AT R121: ASE TECHNICIAN CERTIFICATION

Originator
ptrujillo

College
Oxnard College

Discipline (CB01A)
AT - Automotive Technology

Course Number (CB01B)
R121

Course Title (CB02)
ASE Technician Certification

Banner/Short Title
ASE Technician Certification

Credit Type
Credit

Start Term
Spring 2023

Formerly
AT R020 - ASE Mechanics Certification

Catalog Course Description
This course is offered to assist employed mechanics and automotive technology students in preparing for the ASE (Automotive Service Excellence) certification examinations. This course will cover nine specific test areas: engine repair, electrical/electronic systems, heating and air conditioning, brakes, suspension and steering, automatic transmission/transaxle, manual drive train and axles, engine performance, and advanced engine performance specialist.

Taxonomy of Programs (TOP) Code (CB03)
0948.00 - *Automotive Technology

Course Credit Status (CB04)
D (Credit - Degree Applicable)

Course Transfer Status (CB05) (select one only)
B (Transferable to CSU only)

Course Basic Skills Status (CB08)
N - The Course is Not a Basic Skills Course

SAM Priority Code (CB09)
C - Clearly Occupational

Course Cooperative Work Experience Education Status (CB10)
N - Is Not Part of a Cooperative Work Experience Education Program

Course Classification Status (CB11)
Y - Credit Course

Educational Assistance Class Instruction (Approved Special Class) (CB13)
N - The Course is Not an Approved Special Class

Course Prior to Transfer Level (CB21)
Y - Not Applicable

Course Noncredit Category (CB22)
Y - Credit Course

Funding Agency Category (CB23)
Y - Not Applicable (Funding Not Used)

Course Program Status (CB24)
2 - Not Program Applicable

General Education Status (CB25)
Y - Not Applicable

Support Course Status (CB26)
N - Course is not a support course

Field trips
May be required

Grading method
(L) Letter Graded

Alternate grading methods
(E) Credit by exam, license, etc.

Does this course require an instructional materials fee?
No

Repeatable for Credit
No

Is this course part of a family?
No

Units and Hours

Carnegie Unit Override
No

In-Class

Lecture
Minimum Contact/In-Class Lecture Hours
52.5
Maximum Contact/In-Class Lecture Hours
52.5

Activity

Laboratory

Total in-Class

Total in-Class
Total Minimum Contact/In-Class Hours
52.5
Total Maximum Contact/In-Class Hours
52.5

Outside-of-Class

Internship/Cooperative Work Experience

Paid

Unpaid

Total Outside-of-Class

Total Outside-of-Class
Minimum Outside-of-Class Hours
105
Maximum Outside-of-Class Hours
105

Total Student Learning

Total Student Learning
Total Minimum Student Learning Hours
157.5
Total Maximum Student Learning Hours
157.5

Minimum Units (CB07)
3
Maximum Units (CB06)
3

Advisories on Recommended Preparation
Employment in the automotive industry or an automotive major

Student Learning Outcomes (CSLOs)

	Upon satisfactory completion of the course, students will be able to:
1	Analyze and correctly answer automotive service excellence (Mechanic A / Mechanic B) style questions.
2	Understand the learning management system.
3	Recognize test taking strategies.
4	Comprehend the common vehicle subsystems.

Course Objectives

	Upon satisfactory completion of the course, students will be able to:
1	Demonstrate mastery of content specified on ASE (Automotive Service Excellence) Certification Tests in their area or areas of expertise.
2	Understand automotive terms and test procedures.
3	Become familiar with proper ASE test taking techniques such as time management, properly evaluating all answer choices to each question, and arriving to the exam early and properly rested to enhance cognitive function.

Course Content

Lecture/Course Content

1. Engine Repair
   a. Valve train, cylinder head, and block assemblies
   b. Lubrication, and cooling systems
   c. Measurements of mechanical parts
2. Electrical/Electronic Systems

a. Batteries, starters, and charging systems
b. Lighting, signal, and other system circuits
c. Electrical test equipment
d. Ignition systems

3. Heating and Air Conditioning
   a. Air conditioning Freon systems
   b. Heating systems and ventilating controls
   c. Dash controls for heating and air conditioning
4. Brakes
   a. Disc, drum, and parking brake systems
   b. Power assist and hydraulic systems
   c. Lathe work
   d. Anti-lock brake systems
5. Suspension and Steering
   a. Manual and power steering systems
   b. Suspension systems
   c. Alignment
   d. Wheels and tires
6. Automatic Transmission/Transaxle
   a. Mechanical controls and linkages
   b. Hydraulic and mechanical systems
   c. Computer electrical controls
7. Manual Drive Train and Axle
   a. Manual transmissions
   b. Clutches
   c. Front and rear wheel drive axle systems
8. Engine Performance
   a. Oscilloscope and scan tools
   b. Exhaust analyzer and emission control
   c. Fuel and ignition systems
   d. Battery, starter, and charging systems
9. Advanced Engine Performance Specialist
   a. Engine computer outputs
   b. Engine computer sensors
   c. Fuel injection systems
   d. Scan tools and test methods for engine computer systems

