Sunday at 12:59 midnight
 - Two attempts will be offered with the highest score being counted.
 - A time limit of 45 minutes for each attempt
 - Exams are to be closed book format (honor system)
 - Each attempt will have question order shuffled
 - Each student will have questions in a unique order
 - No make up exams after due dates
-
- Final Written exam worth 200 points
 - Final Lab exam worth 180 points

Major Assignments

Each chapter will have its related sections as listed below. These assignments are required in order to achieve the learning objectives of the course.

- Multiple-choice and True-False questions (124 points possible)
- Fill-in-the-blank questions (125 points possible)
- Labeling activities (283 points possible)
- Videos with related questions (218 points possible)
- ASE style questions and ASE Challenge questions (190 points possible)

- Photo Sequencing instruction with questions (204 points possible)
- ASE Job Sheets (125 points possible)
- Manifold Vacuum Test Worksheet (9+ points)
- Compression Test Worksheet (9+ points)
- Cooling Systems Analysis Worksheet (9+ points)
- Cylinder Leakage Test Worksheet (9+ points)
- Engine Power Balance Worksheet (9+ points)
- Lubrication Systems Worksheet (9+ points)
- Relative Cranking Compression Worksheet (9+ points)
- Cranking Intake Pressure Testing Worksheet (9+ points)
- In-Cylinder Pressure Testing Worksheet (9+ points)

Engine Project

An engine rebuilding project with all related measuring and related analysis will be a major part of lab grade with 200 points. The GM 2.2 L engine overhaul worksheets must be completed as scheduled by the instructor and cannot be made up. An absence during this lab activity will result in a substantial score reduction of up to 30 points per day of absence. Three or more absences during the GM 2.2 L engine rebuilding exercise will result in the student not achieving a passing grade for the course. All attempts should be made to attend the lab during this project. Engines are expected to start and run at end of project period.

Preparation

To prepare the student to succeed in this class: Attend class as scheduled, complete the reading as assigned and participate in the theory discussions, lab demonstrations, lab assignments, and live work. Teacher Tip: Often times it is advisable to prepare chapters the weekend prior to the discussion in order to not be overwhelmed during the week.

Lab Requirement (Attendance and Safety)

The lab is an integral part of this class and attendance is required. It will allow the student to apply the theory, diagnostic and repair strategies discussed in the classroom. Attendance provides time to learn necessary skills for the workplace and fulfill ASE lab time related to ASE Certification criteria.

Regarding any activities held in the lab, safety is of the utmost consideration at all times. Failure to demonstrate the ability to maintain safe working conditions under every circumstance will result in a failing grade and dismissal from the Program. Any action which endangers the well being of any person or of the environment, such as improper disposal of hazardous materials, will not be tolerated. Any student engaged in such activity will bear full responsibility for the consequences, and receive a failing grade and dismissal from the Program. SAFETY GLASSES ARE REQUIRED FOR ALL LAB WORK. NO EXCEPTIONS! FAILURE TO WEAR SAFETY GLASSES IN THE LAB WILL RESULT IN A GRADE REDUCTION. CHRONIC NON COMPLIANCE WILL RESULT IN DISMISSAL. Participation in lab cleanup projects is mandatory. Failure to participate in the end of term lab cleanup project will result in a failing grade.

Tool Requirement

The student is required to have the minimum tool requirement as indicated by the department tool list. Failure to have the required tools will result in a grade reduction of at least one full grade and inability to participate / complete engine rebuilding project. Tools are stored at the student's risk. SLCC and its employees are not responsible for lost or stolen tools. Although theft is unlikely, you may still want to provide a locked box for your tools. Teacher tip: You may not want to spend a lot of money on an expensive tool box at the early stages of your career but rather invest in good quality tools. You will have the opportunity to discuss tool options throughout the class. Often times tool vendors will present large tool cost savings as incentive to purchase from that respective vendor. Visit preferred tool vendor's web site for Student Discounts. A registration with school information is often necessary for "Student Discounts".

