Focus Areas:

Agribusiness, Agronomy,
Livestock Production,
Communications, Equine
Science, Ag Engineering,
Pre-Veterinarian,
Precision Agriculture,
Horticulture

AGRICULTURE

Department Chair: Jamieson Gross jgross@cloud.edu •• 243.1435, ext. 273



Entry level positions at minimum wage with a certificate. \$30,000-\$60,000 with an associates degree.



Potential Careers:

- Agronomist
- Ag & Food Science Technician
- Ranch Manager
- Agriculture Teacher/Professor
- Communications Specialist

Agriculture includes the principles of animal care, crop and vegetable farming, marketing of farm products, sustainable practices, and large property management. Certificates in the areas of Production and Services, Agri-Biotechnology, and Precision Agriculture can be completed in one year or less and can be a starting point for a two-year degree. A.A.S. and A.G.S. degrees are considered "ready for work" programs. Students interested in pursuing a Bachelor's degree should enroll in the A.S. degree. The Ag unit provides a hands-on learning lab for students in Agriculture.

Degrees & Certificates

Production & Services16-hour certificate	Agri-BiotechnologyA.A.S 67 hours
Agri-Biotechnology	Precision Agriculture
Precision Agriculture30-hour certificate	Production & ServicesA.A.S 62 hours
Production & Services30-hour certificate	Associate of General StudiesA.G.S 62 hours
Production & Services45-hour certificate	Associate of Science A.S 62 hours

Ag Education majors, refer to the Education Field of Study

Agriculture

AGRICULTURE PRODUCTION & SERVICES

16 Hour Certificate

Require	ed General Education Courses		3 cr	Eguine	e Science	
•			0 01	AG111	Animal Management	3
	atics Requirement			AG122	Intro to Horsemanship	2
MA110 I	ntermediate Algebra (3 cr) or			AG128	Animal Health & Nutrition	3
	MA105 Survey of Math (3 cr) or			AG139	Farm Animal Reproduction	3
	Mathematics General Education Course			AG157	Equine Industry Management I	3
				AG159	Equine Evaluation	1
Require	ed Agriculture Courses		6-7 cr	AG165	Equine Evaluation II	2
	8				Commercial Gardening	
AG127 A	g Science (4 cr) or	3-4		AG102	Intro to Plant Pest Control	3
	1 Plant Science (4 cr) or			AG102	Plants & Soils for Crop Production	3
AG15	Introduction to Horticulture (4 cr) or			AG104	Soils	4
AG11	5 Animal Science (3cr)			AG105	Range Management	3
				AG106	Soil Classification and Evaluation	1
	griculture Management (3 cr) or	3		AG107	Agronomy ID & Experimentation	1
AG13	4 Agricultural Marketing (3 cr)			AG160	Intro to Biotechnology	3
Flective	e Courses		6-7 cr	AG240	The Horticulture Industry	3
			0-7 CI	AG241	Commercial Productions of Fruits &	
	Business/Economics	2			Vegetables	3
AG130	Principles of Agriculture Economics	3				
AG132	Ag Management	3			General Electives	
AG134	Ag Marketing Ag Advertising and Design	3		AG155	Comparative Ag	1
AG210		3		AG220	Cooperative Ed Internship	1-6
AG212 AG217	Farm Computer Applications	2 3		AG299	CDL: Maps, Log Books, and	1
BE161	Accounting I	3		4.0200	DOT Regulations	1
BE162	Accounting I Accounting II	3		AG300	CDL: Commercial Driver's License	1
BE188	Principles of Advertising	3		AG301	Truck & Tractor Trailer Vehicle	1
	Agronomy	3		AG302	Inspection & Maintenance	1
AG102	Intro to Plant Pest Control	2		AG302	In City Commercial Driver's License Driving	1
AG102 AG103	Plants & Soils for Crop Production	3		AG257	Precision Ag Machine Data	3
AG103	Soils	4		AG237	1 recision Ag Waenine Data	3
AG104	Range Management	3				
AG106	Soil Classification and Evaluation	1				
AG107	Agronomy ID & Experimentation	1				
AG160	Intro to Biotechnology	3				
	Animal Science					
AG111	Animal Management	2				
AG111		3 1				
	Principles of Feeding	3				
AG118	Principles of Feeding Principles of Livestock Selection	2				
AG118 AG119	Principles of Livestock Selection II	1				
AG113	Beef Science	2				
AG128	Animal Health & Nutrition	3				
AG128	Farm Animal Reproduction	3				
AG159	Equine Evaluation	1				
AG166	Fundamentals of Livestock Nutrition	3				
AG170	Wildlife Management	3				
110170		5				

Agriculture

AGRI-BIOTECHNOLOGY 33 Hour Certificate

General Ed	ucation Required Courses		10 cr
SC110	Principles of Biology	5	
SC131	Chemistry I	5	
Required A	gri-Biotechnology Courses		23 cı
CM101	English Composition I	3	
AG127	Ag Science for Agri-Biotechnology	4	
AG147	Lab Methods for Agri-Biotechnology	4	
AG160	Introduction to Biotechnology	3	
AG236	Molecular Biology for Agri-Biotechnology	4	
AG237	Integrated Organic Chemistry &		
	Biochemistry for Agri-Biotechnology	5	

Agriculture

PRECISION AGRICULTURE

30 Hour Certificate

Requi i	red General Education Courses			7 cr
MA1 MA	ematics Requirement 110 Intermediate Algebra (3 cr) or A105 Survey of Math (3 cr) or thematics General Education Course		3	
Phy	al Science Requirement (1 area required) rsical Science General Education or logical Science General Education		4	
Requir	red Precision Agriculture Courses			19 cr
AG101	Plant Science	4		
AG102	Introduction to Plant Pest Control	3		
AG132	Agriculture Management	3		
AG255	Precision Ag Hardware	3		
AG256	Precision Ag Software	3		
AG257	Precision Ag Machine Data Management	3		
Electiv	ve Courses * (CCCC)			4 cr
AG103	Plant & Soils for Crop Production	3		
AG104	Soils	4		

Courses CCCC will accept as Electives from Highland CC

AB126 Principles of Agronomy
AB128 Agriculture Electronic Devices & Systems
AB130 Precision Farming Systems
AB136 Intro to Agricultural GIS
AB138 Remote Sensing
AB142 Field Mapping for Decision Making
AB144 Intermediate Agricultural GIS
AB244 Precision Agriculture Capstone

^{*}All electives should be selected with assistance from an advisor. Substitutions must be approved by department chair.