Laboratory or Activity Content

None

Methods of Evaluation

Which of these methods will students use to demonstrate proficiency in the subject matter of this course? (Check all that apply):

Written expression
Problem solving exercises
Skills demonstrations

Methods of Evaluation may include, but are not limited to, the following typical classroom assessment techniques/required assignments (check as many as are deemed appropriate):

Individual projects
Objective exams
Quizzes
Skills demonstrations
Skills tests or practical examinations

Instructional Methodology

Specify the methods of instruction that may be employed in this course

Audio-visual presentations
Case studies
Class discussions

Distance Education
Guest speakers
Lecture

Describe specific examples of the methods the instructor will use:

1. Lecture on ASE exam content and test taking strategies and techniques.
2. Analyze practice tests similar to ASE Certification Tests
3. Review in texts, automotive computer information systems, and handouts
4. Review diagnostic repair procedures considered standard in the industry
5. Discussion of study skills and test taking skills

Representative Course Assignments

Writing Assignments

1. Students will be required to perform written responses to assigned ASE practice tests commensurate with what is expected to achieve competency on the ASE certification exams

Critical Thinking Assignments

1. Identify types of questions being asked.
2. Strategies for process of elimination of incorrect answers.
3. Determine absolutes in sentence structure.
4. Determine most correct answer, if not always correct.

Reading Assignments

1. Students will be required to perform review of respective automotive textbook curriculum in areas where students have tested subpar on the ASE certification practice exams.
2. Students will be required to do outside reading at assigned internet sites to review content that is so new on the certification exam that it is not available from the respective automotive textbooks.

Skills Demonstrations

1. Understanding sub components of various vehicle systems.
2. Identify root cause of vehicle failures.
3. Test subsystems to correct values.

Outside Assignments

Representative Outside Assignments

1. Students will be required to perform review of respective automotive textbook curriculum in areas where students have tested subpar on the ASE certification practice exams.
2. Students will be required to do outside reading at assigned internet sites to review content that is so new on the certification exam that it is not available from the respective automotive textbooks.
3. Students will be required to perform written responses to assigned ASE practice tests commensurate with what is expected to achieve competency on the ASE certification exams.

District General Education

A. Natural Sciences

B. Social and Behavioral Sciences

C. Humanities

D. Language and Rationality

E. Health and Physical Education/Kinesiology

F. Ethnic Studies/Gender Studies

CSU GE-Breadth

Area A: English Language Communication and Critical Thinking

Area B: Scientific Inquiry and Quantitative Reasoning

Area C: Arts and Humanities

Area D: Social Sciences

Area E: Lifelong Learning and Self-Development

Area F: Ethnic Studies

CSU Graduation Requirement in U.S. History, Constitution and American Ideals:

IGETC

Area 1: English Communication

Area 2A: Mathematical Concepts & Quantitative Reasoning

Area 3: Arts and Humanities

Area 4: Social and Behavioral Sciences

Area 5: Physical and Biological Sciences

Area 6: Languages Other than English (LOTE)

Textbooks and Lab Manuals

Resource Type
Textbook

Classic Textbook
No

Description
Halderman, James (2018). ASE Test Prep & Study Guide (2nd/e). Pearson Prentice Hall.

Resource Type
Other Instructional Materials

Description
Alldata computer software with ASE practice tests (updated quarterly).

Library Resources

Sufficient Library Resources exist

Yes

Distance Education Addendum

Definitions

Distance Education Modalities

Hybrid (1%–50% online)
Hybrid (51%–99% online)
100% online

Faculty Certifications

Faculty assigned to teach Hybrid or Fully Online sections of this course will receive training in how to satisfy the Federal and state regulations governing regular effective/substantive contact for distance education. The training will include common elements in the district-supported learning management system (LMS), online teaching methods, regular effective/substantive contact, and best practices.

Yes

Faculty assigned to teach Hybrid or Fully Online sections of this course will meet with the EAC Alternate Media Specialist to ensure that the course content meets the required Federal and state accessibility standards for access by students with disabilities. Common areas for discussion include accessibility of PDF files, images, captioning of videos, Power Point presentations, math and scientific notation, and ensuring the use of style mark-up in Word documents.