Uniform Requirement

Students are to wear industry approved clothing during all lab activities. Industry approved clothing consists of long pants, a uniform style shirt, closed shoes and safety glasses. During the Covid-19 emergency pandemic, Face Covering is mandatory during lecture and lab activities as described in a previous section. See the SLCC Covid-19 webpage for more details.

Attendance and Participation

Attendance is a critical part of the class in order to meet ASE hour requirements, at the recommendation of potential employers, and because lab work is performed on customer vehicles. It is the student's responsibility to attend all learning activities as scheduled. To achieve a grade of A, a student must be present a minimum of 90% of the time. For a grade of B, the student must be present a minimum of 80% of the time, etc. As an example, a student with 4 or more absences will not be awarded a grade higher than a B regardless of total points earned. 7 or more absences will not be awarded a passing grade. 3 Late arrivals will be considered the equivalent of 1 full absence. Attendance will be recorded daily at the beginning of class and at the end of class. It is the student's responsibility to notify the instructor of late arrivals at the earliest possible time that will not disrupt the class that day. Absences will not be changed to late arrivals after the class is dismissed for that day. A student must be present for a minimum of 70% of the class for an absence to be changed to a late arrival. Student's sleeping in class will be considered absent and the attendance record will reflect an absence accordingly. There are no excused absences or late arrivals. Perfect attendance will be awarded a 2.5% grade bonus.

Electronic Devices

Use of cell phones is not allowed in the classroom unless for textbook purposes. If you are expecting an emergency call, place your cell phone on silent notification, and take the call outside of the classroom. Text messaging is heavily discouraged in the classroom or lab at all times. No music is allowed in classroom or lab.

Use of laptop computers and tablets in the classroom is restricted to reading and taking notes relevant to the discussion and Cengage activities.

Assignment Schedule

Due Date	Assignment Name	Assignment Type	Points
	ASE Education Foundation Job Sheet 10: Using an Outside Micrometer - RST Tools 5	Assignment	0
	ASE Education Foundation Job Sheet 14: Engine Component Identification	Assignment	0
	ASE Education Foundation Job Sheet 23: Oil Pressure Testing - AST/MAST I.D.9 (P-1)	Assignment	0
	ASE Education Foundation Job Sheet 28: Diagnosing Cooling System Leaks - MLR I.A.3 (P-1), I.C.1 (P-1); AST/MAST I.A.4 (P-1), I.D.1 (P-1)	Assignment	0
	ASE Education Foundation Job Sheet 32: Engine Belt and System Inspection - MLR I.C.2 (P-1); AST/MAST I.D.3 (P-1)	Assignment	10

Due Date	Assignment Name	Assignment Type	Points
	ASE Education Foundation Job Sheet 34: Using a Scan Tool to Retrieve Engine Codes	Assignment	0
	ASE Education Foundation Job Sheet 36: Analyzing Spark Plugs and Performing a Power Balance Test - MLR VIII.A.3 (P-2); AST/MAST VIII.A.6 (P-2); VIII.C.4 (P-1)	Assignment	0
	ASE Education Foundation Job Sheet 38: Performing Compression Tests - MLR VIII.A.4 (P-2); AST/MAST VIII.A.7 (P-1)	Assignment	0
	ASE Education Foundation Job Sheet 39: Performing a Running Compression Test - MLR VIII.A.4 (P-2); AST/MAST VIII.A.7 (P-1)	Assignment	0
	ASE Education Foundation Job Sheet 40: Performing a Cylinder Leakage Test - MLR VIII.A.5 (P-2); AST/MAST VIII.A.8 (P-1)	Assignment	0

