# AUTOMOTIVE/ TRANSPORTATION TECH (AUME)

**AUME-299 Special Projects: Auto Mechanics**
**1-6 Unit (IS 16-108)**

Students with previous course work in the program may do special projects that involve research and special study. The actual nature of the project must be determined in consultation with the supervising instructor.

**Prerequisite:** Two Automotive Technology classes must be completed prior to enrollment; a contract must be completed with the instructor prior to enrollment.
**Transfers to CSU only**

**AUME-549 Work Experience Education: Automotive and Transportation Technologies**
**0.5-8 Units WEE 24-432**

This experiential learning course places students in supervised internships related to their academic major or career interests. Through hands-on work experience, students will build upon classroom-based learning and develop transferable skills. Internship work sites must be approved by the college prior to enrollment.

**Other Enrollment Criteria:** Each student must be enrolled for the full semester and have completed one course in the discipline. A training agreement must be completed prior to registration. Please refer to the Work Experience Student Handbook for specific information.
**Transfers to CSU only**
**Offered as Pass/No Pass Only**

**AUME-700 Basic Auto Mechanics (formerly AUME-072)**
**4 Units (LAB 48-54, LEC 48-54)**

This course covers the theory of operation of automobiles and light trucks. The eight basic areas of automotive technology are explored. Special emphasis is placed upon entry into the automotive repair industry as a career choice. In order to provide some practical experience and impart skills intended to augment student employability, some basic maintenance procedures are performed as part of the coursework. (formerly AUME 072)

**Not transferable**

**AUME-750 Automotive Engine Theory and Repair (Lower End)**
**3 Units (LBE 48-54, LEC 32-36)**

This course covers the theory of operation, diagnosis, disassembly, inspection and repair of the cylinder block portion or lower end of a modern automotive internal combustion engine, including the pistons, crankshaft and engine lubrication system.

**Recommended Preparation:** AUME-700.
**Not transferable**

**AUME-751 Automotive Engine Theory and Repair (Upper End) (formerly AUME-092B)**
**3 Units (LAB 48-54, LEC 32-36)**

This course covers the theory of operation, disassembly, inspection, repair and reassembly of the cylinder heads and timing components, usually referred to as the upper end, of a modern internal combustion engine. (formerly AUME 092B)

**Prerequisite:** AUME-750 (with a grade of C or better).
**Recommended Preparation:** AUME-700.
**Not transferable**

**AUME-760 Automatic Transmissions & Transaxles**
**4 Units (LBE 48-54, LEC 48-54)**

This course encompasses the diagnosis, service and repair of the automatic transmissions and transaxles used in modern automobiles and light trucks. Upon successful completion of the course, the student will be able to apply a systematic approach to the diagnosis and repair of common transmission and transaxle faults. The course content is intended to prepare the student to pass the ASE A2 Automatic Transmission and Transaxle certification exam.

**Recommended Preparation:** AUME-700.
**Not transferable**

**AUME-761 Manual Transmissions & Transaxles (formerly AUME-070B)**
**4 Units (LAB 48-54, LEC 48-54)**

This course covers the theory of operation, diagnosis and repair of manual transmissions or transaxles, clutches, drivelines, final drive units and four-wheel or all-wheel drive assemblies. The student will obtain the skills needed to properly diagnose and repair manual transmission and drive train faults. The course is designed to help the student to prepare to take the ASE A3 Manual Transmission/Transaxle certification exam. (formerly AUME 070B)

**Recommended Preparation:** AUME-700.
**Not transferable**

**AUME-770 Automotive Suspension, Steering and Alignment Systems (formerly AUME-120)**
**4 Units (LAB 96-108, LEC 32-36)**

This course covers the design, principles of operation, diagnosis, repair and alignment of suspension and steering systems used on imported and domestic vehicles and light trucks. The experience gained in this course is intended to prepare the student for entry level employment as an automotive suspension technician. (formerly AUME 120)

**Recommended Preparation:** AUME-700 or previous high school introductory automotive course.
**Not transferable**

**AUME-771 Automotive Brake Systems**
**4 Units (LBE 48-54, LEC 48-54)**

This course covers the theory of operation, diagnosis and repair of automotive brake systems. The experience gained in this course prepares the student for entry-level employment as an automotive brake technician and assists in preparation for the ASE A5 Brake Systems Specialist Certification Exam.

**Recommended Preparation:** AUME-700.
**Not transferable**

**AUME-780 Automotive Electrical/Electronics I (formerly AUME-096)**
**4 Units (LAB 48-54, LEC 48-54)**

This course covers the theory of electricity, use of meters and test equipment, use of wiring diagrams, diagnosis and repair or replacement of major electrical components of automotive and light trucks. Major areas of study include batteries, starting, charging and ignition systems as well as electrical accessories. This course will assist the student in preparing for the ASE A6 exam. (formerly AUME 096)

**Recommended Preparation:** AUME-700 or previous high school automotive course.
**Not transferable**

**AUME-781 Automotive Electrical/Electronics II (formerly AUME-097)**
**4 Units (LAB 96-108, LEC 32-36)**

This course covers electricity and electronics, the use of electrical test equipment, wiring diagrams, diagnosis and repair/replacement/diagnosis of major electrical components of automobiles. (formerly AUME 097)

**Prerequisite:** AUME-780 (with a grade of C or better).
**Not transferable**

**AUME-790 Engine Performance I**
**4 Units (LBE 48-54, LEC 48-54)**

This course covers theory of operation, diagnosis and service of automotive engines and related sub-systems. The use of test equipment and the repair or replacement of major components of passenger vehicles is also covered. Areas of study include the induction, ignition and other engine management systems. This course is designed for learners wishing to develop skills in diagnosis and repair of current and emerging technologies. This course will assist in preparation for ASE A-8 exam.

**Recommended Preparation:** AUME-700 or previous high school automotive courses.
**Not transferable**

**AUME-791 Engine Performance II**
**4 Units (LBE 48-54, LEC 48-54)**

This course provides an intense study of the design and operation of fuel management systems including fuel injection, electronic ignition, and other computer controlled systems. Emphasis in this course is placed on the correct diagnostic method used to repair those systems.

**Prerequisite:** AUME-790 (with a grade of C or better).
**Recommended Preparation:** AUME-700 or AUME-780.
**Not transferable**

**AUME-795 Automotive Heating, Ventilation and Air Conditioning (formerly AUME-093)**
**4 Units (LAB 48-54, LEC 48-54)**

This course is an in-depth study of the design and operation of contemporary automotive air conditioning and heating systems. Emphasis is placed on the theory, diagnosis and repair procedures used for these systems and includes an introduction to automatic A/C systems. This course also helps to prepare the student for the ASE A7 (Air Conditioning and Heating) certification exam. (formerly AUME 093)

**Recommended Preparation:** AUME-700.
**Not transferable**

**AUME-800 Introduction to Hybrid and Electric Vehicle Technology**
**3 Units (LBE 48-54, LEC 32-36)**

This course explores the technologies used in modern hybrid and electric vehicle propulsion systems. Topics discussed include high voltage service safety precautions, power invertor and battery technologies as well as hybrid/electric vehicle driveability and maintenance issues. Hybrid and electric vehicle integrated propulsion systems produced by various manufacturers will be compared and contrasted. This course is intended to assist the student in preparing to take the ASE L3 Hybrid and Electric Vehicle Specialist Certification Exam.

**Prerequisite:** AUME-780 (with a grade of C or better) or Instructor Approval.
**Not transferable**