DET 85 Course Outline as of Fall 2002

CATALOG INFORMATION

Dept and Nbr: DET 85 Title: HEAVY DUTY CHASSIS
Full Title: Heavy Duty Chassis & Undercarriage Systems
Last Reviewed: 1/22/2018

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	4.00	17	Lecture Scheduled	68.00
Minimum	3.00	Lab Scheduled	8.00	8	Lab Scheduled	136.00
		Contact DHR	0		Contact DHR	0
		Contact Total	12.00		Contact Total	204.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 136.00 Total Student Learning Hours: 340.00

Title 5 Category:	AA Degree Applicable
Grading:	Grade Only
Repeatability:	39 - Total 2 Times
Also Listed As:	
Formerly:	DET 67

Catalog Description:
The study of heavy-duty chassis and undercarriage systems including steering, braking, and suspension systems. Practical application of repair and maintenance procedures related to steering, braking, and suspension systems.

Prerequisites/Corequisites:
Course Completion of DET 179 (or DET 80 or DET 60)

Recommended Preparation:
Completion of DET 60.

Limits on Enrollment:

Schedule of Classes Information:
Description: Covers heavy-duty chassis and undercarriage systems including steering, braking, and suspension systems. Repair and maintenance procedures related to steering, braking, and suspension systems. (Grade Only)
Prerequisites/Corequisites: Course Completion of DET 179 (or DET 80 or DET 60)
Recommended: Completion of DET 60.
Limits on Enrollment:

Transfer Credit: CSU;
Repeatability: Total 2 Times

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:
Certificate Applicable Course

COURSE CONTENT

Outcomes and Objectives:
[Outcomes and objectives meet or exceed NATEF Applied Academic & Workplace Skills for Medium/Heavy Truck Technicians (Reference Standard 6.5, ASE Program Certification Standards manual, 1998).] On successful completion of this course students will be able to explain the operation of and be able to perform basic repairs on the components of the following systems;
- steering systems
- suspension systems
- alignment of wheels, tires and tracks
- air brake systems
- hydraulic brake systems

Topics and Scope:

Unit 1: Steering Systems
- steering system components
- steering geometry and function
- mechanical and hydraulic steering systems
- testing steering systems

Unit 2: Suspension Systems
- vehicle suspension systems
- machinery suspension systems
- system repair and maintenance
- component repair and maintenance

Unit 3: Wheels, Tires, Tracks and Alignment Factors
- wheel hubs and bearings
- tire applications and types
- steel and fiber tracks and components
- truck and bus alignment basics
- equipment undercarriage alignment and wear factors

Unit 4: Air Brake Systems
- air brake system operation dynamics
- air brake components, repair and maintenance
- foundation brake components and adjustment
- anti-lock brake systems

Unit 5: Hydraulic Brake Systems
- brake system operation
- brake system components, repair and maintenance
- foundation brake components, repair and maintenance
- anti-lock brake systems

Assignment:

Students will:
1. Comlete chapter readings and exercises
2. Research and report on an assigned system
3. Perform maintenance and repair procedures on related items
4. Practice alignment checks on vehicles and equipment
5. Practice brake inspections and adjustments on heavy vehicles

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 reports, Quizzes	Problem solving 15 - 30%

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

STRUCTURED LAB EXERCISES	Skill Demonstrations 15 - 25%

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

Multiple choice, Completion	Exams 45 - 65%

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 Trucks, Robert N. Brady, Prentice Hall Pub., 1st. Ed., 1997