Due Date	Assignment Name	Assignment Type	Points
	ASE Education Foundation Job Sheet 46: Diagnosing Vacuum Leaks - MLR VIII.A.2 (P-2); AST VIII.A.5 (P-1), VIII.D.5 (P-2); MAST VIII.A.5 (P-1), VIII.D.6 (P-2)	Assignment	0
	ASE Education Foundation Job Sheet 67: Checking and Adjusting Valve Clearance - MLR I.B.1 (P-3); AST/MAST I.B.4 (P-1)	Assignment	0
	ASE Education Foundation Job Sheet 69: Inspecting, Removing, and Replacing a Timing Chain or Belt - MLR I.A.5 (P-2); AST/MAST I.A.6 (P-1)	Assignment	0
	ASE Education Foundation Job Sheet 70: Inspecting the Variable Valvetrain Timing Components - AST/MAST I.B.5 (P-1)	Assignment	0

Due Date	Assignment Name	Assignment Type	Points
	ASE Education Foundation Job Sheet 73: DOHC Variable Valve Timing - AST/MAST I.B.6 (P-1)	Assignment	0
	ASE Education Foundation Job Sheet 8: Reading Dial Calipers - RST Tools 5	Assignment	0
	ASE Education Foundation Job Sheet 9: Reading a Dial Indicator - RST Tools 5	Assignment	0
	Chapter 1 ASE Challenge Questions	Assignment	5
	Chapter 1 ASE-Style Review Questions	Assignment	10
	Chapter 1 Fill-in-the- Blank Questions	Assignment	5
	Chapter 1 Multiple- Choice and True- False Questions	Assignment	10
	Chapter 10 ASE Challenge Questions	Assignment	5
	Chapter 10 ASE-Style Review Questions	Assignment	10
	Chapter 10 Multiple- Choice and True- False Questions	Assignment	10

Due Date	Assignment Name	Assignment Type	Points
	Chapter 10 Video 1 and Questions	Assignment	4
	Chapter 10 Video 1 and Questions (Shop)	Assignment	4
	Chapter 10 Video 2 and Questions	Assignment	4
	Chapter 10 Video 2 and Questions (Shop)	Assignment	4
	Chapter 11 ASE Challenge Questions	Assignment	5
	Chapter 11 ASE-Style Review Questions	Assignment	10
	Chapter 11 Multiple-Choice and True-False Questions	Assignment	10
	Chapter 11 Video 1 and Questions	Assignment	4
	Chapter 12 ASE Challenge Questions	Assignment	5
	Chapter 12 ASE-Style Review Questions	Assignment	10
	Chapter 12 Multiple-Choice and True-False Questions	Assignment	10
	Chapter 12 Video 1 and Questions	Assignment	4
	Chapter 12 Video 1 and Questions (Shop)	Assignment	4

Due Date	Assignment Name	Assignment Type	Points
	Chapter 12 Video 2 and Questions	Assignment	4
	Chapter 12 Video 3 and Questions	Assignment	4
	Chapter 13 ASE Challenge Questions	Assignment	5
	Chapter 13 ASE-Style Review Questions	Assignment	10
	Chapter 13 Multiple-Choice and True-False Questions	Assignment	10
	Chapter 13 Video 1 and Questions	Assignment	4
	Chapter 13 Video 1 and Questions (Shop)	Assignment	4
	Chapter 13 Video 2 and Questions	Assignment	4
	Chapter 13 Video 2 and Questions (Shop)	Assignment	4
	Chapter 2 ASE-Style Review Questions	Assignment	10
	Chapter 2 Fill-in-the-Blank Questions	Assignment	10
	Chapter 2 Multiple-Choice and True-False Questions	Assignment	10
	Chapter 3 ASE Challenge Questions	Assignment	5

Due Date	Assignment Name	Assignment Type	Points
	Chapter 3 ASE-Style Review Questions	Assignment	10
	Chapter 3 Multiple-Choice and True-False Questions	Assignment	10
	Chapter 4 ASE Challenge Questions	Assignment	5
	Chapter 4 ASE-Style Review Questions	Assignment	10
	Chapter 4 Multiple-Choice and True-False Questions	Assignment	10
	Chapter 4 Video 1 and Questions	Assignment	4
	Chapter 4 Video 2 and Questions	Assignment	4
	Chapter 4 Video 3 and Questions	Assignment	4
	Chapter 4 Video and Questions	Assignment	4
	Chapter 5 ASE Challenge Questions	Assignment	5
	Chapter 5 ASE-Style Review Questions	Assignment	10
	Chapter 5 Multiple-Choice and True-False Questions	Assignment	4
	Chapter 6 ASE Challenge Questions	Assignment	5