AG105 Range Management AG106 Soil Classification and Evaluation AG107 Agronomy Id & Experimentation Agronomy Id & Experimentation II AG112 AG115 Animal Science 3 3 AG134 Agriculture Marketing AG160 Introduction to Biotechnology 3 AG164 Advanced Soil Classification & Evaluation 1 AG210 Agriculture Advertising & Design 3 3 AG217 Farm Computer Applications 3 UA100 Introduction to sUAS UA201 sUAS Command, Control, & Comm 3 3 UA210 sUAS Systems & Conceptual Design WE110 Electrical Theory 3 WE240 GIS/GPS

Agriculture

AGRICULTURE PRODUCTION & SERVICES 30 Hour Certificate

	ed General Education Courses	7 cr	4.0111	Equine Science	
	matics Requirement	3	AG111	Animal Management	3
	10 Intermediate Algebra (3 cr) or		AG122	Intro to Horsemanship	2
	105 Survey of Math (3 cr) or hematics General Education Course		AG128	Animal Health & Nutrition	3
Mai	nematics General Education Course		AG139	Farm Animal Reproduction	3
Naturo	al Science Requirement (1 area required)	4	AG157	Equine Industry Management I	3
	cal Science General Education	•	AG159	Equine Evaluation	1
	gical Science General Education		AG165	Equine Evaluation II	2
Requir	ed Agriculture Courses	7-10 cr	AG102	Commercial Gardening Intro to Plant Pest Control	
_	ag Science (4 cr) or	4-7	AG102 AG103	Plants & Soils for Crop Production	3
	1 Plant Science (4 cr) or	4-/	AG103 AG104	Soils	3
	. ,		AG104 AG105	Range Management	4
	50 Introduction to Horticulture (4 cr) <i>and</i>		AG105 AG106	Soil Classification and Evaluation	3
AGH	5 Animal Science (3cr)		AG100 AG107	Agronomy ID & Experimentation	1
			AG160	Intro to Biotechnology	1
AG132 A	griculture Management (3 cr) or	3	AG240	The Horticulture Industry	3
	34 Agricultural Marketing (3 cr)		AG240 AG241	Commercial Productions of Fruits &	3
			710241	Vegetables	2
T71 4°		12 16 au			3
	e Courses	13-16 cr		General Electives	
I	Business/Economics		AG155	Comparative Ag	1
AG130	1 &	3	AG220	Cooperative Ed Internship	1-6
AG132	Ag Management	3	AG299	CDL: Maps, Log Books, and	
AG134	Ag Marketing	3		DOT Regulations	1
AG210	Ag Advertising and Design	3	AG300	CDL: Commercial Driver's License	1
AG212	Agricultural Law	2	AG301	Truck & Tractor Trailer Vehicle	
AG217	Farm Computer Applications	3		Inspection & Maintenance	1
BE161	Accounting I	3	AG302	In City Commercial Driver's License	
BE162	Accounting II	3	. ~~	Driving	1
BE188	Principles of Advertising	3	AG257	Precision Ag Machine Data	3
	Agronomy				
AG102	Intro to Plant Pest Control	2			
AG103	Plants & Soils for Crop Production	3			
AG104	Soils	3 4			
AG105	Range Management				
AG106	Soil Classification and Evaluation	3 1			
AG107	Agronomy ID & Experimentation	1			
AG160	Intro to Biotechnology	3			
,	Animal Science	3			
AG111	Animal Management	2			
AG114	Domestic Animal Production	3 1			
AG116	Principles of Feeding	3			
AG118	Principles of Livestock Selection	2			
AG119	Principles of Livestock Selection II	1			
AG123	Beef Science	2			
AG128	Animal Health & Nutrition	3			
AG139	Farm Animal Reproduction	3			
AG159	Equine Evaluation	1			
AG166	Fundamentals of Livestock Nutrition	3			
AG170	Wildlife Management	3			
		J			

