



**South Central College**  
**Program Design**

## **CERT 3090 Advanced Agriculture Technician**

### **Program Information**

**Instructional Level** Certificate

**Career Cluster** Agriculture, Food & Natural Resources

### **Description**

Designed for individuals to enter agribusiness careers related to the growing demand for installation, maintenance, troubleshooting, repair, reconfiguring, and/or replacement of mechatronic systems and components used in agricultural settings. This type of automation technology reduces input costs, decreases manual labor, improves safety and/or increases efficiency and accuracy within agribusiness.

### **Program Admission Dates (Fall and/or Spring)**

Fall and Spring

### **Program Location (North Mankato and/or Faribault)**

North Mankato

### **Program Student Learning Outcomes**

- 1 Perform assembly, programming, maintenance, troubleshooting, repair, operation, and adjustment of mechatronic systems and components.
- 2 Perform work using appropriate safety practices.
- 3 Demonstrate effective participation in an agribusiness team.

### **Program Configurations**

#### **Fall Start**

#### **Credits**

Technical Course 21

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**Total Credits 21**

#### **Fall**

Course #	Course Title	Credits	Function
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MEAG 1001	<b>Mechatronics Applications in Agriculture</b>	3	Technical Course
Choose between:	<b>MECA 2120 (Fluid Power) OR AGME 1891 (Hydraulic Theory) AND AGME 2832 (Hydraulic Assist and Hydrostat Transmissions)</b>	3	Technical Course
Choose between:	<b>MEAG 1610 (Ag Equipment Maintenance) OR MECA 2123 (Mechanical Systems II)</b>	3	Technical Course
PLSC 1205	<b>Precision Agriculture</b>	3	Technical Course

### Spring

Course #	Course Title	Credits	Function
Choose between:	<b>MECA 1223 (Mechanical Systems I) OR MEAG 1700 (Ag Industry Machinery)</b>	3	Technical Course
Choose between:	<b>MECA 1222 (Electricity - Devices and Circuits II) OR AGME 1861 Tractor Electrical)</b>	3	Technical Course
MECA 2110	<b>Sensors and Control</b>	3	Technical Course

### Program Course List

Number	Title	Credits	Pre/Corequisites
<b>MEAG 1001</b>	<b>Mechatronics Applications in Agriculture</b>	3	
<b>AGME 1812</b>	<b>Machinery Assembly and Reconditioning I</b>	2	Enrolled in Ag Service Technician Program
<b>AGME 1813</b>	<b>Machinery Assembly, Operation, Adjust. &amp; Reconditioning II</b>	2	Enrolled in Agriculture Service Tech Program
<b>AGME 1861</b>	<b>Tractor Electrical</b>	3	Enrolled in Ag Service Technician Program, or with instructor approval
<b>AGME 1891</b>	<b>Hydraulic Theory 1</b>	1	Enrolled in Ag Service Tech Program, or with instructor approval
<b>AGME 2832</b>	<b>Hyd-Assist/Hydrostatic Transmissions</b>	2	AGME 1821 AGME 1831
<b>MEAG 1610</b>	<b>Ag Equipment Maintenance</b>	3	None
<b>MEAG 1700</b>	<b>Agricultural Industry Equipment</b>	3	None
<b>MECA 1222</b>	<b>Electricity - Devices and Circuits II</b>	3	MECA 1122: Electricity - Devices and Circuits I
<b>MECA 1223</b>	<b>Mechanical Systems 1</b>	3	
<b>MECA 2110</b>	<b>Sensors and Control</b>	3	MECA 1120 or MECA 1122 and MECA 1125 MECA 1130
<b>MECA 2120</b>	<b>Fluid Power 1</b>	3	None
<b>MECA 2123</b>	<b>Mechanical Systems 2</b>	3	MECA 1223

			PHYS 101 or equivalent.
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