

John Deere Agricultural Equipment Technology		Course Program Map										
		Institutional Skills	diagnose mechanical malfunctions and performance problems and make necessary repairs.	operate precision John Deere diagnostic and repair equipment.	interpret repair manuals and computer-based programs dealing with specifications and repair procedures.	practice customer service skills with customers, employer and fellow employees.	use tools and equipment found in a John Deere repair shop.	diagnose and service a variety of John Deere systems including electrical, engines, transmissions, and harvesting equipment.	follow established procedures for safety and accident prevention in the John Deere service facility.	describe the purpose of the laws concerning personal and environmentally safe handling of hazardous waste.	define information that should be completed on repair orders, accurately describing customer issues in pursuit of a satisfactory repair.	pass Methods and Techniques testing.
Courses												
JDAT 102 Agricultural Powertrains I			IRA	IRA	IRA		IR	IR	IRA	I	IR	
JDAT 103 Agricultural Hydraulics I			IRA	IRA	IRA		IR	IRA	IR	I	IR	I
JDAT 1043 Agricultural Electrical I			IR	IRA	IR		IRA	IRA	IR		IR	I
INPR 1511 Orientation & Safety				I					IRMA	IRMA		
JDAT 112 Information Management Systems	C	IR	IRA	IRA	IRA	IRA	IRA	IR	R	IRMA	I	
JDAT 122 Agricultural Powertrains II		IRA	IRA	IRA		IR	IR	IRA	IRA	IR		
JDAT 123 Agricultural Hydraulics II		IRA	IRA	IRA		IR	IRA	IR	I	IR	IR	
JDAT 124 Agricultural Electrical II		IRA	IRA	RA		RA	IRA	RA	IRA	IR	IR	
JDAT 105 John Deere Air Quality Systems		IRA	IRA	IRA	IRA	IRA	IRA	IRA	IRA	R		
JDAT 107 Dealer Internship I	CW	IR	IR	IR	IRA	R	RMA	RMA	R	IR		
JDAT 202 Engines	P	IRA	IRMA	IRMA	I	IRMA	IRMA	IRMA	RMA	RMA	MA	
JDAT 203 Agricultural Fuel Systems & Performance	P	IRA	IRA	IRA	IRA	IR	I	IRA	RA	RA		
JDAT 109 Harvesting Equipment		IRA	IRA	IRMA	IRA	IRA	IRMA	IR		IRA		
JDAT 108 Dealer Internship II	CPW	IR	IR	IR	IRMA	R	RMA	RMA	R	IR		
JDAT 120 Special Topics in Agricultural Technology	P	IRMA	IRMA	IRMA	IR	RMA	IRMA	R	R	RMA	MA	
JDAT 213 Agricultural Hydraulics III	P	IRMA	IRMA	IRMA	I	RMA	RMA	RMA	MA	MA	MA	
JDAT 214 Electrical III	P	RM	MA	MA		MA	RMA			IR	MA	
INPR 125 Intro to Manufacturing Welding						IR		IR				

Mapping	
I	Introduced
R	Reinforced
M	Mastered
A	Assessed/Artifact

Essential Skills	
1	written communication
2	oral communication
3	critical thinking
4	cultural diversity
5	social responsibility

