Automotive & Diesel LMS – Execution Phase Master Package

This document represents the execution phase of the Automotive & Diesel LMS. It consolidates course syllabi generation, ASE-aligned assessment structures, LMS auto-seeding logic, virtual lab deployment, and the formal AAS program proposal into a single, institution-ready package.

1. Individual Course Syllabi – Execution Set

Each course in the catalog is instantiated as a standalone syllabus document. Syllabi follow a standardized format approved for post-secondary CTE programs.

Included Course Syllabi:
- AUT-101 Introduction to Automotive Technology
- AUT-110 Automotive Electrical Fundamentals
- AUT-120 Brake Systems (ASE A5)
- AUT-130 Steering & Suspension (ASE A4)
- AUT-140 Engine Performance I
- DSL-101 Introduction to Diesel Engines
- EV-101 Introduction to Electric & Hybrid Vehicles
- AUT-310 Advanced Engine Performance & Diagnostics
- EV-310 High-Voltage EV Systems
- CAP-401 Capstone

2. ASE-Aligned Question Banks (Build Specification)

Each technical course includes an ASE-aligned question bank derived from official task lists.

Question Types:
- Knowledge-based multiple choice
- Diagnostic scenarios
- Image-based fault identification

Delivery Formats:
- CSV (bulk LMS import)
- XML (Moodle-compatible)

3. LMS Auto-Seeding & Content Automation

The LMS supports automated course creation using scripts and AI services.

Auto-Seeding Includes:
- Course shell creation
- Module and lesson population
- Quiz and question bank import

• Media and thumbnail attachment

AI Pipeline:
• Ollama – lesson text and assessments
• Stable Diffusion – diagrams and thumbnails
• Instructor approval checkpoint

4. Virtual Lab Scenario Deployment

Virtual labs are deployed per course using Blender and Unity-based simulations.

Lab Features:
• Fault injection scenarios
• Diagnostic data streams
• Performance-based assessment
• Safe repeatable practice environments

5. AAS Program Proposal (Institutional)

Program Title: Associate of Applied Science in Automotive & Diesel Technology

Program Description:
This program prepares students for employment in automotive, diesel, fleet, and emerging EV industries through a combination of theory, virtual labs, and applied learning.

Outcomes:
• Industry-aligned technical competency
• ASE certification readiness
• Workforce and transfer readiness

Delivery:
• Hybrid and online-supported CTE instruction
• AI-assisted content with instructor oversight

6. Compliance & Accreditation Readiness

This execution package meets accreditation expectations by documenting:
• Learning outcomes
• Assessment methods
• Industry alignment
• Instructor oversight
• Student competency tracking