CASPER COLLEGE COURSE SYLLABUS

AUTO 2610 Computerized Fuel Systems

Semester/Year: Spring 2015

Lecture Hours: 2  Lab Hours: 6  Credit Hours: 5

Instructor's Name: Randy Waldron

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Office Hours: As posted on office door

Course Description: This course is intended for automotive students who have the need to increase their background on electronically controlled engine management systems. Students will begin with an overview of concepts that are applicable to understanding and diagnosing systems on all vehicles; then will move on to the study of individual systems.

Statement of Prerequisites: AUTO 1510 & 1765

Goal: The objective of this course is to achieve an understanding of computer controlled engine management systems, and develop basic troubleshooting and diagnostic skills necessary to service computerized engine control systems.

Outcomes: Upon completion of this course, students will be able to demonstrate competency in:
- The identification and research of applicable vehicle identification information, components and their repair information.
- The proper usage and interpretation of tools, specifications and safety procedures.
- The proper usage and completion of job sheets and work orders.
- The diagnosis of the causes of emissions or drivability concerns resulting from malfunctions in the computerized engine control system both with and without stored diagnostic trouble codes.
- The retrieval and recording of stored diagnostic trouble codes and clearing codes.
- Inspecting and testing of computerized engine control system components and circuits using a scan tool, digital volt ohm meter (DVOM), and digital storage oscilloscope (DSO).
- Ignition system diagnosis and repair
- Fuel delivery, air induction, and exhaust systems diagnosis and repair
- Emission control systems diagnosis and repair.
- Demonstrate effective oral and written communication
- Solve problems using critical thinking and creativity
- Use appropriate technology and information to conduct research

Casper College may collect samples of student work demonstrating achievement of the above outcomes. Any personally identifying information will be removed from student work.

Course Objectives: Demonstrate the knowledge and skills necessary to identify, interpret and repair automotive emissions or drivability concerns.

Methodology: Theory, operation and service will be presented by lecture, with handouts, presentations, demonstrations and hands-on laboratory activities. The student is required to study the corresponding material appropriate for the lecture and laboratory work.
Evaluation Criteria:
Lecture: Chapter Quizzes and Class assignments.
Lab: Correct and timely completion of job and job sheet = 80%
  Work Ethics (safety, participation, shop and tool maintenance) = 20%
Final exam
(Final grades will be computed as follows) 15% lecture
  100 - 90% = A
  65% lab
  89 - 80% = B
  20% exams
  79 - 70% = C
  69 - 60% = D
  59 - = F

Required Text, Readings, and Materials: Automotive Technology, A System Approach

Class Policies: Last Date to Change to Audit Status or to Withdraw with a W Grade:
Withdrawal deadline April 17
Only officially registered students are allowed to participate in classroom or laboratory activities.
See attached automotive department policy statement.

Student Rights and Responsibilities: Please refer to the Casper College Student Conduct and Judicial Code
for information concerning your rights and responsibilities as a Casper College Student.

Chain of Command: If you have any problems with this class, you should first contact the instructor to
attempt to solve the problem. If you are not satisfied with the solution offered by the instructor, you should then
take the matter through the appropriate chain of command starting with the Department Head/Program
Director, the Dean, and lastly the Vice President for Academic Affairs.

Academic Dishonesty: (Cheating & Plagiarism) Casper College demands intellectual honesty. Proven
plagiarism or any form of dishonesty associated with the academic process can result in the offender failing the
course in which the offense was committed or expulsion from school. See the Casper College Student Code of
Conduct for more information on this topic.

Official Means of Communication: Casper College faculty and staff will employ the student's assigned
Casper College email account as a primary method of communication. Students are responsible to check their
account regularly. This is also, where you will find course evaluation links during course evaluation periods.

ADA Accommodations Policy: If you need academic accommodations because of a disability, please inform
me as soon as possible. See me privately after class, or during my office hours. To request academic
accommodations, students must first consult with the college’s Disability Services Counselor located in the
Gateway Building, Room 344, (307) 268-2557, bheuer@caspercollege.edu . The Disability Services Counselor
is responsible for reviewing documentation provided by students requesting accommodations, determining
eligibility for accommodations, and helping students request and use appropriate accommodations.

Calendar or schedule indicating course content:
Engine Performance Systems
Ignition system Diagnosis and Service
Electronic Fuel Injection
Fuel Injection Diagnosis and Service
Hybrid Vehicles
Detailed Diagnosis and sensors
Fuel Delivery Systems
Intake and Exhaust Systems
Emission Control System Diagnosis and Service
Electric Vehicles
AUTOMOTIVE DEPARTMENT
POLICY STATEMENT

Attendance  Students are expected to attend all classes for which they are registered and are accountable for all class work during an absence.

Work Ethics  are used as part of the rating/grading function. Shop cleanup, poor job attitude, and poor work habits, deliberate misuse of tools and equipment, horseplay and safety violations will result in a lowered grade or failure in the class. Disregard for the safety of yourself and/or others will result in dismissal from the program especially regarding grinding and sanding tools, stones and brushes on the grinders.

SAFETY:  Personal and equipment safety standards will be strictly enforced. It is the individual’s responsibility to develop and use a safe work attitude. For every task students will comply with personal and environmental safety practices associated with clothing, eye protection, hand tools, power equipment, proper ventilation, and the handling, storage, and disposal of chemicals/materials in accordance with local, state, and federal safety and environmental regulations.

Students are expected to look presentable. You should have several pair of coveralls or shop work shirts, and leather work shoes. Steel toes are recommended. It is your responsibility to keep them clean.

Tools will be issued to each student and the student will be responsible for any loss. Breakage of tools will not be charged to the student if the broken tool is reported to the Instructor and is not the result of misuse.

Exams are pre-scheduled for each class. Tests and quizzes are given at random. Make-up exams, tests, and quizzes may be allowed at the instructor's discretion. A failing grade will be given for any test missed.

Grades will be given for each class. Any grade lower than a C is considered failing for an automotive student. A grade of C or better is required for a certificate in Automotive Technology. Grades of D will receive college credit but are not considered adequate for job recommendation or referrals.

Test-driving vehicles will be allowed with the instructor's permission. Part chasing is allowed by instructor's permission only. Any student leaving the shop without the instructor's permission will receive an absence.

Each student has been shown the location and demonstrated the use of the emergency electrical shut-off equipment. Suspension from any automotive class will result in a failing grade and the student will not be allowed to re-enroll in any automotive class at Casper College.

Due to safety regulations, no student will be permitted to wear headphones in the shop or classroom. Loud, vulgar, and/or obscene language will not be permitted.

Removal from any automotive class will result in a failing grade. Removal can result from poor attendance - low ability and poor attitude - disrespect for college property or automotive instructors - failing and poor grades. Theft will NOT be tolerated and immediate suspension will result and possible criminal charges will be filed.