Employability Skills	
C	communication
P	problem solving
W	work ethic

JDAT 102 Agricultural Powertrains I				Curriculum Map									
Program Outcomes				diagnose mechanical malfunctions and performance problems and make necessary repairs.	operate precision John Deere diagnostic and repair equipment.	interpret repair manuals and computer-based programs dealing with specifications and repair procedures.	practice customer service skills with customers, employer and fellow employees.	use tools and equipment found in a John Deere repair shop.	diagnose and service a variety of John Deere systems including electrical, engines, transmissions, and harvesting equipment.	follow established procedures for safety and accident prevention in the John Deere service facility.	describe the purpose of the laws concerning personal and environmentally safe handling of hazardous waste.	define information that should be completed on repair orders, accurately describing customer issues in pursuit of a satisfactory repair.	pass Methods & Techniques testing.
<b>Course SLO: Students will be able to</b> understand the theory of power-train systems.	I	I	IR								IR		
explain the theory of operation of mechanical, partial-powershift, full-powershift, and infinitely variable transmissions.	I	IR	IRA				I				IR		
disassemble, and reassemble various power-train systems.	IR	IR	IRA		IR	IR	IR				IR		
demonstrate understanding of final drive systems and various final drive and differential systems, disassemble, and reassemble various brake (wet and dry),	IRA	IRA	IR		IR	IR					IR		
demonstrate knowledge of safety skills and procedures of basic machine operation and diagnostics.	IRA	IRA	IRA		IR	I	I	I		IR			

JDAT 103 Agricultural Hydraulics I		Curriculum Map									
		Program Outcomes									
<b>Course SLO: Students will be able to</b>											
calculate hydraulic pressure and flow using Pascal's law.	IR	IR	IR		IR	IR	IR		IR	IR	-
demonstrate the theory of operation of an open and closed center hydraulic system.	IRA	IRA	IRA			IR			IR	IR	-
demonstrate the theory of hydraulic pump and motor operation.	IRA	IRA	IRA			IR			IR	IR	-
disassemble and repair a hydraulic component following tech manual instructions and specifications.	I	I	I		-	IR				IR	-
utilize a flow meter and test gauges to measure performance in a hydraulic system.	IRA	IR	IRA		IR	IRA	IR		IR	IR	-
identify the symbols on an ISO hydraulic diagram and locate the components on equipment.	I		IR		I	IR					I
demonstrate safe work practices.		I			IR		IR	I			
											pass Methods & Techniques testing.

JDAT 104 Agricultural Electrical I		Curriculum Map							
		Program Outcomes							
<b>Course SLO: Students will be able to</b>									
demonstrate safe work practices.	-				IR	IR	IR		
use Ohm's Law to demonstrate / predict DC electrical behavior.	-		IR			IRA			
to measure voltage and current flow in electrical circuits using a DVOM.	IR	IR	IR		IR	IRA			
recognize and test electrical components and devices.	-	IR	IR		IR	IRA	IR		IR
identify symbols on electrical schematics and locate components on equipment.	I	IR	IR		IR	IRA			
follow diagnostic and repair procedures.	I	IR	IR		IR	IRA			IR
								-	-
									pass Methods & Techniques testing.

INPR 1511 Orientation & Safety	<b>Program Outcomes</b> diagnose mechanical malfunctions and performance problems and make necessary repairs. operate precision John Deere diagnostic and repair equipment. interpret repair manuals and computer-based programs dealing with specifications and repair procedures. practice customer service skills with customers, employer and fellow employees. use tools and equipment found in a John Deere repair shop. diagnose and service a variety of John Deere systems including electrical, engines, transmissions, and harvesting equipment. follow established procedures for safety and accident prevention in the John Deere service facility. describe the purpose of the laws concerning personal and environmentally safe handling of hazardous waste. define information that should be completed on repair orders, accurately describing customer issues in pursuit of a satisfactory repair. pass Methods & Techniques testing.									
<i>Curriculum Map</i>										
Course SLO: Students will be able to demonstrate proper safety techniques.								IR	RMA	-
demonstrate an understanding of a wide variety of topics depending on what needs to be taught during each class.								RMA	IRMA	IRMA
demonstrate knowledge of OSHA-10 safety compliance										

