

AGRICULTURAL MECHANICS

CURRENTLY NOT ENROLLING NEW STUDENTS

Mechanics is the science of things in motion. Agricultural mechanics is concerned with these principles as they apply to the repair and maintenance of cultivation machines. Through offering a one-year Certificate of Achievement and a two-year Associate of Applied Science degree (AAS), this program will equip students with in-depth knowledge and skills related to hydraulic, braking, drivetrain, diesel, electrical, and mechanical systems. Successful graduates of this program will also be able to proficiently weld and fabricate.

Agricultural Mechanics Technology AAS (116+ credits)

The AAS in Agriculture Mechanics Technology provides a deep dive into the field of agricultural mechanics. Courses are designed to teach students the intersectional competencies required of the modern mechanical technician. Students will gain mechanical, welding, hydraulic and electrical skills taught to industry technical and safety standards. Students will graduate with deep knowledge of drivetrain and diesel systems and will have hours of experience diagnosing and repairing agricultural equipment. Mentoring under field-tested experts, students will gain experience operating agriculture equipment and earn a Forklift Operator Certificate. Upon completion of the program, students will have proven their ability to think critically, solve complex mechanical issues, lead as a team member, and thrive working individually.

Program and Degree Learning Outcomes:

IO1 **Communication**

Students will be able to communicate clearly and effectively within a workplace context.

IO2 **Quantitative Reasoning**

Students will be able to reason mathematically using methods appropriate to agricultural mechanics.

IO3 **Human Relations/Workplace Skills**

Students will be able to demonstrate teamwork, ethics, safety awareness, and/or workplace specific skills related to agricultural mechanics.

PO4 Students will demonstrate knowledge of scientific principles when applied to the diagnoses and/or repair of agricultural equipment systems.

PO5 Students will demonstrate critical-thinking and problem-solving skills in the diagnoses of agricultural equipment.

PO6 Students will diagnose and perform repairs within industry standards.

PO7 Students will demonstrate workplace safety when operating, repairing and servicing equipment.

The following schedule of courses is the recommended program for completing the AAS degree. See a program advisor for substitute courses.

First Year

Fall Quarter

AGM 102 Agricultural Workplace Safety 1

AGM 109 Measuring and Tools Identification 2

AGM 151 Drivetrains I 6

MAP 117 Applied Math for Workforce Programs I 5

Winter Quarter

AUT 121 Automotive Electrical and Electronic Systems 15

WLD 145 Agricultural Welding 4

Spring Quarter	
AGM 141 Hydraulics I.....	6
AUT 111 Automotive Engine Service.....	9
SOC&101 Intro to Sociology.....	5
OR PSYCH&100 General Psychology	

Summer Quarter	
AGM 103 Agricultural Equipment.....	3
AGR 295 Work-based Learning.....	5
AGR 297 Work-based Learning Seminar.....	1

Second Year	
Fall Quarter	
AGM 161 Diesel I.....	5
AGM 221 Electrical II (Continuation of AUT 121).....	6
AGM 241 Hydraulics II.....	5
CMST&220 Public Speaking.....	4
OR CMST&210 Interpersonal Communications	

Winter Quarter	
AGM 129 Hydraulics I.....	5
AGM 251 Drivetrains II.....	5
AGM 261 Diesel II.....	6

Spring Quarter	
AGM 291 Diagnostics (Capstone).....	8
AUT 231 Automotive Heating & Air Conditioning.....	6
FAD 150 Industrial First Aid & CPR.....	2
ENGL 109 Applied Technical Writing.....	3
OR ENGL&101 English Composition I	

Certificate of Achievement

The Certificate of Achievement is designed to provide recognition for the student who does not plan to complete an AAS degree program. A student who completes the following option will earn a certificate of achievement from BCC.

Agriculture Mechanic Technology Certificate of Achievement (64 credits)

The Agriculture Mechanics Technology program introduces students to the field of agricultural mechanics. Courses are designed to teach students the intersectional competencies required of the modern mechanical technician. Students be exposed to mechanical, welding, hydraulic and electrical skills taught to industry technical and safety standards. Students will gain experience operating agriculture equipment and earn a Forklift Operator Certificate. Upon completion of the certificate, students will have proven their ability to think critically, solve complex mechanical issues, lead as a team member, and thrive working individually.

Program and Degree Learning Outcomes:

IO1 **Communication**

Students will be able to communicate clearly and effectively within a workplace context.

- I02 **Quantitative Reasoning**
Students will be able to reason mathematically using methods appropriate to agricultural mechanics.
- I03 **Human Relations/Workplace Skills**
Students will be able to demonstrate teamwork, ethics, safety awareness, and/or workplace specific skills related to agricultural mechanics.
- PO4 Students will demonstrate knowledge of scientific principles when applied to the diagnoses and/or repair of agricultural equipment systems.
- PO5 Students will demonstrate critical-thinking and problem-solving skills in the diagnoses of agricultural equipment.
- PO6 Students will diagnose and perform repairs within industry standards.
- PO7 Students will demonstrate workplace safety when operating, repairing and servicing equipment.

Fall Quarter

AGM 102 Agricultural Workplace Safety	1
AGM 109 Measuring and Tools Identification	2
AGM 151 Drivetrains I.....	6
MAP 117 Applied Math for Workforce Programs I.....	5
CMST&220 Public Speaking	5
OR CMST&210 Interpersonal Communications	

Winter Quarter

AUT 121 Automotive Electrical and Electronic Systems	15
WLD 145 Agricultural Welding	4
FAD 150 Industrial First Aid & CPR.....	2

Spring Quarter

AGM 141 Hydraulics I.....	6
AUT 111 Automotive Engine Service.....	9
ENGL 109 Applied Technical Writing.....	3
OR ENGL&101 English Composition I	
SOC&101 Intro to Sociology	5
OR PSYCH&100 General Psychology	

Summer Quarter

AGM 103 Agricultural Equipment	3
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