



ILLINOIS VALLEY COMMUNITY COLLEGE

COURSE OUTLINE

DIVISION: Workforce Development

COURSE: ATO 2290 Automotive Certification

Date: Spring 2022

Credit Hours: 1

Complete all that apply or mark "None" where appropriate:

Prerequisite(s): ATO 1210, 1220, 1240, 1250, 1260, 2200, 2210, 2220, 2230

Enrollment by assessment or other measure? Yes No

If yes, please describe:

Corequisite(s): None

Pre- or Corequisite(s): None

Consent of Instructor: Yes No

Delivery Method: **Lecture** **1 Contact Hours** (1 contact = 1 credit hour)
 Seminar **0 Contact Hours** (1 contact = 1 credit hour)
 Lab **0 Contact Hours** (2-3 contact = 1 credit hour)
 Clinical **0 Contact Hours** (3 contact = 1 credit hour)
 Online
 Blended
 Virtual Class Meeting (VCM)

Offered: **Fall** **Spring** **Summer**

CATALOG DESCRIPTION and IAI NUMBER (if applicable):

This lecture course is designed to assist the advanced automotive student or the experienced automotive technician who is preparing to take the ASE (Automotive Service Excellence) certification exams.

ACCREDITATION STATEMENTS AND COURSE NOTES:

The Automotive Technology program at Illinois Valley Community College is a ASE Education Foundation Master Certified Automotive Technology Program.

The program goes through an on-site evaluation every five years and the ASE Education Foundation tasks that are taught in this course are also updated every five years to align with any changes made by the ASE Education Foundation national automotive advisory council.

COURSE TOPICS AND CONTENT REQUIREMENTS:

I. Test Taking Techniques

A. Rules for taking an ASE Certification Exam.

1. Read the directions twice
2. Underline the important words in the directions.
3. Every question has one right answer and three wrong answers.
4. Read each question and ALL of the possible answers.
5. Answer the question based ONLY on the choices given.
6. Don't try to "read into" the question or add information that is not provided
7. Skip difficult questions and come back to them later.
8. Do not spend too much time on any one question.
9. Do not rush through the questions frantically.
10. Look for action words
11. Answer every question, don't leave any answers blank.
12. ASE test scores are based on the number of right answers you provide.
13. A question left unanswered is scored as wrong, so there is no penalty for guessing.

B. State-of-Mind for taking the Exam.

1. Do not be afraid of the exam.
2. Try not to be nervous, this can lead to a state of confusion.
3. Look at the exam as a challenge
4. Arrive at the test facility one half-hour prior to the time the test begins.
5. Relax and Clear your mind before the testing begins

C. Reviewing Vs. Cramming

1. Reviewing
 - a. A final organized and consolidation of material or course work.
 - b. Establishes order and continuity between parts and subject matter.
2. Cramming
 - a. A futile attempt to memorize a great deal of material at the last minute.
 - b. Shortsighted and superficial work.

INSTRUCTIONAL METHODS:

1. Lecture
2. Videos
3. Powerpoint Presentations
4. Class Discussions
5. Practice Exams

EVALUATION OF STUDENT ACHIEVEMENT:

1. Complete classroom assignments
2. Complete "ASE Challenge" practice exams for all eight areas
3. Attendance
4. Attitude
5. Class Participation

INSTRUCTIONAL MATERIALS:

Textbooks

Knowles, Don. Automotive Technician Certification Test Preparation Manual.
5th Edition, Cengage Learning, 2021.

Resources

ASE Website

LEARNING OUTCOMES AND GOALS:

Institutional Learning Outcomes

- 1) Communication – to communicate effectively;
- 2) Inquiry – to apply critical, logical, creative, aesthetic, or quantitative analytical reasoning to formulate a judgement or conclusion;
- 3) Social Consciousness – to understand what it means to be a socially conscious person, locally and globally;
- 4) Responsibility – to recognize how personal choices affect self and society.

