AGRICULTURAL MECHANICS, A.O.S.

Major Code: 0527

The A.O.S. program is a two-year program consisting almost entirely of courses in mechanics and agriculture. There is no requirement for courses in liberal arts and general studies. The curriculum is best suited to students who intend to find immediate employment in their field or return to the home farm. The student may choose options (15 credits) in agricultural business, dairy equipment technology, small power equipment, auto mechanics, animal science, agronomy, or horticulture. Students who intend to continue their education would be better prepared by following the A.A.S. degree program in agricultural engineering, which includes the liberal arts and sciences required to transfer to a bachelor degree program.

Student Learning Outcomes

Upon successful completion of this program, students will be able to:

- Develop a comprehensive understanding of the mechanical function of the compression-ignition engines and modern agricultural equipment
- Develop a comprehensive understanding of electrical systems and electronic controls used for diesel- powered equipment and modern agricultural equipment
- Develop a comprehensive understanding of hydraulic systems, components and control systems used for transmitting hydraulic power in diesel-powered equipment and modern agricultural equipment
- Develop the ability to accurately and efficiently diagnose and repair failures in mechanical, electrical and hydraulic systems in diesel-powered equipment and modern agriculture equipment.

Curriculum Requirements

A minimum of 62 credits is required for degree completion.

Code	Title	Credits
AGEN 100	Equipment Care & Maintenance	3
AGEN 105	Principles of Farm Machinery	2
DTEC 125	Diesel Electrical Systems	4
DTEC 225	Diesel Electronics	4
AUTO 102	Metals	3
AGEN 115	Ag Engr Industry Overview	1
AGEN 210	Advanced Small Power Equipment	3
AGEN 220	Main,Rep, Perf Tune Artic Cat	4
AGEN 161	Basic Hydraulics	3
AGEN 261	Advanced Hydraulics	4
AGEN 270	Tractor Overhaul and Repair	4-5
or AGEN 300	Intern Agricultural Engineerng	
AUTO 260	Auto Air Cond & Refrg Recovery	1
AGSC 132	Introduction to Precision Farming	2
OFFT 110	Introduction to MS Excel	1
RENG 102	Renewable Energy Resources	3
AGEN 131	Fundamentals of Hydraulics	3
DTEC 150	Diesel Systems	3
or AUTO 103	Internal Combustion Engines I	
Additional General Electives as Advised		3
Field Elective Options or Electives as Advised		10
Total Credits		**61-62**

Options for General Electives

Three credits required from the following:

Code	Title	Credits
AGEN 135	Construction Surveying	3
or NATR 142	Plane Surveying I	
RESC 130	Light Framing	3
AGEN 120	Water Supply & Sanitation	2
DTEC 350	Advanced Diesel Fuel Systems	3
ACCT Accounting Elective as advised		3
AUTO 109	Chassis Analysis I	4
DTEC 105	Diesel Powertrains I	4
DTEC 325	Electrical Power Generation	3
DTEC 290	Diesel Equip Tech Internship 1	1
DTEC 295	Diesel Eqip Tech Internship 3	1

Option Field of Study Electives

If pursuing an option students must choose a minimum of 10 credits within one of the following option categories. If no option is chosen students must take 10 credits from any of the classes listed below:

Agricultural Business Option

Code	Title	Credits
ACCT Accounting Elective as advised		3
AGBS 100	Agricultural Economics	3
AGBS 240	Farm Management and Finance	4
AGBS 200	Marketing Agricultural Prodcts	3

Agricultural Science (Agronomy) Option

Code	Title	Credits
AGRO 110	Soil Science	3
AGRO 210	Field Crops	3
AGRO 215	Soil Fertility & Fertilizers	3
AGRO 110	Soil Science	3
AGRO 310	Pasture Mgt and Forages Prod	3

Animal Science Option

Code	Title	Credits
ANSC 100	Animal Science and Industry	3
DANS 100	Dairy Nutrition	3
DANS 160	Introduction to Dairy Science	3
DANS 210	Dairy Health	3
DANS 220	Dairy Herd Management	3
DANS 110	Breeding Dairy Cattle	3
DANS 225	Dairy Production & Management	3

Automotive Mechanics Option

Code	Title	Credits
AUTO 104	Basic Auto Electrical Systems	3
AUTO 109	Chassis Analysis I	4
AUTO 202	Autobody Fundamentals	3

AUTO 103	Internal Combustion Engines I	3
AUTO 171	Automotive Drivetrains	3

Dairy Equipment Technology

Code	Title	Credits
DANS 160	Introduction to Dairy Science	3
BSAD 209	Professional Sales	3
DANS 225	Dairy Production & Management	3
ELEC 290	Digtl Circuits &Microprocessrs	3

Horticulture

Code	Title	Credits
HORT 101	Plant Materials	3
HORT 103	Landscape Planning & Design I	3
HORT 105	Landscape Planning & Design II	3
HORT 109	Landscape & Turf Management	3
HORT 206	Sustainable Landscapes	3
HORT 210	Horticultural Practices II	2

Small Power Equipment

Code	Title	Credits
AUTO 104	Basic Auto Electrical Systems	3
AUTO 260	Auto Air Cond & Refrg Recovery	1
AGEN 110	Small Power Equipment	2
ACCT Accounting Elective as advised		3

Suggested Course Sequence

Course	Title	Credits
Year 1		
Fall		
AGEN 100	Equipment Care & Maintenance	3
AGEN 105	Principles of Farm Machinery	2
AGEN 131	Fundamentals of Hydraulics	3
AGEN 115	Ag Engr Industry Overview	1
AGSC 132	Introduction to Precision Farming	2
DTEC 125	Diesel Electrical Systems	4
RENG 102	Renewable Energy Resources	3
	Credits	**18**
Spring		
AGEN 161	Basic Hydraulics	3
AGEN 210	Advanced Small Power Equipment	3
DTEC 225	Diesel Electronics	4
AUTO 102	Metals	3
MAGN 101	Elementary Algebra	3
Major Elective as Advised		3
	Credits	**19**
Year 2		
Fall		
AGEN 261	Advanced Hydraulics	4
DTEC 150 or AUTO 103	Diesel Systems or Internal Combustion Engines I	3
OFFT 110	Introduction to MS Excel	1
Electives in Option Field as Advised		4
	Credits	**12**
Spring		
AGEN 270 or AGEN 300	Tractor Overhaul and Repair or Intern Agricultural Engineerng	4-5
AGEN 220	Main,Rep, Perf Tune Artic Cat	4
Electives in Option Field as Advised		6
	Credits	**14-15**
	Total Credits	**63-64**