Fields of Study Agriculture

AGRICULTURE PRODUCTION & SERVICES

45-Hour Certificate

Doguin	red General Education Courses	10 cr		Equine Science	
			AG111	Animal Management	2
	unication Requirement	3	AG122	Intro to Horsemanship	3 2
	15 Public Speaking (3 cr) or 2M240 Interpersonal Communications (3 cr)		AG128	Animal Health & Nutrition	3
C	M240 Interpersonal Communications (5 cr)		AG139	Farm Animal Reproduction	
	natics Requirement	3	AG157	Equine Industry Management I	3
MA	110 Intermediate Algebra (3 cr) <i>or</i>		AG159	Equine Evaluation	1
N	MA105 Surveyof Math (3 cr) or		AG165	Equine Evaluation II	2
N	Mathematics General Education Course			•	2
Natura	Science Requirement (1 area required)	4		Commercial Gardening	
	ical Science General Education or		AG102	Intro to Plant Pest Control	3
	ogical Science General Education		AG103	Plants & Soils for Crop Production	3
			AG104	Soils	4
Requir	ed Agriculture Courses	10-13 cr	AG105	Range Management	3
ÅG1	27 Ag Science (4 cr) <i>or</i>	4-7	AG106	Soil Classification and Evaluation	1
AG1	01 Plant Science (4 cr) or		AG107	Agronomy ID & Experimentation	1
AG1	50 Introduction to Horticulture (4 cr) and		AG160	Intro to Biotechnology	3
AGI	15 Animal Science (3cr)		AG240	The Horticulture Industry	3
			AG241	Commercial Productions of Fruits &	
AG1	30 Principles of Agriculture Economics	3		Vegetables	3
				General Electives	
AG1	32 Agriculture Management <i>or</i>	3	AG155	Comparative Ag	1
	AG134 Agriculture Marketing		AG133	Cooperative Ed Internship	1-6
	ve Courses	22-25 cr	AG220 AG299	CDL: Maps, Log Books, and	1-0
		22-23 CI	NG2))	DOT Regulations	1
	Business/Economics Principles of Agriculture Economics	2	AG300	CDL: Commercial Driver's License	1
AG130 AG132	Ag Management	3 3	AG301	Truck & Tractor Trailer Vehicle	-
	Ag Management	3			
				Inspection & Maintenance	1
AG134	Ag Marketing	3	AG302	Inspection & Maintenance In City Commercial Driver's License	1
AG134 AG210	Ag Marketing Ag Advertising and Design	3 3	AG302	Inspection & Maintenance In City Commercial Driver's License Driving	1
AG134 AG210 AG212	Ag Marketing Ag Advertising and Design Agricultural Law	3 3 2	AG302 AG257	In City Commercial Driver's License Driving	
AG134 AG210 AG212 AG217	Ag Marketing Ag Advertising and Design Agricultural Law Farm Computer Applications	3 3 2 3		In City Commercial Driver's License	1
AG134 AG210 AG212 AG217 BE161	Ag Marketing Ag Advertising and Design Agricultural Law Farm Computer Applications Accounting I	3 3 2 3 3		In City Commercial Driver's License Driving	1
AG134 AG210 AG212 AG217 BE161 BE162	Ag Marketing Ag Advertising and Design Agricultural Law Farm Computer Applications Accounting I Accounting II	3 3 2 3 3 3		In City Commercial Driver's License Driving	1
AG134 AG210 AG212 AG217 BE161 BE162 BE188	Ag Marketing Ag Advertising and Design Agricultural Law Farm Computer Applications Accounting I Accounting II Principles of Advertising	3 3 2 3 3		In City Commercial Driver's License Driving	1
AG134 AG210 AG212 AG217 BE161 BE162 BE188	Ag Marketing Ag Advertising and Design Agricultural Law Farm Computer Applications Accounting I Accounting II Principles of Advertising Agronomy	3 3 2 3 3 3 3		In City Commercial Driver's License Driving	1
AG134 AG210 AG212 AG217 BE161 BE162 BE188	Ag Marketing Ag Advertising and Design Agricultural Law Farm Computer Applications Accounting I Accounting II Principles of Advertising Agronomy Intro to Plant Pest Control	3 3 2 3 3 3 3 3		In City Commercial Driver's License Driving	1
AG134 AG210 AG212 AG217 BE161 BE162 BE188 AG102 AG103	Ag Marketing Ag Advertising and Design Agricultural Law Farm Computer Applications Accounting I Accounting II Principles of Advertising Agronomy Intro to Plant Pest Control Plants & Soils for Crop Production	3 3 2 3 3 3 3 3 3		In City Commercial Driver's License Driving	1
AG134 AG210 AG212 AG217 BE161 BE162 BE188 AG102 AG103 AG104	Ag Marketing Ag Advertising and Design Agricultural Law Farm Computer Applications Accounting I Accounting II Principles of Advertising Agronomy Intro to Plant Pest Control Plants & Soils for Crop Production Soils	3 3 2 3 3 3 3 3 3 3		In City Commercial Driver's License Driving	1
AG134 AG210 AG212 AG217 BE161 BE162 BE188 AG102 AG103 AG104 AG105	Ag Marketing Ag Advertising and Design Agricultural Law Farm Computer Applications Accounting I Accounting II Principles of Advertising Agronomy Intro to Plant Pest Control Plants & Soils for Crop Production Soils Range Management	3 3 2 3 3 3 3 3 3 4 3		In City Commercial Driver's License Driving	1
AG134 AG210 AG212 AG217 BE161 BE162 BE188 AG102 AG103 AG104 AG105 AG106	Ag Marketing Ag Advertising and Design Agricultural Law Farm Computer Applications Accounting I Accounting II Principles of Advertising Agronomy Intro to Plant Pest Control Plants & Soils for Crop Production Soils Range Management Soil Classification and Evaluation	3 3 2 3 3 3 3 3 3 4 4 3		In City Commercial Driver's License Driving	1
AG134 AG210 AG212 AG217 BE161 BE162 BE188 AG102 AG103 AG104 AG105	Ag Marketing Ag Advertising and Design Agricultural Law Farm Computer Applications Accounting I Accounting II Principles of Advertising Agronomy Intro to Plant Pest Control Plants & Soils for Crop Production Soils Range Management	3 3 2 3 3 3 3 3 3 4 3		In City Commercial Driver's License Driving	1
AG134 AG210 AG212 AG217 BE161 BE162 BE188 AG102 AG103 AG104 AG105 AG106 AG107 AG160	Ag Marketing Ag Advertising and Design Agricultural Law Farm Computer Applications Accounting I Accounting II Principles of Advertising Agronomy Intro to Plant Pest Control Plants & Soils for Crop Production Soils Range Management Soil Classification and Evaluation Agronomy ID & Experimentation Intro to Biotechnology	3 3 2 3 3 3 3 3 3 4 3 1		In City Commercial Driver's License Driving	1
AG134 AG210 AG212 AG217 BE161 BE162 BE188 AG102 AG103 AG104 AG105 AG106 AG107 AG160	Ag Marketing Ag Advertising and Design Agricultural Law Farm Computer Applications Accounting I Accounting II Principles of Advertising Agronomy Intro to Plant Pest Control Plants & Soils for Crop Production Soils Range Management Soil Classification and Evaluation Agronomy ID & Experimentation Intro to Biotechnology Animal Science	3 3 2 3 3 3 3 3 4 3 1 1 1 3		In City Commercial Driver's License Driving	1
