

PALOMAR COLLEGE
COURSE OUTLINE OF RECORD FOR
DEGREE CREDIT COURSE

_____ Transfer Course X A.A. Degree Applicable Course
(check all that apply)

COURSE NUMBER AND TITLE: DMT 65 / RDMT 65 Air Brake Systems

UNIT VALUE: 3 **MINIMUM NUMBER OF SEMESTER HOURS:** 80

BASIC SKILLS REQUIREMENTS: Appropriate language and computational skills.

ENTRANCE REQUIREMENTS:

PREREQUISITE: None.

COREQUISITE: None.

RECOMMENDED PREPARATION: None.

SCOPE OF COURSE:

The service and repair of heavy-duty truck drive lines. Topics for study include the brake troubleshooting, complete system repair, anti-skid brake system and related axle services.

SPECIFIC COURSE OBJECTIVES:

The student will:

1. Anticipate and pose problems related to the basic operations of truck brake systems.
2. Apply problem solving principles in analyzing brake system problems.
3. Identify components in various truck brake systems.
4. Apply principles of shop safety.
5. Assemble and disassemble brake components.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

- I. Single Circuit Air Brake System
 - A. Tractor circuit, component location and identification
 - B. Trailer circuit, component location and identification
 - C. Single circuit components, theory of operation and service
 - 1. Compressors
 - 2. Brake valves and relays
 - 3. Switches
 - 4. Braking and service canisters
 - 5. Emergency control valves and warning devices
 - D. Disassembly, inspection, reassembly, and testing of all components

- II. Dual Circuit Air Brake System
 - A. Tractor circuit, component location and identification
 - B. Trailer circuit, component location and identification
 - C. Dual circuit components, theory of operation and service
 - 1. Dual foot valves
 - 2. Emergency spring brake valves
 - 3. Trailer spring brake valves
 - 4. High flow relay valves
 - 5. Control valves
 - 6. Switches and warning control units
 - (a). Disassembly, inspection, reassembly, and testing of components (hands on)

- III. Foundation Brake Assembly
 - A. Brake components theory and service
 - 1. Inspection and operation of lining, drums, s-cams, bushings, and bearings
 - B. Parking-service brake canister operation and safety guidelines
 - C. Disassembly, inspection, reassembly and testing of all components (hands on)

- IV. Troubleshooting Brake System Problems
 - A. Testing tools
 - 1. Gauges and leak detector, micrometers
 - B. Procedures
 - 1. Flow charts, troubleshooting

- V. Review Principles of Shop Safety

REQUIRED READING:

Bendix-Heavy Truck Systems Group. Air Brake Handbook. Elyria, Ohio: 1987.

SUGGESTED READING:

Brady, Robert. On-Highway Trucks. Reston, Virginia: Reston Publishing Company, 1982.

REQUIRED WRITING:

Laboratory performance reports: to include identification of unit/component being checked; inspection standards used; results of inspection in approximately 2000 words.

OUTSIDE ASSIGNMENTS:

Students are expected to spend a minimum of three hours per unit per week in class and on outside assignments, prorated for short term classes.

Visit a brake service shop and report (2 pages) on different repair procedures used.

INSTRUCTIONAL METHODOLOGY:

Check all that apply:

- lecture
- laboratory
- lecture-laboratory combination
- directed study

This course may be offered as a distance education course and meets Title 5 regulations 55370, 55372, 55374, 55376, 55378, and 55380.

Yes No

If yes, check all that apply. (See guidelines for preparation for definitions.)

- telecourse
- mediated instruction
- computer assisted instruction

GRADING POLICY AND STANDARDS (include methods of determining whether the stated objectives have been met by students):

50% = Written Work
40% = Laboratory
10% = Participation

IS COURSE REPEATABLE FOR REASON(S) OTHER THAN DEFICIENT GRADE?

Yes No Number of times course may be taken for credit: 1.

If yes, identify specific provision of Title 5 Division 2 section(s) 55761-55763 and 58161 which qualifies course as repeatable:

CONTACT PERSON:

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