

AGRICULTURAL TECHNICIAN (AGT)

AGT-101 HYDRAULIC THEORY & OPERATION

2 credit hours, 4 contact hours (1 Lecture/3 Lab Hours Per Week)

A study of hydraulic theory and the maintenance, repair and methods of troubleshooting mobile hydraulic systems during lab experience. Also covered in this class are cylinders, controls, pumps and accessories of hydraulic equipment. *2 credit hours/4 billed contact hours*

Fee: \$75.00

AGT-102 PRODUCTION AGRICULTURE

2 credit hours, 3 contact hours (1 Lecture/2 Lab Hours Per Week)

Production agriculture studies how to identify and resolve environmental issues. Class covers crop production and farming by means of soil science, plant growth, pest control, agricultural leadership, equipment safety/operation and daily farm maintenance. *1 credit hour/2 billed contact hours*

Fee: \$50.00

AGT-103 FUNDAMENTALS OF ENGINES

3 credit hours, 7 contact hours (1 Lecture/6 Lab Hours Per Week)

Examines internal combustion engine fundamentals and diesel engine construction and maintenance. Studies the basics of gas and diesel engines including disassembly, measurement and assembly procedures. Troubleshooting is also covered. *3 credit hours/7 billed contact hours*

Fee: \$73.00

AGT-104 VEHICLE/EQUIPMENT ELEC FUNDAMENTALS

3 credit hours, 5 contact hours (2 Lecture/3 Lab Hours Per Week)

This course introduces electrical and electronic systems used on agricultural equipment, with an emphasis toward the theory, operation, and application. Also included will be the introduction to diagnostic principles and procedures as they apply to basic circuit types and predominate components utilized. Students will be expected to gain utilization skills as they apply to common testing tools and instruments. Students also will be expected to test for and measure voltages, current flow, and resistance; as well as identify and measure analog and digital signals. *3 credit hours/5 billed contact hours*

Fee: \$200.00

AGT-109 HEATING, VENTING & AC SYSTEMS

2 credit hours, 4 contact hours (1 Lecture/3 Lab Hours Per Week)

Theory, service and repair of HVAC systems used on agricultural equipment are studied. Proper charging and recovery procedures are covered on both manual and automatic climate controlled systems. Safe handling of HVAC fluids and gases, as per EPA guidelines, as well as obtaining safe handling certification from either the Mobile Air Conditioning Society (MACS) or Automotive Service Excellence (ASE) is included. *2 credit hours/4 billed contact hours*

Fee: \$75.00

AGT-112 SEEDING & TILLAGE EQUIPMENT

2 credit hours, 4 contact hours (1 Lecture/3 Lab Hours Per Week)

Service and adjustment of seeding equipment including drills and planters along with tillage equipment are covered in this course. Students will learn to set up the equipment in the diesel labs according to manufacturer guidelines and then make field adjustments, depending on soil conditions. *2 credit hours/4 billed contact hours*

Requisite(s): Must take AGT 107

Fee: \$75.00

AGT-113 HYDRAULIC SYSTEMS

2 credit hours, 4 contact hours (1 Lecture/3 Lab Hours Per Week)

The second hydraulic course that introduces the student to variations of basic systems, schematics and more advanced testing and adjusting of mobile hydraulic systems. Students will gain hands on experience in components and equipment in the diesel laboratories. *2 credit hours/4 billed contact hours*

Requisite(s): Must complete AGT-101

Fee: \$75.00

AGT-116 COMBINE MAINTENANCE & REPAIR

3 credit hours, 7 contact hours (1 Lecture/6 Lab Hours Per Week)

The setup, service, repair and adjustment of modern combines including both corn and grain heads are covered in this course. Students will apply theories learned in the classroom to current production combines in the diesel labs and in the field. *3 credit hours/7 billed contact hours*

Fee: \$75.00

AGT-119 VEH/EQUIP ELEC SYST OPER & DIAGNOSTICS

3 credit hours, 7 contact hours (1 Lecture/6 Lab Hours Per Week)

This course covers the electrical and electronic systems found on agricultural equipment. Systems covered include: power, starting, charging, cab/operator station controls, engine, power train, hydraulic, braking, steering, data network and related electronic control units. System operation, service, diagnosis and repair are included. *3 credit hours/7 billed contact hours*