AG134 AG210 AG212 AG217 BE161 BE162 BE188 AG102 AG103 AG104 AG105 AG106 AG107 AG160	Ag Marketing Ag Advertising and Design Agricultural Law Farm Computer Applications Accounting I Accounting II Principles of Advertising Agronomy Intro to Plant Pest Control Plants & Soils for Crop Production Soils Range Management Soil Classification and Evaluation Agronomy ID & Experimentation Intro to Biotechnology Animal Science Animal Management	3 3 2 3 3 3 3 3 4 3 1 1 1 3		In City Commercial Driver's License Driving	1
AG134 AG210 AG212 AG217 BE161 BE162 BE188 AG102 AG103 AG104 AG105 AG106 AG107 AG160	Ag Marketing Ag Advertising and Design Agricultural Law Farm Computer Applications Accounting I Accounting II Principles of Advertising Agronomy Intro to Plant Pest Control Plants & Soils for Crop Production Soils Range Management Soil Classification and Evaluation Agronomy ID & Experimentation Intro to Biotechnology Animal Science Animal Management Domestic Animal Production	3 3 2 3 3 3 3 3 4 3 1 1 3 3 1		In City Commercial Driver's License Driving	1
AG134 AG210 AG212 AG217 BE161 BE162 BE188 AG102 AG103 AG104 AG105 AG106 AG107 AG160	Ag Marketing Ag Advertising and Design Agricultural Law Farm Computer Applications Accounting I Accounting II Principles of Advertising Agronomy Intro to Plant Pest Control Plants & Soils for Crop Production Soils Range Management Soil Classification and Evaluation Agronomy ID & Experimentation Intro to Biotechnology Animal Science Animal Management Domestic Animal Production Principles of Feeding	3 3 2 3 3 3 3 3 4 3 1 1 1 3		In City Commercial Driver's License Driving	1
AG134 AG210 AG212 AG217 BE161 BE162 BE188 AG102 AG103 AG104 AG105 AG106 AG107 AG160	Ag Marketing Ag Advertising and Design Agricultural Law Farm Computer Applications Accounting I Accounting II Principles of Advertising Agronomy Intro to Plant Pest Control Plants & Soils for Crop Production Soils Range Management Soil Classification and Evaluation Agronomy ID & Experimentation Intro to Biotechnology Animal Science Animal Management Domestic Animal Production Principles of Feeding Principles of Livestock Selection	3 3 2 3 3 3 3 3 4 3 1 1 1 3		In City Commercial Driver's License Driving	1
AG134 AG210 AG212 AG217 BE161 BE162 BE188 AG102 AG103 AG104 AG105 AG106 AG107 AG160 AG111 AG114 AG116 AG118 AG118	Ag Marketing Ag Advertising and Design Agricultural Law Farm Computer Applications Accounting I Accounting II Principles of Advertising Agronomy Intro to Plant Pest Control Plants & Soils for Crop Production Soils Range Management Soil Classification and Evaluation Agronomy ID & Experimentation Intro to Biotechnology Animal Science Animal Management Domestic Animal Production Principles of Feeding Principles of Livestock Selection Principles of Livestock Selection II	3 3 2 3 3 3 3 3 4 3 1 1 1 3		In City Commercial Driver's License Driving	1
AG134 AG210 AG212 AG217 BE161 BE162 BE188 AG102 AG103 AG104 AG105 AG106 AG107 AG160 AG111 AG114 AG116 AG118 AG119 AG123	Ag Marketing Ag Advertising and Design Agricultural Law Farm Computer Applications Accounting I Accounting II Principles of Advertising Agronomy Intro to Plant Pest Control Plants & Soils for Crop Production Soils Range Management Soil Classification and Evaluation Agronomy ID & Experimentation Intro to Biotechnology Animal Science Animal Management Domestic Animal Production Principles of Feeding Principles of Livestock Selection Principles of Livestock Selection II Beef Science	3 3 2 3 3 3 3 3 4 3 1 1 3 3 1 2 1 2		In City Commercial Driver's License Driving	1
AG134 AG210 AG212 AG217 BE161 BE162 BE188 AG102 AG103 AG104 AG105 AG106 AG107 AG160 AG111 AG114 AG116 AG118 AG118 AG119 AG123 AG128	Ag Marketing Ag Advertising and Design Agricultural Law Farm Computer Applications Accounting I Accounting II Principles of Advertising Agronomy Intro to Plant Pest Control Plants & Soils for Crop Production Soils Range Management Soil Classification and Evaluation Agronomy ID & Experimentation Intro to Biotechnology Animal Science Animal Management Domestic Animal Production Principles of Feeding Principles of Livestock Selection Principles of Livestock Selection II Beef Science Animal Health & Nutrition	3 3 2 3 3 3 3 3 3 1 1 1 3 2 1 2 3		In City Commercial Driver's License Driving	1
AG134 AG210 AG212 AG217 BE161 BE162 BE188 AG102 AG103 AG104 AG105 AG106 AG107 AG160 AG111 AG114 AG116 AG118 AG118 AG119 AG123 AG128 AG139	Ag Marketing Ag Advertising and Design Agricultural Law Farm Computer Applications Accounting I Accounting II Principles of Advertising Agronomy Intro to Plant Pest Control Plants & Soils for Crop Production Soils Range Management Soil Classification and Evaluation Agronomy ID & Experimentation Intro to Biotechnology Animal Science Animal Management Domestic Animal Production Principles of Feeding Principles of Livestock Selection Principles of Livestock Selection II Beef Science Animal Health & Nutrition Farm Animal Reproduction	3 3 2 3 3 3 3 3 3 4 3 1 1 3 2 1 2 3 3 3 3		In City Commercial Driver's License Driving	1
AG134 AG210 AG212 AG217 BE161 BE162 BE188 AG102 AG103 AG104 AG105 AG106 AG107 AG160 AG111 AG114 AG116 AG118 AG119 AG123 AG128 AG139 AG159	Ag Marketing Ag Advertising and Design Agricultural Law Farm Computer Applications Accounting I Accounting II Principles of Advertising Agronomy Intro to Plant Pest Control Plants & Soils for Crop Production Soils Range Management Soil Classification and Evaluation Agronomy ID & Experimentation Intro to Biotechnology Animal Science Animal Management Domestic Animal Production Principles of Feeding Principles of Livestock Selection Principles of Livestock Selection II Beef Science Animal Health & Nutrition Farm Animal Reproduction Equine Evaluation	3 3 2 3 3 3 3 3 3 4 3 1 1 3 3 1 2 1 2 3 3 1 1		In City Commercial Driver's License Driving	1
AG134 AG210 AG212 AG217 BE161 BE162 BE188 AG102 AG103 AG104 AG105 AG106 AG107 AG160 AG111 AG114 AG116 AG118 AG118 AG119 AG123 AG128 AG139	Ag Marketing Ag Advertising and Design Agricultural Law Farm Computer Applications Accounting I Accounting II Principles of Advertising Agronomy Intro to Plant Pest Control Plants & Soils for Crop Production Soils Range Management Soil Classification and Evaluation Agronomy ID & Experimentation Intro to Biotechnology Animal Science Animal Management Domestic Animal Production Principles of Feeding Principles of Livestock Selection Principles of Livestock Selection II Beef Science Animal Health & Nutrition Farm Animal Reproduction	3 3 2 3 3 3 3 3 3 4 3 1 1 3 2 1 2 3 3 3 3		In City Commercial Driver's License Driving	1