Due Date	Assignment Name	Assignment Type	Points
	Chapter 6 ASE-Style Review Questions	Assignment	10
	Chapter 6 Labeling Activity 2	Assignment	4
	Chapter 6 Multiple-Choice and True-False Questions	Assignment	10
	Chapter 6 Video 1 and Questions	Assignment	4
	Chapter 6 Video 1 and Questions (Shop)	Assignment	4
	Chapter 6 Video 2 and Questions	Assignment	4
	Chapter 6 Video 2 and Questions (Shop)	Assignment	4
	Chapter 6 Video 3 and Questions	Assignment	4
	Chapter 6 Video 3 and Questions (Shop)	Assignment	4
	Chapter 7 ASE Challenge Questions	Assignment	5
	Chapter 7 ASE-Style Review Questions	Assignment	10
	Chapter 7 Multiple-Choice and True-False Questions	Assignment	10
	Chapter 8 ASE Challenge Questions	Assignment	5

Due Date	Assignment Name	Assignment Type	Points
	Chapter 8 ASE-Style Review Questions	Assignment	10
	Chapter 8 Multiple-Choice and True-False Questions	Assignment	10
	Chapter 8 Video 1 and Questions	Assignment	4
	Chapter 8 Video 2 and Questions	Assignment	4
	Chapter 8 Video 3 and Questions	Assignment	4
	Chapter 9 ASE Challenge Questions	Assignment	5
	Chapter 9 ASE-Style Review Questions	Assignment	10
	Chapter 9 Multiple-Choice and True-False Questions	Assignment	10
	CL-1919 Basic Electricity Prequiz	Quiz	
	CL-1919 Basic Electricity Prequiz	Quiz	0
	Compression Test Worksheet	Assignment	0
	Cylinder Leakage Test Worksheet	Assignment	0
	Engine Power Balance Worksheet	Assignment	0

Due Date	Assignment Name	Assignment Type	Points
	Engine Rebuilding Project	Assignment	200
	Hands On Final	Assignment	185
	Introduce Yourself	Discussion	0
	Lab Attendance	Assignment	300
	Manifold Vacuum Test Worksheet	Assignment	0
	Module 1: Automotive Chemicals 101	Assignment	0
	Module 1: Caring for Your Tools and Equipment	Assignment	0
	Module 2: Automotive Fluids 101	Assignment	0
	Module 2: Hand Tools vs. Power Tools	Assignment	0
	Roll Call Attendance	Assignment	100
	Shop clean up day	Assignment	20
	Spring 2022 Course Evaluations	Assignment	20

Grading Scale

- Exams 387 points
- Multiple-Choice and True-False question 124 points
- Fill-in-the-blank questions 125 points
- Labeling activities 283 points

- Videos with questions 218 points
- ASE style and challenge questions 190 points
- Photo Sequencing activities with questions 204 points
- ASE Job Sheets 125 points

Lab Activities:

- Engine rebuilding project 200 points

Attendance 99 points

Lab Clean Up Mandatory 20 points

Hands on Final Exam 150 points

Final Written Exam 03/05/21 200 points

Total Points Possible: Approx. 2500

GRADE CALCULATION

A 93% - 100% C+ 77% - 79% A- 90% - 92% C 70% - 76% B+ 87% - 89% D 60% - 69% B
83% - 86% F below 60% B- 80% - 82%

Other factors affecting the grade that the student earns (Problems in these areas will result in a grade reduction):

1. Failure to wear safety glasses
2. Unsafe activities
3. Failure to wear required industry standard clothing (PPE) in the classroom and lab

4. Failure to conduct oneself in a professional manner as determined by the instructor
5. Failure to have the minimum tool requirement each day
6. Not contributing in the classroom
7. Attendance

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](#)