AUT 490: Comprehensive Vehicle Diagnostics

Text: Information available on D2L

Classroom: TEC154

Dates: Jan 19th through April 1st

Times: M, Tu, Th, F from 1pm till 4:50pm

Instructor: Sean Boyle

Phone: W - 453-4024

Office Hours: M, Tu, Th, F 11:30am - 1:00pm. If I’m not in my office, check the drivetrains lab and classroom.

Course Description: This course encompasses all technical areas of the vehicle with specific emphasis on diagnostic strategies and routines. Students engage in systematic diagnosis with real-world service issues following the Symptom to System to Component to Cause (SSCC) strategy to determine the root cause of failure. Students enhance their diagnostic skills by practicing techniques learned from prerequisite courses and through development of diagnostic procedures. The course utilizes problem-based learning where students experience real-world diagnostics in a theory/laboratory setting through the use of lab vehicles, experiments and exploratory research.

Grading: The student's grade is determined from lab activities, written tests, performance tests, assignments, technical projects, presentations, and attendance. The percentage breakdown is as follows:

A = 93% to 100%
B = 85% to 92%
C = 76% to 84%
D = 70% to 75%
F = 69% and Lower

Grading Explained: The grading is divided into four main areas:

Tests: Each test is worth 50 points regardless of how many questions are on the test. For example, out of four tests, there will be a total of 200 points available. NOTE: The final exam will likely be after the published END DATE for this class. The course ends on a FRIDAY, but you will be REQUIRED to take the final tests within the week AFTER this end date. If there is an issue with this, you must drop the class.

Assignments: Expect a variety of assignments throughout the semester, including case studies, individual project, technical authoring project, and a major project.

Lab: The Lab Activities, which involve diagnosing vehicle bugs and completing any related worksheets, is worth 50 points max. You will be expected to diagnose 10 vehicles and
complete the required paperwork. The paperwork is graded for thoroughness. If you fail to diagnose 10 vehicles by the end of the course, you will lose 5 points per vehicle. So if you only diagnosed 8 vehicles, you’ll only get a maximum of 40 points. Along those same lines, you’ll get an additional 5 points for every vehicle you diagnosed after 10 vehicles. So these are like bonus points!

Here’s an example of a grade book entry:

<table>
<thead>
<tr>
<th>Name</th>
<th>IGN</th>
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<tbody>
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<td>33</td>
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<td>25</td>
<td>36</td>
<td>34</td>
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<td>10</td>
<td>48</td>
<td>326</td>
<td>93</td>
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</tbody>
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Lab Activities: The lab activities consist of the job sheets, participation and enthusiasm. The job sheets will be graded for thoroughness. For each activity, a thorough report will be required.

Written Tests: The written tests will be ASE style questions over topics covered in lecture, handouts, and web-based information.

Here are the test scores
Here are the lab points. Note he’s got more than 50. Must have done a couple extra vehicles
These are adjusted for the 50 point scale
Assignments. Note, I condensed these to fit them on this page
Here’s the major project. Perfect score!
The lab adjustment allows me to influence someone’s grade up or down. Usually this is left blank, but if someone misses allot of days, or is counter-productive, I could put a negative score in there. Likewise, I can add points for students that go above and beyond.
Assignments:

*Individual project:* At the beginning of the course, there will be a project that incorporates operation and diagnosis of a simple component, which will be provided to you. The purpose of the project is for you to gain a mindset on how to present diagnostics of a simple component to a technician. The project will include recording digital video and editing it with audio and descriptive text. The project will include theory and operation of the component, symptoms that might occur when the component fails, and various methods for diagnosing the component, with strengths and weaknesses identified.

*Technical Authoring Project:* You will select a topic from automotivetextbook.com and create a textbook chapter, or section of a chapter, using original text and artwork. This project will eventually be peer reviewed and potentially posted on the website with you listed as first author.

*Advanced Technology Presentation:* As a project, you will create a technical presentation on some form of advanced technology related to the “technical authoring” topic you selected.

*Additional assignments:* There may be additional assignments as the course progresses.

Attendance: Attendance is mandatory. 2.5% of your grade will be dropped for every absence. Every three tardies will equal one absence. It is important that you show up to class on time.

SAFETY GLASSES ARE MANDATORY. IF FOUND WITHOUT YOUR SAFETY GLASSES YOU WILL RECEIVE ONE WARNING BEFORE BEING ASKED TO LEAVE!

PLEASE PUT YOUR NAME ON YOUR TOOLBOX

Emergency Procedures:

Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the SIUC Emergency Response Plan and Building Emergency Response Team (BERT) program. Emergency response information is available on posters in buildings on campus, available on the BERT’s website at [www.bert.siu.edu](http://www.bert.siu.edu), Department of Public Safety’s website [www.dps.siu.edu](http://www.dps.siu.edu) (disaster drop down) and in the Emergency Response Guidelines pamphlet. Know how to respond to each type of emergency.

Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. **It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency.** The Building Emergency Response Team will provide assistance to your instructor in evacuating the building or sheltering within the facility.

SIU Policy on “Incomplete” as a Course Grade:

The following text is taken from the 2011-2012 Undergraduate Catalog, p. 32:

“An INC is assigned when, for reasons beyond their control, students engaged in passing work are unable to complete all class assignments. An INC must be changed to a completed grade within a time period designated by the instructor but not to exceed one year from the close of the term in which the course was
taken, or graduation, whichever occurs first. Should the student fail to complete the course within the time period designated, not to exceed one year, or graduation, whichever comes first, the incomplete will be converted to a grade of F and the grade will be computed in the student's grade point average. Students should not reregister for courses in which an INC has been assigned with the intent of changing the INC grade. Re-registration will not prevent the INC from being changed to an F.”