Course Outcomes and Competencies

Upon completion of the course, the student will be able to:

1. Understand the basic rules for taking an objective exam.
2. Be able to identify "action words" on a written examination.
3. Explain the correct procedure for answering true-false questions.
4. Explain the correct procedure for answering multiple choice questions.
5. Explain the correct procedure for answering Technician A - Technician B questions.
6. Explain the correct procedure for answering direct or completion questions.
7. Explain the correct procedure for answering except or least likely questions.
8. Show a competency of at least 70% on the following ASE Engine Repair Test Areas
 - A. General Engine Diagnosis
 - B. Cylinder Head and Valve Train Diagnosis and Repair.
 - C. Engine Block Diagnosis and Repair
 - D. Lubrication and Cooling System Diagnosis and Repair
 - E. Fuel, Electrical, Ignition and Exhaust System Inspection and Service
9. Show a competency of at least 70% on the following ASE Automatic Transmission /Transaxle Test Areas.
 - A. General Transmission/Transaxle Diagnosis
 1. Mechanical/Hydraulic Systems
 2. Electronic Systems
 - B. In-Vehicle Transmission/Transaxle Maintenance and Repair.
 - C. Off-Vehicle Transmission/Transaxle Repair
 1. Removal and Installation
 2. Disassembly and Reassembly

3. Friction and Reaction Units
10. Show a competency of at least 70% on the following ASE Manual Drive Train and Axle Test Areas.
 - A. Clutch Diagnosis and Repair
 - B. Transmission Diagnosis and Repair
 - C. Transaxle Diagnosis and Repair
 - D. Drive Shaft, Half Shaft and Universal Joint/Constant Velocity (CV) Joint Diagnosis and Repair (Front and Rear Wheel Drive).
 - E. Rear Wheel Drive Axle Diagnosis and Repair
 - F. Four-Wheel Drive/All-Wheel Drive Component Diagnosis and Repair.
 11. Show a competency of at least 70% on the following ASE Suspension and Steering Test Areas.
 - A. Steering Systems Diagnosis and Repair
 1. Steering Columns
 2. Steering Units
 3. Steering Linkage
 - B. Suspension Systems Diagnosis and Repair
 1. Front Suspensions
 2. Rear Suspensions
 - C. Wheel Alignment Diagnosis, Adjustment and Repair
 - D. Wheel and Tire Diagnosis and Repair
 12. Show a competency of at least 70% on the following ASE Braking System Areas.
 - A. Hydraulic System Diagnosis and Repair
 1. Master Cylinder
 2. Lines and Hoses
 3. Valves and Switches
 4. Bleeding, Flushing and Leak Testing
 - B. Drum Brake Diagnosis and Repair
 - C. Disc Brake Diagnosis and Repair
 - D. Power Assist Units Diagnosis and Repair
 - E. Miscellaneous System Diagnosis and Repair
 - F. Electronic Brake Control Systems - Anti-Lock Brake Systems (ABS), Traction Control Systems (TCS), and Electronic Stability Control System (ESC) Diagnosis and Repair.
 13. Show a competency of at least 70% on the following ASE Electrical System Test Areas.
 - A. General Electrical/Electronic System Diagnosis
 - B. Battery and Starting System Diagnosis and Repair
 - C. Charging System Diagnosis and Repair
 - D. Lighting System Diagnosis and Repair
 - E. Instrument Cluster and Driver Information Systems Diagnosis and Repair
 - F. Body Electrical System Diagnosis and Repair
 14. Show a competency of at least 70% on the following ASE Heating and Air Conditioning Test Areas.
 - A. Heating, Ventilation, A/C (HVAC) and Engine Cooling System Service, Diagnosis and Repair
 - B. Refrigeration System Component Diagnosis and Repair
 - D. Operating Systems and Related Controls Diagnosis and Repair

15. Show a competency of at least 70% on the following ASE Engine Performance Test Areas.
- A. General Diagnosis
 - B. Ignition System Diagnosis and Repair
 - C. Fuel, Air Induction and Exhaust Systems Diagnosis and Repair
 - D. Emission Control Systems Diagnosis and Repair (Including OBDII)
 - 1. Positive Crankcase Ventilation
 - 2. Exhaust Gas Recirculation
 - 3. Secondary Air Injection (AIR) and Catalytic Converter
 - 4. Evaporative Emission Systems
 - E. Computerized Engine Controls Diagnosis and Repair (Including OBDII)