Las Positas College
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Course Outline for NAUT CA4

CONCEPTS OF SUSPENSION AND STEERING

Effective: Fall 2021

I. CATALOG DESCRIPTION:
NAUT CA4 — Noncredit

This class is lecture only and non-credit. Diagnosis, evaluation, testing, adjustment, alignment and repair of steering and suspension systems. Including all common automotive steering and suspension systems both car and truck. Future systems will also be covered.

Grading Methods:
Pass/No Pass

Discipline:
- Automotive Technology

Noncredit Category
I - Short-Term Vocational

	MIN
Total Noncredit Hours:	36.00

II. PREREQUISITE AND/OR ADVISORY SKILLS:

III. MEASURABLE OBJECTIVES:

Upon completion of this course, the student should be able to:

A. Identify and describe uses of automotive related tools;
B. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
C. Differentiate between suspension and steering system types, inspect and qualify components;
D. Theorize on the future of the automotive industry.

IV. CONTENT:
A. Fundamentals and theory of automotive steering and suspension systems
    1. System geometry and alignment specifications
    2. Fundamental principals of electrical flow, and component operation
B. Electronic components
    1. Identify and list functionality of electronic components
    2. Test and verify functionality of components
    3. Demonstrate use of a scanner, and volt/ohm testers
C. Alignments
    1. Perform two wheel alignments
    2. Perform four-wheel alignments
D. Tire and wheel problems
    1. Check radial and lateral variations on both tires and wheels
E. Vibration concerns
F. McPherson strut and “A” –Arm type suspension systems
    1. Identify types of suspensions
    2. Describe safety precautions and warning
    3. List benefits for each type system
G. Electronic Theory
H. Electrical Steering systems
I. Electrical Suspension systems
J. Professional environment

V. METHODS OF INSTRUCTION:
A. **Lecture** -

VI. TYPICAL ASSIGNMENTS:
A. Lecture based assignments
    1. Lecture on Alignment procedures
B. Text based assignments
    1. Read Chapter One

VII. EVALUATION:
Methods/Frequency

A. Exams/Tests
monthly
B. Quizzes
weekly

VIII. TYPICAL TEXTS:

1. Johanson, Chris. *Auto Suspension and Steering.* 5 ed., Goodheart Wilcox, 2021.
2. Duffy, James. *Modern Automotive Technology.* 9 ed., Goodheart Wilcox, 2020.

IX. OTHER MATERIALS REQUIRED OF STUDENTS:

A. Computer with internet access