JDAT 112 Information Management Systems		Curriculum Map									
		Program Outcomes									
<b>Course SLO: Students will be able to</b> demonstrate proper safety techniques.		diagnose mechanical malfunctions and performance problems and make necessary repairs.	operate precision John Deere diagnostic and repair equipment.	interpret repair manuals and computer-based programs dealing with specifications and repair procedures.	practice customer service skills with customers, employer and fellow employees.	use tools and equipment found in a John Deere repair shop.	diagnose and service a variety of John Deere systems including electrical, engines, transmissions, and harvesting equipment.	follow established procedures for safety and accident prevention in the John Deere service facility.	describe the purpose of the laws concerning personal and environmentally safe handling of hazardous waste.	define information that should be completed on repair orders, accurately describing customer issues in pursuit of a satisfactory repair.	pass Methods & Techniques testing.
demonstrate an understanding of a wide variety of John Deere information management systems.	IR	IRA	IRA	IR	IRA	IRA	IRA	R	R	IRMA	-
demonstrate the proper use of Service Advisor on a variety of equipment, including but not limited to, pulling codes, doing regenerations and engine active tests.	IRA	IRA	IRA	I	IRA	IRA	IRA	IR	IRA	IRA	-

JDAT 122 Agricultural Powertrains II		Curriculum Map									
		Program Outcomes									
<b>Course SLO: Students will be able to</b>											
demonstrate understanding the theory of power-train systems.	I	I	IR								IR
demonstrate the diagnosis of mechanical, partial powershift, and full powershift transmissions.	I	IR	IRA			I				IR	
diagnose, disassemble, and reassemble various power-train systems.	IR	IR	IRA		IR	IR	IR			IR	
demonstrate the theory of operation of brakes.	IR		IR			I					
diagnose, disassemble, and reassemble various brakes.	IRA	IR	IR		IR	I					
demonstrate the diagnostics of final drive systems and various final drive and differential systems.	IRA	IRA	IRA		IR	I				IR	
											pass Methods & Techniques testing.

JDAT 123 Agricultural Hydraulics II			Curriculum Map									
			Program Outcomes									
<b>Course SLO: Students will be able to</b>												
demonstrate the theory of diagnostics of an open and closed center hydraulic system	IRA	IRA	IRA			IR				IR	IR	
demonstrate the disassembly and assembly of hydraulic pump and motor operation.	IRA	IRA	IRA			IR				IR	IR	
diagnose problems of an open and closed center hydraulic system.	IR	IR	IR		IR	I				IR	IR	
diagnose and repair a hydraulic component following tech manual instructions and specifications.	I	I	I		I	IR					IR	
utilize a flow meter and test gauges to diagnose failures in a hydraulic system.	IRA		IRA			IRA	IR			IR	IR	
describe the symbols on an ISO hydraulic diagram and locate the components on equipment.	I		IR			IR					IR	

JDAT 124 Agricultural Electrical II		Curriculum Map									
		Program Outcomes									
<b>Course SLO: Students will be able to</b>											
formulate safe work practices.	RA	IR	RA		RA		RA		RA		
demonstrate competency of digital multi-meter usage.	IR	IRA			IRA	IRA		RA			
use Ohm's Law to interpret DC electrical behavior.	IR		IR			IRA					IR
recall testing procedures for common electrical components.	IR	IR	IR		IR	IRA					
follow and explain diagnostic and repair procedures.	IR	IR	IR		IR	IRA				IR	
interpret symbols on electrical schematics and locate components on equipment.	RA		RA		RA	IRA					IR
											pass Methods & Techniques testing.

JDAT 105 John Deere Air Quality Systems		Curriculum Map									
		Program Outcomes									
<b>Course SLO: Students will be able to</b>											
charge and verify proper operation of various refrigerant systems.	IRA	I RA	IRA	RA							
demonstrate the safe handling of refrigerants.	IRA	I RA	IRA	RA							
use test gauges and thermometers in measuring the performance of the HVAC system.	IRA	I RA	IRA	IRA	IRA		IRA	IRA	IRA	RA	
explain the theory of operation of HVAC systems.	IRA	I RA	IRA	IRA			IRA	IRA	IRA	RA	
perform tests, repairs, and retrofit procedures.	IRA	I RA	IRA	RA							
describe the fundamentals of operation of a mobile HVAC system.	IRA	I RA	IRA	IRA			IRA	IRA	IRA	RA	

