DE ANZA COLLEGE
APPLIED TECHNOLOGIES DIVISION
GREEN SHEET Spring 2015
Zimbauer, Keith
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AUTO 62B Advanced Wheel Alignment 9 Units

Advisories: Automotive Technology 62B; English Writing 1008 and Reading 91-100 (or Language Arts 100), or English as a Second Language 4 (or **ESL 24 and 72);** Mathematics 101.

Nine hours lecture per week

One hundred eight hours per quarter

Advanced study of wheel alignment systems. Emphasis is placed on diagnostic inspection and repair procedures.

II. Course Objectives

The student will:

A. Define the basic design of wheel alignment systems.

B. Classify the different types of suspension, steering and alignment systems.

C. Describe the accepted industry techniques for maintenance, repair and troubleshooting of complex wheel alignment systems.

III. Essential Student Materials

Safety glasses

Textbook and reference materials

Notebook

IV. Essential College Facilities

Lecture classroom and automotive facility

V. Expanded Description: Content and Form

A. Characterize wheel alignment terms
1. Suspension systems
2. Steering systems
3. Tires and wheels
4. Road testing and evaluation procedures
5. Vehicle inspection procedures

B. Categorizing information
1. Camber
2. Caster
3. Toe
4. Toe related geometry
5. Steering axis inclination and Included Angle
6. SetBack
7. Turning Angle
8. Symmetry/SetBack

C. Developing a wheel alignment plan
1. Preparing a repair cost estimate and repair plan
2. Angle correction using shims
3. Angle correction using eccentric cams
4. Aftermarket angle corrective products
5. Interpreting diagnostic information
6. "Jack and Hold" procedures
7. Corner weight adjustment procedures
8. "Bump steer" adjustment procedures
9. Providing "before and after" alignment report

VI. Assignments

A. Reading from textbook and informational handouts

B. Written quizzes

VII. Methods of Evaluating Objectives

A. Satisfactory completion of required course notebook and laboratory activities (200 Pts)
Notebooks are due @ 10:15 PM – Thursday June 21st!

B. Objective and written quizzes (150 Pts)
7 given best 6 scored

C. Final examination (200 Pts)

VIII. Texts and Supporting References

Texts:

A. Hunter Engineering, *Advanced Alignment Diagnostics, St. Louis,* 2001

B. Selected manufacturers service manuals

Manufacturers service manuals as required

IX. Other Related Information

1. Instructor: Keith Zimbauer

2. Office: E14F

3. Office hour: 4:30 – 5:30 and by appointment

4. Telephone: (408) 605-9688 mobile

5. E-mail: zimbauerkeith@fhda.edu

6. Grading standards:

A = 94 - 100 percent
A- = 90 – 93 percent
B+ = 87 – 89 percent
B = 84 – 86 percent
B- = 80 – 83 percent
C+ = 77 - 79 percent
C = 70 - 76 percent
D+ = 67 - 69 percent
D = 64 - 66 percent
D- = 60 – 63 percent
F = 00 – 59 percent

INSTRUCTOR POLICIES

Students are expected to come to class on time and prepared. A student that misses more than two class sessions may be dropped from the roster unless prior arrangements have been made with the instructor. Tardiness is disruptive to the instructor and other students. Any class exercises or quizzes that are underway will not be made available to students that miss the orientation for that activity.

Make up of work

Quizzes and tests may not be made up unless prior arrangements have been made.

Academic honesty

Students are not allowed to look at anyone else's paper or speak with anyone but the instructor during a test or quiz. If the instructor observes this occurring, that student's test will not be scored.

Student drops

Students that do not report for class during the initial session may be dropped so that room can be made for others to enroll. Any student wishing to drop the class thereafter must do so themselves at the admission and records office or by notifying the instructor. It is the **student's responsibility** to obtain a "W" and protect their grade point average. In order to receive a "W", students must withdraw before the last day to withdraw with a "W" date.

Student preparation

Students must come to the lab portion of the class prepared to work. Professional automotive clothing and safety glasses are required at all times while in the shop. Students are required to bring any specified tools to class each day. Students that are unprepared will not be allowed to participate in the lab activities.

Extra credit

Extra credit may be allowed to students that have unusual circumstances regarding their class performance.

Special projects

Students that have a special project that differs from the normal lab activities for that session shall seek the instructor's approval before beginning any work.

Clean-up

Students are asked to help with routine maintenance of the shop and vehicles. Prior to the end of each lab session, all vehicles should be restored to proper condition and parked, shop doors closed and work areas restored to proper appearance.

Student Behavior

Students are expected to abide by the policies listed in the De Anza Spring schedule of Classes 2013. Student behavior, which violates these standards, may be cause for removal from this course. Students should obtain a copy of the *"De Anza College Resource Guide",* if they desire more information.

Classroom and Laboratory conduct

Students will be dismissed from class for disruptive behavior per college policy.

Students will wear safety glasses, and work shoes for the duration of lab activity.

Students are to remain in assigned areas through clean up. (***Your instructor will determine if clean up is complete!***)

There is one 20-minute break between lecture and lab. Your instructor will check roll at the start of lab activity. Do not leave campus while on break!

It is expected that lab activity will be completed with pride and craftsmanship and that students will perform warranty services. If overtime is required, consider it the equivalent of homework.

All *"LIVE"* lab work must be entered on a repair order, estimated, authorized by the customer and initialed by the instructor.

Attendance

Just as on the job, regular, punctual attendance is required. Always call in if you are going to be absent. The following limits and conditions apply per department policy:

Incomplete grades may be issued in instances of long-term illness or injury.

Rules of Engagement

As a class we will decide on a code of conduct. List all of the agreed upon rules.

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Tear off page

I have read and understand the course outline and instructor policies

Date*:* _____

Name: _____

Address: _____

Phone #: _____

Signature: _____