Agriculture

AGRI-BIOTECHNOLOGY

Associate of Applied Science – 67 Hours

C			• •
	ral Education Required Courses		20 cr
	unication Requirement	6	
	01 English Composition I (3 cr) <i>or</i>		
	M120 Survey of Technical Writing (3 cr)		
	15 Public Speaking (3cr) <i>or</i> M240 Interpersonal Communications (3 cr)		
Humai	nities Requirement (1 area required)	3	
Art	Humanities		
Music	Literature		
Theat	re Philosophy		
Foreig	n Language History		
Mathe	matics Requirement	3	
	10 Intermediate Algebra (3 cr) <i>or</i>		
MA	105 Survey of Math (3 cr) or		
Ma	thematics General Education Course		
Natura	al Science Requirement	5	
	110 Principles of Biology I (5 cr)		
	Behavioral Science Requirement	3	
	O Introduction to Sociology	5	
Requi	red Agri-Biotechnology Courses		30 cr
<mark>Requi</mark> AG127	red Agri-Biotechnology Courses Ag Science for Agri-Biotechnology	4	30 cr
_		4 4	30 cr
AG127	Ag Science for Agri-Biotechnology		30 cr
AG127 AG147	Ag Science for Agri-Biotechnology Lab Methods in Agri-Biotechnology	4	30 cr
AG127 AG147 AG160	Ag Science for Agri-Biotechnology Lab Methods in Agri-Biotechnology Introduction to Biotechnology	4	30 cr
AG127 AG147 AG160 AG236	Ag Science for Agri-Biotechnology Lab Methods in Agri-Biotechnology Introduction to Biotechnology Molecular Biology for Agri-Biotechnology	4	30 cr
AG127 AG147 AG160 AG236	Ag Science for Agri-Biotechnology Lab Methods in Agri-Biotechnology Introduction to Biotechnology Molecular Biology for Agri-Biotechnology Integrated Organic Chemistry &	4 3 4	30 cr
AG127 AG147 AG160 AG236 AG237	Ag Science for Agri-Biotechnology Lab Methods in Agri-Biotechnology Introduction to Biotechnology Molecular Biology for Agri-Biotechnology Integrated Organic Chemistry & Biochemistry for Agri-Biotechnology	4 3 4 5	30 cr
AG127 AG147 AG160 AG236 AG237 SC111	Ag Science for Agri-Biotechnology Lab Methods in Agri-Biotechnology Introduction to Biotechnology Molecular Biology for Agri-Biotechnology Integrated Organic Chemistry & Biochemistry for Agri-Biotechnology Microbiology Lecture	4 3 4 5 3	30 cr
AG127 AG147 AG160 AG236 AG237 SC111 SC112 SC131	Ag Science for Agri-Biotechnology Lab Methods in Agri-Biotechnology Introduction to Biotechnology Molecular Biology for Agri-Biotechnology Integrated Organic Chemistry & Biochemistry for Agri-Biotechnology Microbiology Lecture Microbiology Lab Chemistry I	4 3 4 5 3 2 5	
AG127 AG147 AG160 AG236 AG237 SC111 SC112 SC131	Ag Science for Agri-Biotechnology Lab Methods in Agri-Biotechnology Introduction to Biotechnology Molecular Biology for Agri-Biotechnology Integrated Organic Chemistry & Biochemistry for Agri-Biotechnology Microbiology Lecture Microbiology Lab Chemistry I	4 3 4 5 3 2 5	30 cr
AG127 AG147 AG160 AG236 AG237 SC111 SC112 SC131 Electiv AG101	Ag Science for Agri-Biotechnology Lab Methods in Agri-Biotechnology Introduction to Biotechnology Molecular Biology for Agri-Biotechnology Integrated Organic Chemistry & Biochemistry for Agri-Biotechnology Microbiology Lecture Microbiology Lab Chemistry I	4 3 4 5 3 2 5	
AG127 AG147 AG160 AG236 AG237 SC111 SC112 SC131 Electiv AG101 AG108	Ag Science for Agri-Biotechnology Lab Methods in Agri-Biotechnology Introduction to Biotechnology Molecular Biology for Agri-Biotechnology Integrated Organic Chemistry & Biochemistry for Agri-Biotechnology Microbiology Lecture Microbiology Lab Chemistry I	4 3 4 5 3 2 5	
AG127 AG147 AG160 AG236 AG237 SC111 SC112 SC131 Electiv AG101 AG108 AG109	Ag Science for Agri-Biotechnology Lab Methods in Agri-Biotechnology Introduction to Biotechnology Molecular Biology for Agri-Biotechnology Integrated Organic Chemistry & Biochemistry for Agri-Biotechnology Microbiology Lecture Microbiology Lab Chemistry I	4 3 4 5 3 2 5	
AG127 AG147 AG160 AG236 AG237 SC111 SC112 SC131 Electiv AG101 AG108 AG109 AG115	Ag Science for Agri-Biotechnology Lab Methods in Agri-Biotechnology Introduction to Biotechnology Molecular Biology for Agri-Biotechnology Integrated Organic Chemistry & Biochemistry for Agri-Biotechnology Microbiology Lecture Microbiology Lab Chemistry I	4 3 4 5 3 2 5 5	
AG127 AG147 AG160 AG236 AG237 SC111 SC112 SC131 Electiv AG101 AG108 AG109 AG115 AG220	Ag Science for Agri-Biotechnology Lab Methods in Agri-Biotechnology Introduction to Biotechnology Molecular Biology for Agri-Biotechnology Integrated Organic Chemistry & Biochemistry for Agri-Biotechnology Microbiology Lecture Microbiology Lab Chemistry I Ve Courses Plant Science Environmental Quality Environmental Quality Lab Animal Science Cooperative Ed Internship	4 4 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	
AG127 AG147 AG160 AG236 AG237 SC111 SC112 SC131 Electiv AG101 AG108 AG109 AG115 AG220 SC120	Ag Science for Agri-Biotechnology Lab Methods in Agri-Biotechnology Introduction to Biotechnology Molecular Biology for Agri-Biotechnology Integrated Organic Chemistry & Biochemistry for Agri-Biotechnology Microbiology Lecture Microbiology Lab Chemistry I Ve Courses Plant Science Environmental Quality Environmental Quality Lab Animal Science Cooperative Ed Internship Human Anatomy & Physiology I	4 4 3 4 4 5 5 3 2 2 5 5 4 4 3 3 2 2 4 4	
AG127 AG147 AG160 AG236 AG237 SC111 SC112 SC131 Electiv AG101 AG108 AG109 AG115 AG220	Ag Science for Agri-Biotechnology Lab Methods in Agri-Biotechnology Introduction to Biotechnology Molecular Biology for Agri-Biotechnology Integrated Organic Chemistry & Biochemistry for Agri-Biotechnology Microbiology Lecture Microbiology Lab Chemistry I Ve Courses Plant Science Environmental Quality Environmental Quality Lab Animal Science Cooperative Ed Internship	4 4 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	

