

Hybrid and/or Battery Electric Vehicle (BEV) Systems Diagnostics

Class

AUMT 2307

An advanced study of hybrid and/or battery electric vehicles (BEV) and the unique characteristics of hybrid and/or BEV systems. Includes hybrid and/or BEV safety procedures, diagnosis, and repair of hybrid and/or BEV systems. May be taught manufacturer-specific.

STUDENT BEHAVIOR/CLASSROOM DECORUM: Students are encouraged to discuss, inquire, and express their thoughts and views during class. Classroom behavior that interferes with either the instructor's ability to conduct the class or the ability of students to benefit from the instruction is not acceptable. Students are required to turn off all cell phones or similar electronic devices (or place them on silent mode) before coming into the classroom. The instructor reserves the right to assign no credit for work on that day if a student talks or texts on a cell phone or similar electronic device. The classroom is not a place for children, and students are not to bring their family members into the classroom.

NETIQUETTE POLICY: This term is used to describe accepted, proper behavior on the Internet. Remember the following when communicating online (messages, discussion board, etc.):

- Never post profanity, racist, or sexist messages
- Be respectful of fellow students and instructors
- Never insult any person or their message content
- Never plagiarize or publish intellectual property
- Do not use text messaging abbreviations or slang
- Do not type in all CAPS (this is considered online yelling)

PROGRAM DRESS CODE:

Your appearance in the program must model industry expectations on a daily basis. The entire dress code will be covered during safety training. The following items are the minimum requirements for this course:

1. Belt, if required, to hold your pants up; should not have a metal buckle
2. No loose-fitting clothing
3. No wallet chains, keys, cell phone holders
4. Remove jewelry
5. Tie long hair back or keep it under a shop-type cap
6. Appropriate work boots/shoes are recommended

If you are caught without safety glasses, you will lose your daily points for the day as your first warning (you will not be allowed in the shop). On the second warning, you will be dismissed from class for that day. On the third warning, you will have to report to the Dean to discuss why you are not complying with this important safety rule.

Course Length

16, 8, and 5 week term offerings

Format for Delivery

F-2-F

Course Learning Objectives

Students successfully completing this course will be able to use hybrid and/or BEV safety procedures, explain the operation of hybrid and/or BEV vehicles, and diagnose and repair hybrid and/or BEV systems.

Required Textbooks

Today's Technician: Basic Automotive Service and Systems, Classroom Manual and Shop Manual 6th edition

By Chris Hadfield, John Witthauer

E-book included with Cengage Unlimited subscription, required for all AUMT courses.

COPYRIGHT POLICY: Unless a student has obtained permission from the copyright holder, it is a violation of Copyright Law to print or photocopy chapters from a textbook that the student did not purchase. If the course requires the use of an electronic textbook, a student must look for a statement that allows for photocopying and/or printing of the eTextbook.

Evaluation Standards

Student success is measured by assessment techniques aligned to course goals and learning outcomes. A variety of techniques may be used, including but not limited to objective exams, written reports, performance charts, portfolios, oral presentations or demonstrations, and group projects. Individual faculty members are responsible for designing evaluation instruments to measure student mastery of course goals and learning outcomes and for indicating the nature of such instruments in the instructor's class requirements.

ASSESSMENT MEASURES

1. Quizzes, including pop quizzes
2. Written tests, including a final exam
3. Performance evaluations applicable to hands-on tasks
4. Homework assignments
5. Modules assigned as classwork
6. Lab sheets assigned as classwork
7. Supplemental evaluation including, but not limited to, participation/attendance

Written Tests: Acceptable written evaluations shall be completed with a minimum score of; 80% or higher. Safety-related written tests may require a higher score for mastery, and curriculum-specified best practices will be followed.

Performance Evaluations: Acceptable and safe completion of performance evaluations will be determined by the instructor according to accepted industry standards and the specified criteria. Performance evaluations meeting minimum industry standards will earn a grade of 70% (C or Satisfactory). Those exceeding "minimum" acceptance standards may earn higher grades subject to the instructors' approval. Students not meeting minimum acceptance standards must repeat each unacceptable performance evaluation until minimum skills are achieved. Students unable to meet minimum acceptance standards may be assigned an "F" grade for any incomplete competencies. However, all specified competencies **MUST** be completed to receive credit for this course and any incomplete competencies may result in an "F" in the course.

Supplemental evaluations may include safe practices, student participation, quizzes, time management, workplace skills, and other instructor specified content.

GRADING REQUIREMENTS:

30% Labsheet assignment completion

25% Skills test including final skills test

20% Written tests, including a final exam

10% Quizzes, including pop quizzes

5% Assignments, including e-learning modules, review questions, etc.

5% Participation in class and lab (affected by absences)

5% Properly following safety procedures and proper clean up of lab area

Drop Date

If you intend to withdraw from the course or resign from the college, you must initiate the action by logging into Coyote Connect. The instructor will not withdraw you automatically.

Absences

ATTENDANCE POLICY: It is the student's responsibility to maintain regular contact with instructors. Class attendance is the responsibility of the student. All students must be officially enrolled in any course that they attend. It is expected that students attend all classes and be on time. If an absence occurs, it is the responsibility of the student to make up examinations, obtain lecture notes, and otherwise compensate for what may have been missed. Students who stop attending class and do not officially drop, withdraw, or resign from the college may receive a grade of "F" for all coursework missed. Absences affect performance in this course and do not reflect well on participation. No student may substitute the attendance of another student.

Students should frequently check Canvas (Learning Management System) for notifications and updates to the course. Students are expected to use the online resources provided by WC to:

1. Track course assignments and progress
2. Discuss topics and issues with fellow students
3. Turn in assignments, quizzes, and tests
4. Check for any updates, changes or alterations to the course
5. Access all course materials to include presentations, assignments, quizzes, and tests.

Instructional Methods

Lecture, demonstrations, lab experiences.

Disabilities

ADA Statement:

Any student with a documented disability (e.g. learning, psychiatric, vision, hearing, etc.) may contact the Office on the Weatherford College Weatherford Campus to request reasonable accommodations. *Phone:* 817-598-6350 *Office Location:* Office Number 118 in the Student Services Building, upper floor. *Physical Address:* Weatherford College 225 College Park Drive Weatherford, TX.

Academic Integrity

Academic Integrity is fundamental to the educational mission of Weatherford College, and the College expects its students to maintain high standards of personal and scholarly conduct. Academic dishonesty of any kind will not be tolerated. Academic dishonesty includes, but is not limited to, cheating on an examination or other academic work, plagiarism, collusion, and the abuse of resource materials including unauthorized use of Generative AI. Departments may adopt discipline specific guidelines on Generative AI usage approved by the instructional dean. Any student who is demonstrated to have engaged in any of these activities will be subject to immediate disciplinary action in accordance with institutional procedures.

Program Learning Outcomes

Upon completion of the program, graduates will be able to:

- Perform tasks to diagnose and repair components of electrical/electronic systems and heating, ventilation, and air conditioning systems.
- Perform tasks to diagnose and repair automotive engine and power train systems.
- Perform tasks to diagnose and repair components of automotive suspension and steering systems.
- Perform tasks to diagnose and repair components of hydraulic and anti-lock brake systems.