DET 81 Course Outline as of Fall 2008

CATALOG INFORMATION

Dept and Nbr: DET 81 Title: PREVENT. MAINT. & INSPC.
Full Title: Preventive Maintenance and Inspection
Last Reviewed: 12/9/2019

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	2.25	17.5	Lecture Scheduled	39.38
Minimum	3.00	Lab Scheduled	2.25	8	Lab Scheduled	39.38
		Contact DHR	0		Contact DHR	0
		Contact Total	4.50		Contact Total	78.75
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 78.75 Total Student Learning Hours: 157.50

Title 5 Category:	AA Degree Applicable
Grading:	Grade Only
Repeatability:	00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:	
Formerly:	DET 68

Catalog Description:
The study of preventive maintenance and inspection practices as related to vehicles and machinery. Preventive maintenance inspections are practiced.

Prerequisites/Corequisites:

Recommended Preparation:
Course Completion of DET 179 (or DET 80 or DET 60) and Course Eligibility for ENGL 100 OR Course Completion of DET 179 (or DET 80 or DET 60) and Course Eligibility for EMLS 100 (or ESL 100)

Limits on Enrollment:

Schedule of Classes Information:
Description: The study of preventive maintenance and inspection practices as related to vehicles and machinery. Preventive maintenance inspections are practiced. (Grade Only)
Prerequisites/Corequisites:
Recommended: Course Completion of DET 179 (or DET 80 or DET 60) and Course Eligibility for ENGL 100 OR Course Completion of DET 179 (or DET 80 or DET 60) and Course

Eligibility for EMLS 100 (or ESL 100)
Limits on Enrollment:
Transfer Credit: CSU;
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**			Effective:	Inactive:
CSU GE:	**Transfer Area**			Effective:	Inactive:
IGETC:	**Transfer Area**			Effective:	Inactive:
CSU Transfer:	Transferable	Effective:	Fall 1981	Inactive:	Fall 2014
UC Transfer:		Effective:		Inactive:	

CID:

Certificate/Major Applicable:
Both Certificate and Major Applicable

COURSE CONTENT

Outcomes and Objectives:
Upon successful completion of this course students will:
1. Describe maintenance and inspection procedures for a variety of industrial machinery.
2. Evaluate symptoms of potential machine failure.
3. Perform and assess preventive maintenance inspections on the following:
   a. tracks, tires and wheels
   b. engine and powertrain components
   c. electrical/electronic components
   d. chassis and undercarriage components
4. Demonstrate methods and procedural practices in servicing, diagnosis, and repair.
5. Evaluate conditions and determine remedies.
6. Utilize technical references properly, including maintenance specifications and terms from parts manuals.
7. Discuss and apply personal, shop, and environmental safety procedures.

Topics and Scope:

1. Maintenance and inspection procedures
 a. scheduled maintenance
 b. preventive maintenance
2. Using technical manuals
 a. hard copy
 b. computerized
3. Lubrication
 a. solid and liquid lubricants
 b. lubrication points

c. rating symbols
4. Failure analysis
a. metallic parts failures
b. failures due to neglect/lack of maintenance
5. Tracks, tires and wheels
a. condition and wear
b. rims, wheels, rollers
6. Engine compartment
a. fluid levels
b. leak inspection
c. belts and hoses
d. component mounting
e. wiring and clamps
f. air intake system
g. fuel systems
h. cooling systems
7. Electrical/Electronic
a. inspect/test batteries
b. battery cables and terminals
c. starting system test
d. lighting system check
e. gauges and instruments
f. diagnostic displays
8. Powertrain
a. transmission service
b. rear axle service
c. driveline inspection
d. clutch adjustment
9. Chassis/Undercarriage
a. steering system test
b. inspect suspension
c. brake adjustment and inspection
d. springs and attachments
e. component mounts
10. Hydraulic systems
a. fluids, levels
b. filters, maintenance
11. Safety
a. personal
b. shop
c. environmental/hazardous material handling

Assignment:

1. Reading assignments 25 pages per week
2. Lab worksheets covering course topics.
3. Individual and group activities interpreting maintenance and inspection procedures.
4. Practice preventive maintenance procedures.
5. Study specific inspection procedures.
6. Practice inspection procedures.
7. 3 to 5 tests.

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments and skill demonstrations are more appropriate for this course.	Writing 0 - 0%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Lab worksheets	Problem solving 25 - 40%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Structured Lab Exercises	Skill Demonstrations 10 - 30%

Exams: All forms of formal testing, other than skill performance exams.

Tests	Exams 30 - 50%

Other: Includes any assessment tools that do not logically fit into the above categories.

None	Other Category 0 - 0%

Representative Textbooks and Materials:
Heavy Duty Truck Systems, Bennett/Norman ed. 4, 2006