Agriculture

PRECISION AGRICULTURE

Associate of Applied Science - 62 Hours

Requir	red General Education Courses		19 cr
CM1 C CM1	mication Requirement 01 English Composition I (3 cr) or M120 Survey of Technical Writing (3 cr) 15 Public Speaking (3 cr) or M240 Interpersonal Communications (3 cr)	6 3	
Art Mus Thea			
MA: MA	matics Requirement 110 Intermediate Algebra (3 cr) or A105 Survey of Math (3 cr) or thematics General Education Course		3
Biol	al Science Requirement (1 area required) ogical Science General Education or ical Science General Education		4
Eco ₁ Psyc	Behavioral Science Requirement (1 area required) nomics Anthropology hology Political Science ology Geography		3
Requir	ed Precision Agriculture Courses		19 cr
AG101 AG102 AG132 AG255 AG256 AG257	Plant Science Introduction to Plant Pest Control Agriculture Management Precision Ag Hardware Precision Ag Software Precision Ag Machine Data Management	4 3 3 3 3 3	
Electiv	e Courses (CCCC)		24 cr
AG103 AG104 AG105 AG106 AG107 AG112 AG115 AG134 AG160 AG164 AG210 AG217 AG257 UA100 UA201 UA210 WE110	Plant & Soils for Crop Production Soils Range Management Soil Classification and Evaluation Agronomy Id & Experimentation Agronomy Id & Experimentation II Animal Science Agriculture Marketing Introduction to Biotechnology Advanced Soil Classification & Evaluation Ag Advertising & Design Farm Computer Applications Precision Ag Machine Data Introduction to sUAS sUAS Command, Control, & Comm sUAS Systems & Conceptual Design Electrical Theory	3 4 3 1 1 1 3 3 3 1 3 3 3 3 3 3 3 3 3 3	

Courses CCCC will accept as Electives from Highland CC* AB126 Principles of Agronomy AB128 Agriculture Electronic Devices & Systems AB130 Precision Farming Systems AB136 Intro to Agricultural GIS AB138 Remote Sensing AB142 Field Mapping for Decision Making AB144 Intermediate Agricultural GIS AB244 Precision Agriculture Capstone