JDAT 107 Dealer Internship I		Curriculum Map									
Program Outcomes		diagnose mechanical malfunctions and performance problems and make necessary repairs.	operate precision John Deere diagnostic and repair equipment.	interpret repair manuals and computer-based programs dealing with specifications and repair procedures.	practice customer service skills with customers, employer and fellow employees.	use tools and equipment found in a John Deere repair shop.	diagnose and service a variety of John Deere systems including electrical, engines, transmissions, and harvesting equipment.	follow established procedures for safety and accident prevention in the John Deere service facility.	describe the purpose of the laws concerning personal and environmentally safe handling of hazardous waste.	define information that should be completed on repair orders, accurately describing customer issues in pursuit of a satisfactory repair.	pass Methods & Techniques testing.
Course SLO: Students will be able to		R			R	RMA	RMA	R	IR		
demonstrate proper safety techniques.		IR	IR	IR	R	RMA			IR		
demonstrate an understanding of theory of powertrain, electrical and hydraulic systems.		IR	IR	IR	R	RMA			IR		
explain theory of operation of powertrains, electrical systems and hydraulic systems.		IR	IR	IR	RMA				IR		
diagnose, disassemble and reassemble various powertrains, electrical systems and hydraulic systems.	R	IR	R	R	RMA				IR		

## JDAT 202 Engines

<i>Curriculum Map</i>										
		Program Outcomes								
<b>Course SLO: Students will be able to</b>										
disassemble and reassemble an engine using recommended procedures.		IR	IRMA	I	IRMA	IR	IRMA	RMA	RMA	
describe the theory of operation of an internal combustion engines.	IR	IRA	IRA		IRMA	IRMA			RMA	
utilize a dynamometer to measure engine performance and diagnostic testing procedures.	IR	IR			IRMA	IRMA	MA		RMA	
properly diagnose engine performance issues.	IR		RMA		IRMA	IRMA			RMA	
demonstrate theory of repair for a variety of engines.	A	MA	A			A			RMA	MA

JDAT 203 Agricultural Fuel Systems & Performance		Curriculum Map									
Program Outcomes											
		diagnose mechanical malfunctions and performance problems and make necessary repairs.	operate precision John Deere diagnostic and repair equipment.	interpret repair manuals and computer-based programs dealing with specifications and repair procedures.	practice customer service skills with customers, employer and fellow employees.	use tools and equipment found in a John Deere repair shop.	diagnose and service a variety of John Deere systems including electrical, engines, transmissions, and harvesting equipment.	follow established procedures for safety and accident prevention in the John Deere service facility.	describe the purpose of the laws concerning personal and environmentally safe handling of hazardous waste.	define information that should be completed on repair orders, accurately describing customer issues in pursuit of a satisfactory repair.	pass Methods & Techniques testing.
<b>Course SLO: Students will be able to</b>											
describe the theory of operation of various types of fuel systems.	IR	IRA	IR	IR	IR	I	IRA	RA	RA	RA	
perform diagnostic and repair procedures on various fuel systems.	I	IR	IRA	IR	IR	I	IRA	RA	RA	RA	
prove knowledge of the legal limitations with respect to repairing fuel systems and Emission systems.	IRA	IRA	IRA	IRA	IR	I	IRA	RA	RA	RA	
describe the theory of operation for all tiered emission systems.	IRA	IR	IR	I	IR	I	IRA	RA	RA	RA	
perform diagnostic and repair procedures on tiered emission systems.	IRA	IR	IR	I	IR	I	IRA	RA	RA	RA	

