

**DE ANZA COLLEGE  
AUTOMOTIVE TECHNOLOGY  
A.T. 62A - AUTOMOTIVE SUSPENSION,  
STEERING AND ALIGNMENT**

AUTOMOTIVE TECHNOLOGY 62A

I. Catalog Information

AUTO 62A           Automotive Suspension, Steering and  
Alignment           9 Units

Advisory: Automotive Technology 50A and 50B; Reading 100 and English writing 100B (or Language Arts 100), or English as a Second Language 24 and 72 (or English as a Second Language 4); Mathematics 101

Nine hours lecture per week

One hundred eight hours lecture per quarter

Repair, maintenance and troubleshooting of automotive Suspension, Steering and Alignment systems.

II. Course Objectives

The student will:

- A. Define the basic design and operation of automotive steering, suspension and alignment systems.
- B. Classify the different types automotive steering, suspension and alignment systems.
- C. Describe the industry-accepted techniques for maintenance, repair and troubleshooting.
- D. Demonstrate the ability to troubleshoot and repair these systems.

III. Essential student materials

- A. Safety glasses
- B. Approved work shoes
- C. Approved work clothes

#### IV. Essential College Facilities

Lecture classroom and automotive laboratory

#### V. Expanded Description Content and Form

- A. Introduction to automotive chassis systems
  - 1. Theory
  - 2. Service requirements
  
- B. Wheel bearings
  - 1. Theory
  - 2. Service techniques
  - 3. Disassembly, inspection and repair
  
- C. Tires and Wheels
  - 1. Theory
  - 2. Service techniques
  - 3. Disassembly, inspection and repair
  - 4. Troubleshooting procedures
  
- D. Suspension designs
  - 1. Theory
  - 2. Service techniques
  - 3. Disassembly, inspection and repair
  - 4. Troubleshooting procedures
  
- E. Steering designs
  - 1. Theory
  - 2. Service techniques
  - 3. Disassembly, inspection and repair
  - 4. Troubleshooting procedures
  
- F. Wheel Alignment
  - 1. Theory
  - 2. Service techniques
  - 3. Disassembly, inspection and repair
  - 4. Troubleshooting procedures

VI. Assignments

Reading assignments from textbooks and handouts.  
Completion of required laboratory activities.

VII. Methods of Evaluating Objectives

- A. Satisfactory completion of required course notebook and laboratory activities (200 Pts).
- B. 8 Objective and written quizzes (200 Pts)
- C. Midterm (100 Pts)
- D. Final examination (240 Pts)
- E. Extra credit, 500 word scholarship essay (50)

VIII. Texts and Supporting References

Texts:

- A. Prentice-Hall, *Automotive Chassis Systems 6<sup>th</sup> ed*, Halderman, Englewood Cliffs, New Jersey

References:

Manufacturers service manuals as required

IX. Other Related Information

- 1. Instructor: Randy Bryant
- 2. E-mail: bryanrandy@fhda.edu
- 3. Office: E14b
- 4. Office hour: 4:30 – 5:30 and by appointment
- 5. Telephone: (408) 864-8840 Office
- 6. Grading standards:
  - A = 94 - 100 percent
  - A- = 90 - 93 percent
  - B+ = 87 - 89 percent
  - B = 83 - 86 percent
  - B- = 80 - 82 percent
  - C+ = 77 - 79 percent
  - C = 70 - 76 percent
  - D+ = 67 - 69 percent
  - D = 63 - 66 percent
  - D- = 60 - 62 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.

### ***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 Winter schedule of classes 2015. 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.



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***I have read and understand the course outline and  
instructor policies***

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Phone #: \_\_\_\_\_

Signature: \_\_\_\_\_