Requisite(s): Must complete AGT-104

Fee: \$75.00

AGT-122 PRECISION FARMING SYSTEMS

2 credit hours, 4 contact hours (1 Lecture/3 Lab Hours Per Week)

This course presents the essentials of modern precision farming techniques. Function and application of precision farming components, equipment, satellite and cellular communications, OEM and/or aftermarket software systems and requirements, will be the focus of this course. System troubleshooting and diagnosis is stressed throughout this course. *2 credit hours/4 billed contact hours*

Requisite(s): Must complete AGT-104

Fee: \$75.00

AGT-125 TRACTION DRIVELINES

2 credit hours, 4 contact hours (1 Lecture/3 Lab Hours Per Week)

Studies the maintenance and repair of various drivelines used on today's highly technical agricultural equipment. Actual hands-on experience in adjustment, maintenance, set-up, servicing and operation of this equipment is offered. The importance of manufacturers' shop manuals is stressed for repair, set up and problem diagnosis. *2 credit hours/4 billed contact hours*

Requisite(s): Must complete AGT-107

Fee: \$75.00

AGT-207 ADVANCED HYDRAULICS

2 credit hours, 4 contact hours (1 Lecture/3 Lab Hours Per Week)

Advanced hydraulic systems such as electro/hydraulic circuit operation and testing and complex valving are the focus of this classroom/lab course. Students will gain practical knowledge in the agricultural labs using modern equipment utilizing schematics and advanced troubleshooting techniques. *2 credit hours/4 billed contact hours*

Requisite(s): Must complete AGT-101 AGT-104 AGT-113 AGT-119 and may register with approval from the instructor.

Fee: \$75.00

AGT-213 DIESEL ENG PERF ANALYSIS/TUNE UP

3 credit hours, 5 contact hours (2 Lecture/3 Lab Hours Per Week)

Students learn to adjust and tune diesel engines to meet factory specifications. Using both engine and chassis dynamometers and the required instrumentation, students diagnose performance complaints, troubleshoot and plot performance curves. *3 credit hours/5 billed contact hours*

Requisite(s): Completion of AGT 103 and must obtain approval of instructor.

Fee: \$75.00

AGT-216 EQUIPMENT SHOP PROJECT

4 credit hours, 10 contact hours (1 Lecture/9 Lab Hours Per Week)

Students are placed into a simulated real world repair facility environment. The instructor acts as the service department supervisor assigning a variety of related tasks. Students are given various pieces of equipment to rebuild repair or reconditioned to like new condition. Each student will be evaluated on their ability to apply knowledge gained from all previous instruction. *4 credit hours/10 billed contact hours*

Requisite(s): Must complete AGT-101, AGT-103, AGT-104, AGT-107, AGT-109, AGT-110, AGT-112 AGT-113 AGT-116 AGT-119 AGT-125 AGT-213 and obtain approval of instructor. Must take AGT-122 and AGT-207 concurrently.

Fee: \$75.00

AGT-220 DIESEL TECH FIELD EXPERIENCE

2 credit hours, 360 contact hours (360 Field Experience Hours Per Week)

Provides the student with the opportunity to put to practical use, knowledge and skills learned in the classroom. Students are responsible for obtaining their own position (usually paid), with the approval of the Field Experience Instructor. The experience is conducted under the supervision of a faculty member who assists the student in developing a work experience plan and visits the student at the work site. Periodic reports are required. The faculty member and the work site supervisor evaluate the student's work performance at the end of the semester. During the final exam week, an evaluation meeting is scheduled. The course entails the completion of 360 total clock hours or work experience to receive the 2 credit hours. Course may be repeated for credit. *Billing will be made by credit hours NOT contact hours*

AGT-250 MECHANIZED IRRIGATION SYSTEMS

4 credit hours

This course introduces the principles of mechanized irrigation systems. Basic concepts of center pivot operation are introduced, including how power is supplied to the pump and pivot, as well as basics of wet and dry operation. Center pivot installation and basic troubleshooting, including safety practices, assembly process, underground components, meter usage, schematics, and water distribution uniformity are discussed. Students work hands-on with pivots and pivot components.