JDAT 109 Harvesting Equipment		Curriculum Map								
<b>Program Outcomes</b>		diagnose mechanical malfunctions and performance problems and make necessary repairs.	operate precision John Deere diagnostic and repair equipment.	interpret repair manuals and computer-based programs dealing with specifications and repair procedures.	practice customer service skills with customers, employer and fellow employees.	use tools and equipment found in a John Deere repair shop.	diagnose and service a variety of John Deere systems including electrical, engines, transmissions, and harvesting equipment.	follow established procedures for safety and accident prevention in the John Deere service facility.	describe the purpose of the laws concerning personal and environmentally safe handling of hazardous waste.	define information that should be completed on repair orders, accurately describing customer issues in pursuit of a satisfactory repair.
<b>Course SLO: Students will be able to</b>		IR					IR			pass Methods & Techniques testing.
demonstrate safe work practices.		IRA	IRA	IRA	IRA	IRA	IRA			
describe the fundamentals of various harvesting systems.										
operate a combine and change platforms as needed.										
perform maintenance, diagnostic, and repair procedures on various harvesting equipment.		IRA	IRA	IRA	IRA	IRA	IR			
set up and adjust harvesting equipment prior to and in-field use to optimize performance according to conditions.		IRA	IRA	IRA	IRA	IRMA	IR			

JDAT 108 Dealer Internship II		Curriculum Map									
		Program Outcomes									
Course SLO: Students will be able to demonstrate proper safety techniques.		R		MA	R		RMA	R	IR		
demonstrate an understanding of theory of powertrain, electrical and hydraulic systems.	IR	IR	IR	MA	R	RMA			IR		
explain theory of operation of powertrains, electrical systems and hydraulic systems.	IR	IR		MA		RMA			IR		
diagnose, disassemble and reassemble various powertrains, electrical systems and hydraulic systems.	R	IR	R	MA	R	RMA			IR		
											pass Methods & Techniques testing.

JDAT 120 Special Topics in Agricultural Technology		Curriculum Map									
		Program Outcomes									
<b>Course SLO: Students will be able to</b> demonstrate proper safety techniques.											
illustrate the theory of operation of mechanical, powershift and infinitely variable transmissions.		RMA			RMA		R	R	RMA	RMA	
diagnose, disassemble and reassemble various powertrain systems with proper summarization of failures.	RMA		IR		RMA	IRMA				R	MA
explain theory of an Exactemerge Planter system.	IR	I	IRMA		RMA	IR				R	

JDAT 213 Agricultural Hydraulics III		Curriculum Map									
		Program Outcomes									
<b>Course SLO: Students will be able to</b> demonstrate adequate knowledge of safety skills and procedures of basic machine operation.	RMA	RMA			IR	RMA	RMA	RMA		MA	
illustrate the theory of operation and diagnosis of open center and closed center systems.	IRA	IRA	IRA	I	RMA	MA			IRM	MA	
demonstrate the theory of operation and diagnosis of a hydraulic pump and motor operation.	IRA	IRA	IRA	I	RMA	MA			IRM	MA	
disassemble and repair hydraulic components using technical manual instructions and specifications with summarizations for the failure.	IRA		RMA		RMA	MA	R		R	MA	
utilize a flow meter and test gauges to analyze performance of hydraulic systems.	RA	RA	RA		RMA	RMA	MA	R	R	MA	
interpret symbols on an ISO hydraulic diagram and locate the components on equipment.	IRA		RMA							MA	
											pass Methods & Techniques testing.

Curriculum Map										
		Program Outcomes								
<b>Course SLO: Students will be able to</b>										
have an adequate knowledge of safety skills and procedures of basic machine operation.						MA	MA		A	
measure and interpret voltage and current flow in electrical circuits.	MA		MA		MA	MA			A	MA
recognize and test electrical components and devices using a DVOM and analyzing the information given.	MA	MA	MA		MA	MA			A	MA
identify and describe symbols on electrical schematics and locate components on equipment.			MA		MA	MA			A	MA
explain and generate published diagnostic and repair procedures.			MA	MA					A	
										pass Methods & Techniques testing.