Yes

Regular Effective/Substantive Contact

Hybrid (1%–50% online) Modality:

Method of Instruction	Document typical activities or assignments for each method of instruction
Asynchronous Dialog (e.g., discussion board)	Regular use of asynchronous discussion boards encourages various types of interaction and critical thinking skills among all course participants. Questions and topics posed will allow students to discuss, compare and contrast, identify, and analyze elements of the course outcomes. Other discussion boards may be used for Q&A and general class discussion by students and instructor to facilitate student success and strengthen student learning outcomes.
E-mail	E-mail, class announcements and various learning management system tools such as “Message Students Who” and “Assignment Comments”, will be used to regularly communicate with all students on matters such as clarification of class content, reminders of upcoming assignments and/or course responsibilities, to provide prompt feedback to students on coursework to facilitate student learning outcomes, or to increase the role of an individual educator in the academic lives of a student. Students will be given multiple ways to email instructor through both the learning management system inbox and faculty provided email accounts.
Face to Face (by student request; cannot be required)	Students will have direct face-to-face contact with instructor during weekly class meetings. This time will provide the opportunity for students to discuss and ask questions about the material to facilitate student learning objectives and course outcomes. The instructor will also hold weekly, scheduled office hours for students to be able to meet and discuss course materials or individual progress. Students can request additional in-person or web conferencing meetings with faculty member as needed. Faculty may encourage online students to form “study groups” in person or online. Note: For hybrid classes, face-to-face class time will provide opportunities for students to discuss amongst themselves (in groups or pairs) and ask questions about the material to facilitate SLOs and course outcomes.

Other DE (e.g., recorded lectures)	Faculty may use a variety of ADA compliant tools and media integrated within the learning management system to help students reach SLO competency. Tools may include: o Recorded Lectures, Narrated Slides, Screencasts o Instructor created content o VC Online Library Resources o Canvas Peer Review Tool o Canvas Student Groups (Assignments, Discussions) o 3rd Party (Publisher) Tools (MyOpenMath) o Websites and Blogs o Multimedia (YouTube, Films on Demand, 3CMedia, Khan Academy, etc.)
Synchronous Dialog (e.g., online chat)	Instructor may provide a set time each week where they will be available for synchronous chat and be available in the discussion board and can answer questions in live time.
Video Conferencing	Video tools such as ConferZoom can be used to provide live synchronous or asynchronous sessions with students. ADA compliance will be upheld with Closed Captioning during the session or of the recorded session. Video Conferences will be used to facilitate SLOs and student-to-student group meetings will also be encouraged.

Hybrid (51%–99% online) Modality:

Method of Instruction	**Document typical activities or assignments for each method of instruction**
Asynchronous Dialog (e.g., discussion board)	Regular use of asynchronous discussion boards encourages various types of interaction and critical thinking skills among all course participants. Questions and topics posed will allow students to discuss, compare and contrast, identify, and analyze elements of the course outcomes. Other discussion boards may be used for Q&A and general class discussion by students and instructor to facilitate student success and strengthen student learning outcomes.
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100% online Modality:

Method of Instruction	Document typical activities or assignments for each method of instruction
Asynchronous Dialog (e.g., discussion board)	Regular use of asynchronous discussion boards encourages various types of interaction and critical thinking skills among all course participants. Questions and topics posed will allow students to discuss, compare and contrast, identify, and analyze elements of the course outcomes. Other discussion boards may be used for Q&A and general class discussion by students and instructor to facilitate student success and strengthen student learning outcomes.
E-mail	E-mail, class announcements and various learning management system tools such as “Message Students Who” and “Assignment Comments”, will be used to regularly communicate with all students on matters such as clarification of class content, reminders of upcoming assignments and/or course responsibilities, to provide prompt feedback to students on coursework to facilitate student learning outcomes, or to increase the role of an individual educator in the academic lives of a student. Students will be given multiple ways to email instructor through both the learning management system inbox and faculty provided email accounts.
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Telephone	Students can request for instructor to call or vice versa in order to answer one-on-one questions about course material or student progress.

Examinations

Hybrid (1%–50% online) Modality

On campus
Online

Hybrid (51%–99% online) Modality

On campus
Online

Primary Minimum Qualification

AUTOMOTIVE TECHNOLOGY

Review and Approval Dates

Department Chair

MM/DD/YYYY

Dean
MM/DD/YYYY

Technical Review
MM/DD/YYYY

Curriculum Committee
MM/DD/YYYY

DTRW-I
MM/DD/YYYY

Curriculum Committee
MM/DD/YYYY

Board
MM/DD/YYYY

CCCCO
MM/DD/YYYY

Control Number
CCC000611493

DOE/accreditation approval date
MM/DD/YYYY