Agriculture

AGRICULTURE PRODUCTION & SERVICES

Associate of Applied Science - 62 Hours

-	ed General Edu			19 cr	AG106		1
Commi	unication Requireme	ent		6	AG107	2 ,	
CM10	1 English Composition	on I (3 cr) or			AG108	Environmental Quality	3
	1120 Survey of Techr	, ,			AG109	Environmental Quality Lab Agronomy Identification & Experimentation	1
					AG112 AG155		1
	5 Public Speaking (3				AG155 AG160	Introduction to Biotechnology	1 3
CIVI	[240 Interpersonal Co	minumications (3 cr)			AG164	Advanced Soil Classification & Evaluation	1
Human	nities Requirement ((Larga required)		3	AG104 AG170		3
	nilles Requirement (* '			AG220		1-
Art		Humanities			AG257	Precision Ag Machine Data	1
Musi		Literature			AG300	Commercial Driver's License	3
Thea		Philosophy			BE152	Salesmanship	3
Forei	ign Language	History		_	WE240	*	3
	natics Requirement			3		Animal Science	
	10 Intermediate Alge				AG111	Animal Management	3
	A105 Survey of Math				AG116	_	3
Ma	athematics General E	ducation Course			AG118	Principles of Livestock Selection I	1
Natura	l Science Requireme	ent		4		Principles of Livestock Selection II AG128	2
	nce Gen Ed with Lab			,		Health and Nutrition	3
		.		•	AG139	Farm Animal Reproduction	4
Social/.	Behavioral Science	Requirement		3		Comparative Agriculture	1
_	(1 area required)					Equine Care	2
	nomics	Anthropology			AG159	•	1
	hology	Political Science			AG160	Introduction to Biotechnology	3
Socio	ology	Geography			AG166	Fundamentals of Livestock Nutrition	3
Requir	ed Agriculture (Courses		19 cr	AG220	Coop Ed Internship	1-3
	Plant Science (4 cr) or				AG230	Equine Reproduction	3
	50 Introduction to Ho		4				
AG115	Animal Science	` ,	3			Equine Science	
AG130	Principles of Ag Eco	onomics	3		AG111	Animal Management	3
AG132	Agriculture Manage		3		AG116	Principles of Feeding	3
AG134	Agriculture Marketi		3		AG122	Introduction to Horsemanship	2
AG210	Agriculture Advertis	sing and Design	3		AG128	Animal Health & Nutrition	3
Elecativ	Comman			24 00	AG139	Farm Animal Reproduction	4
Electiv	e Courses			24 cr	AG155	Comparative Agriculture	1
4.01.55	Economics				AG157	Equine Industry Management	3
	Comparative Ag	4.7	1		AG159	Equine Evaluation	1
	Equine Industry Ma		3		AG160	Introduction to Biotechnology	3
	Marketing the Equir		3		AG165	Equine Evaluation II	1
	Farm Computer App Cooperative Ed Inte		3		AG166	Fundamentals of Livestock Nutrition	3
	•	-	1-6		AG190	Marketing the Equine Industry	3
AG300	Commercial Driver' Introduction to Busi		1		AG220	Coop Ed Internship	1-3
BE100 BE160			3				
DELIOU	Business Accountin	g	3				
	A a a a symptom a I		3				
BE161	Accounting I		3				
BE161 BE162	Accounting II	icina	3				
BE161 BE162 BE188		-	3 3 3		Substitution	ons must be approved by the department chair.	
BE161 BE162 BE188	Accounting II Principles of Advert Introduction to Entr	-	3		Substituti	ons must be approved by the department chair.	
BE161 BE162 BE188 MG102	Accounting II Principles of Advert	epreneurship	3 3		Substituti	ons must be approved by the department chair.	
BE161 BE162 BE188 MG102	Accounting II Principles of Advert Introduction to Entr Agronomy Intro to Plant Pest C	epreneurship ontrol	3 3 3		Substituti	ons must be approved by the department chair.	
BE161 BE162 BE188 MG102	Accounting II Principles of Advert Introduction to Entr	epreneurship ontrol	3 3		Substitution	ons must be approved by the department chair.	

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Associate of General Studies - 62 Hours

Required Gen	eral Education Courses	25 cr	AG127	Ag. Sci. of Agri-Biotechnology	4
Communication	Requirement	6	AG128	Animal Health and Nutrition	3
	sh Composition I (3 cr)		AG139	Farm Animal Reproduction	4
CM115 Public	Speaking (3 cr) or		AG160	Intro to Biotechnology	3
CM240 Inte	rpersonal Communications (3 cr)				
M d c D	. ,	2		Business	_
Mathematics Re		3	AG132	Agriculture Management	3
	General Education Course <i>or</i> ermediate Algebra (3 cr)		AG134	Agricultural Marketing	3
WIATTO III	efficientate Algebra (5 cr)		AG147	\mathcal{E}	4
Humanities Req	uirement	3	AG217	Farm Computer Application I	3
Art	Humanities		BE100 BE121	Intro to Business Business Communications	3
Music	Literature		BE139	Basic Personal Finance	1
Theatre	Philosophy		BE152	Salesmanship	
Foreign Langu	nage History		BE152	Personal Finance	3
Cocial/Dohavio	nal Cajanaa Daaninamant	3	BE154	Business Law	3
Economics	ral Science Requirement Anthropology	3	BE155	Marketing	3
Psychology	Political Science		BE160	Business Accounting	3
Sociology	Geography		BE161	Accounting I	3 3 3
Sociology	Geography		BE162	Accounting II	3
	Social Science Requirement	3	BE165	Computerized Accounting	3
(Must be from	second area)		BE166	Payroll Accounting	3
			BE170	Business Statistics	3
Natural Science		4	BE172	Customer Service	3
Physical Scien			BE185	Human Resource Management	3
Biolog	gical Science w/lab		BE188	Principles of Advertising	3
Onen General F	Education Elective	3	MG101	Management Principles	3
-	iculture Courses	13 cr	MG102	Introduction to Entrepreneurship	3
1		15 (1			
	cience <i>or</i> duction to Horticulture	4		Communications	
AG130 Introd AG115 Animal		4 3	AR120	Design I	3
	les of Ag Economics	3	AR121	Graphic Design I	3
1	lture Advertising and Design	3	AR129	Introduction to Digital Photography	3
710210 /igiledi	itare / tavertising and Design	3		Media Law and Ethics	3
				Mass Communications Software	3
Elective Cours	ses	18 cr		Intro to Multimedia Communications	3
Agrono	omy			Broadcast News	3
AG102 Intro to 1	Plant Pest Control	3		Digital Magazine Prod: Storytelling	3
AG103 Plant and	d Soils for Crop Prod.	3		Digital Magazine Prod: Design and Style	3
AG104 Soils	•	4		Mass Media Production I	3
AG105 Range M	Management	3		Mass Media Production II	3
-	ssification and Eval	1		Intro to Website Design	3
AG107 Agronor	ny ID and Exp.	1	CS107	Graphic Software Applications	3
	ny ID and Exp. II	1	JN101	Basic Media Writing	3
	mental Quality	3	JN140	Beyond Web 2.0: Social Media as Identity	3
	mental Quality Lab	1			
	ed Soil Class and Eval	1			
	10.				
	l Science	2			
	Management	3			
	es of Feeding	3			
	Livestock Selection I	2			
	Livestock Selection II	1			
AG123 Beef Sci	ience	3			

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Associate of General Studies (con't)

