CASE

Ag Equipment Maintenance and Technology Scope and Sequence – Hybrid

Virtual Prior to CI

Day	Time	Discussion Items	Activity and Deliverables **Check-Off Item*
Orientation	Virtual (Pre CI)	• Host, Lead Teacher, and participant introductions • Virtual GW Textbooks • LunchBox accounts • Sign up for PowerPortal account • Binder • Curriculum Access • Google Classroom • Safety expectations during the AEMT CI	• CASE Curriculum Access (MyCASE) • Google Classroom Access • Online Training – **Fluke Digital Multimeter Basic Online Course**

In-Person

Day	Time	Discussion/Demonstration Items	Activity and Deliverables **Check-Off Item*
Day 1 (In Person)	8:00 – 12:00	• AoE: CASE Navigation • Logbook vs. "Worksheets" • Employability Rubric	• Activity 1.1.2 Technical Records • Activity 1.1.4 Mic'd Up • Activity 1.1.5 Universal Connections* • Digital multimeter operation
	12:00 – 12:45	Lunch/Return from field trip	
	12:45 – 5:00		• Work/Repair Order Template and Rubric* (Anchor Assessment) • Activity 2.1.1 Manual Transmission (Pre Assembled) – Part 2 – One gear ratio • Activity 2.1.2 Clutch Performance (Part 3) • Activity 2.1.3 Speed and Torque – Calculate for one gear ratio • Activity 2.1.4 Bearing Replacement • Activity 1.2.1 Field Experience (field trip)
	Homework:	Pre-read Teacher Notes for following day (Lessons 2.2-3.1)	

Day	Time	Discussion/Demonstration Items	Activity and Deliverables **Check-Off Item*
Day 2 (In Person)	8:00 – 12:00	• Types of gears and ratios • Activity 2.2.6 Drive Train Repair (Discussion Only)	• Activity 2.2.1 Differential Approach* • Activity 2.2.2 Planetary Power • Activity 2.2.3 Taper Bearing*
	12:00 – 1:00	Lunch	
	1:00 – 5:00	• Activity 2.2.4 Find a Tire • Activity 2.2.5 Optimizing Performance (Class Observation) • How to Use a Breadboard • Technical Skill • Breadboards • PLC's • SMS Software Download	• Activity 3.1.1 Calibration • Activity 3.1.2 Surrounding Satellites (Part One)
	Homework:	Pre-read Teacher Notes for following day (Lessons 3.2-4.1) Review LunchBox Sessions (Lesson 4.1)	
Day 3 (In Person)	8:00 – 12:00	• AoE: Teacher Notes • Automated Technologies • Activity 3.1.3 Precisely Put Together (Discussion) • Tractor driving experience	• Activity 3.1.6 Global Irrigation • Project 3.1.7 Guiding Light • Introduction to SMS • Activity 3.2.1 GIS Mapping*
	12:00 – 1:00	Lunch	
	1:00 – 5:00	• Intro to LunchBox Sessions • Lesson 4.1 Electrical Systems • Activity 4.1.3 Charging System (Demo) • LunchBox: Series and Parallel Circuit Basic	• Activity 4.1.1 Types of Circuits • Activity 4.1.2 Directional Flow • Activity 4.1.4 Charging Analysis* • Activity 4.1.5 Variable Resistor
	Homework:	Pre-read Teacher Notes for following day (Lessons 4.2-5.1) Review LunchBox Sessions (Lesson 4.2)	
Day 4 (In Person)	8:00 – 12:00	• AoE: APP Modalities • Lesson 4.2 Electrical Controls • Project 4.2.6 Sensing Data – Demonstration • Lesson 4.3 Electrical Analysis	• Activity 4.2.1 Schematic Inspection • Activity 4.2.2 Starting Circuit* • Activity 4.2.4 Relays

Day	Time	Discussion/Demonstration Items	Activity and Deliverables **Check-Off Item*
	12:00 – 1:00	Lunch	
	1:00 – 5:00	• LunchBox: Basic Soldering • Lesson 5.1 Diesel Components • Activity 5.1.1 Functional Differences	• Activity 4.3.1 Voltage Drop* • Activity 4.3.3 Current Draw • Project 4.3.4 Checking Connections (Parts One - Three) • Activity 5.1.2 Fuel Systems
	Homework:	Pre-read Teacher Notes for following day (Lessons 5.2-6.3)	
Day 5 (In Person)	8:00 – 12:00	• AoE: Materials • Lesson 5.2 Diesel and Electrical • Arduino Software • LunchBox Session: Introduction to CAN BUS • Activity 5.2.2 Monitor and Control (Demo)	• Activity 5.1.3 Lubrication and Cooling (Part Two and Three) – new thermostat only • Activity 5.1.5 Clean Air • Activity 5.2.1 CAN Bus Basics*
	12:00 – 12:45	Lunch	
	12:45 – 4:00	• Virtual PD Expectations • Check for PowerPortal Access • Take-home kits	• Project 5.2.3 Essential Components • Activity 6.1.1 Fluid Components* • Activity 6.3.1 Hydraulic Dissection
	Homework:	SMS Access PowerPortal Access John Deere Simulator account for Activity 3.1.4 Guided Operation	

Virtual

Day	Time	Discussion Items	Activity and Deliverables **Check-Off Item*
Day 6 (Virtual)	9:00 – 11:00 Synchronous	• SMS software access • John Deere Simulator	• Activity 3.1.4 Guided Operation • Activity 3.2.2 Interpolate Mapping*
	11:00 – 1:00 Asynchronous	• Lunch	• Activity 3.2.3 Crop Prescription
	1:00 – 3:00 Synchronous	• *PowerPortal* access	• Project 3.2.4 Prescribed Solution • Activity 1.2.2 Digital Navigation*
	3:00-4:00 Asynchronous		• Download Lobe • Amatrol Access • Review Lesson 3.3 and 6.1 Teacher Notes

Day	Time	Discussion Items	Activity and Deliverables **Check-Off Item*
Day 7 (Virtual)	9:00 – 11:00 Synchronous	• Lobe	• Activity 3.3.1 Remote Sensing* • Activity 3.3.2 Broken Row
	11:00 – 1:00 Asynchronous	• Lunch	• LunchBox Session: Pressure and Flow
	1:00 – 3:00 Synchronous	• Amatrol access – Simulator • Activity 6.1.2 Fluid Drawings	• Activity 6.1.3 Positively Pumping* • Activity 6.1.4 Pressure and Flow Control
	3:00-4:00 Asynchronous		• Review Lesson 6.2 and 6.3 Teacher Notes
Day 8 (Virtual)	9:00 – 11:00 Synchronous	• AoE: CASE Navigation • Lesson 6.2 Hydraulic Systems and Safety • Activity 6.2.1 Properties and Precautions • Activity 6.2.3 Pump up the Volume	• Activity 6.1.5 System Settings • Activity 6.2.3 Pump Up the Volume (Part One)
	11:00 – 1:00 Asynchronous		• LunchBox: Filtration and Contamination • Activity 6.2.4 Electrical Controls* (Part One)
	1:00 – 3:00 Synchronous	• Lesson 7.1 Practical Evaluation	• Project 6.3.4 Filter and Flush • Preparing a practical exam
	3:00-4:00 Asynchronous		• End of Course Assessment* • Survey