AORSI-100-INT Workbook

Overview

This course introduces the foundation of off-road vehicle knowledge. Participants learn about vehicle types, terminology, and how off-road mobility has evolved into modern recreation and industry use. By understanding this history and terminology, students gain context for deeper technical and safety training in future courses.

Learning Objectives

- Identify different categories of off-road vehicles (ATV, UTV, OHV, ROV, etc.).
- Understand core terminology used in the industry and by regulators.
- Trace the evolution of off-road vehicles from military to recreational use.

Module 1: History of Off-Road Vehicles

Off-road vehicles began as military innovations, designed to cross terrain where traditional vehicles could not travel. World War II introduced iconic vehicles like the Jeep, which later evolved into civilian models. Over decades, specialized designs expanded into agriculture, construction, and eventually recreational use. Understanding this progression shows how off-road mobility shaped industries and lifestyles.

Instructor Guidance: Use historical photos and videos of early Jeeps and tracked vehicles to illustrate evolution.

Course Design Suggestion: Assign students to research one major off-road innovation and present its modern legacy.

Exercise: Write a short summary comparing military vs recreational applications of early off-road vehicles.

Reflection Question: Why did military needs play such a large role in the development of off-road vehicles?

Module 2: Common Vehicle Types & Characteristics

Off-road vehicles come in many forms: ATVs (All-Terrain Vehicles), UTVs (Utility Task Vehicles), OHVs (Off-Highway Vehicles), ROVs (Recreational Off-Highway Vehicles), as well as dirt bikes, dune buggies, and specialized rigs. Each type has strengths and weaknesses based on design. Students should learn to identify vehicle types by features such as wheelbase, seating configuration, and intended use.

Instructor Guidance: Provide live or video demonstrations of different vehicle types, highlighting unique characteristics.

Course Design Suggestion: Create a comparison chart for students to fill in with vehicle categories and their uses.

Exercise: Match vehicle types with appropriate scenarios (e.g., which vehicle is best for farming vs dune recreation).

Reflection Question: Why is it important to classify off-road vehicles by both industry and regulatory categories?

Module 3: Core Components – Engines, Frames, Drivetrains

Despite differences, most off-road vehicles share core components: engines (gas, diesel, or electric), frames (supporting structure), and drivetrains (power delivery systems). Students should learn how these parts interact to produce mobility across challenging terrain. Basic understanding prepares learners for more advanced maintenance courses.

Instructor Guidance: Use labeled diagrams or real parts to introduce students to components.

Course Design Suggestion: Have students label diagrams of an ATV or UTV drivetrain system.

Exercise: List three drivetrain components and describe their function in mobility.

Reflection Question: Why is understanding basic components essential for both riders and instructors?

Module 4: Standard Terminology in Safety & Regulations

Terminology varies between manufacturers, regulators, and riders. Terms like OHV, ROV, and ATV may overlap but have distinct legal meanings in different contexts. Students should familiarize themselves with standard terminology used in safety training, legislation, and by organizations like ANSI and SAE. Clear communication prevents confusion and ensures compliance.

Instructor Guidance: Provide a glossary of terms for students to reference throughout training.

Course Design Suggestion: Have students draft a glossary entry for one assigned term and present it to the class.

Exercise: Match common off-road acronyms to their full forms and definitions.

Reflection Question: How does standardized terminology improve both safety and legal compliance?

Final Assessment

Task: Complete a 25-question multiple choice quiz covering the history of off-road vehicles, common types, basic components, and standard terminology. Example questions include:
1. Which World War II vehicle served as the model for modern Jeeps?

2. What are two key differences between ATVs and UTVs?

3. Which drivetrain component delivers torque to the wheels?

4. What does the acronym OHV stand for in regulatory use?

5. Why is terminology consistency important in off-road education?

Duration: 4 hours (online or in-person)