Intro Heavy Duty Equipment Tech 20S

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Prerequisites:
Interest in mechanics

Course Description:
This course equips students with foundational knowledge for the heavy-duty equipment industry, focusing on basic principles, safety practices, tools, equipment, and service procedures. Students will be introduced to diagnostic strategies and maintenance techniques.

Shop Rules and Policies:

- **Safety Glasses & CSA Approved Footwear:** Must be worn at all times in the shop.
- **Parts Pickup:** Students are not permitted to drive to town for parts during class. Customers provide parts for projects.
- **Safe Work Practices:** Students must follow the safe work practices outlined in the school and division policies. Failure to do so could result in removal from the course or program.
- **Phones:** Will not be aloud used in the classroom or shop.

General Objectives & Learning Outcomes:

- Understand and apply safety practices for heavy-duty equipment technicians.
- Identify, select, use, and maintain tools, equipment, and consumables.
- Describe and demonstrate equipment access and transport procedures.
- Diagnose and repair issues with heavy-duty equipment systems.
- Understand sustainability and ethical/legal considerations in the industry.
- Develop employability skills for the heavy-duty equipment industry.
- Demonstrate an awareness of emerging trends in heavy-duty equipment technology.

Units of Study:

- Safe Work Practices (W.H.M.I.S, Fire Safety, MSDS)
- Hoisting and Lifting Equipment
- Hand Tools (Selection, Use, and Management)
- Diesel Engine Basics
- Hydraulics Basics
- Electrical and Electronics Basics
- Air and Hydraulic Brake Systems Basics
- Truck Transport and Safety Inspection Basics
- Agricultural Equipment Introduction
- Off-Road Equipment Introduction
- Diagnostic Procedures and Strategies
- Demonstrating Employability Skills
- Career Opportunities in Heavy-Duty Fields
- Technological Progression and Emerging Trends

Evaluation:

- **Assignments:** Must be submitted on time. Late assignments receive a "0 and missing" until completed.
- **Late Assignments:** A 20% deduction may be applied, or a quiz may be required to verify understanding.
- **Additional Assignments:** May be assigned to reinforce specific learning outcomes.

Learning Behaviors:

Students will be evaluated based on in-class and shop activities in the following categories:

- **Personal Management Skills**
- **Active Participation in Learning**
- **Social Responsibility**

Marking Criteria:

C = Constantly demonstrates the behavior
U = Usually demonstrates the behavior
S = Sometimes demonstrates the behavior
R = Rarely demonstrates the behavior

Assessment Guidelines:

Formative Assessments will occur during the correction and class discussion of booklets.

- Quizzes will be graded by the instructor, and the answers will be discussed with the class.

Summative Assessments will take place at the end of the semester during the final exams.

Final Grade Weights:

- **Projects:** 50%
- **Quiz:** 20%
- **Classwork:** 15%
- **Demonstration:** 15%