	Equine		AG256	Precision Ag Software	3
AG122	Intro to Horsemanship	2	AG257	Prec. Ag. Machine Data Man	3
AG125	Horse Science	3	WE240	GIS/GPS	3
AG129	Equine Groundwork Training	2			
AG157	Equine Industry Management I	3		Additional Electives	
AG159	Equine Evaluation	1	AG170	Wildlife Management	3
AG165	Equine Evaluation II	1	AG220	Cooperative Ed. Internship	1-4
AG166	Fund. of Livestock Nutrition	3	AG299	CDL: maps, log books, DOT Regs	1
AG188	Varsity Sports: Eques/Rodeo I	1	AG300	Commercial Driver's License	1
AG189	Varsity Sports: Eques/Rodeo II	1	AG301	Truck & Tractor Trailer Inp. & Main	1
AG190	Marketing the Equine Industry	3	AG302	In City CDL Driving	
AG225	Basic Equitation	3	CS108	Computer Applications	3
AG226	Advanced Equitation	3	IE106	Welding	3
AG228	Focused Equitation	3	IE107	Advanced Welding	3
			IE116	OSHA 10-Hour Construction Training	.5
			IE117	OSHA 10-Hour General Industry Trng	.5
	Commercial Gardening		WE120	Hydraulics	3
AG102	Intro to Plant Pest Control	3	WE150	Mechanical Systems	3
AG240	The Horticulture Industry	3	WE240	GIS/GPS	3
AG241	Com. Production of Fruit and Veg.	3	SE100	Introduction to Solar Energy	3
	5		UA100	Intro to UAV	3
	Agri-Biotechnology		UA210	sUAS Systems & Conceptual Design	3
AG160	Intro to Biotechnology	3	WE110	Electrical Theory	3
AG236	Molecular Bio for Agri-Biotechnology	4			
AG237	Int. Org. & Biochem for Agri-Biotechnology			Life Skills	
AG250	Introduction to Genetic Engineering	4	BE139	Basic Personal Finance	1
	8 8		BE210	Leadership Development	3
			PE141	Personal Wellness	3
			PE250	Stress Management	3
			SS106	Marriage and Family	3

Open Electives 6 cr

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Associate of Science – 62 Hours

Required General Education Courses	32-34 cr		Business	
Communication Requirement	9	AG132	Agriculture Management	3
CM101 English Composition I (3 cr)		AG134	Agricultural Marketing	3
CM102 English Composition II (3 cr)		AG147	Lab Methods in Ag-Biotech	4
		AG217	Farm Computer Applications I	3
CM115 Public Speaking (3 cr) or		BE100	Intro to Business	3
CM240 Interpersonal Communications (3 cr)		BE152	Salesmanship	3
Humanities Requirements (2 areas required)	6	BE152	Personal Finance	3
Art Humanities	O	BE160	Business Accounting	3
Music Literature		BE161	Accounting I	3
Theatre Philosophy		BE162	Accounting II	3
Foreign Language History		BE188	Principles of Advertising	3
1 of eight Language Thistory		MG102	Introduction to Entrepreneurship	3
Mathematics Dequipement		WIGTOZ	introduction to Entrepreneursing	3
Mathematics Requirement	2		Commercial Cardening	
Mathematics General Education Course	3	A C240	Commercial Gardening	2
M . 10 . D	0.10	AG240	The Horticulture Industry	3
Natural Science Requirement (2 areas required)	8-10	AG241	Commercial Prod of Fruit & Vegs	3
Physical Science (4-5 cr)				
Biological Science (4-5 cr)		~~	Communications	
		CM136	Mass Communications Software	3
Social/Behavioral Science Requirement	6	CM137	Intro to Multimedia Communications	3
(2 areas required)		JN100	Mass Media in Society	3
Economics Anthropology				
Psychology Political Science			Equine	
Sociology Geography		AG122	Intro to Horsemanship	2
		AG125	Horse Science	3
Required Agriculture Courses	13 cr	AG129	Equine Groundwork Training	2
AG101 Plant Science or	10 01	AG157	Equine Industry Management I	3
AG150 Introduction to Horticulture	4	AG159	Equine Evaluation	1
AG115 Animal Science	3	AG165	Equine Evaluation II	1
AG130 Principles of Ag Economics	3	AG166	Fund. of Livestock Nutrition	3
AG210 Agriculture Advertising and Design	3	AG188	Varsity Sports: Eques/Rodeo I	1
		AG189	Varsity Sports: Eques/Rodeo II	1
Elective Courses	11 cr	AG190	Marketing the Equine Industry	3
	11 (1	AG225	Basic Equitation	3
Agronomy	2	AG226	Advanced Equitation	3
AG102 Intro to Plant Pest Control	3	AG228	Focused Equitation	3
AG103 Plant and Soils for Crop Prod.	3			
AG104 Soils	4		Math and Science (Pre-Vet)	
AG105 Range Management	3	MA112	Trigonometry	3
AG106 Soil Classified and Eval	1	SC110	Principles of Biology	5
AG107 Agronomy ID and Exp.	1	SC111	Microbiology Lecture	3
AG112 Agronomy ID and Exp. II	1	SC112	Microbiology Lab	2
AG108 Environmental Quality	3	SC131	Chemistry I	5
AG109 Environmental Quality Lab I	1	SC132	Chemistry II	5
AG164 Advanced Soil Class and Eval	1	SC140	College Physics I	5
		SC141	College Physics II	5
Animal Science				
AG111 Animal Management	3		Additional Electives	
AG116 Principles of Feeding	3	AG155	Comparative Ag	1
AG118 Prin. of Livestock Selection I	2	AG160	Introduction to Biotechnology	3
AG119 Prin. of Livestock Selection II	1	AG170	Wildlife Management	3
AG123 Beef Science	3	AG220	Cooperative Education Internship	1-4
AG127 Ag Science for Agri-Biotechnology	4	WE240	GIS/GPS	3
AG128 Animal Health and Nutrition	3			-
AG139 Farm Animal Repro	4			_
		Open 1	Electives	6 cr