



Agriculture, Food & Natural Resources Career Cluster

Pathway	OCCUPATIONS RELATING TO THIS CAREER CLUSTER
Agribusiness Systems	Sales Manager • Ag Lender • Ag Economist • Ag Products Buyer/Distributor • Feed-Supply Store Manager • Farm Investment Manager • Ag Commodity Broker
Animal Systems	Wildlife Biologist • Animal Nutritionist • Livestock Buyer • Livestock Geneticist • Veterinarian • USDA Inspector • Aquaculturist • Equine Manager
Environmental Service Systems	Pollution Prevention Technician • Hazardous Materials Handler • Water Quality Manager • Health and Safety Sanitarian • Toxicologist
Food Products & Processing Systems	Food Scientist • Quality Control Specialist • Biochemist-Nutritionist • Dietician • Microbiologist • Bacteriologist • Food and Fiber Engineer • Produce Buyer
Natural Resources Systems	Park Manager • Range Technician • Ecologist • Fish & Game Officer • Forest Technician • Geology Technician • Mining Engineers • Hydrologist
Plant Systems	Soil/Water Specialist • Botanist • Tree Surgeon • Plant Pathologist • Commodity Marketing Specialist • Golf Course Superintendent • Custom Hay/Silage Operator
Power, Structural & Technical Systems	Remote Sensing Specialist • Equipment/Parts Manager • Welder • GPS Technician • Machinist • Heavy Equipment Maintenance Technician

HIGH SCHOOL COURSE REQUIREMENTS				
English	Math	Science	Social Studies	Physical Education
Four units required to graduate; including literature, composition, and speech.	Three units required to graduate	Three units required to graduate.	Three units required to graduate.	One unit required to graduate.
Choices may include:	Choices may include:	Required Units:	Required Units:	Required Units:
<input type="checkbox"/> English 9 05071	<input type="checkbox"/> Algebra I 11031	<input type="checkbox"/> Physical Science 13030	<input type="checkbox"/> U.S. History 15085	<input type="checkbox"/> Physical Education 1 unit 08030
<input type="checkbox"/> English 10 05072	<input type="checkbox"/> Geometry 11120	<input type="checkbox"/> Biology 13020	<input type="checkbox"/> American Government ½ unit AND 15111	OR
<input type="checkbox"/> English 11 05073	<input type="checkbox"/> Advanced Algebra 11032	<input type="checkbox"/> One additional unit of Science	<input type="checkbox"/> Economics ½ unit 15060	<input type="checkbox"/> Physical Education ½ unit AND 08030
<input type="checkbox"/> English 12 05074		OR	OR	<input type="checkbox"/> Health ½ unit 18010
		<input type="checkbox"/> Biology 13020	<input type="checkbox"/> Problems of Democracy 1 unit 15201	
		<input type="checkbox"/> Chemistry 13031		
		<input type="checkbox"/> Physics 13042	Additional units may include:	
			<input type="checkbox"/> Civics	
			<input type="checkbox"/> Geography	
			<input type="checkbox"/> Psychology	
			<input type="checkbox"/> World History	

Career and Technical Education Electives				Extended Learning Opportunities			
Three units of foreign or Native American language, fine arts, or career and technical education are required to graduate.							
Agriculture Education				School-Based:		Community Based:	
<input type="checkbox"/> Intro to Agriculture or Agriscience Technology I 01011 or 01021	<input type="checkbox"/> Botany/Horticulture Science I 01053	<input type="checkbox"/> Botany/Horticulture Science II 01054	<input type="checkbox"/> FFA	<input type="checkbox"/> Mentorship			
<input type="checkbox"/> Foundations of Ag or Agriscience Technology II 01012 or 01022	<input type="checkbox"/> Agronomy Science 01025	<input type="checkbox"/> Livestock Production 01061	<input type="checkbox"/> FCCLA	<input type="checkbox"/> Volunteer			
<input type="checkbox"/> Agriculture III or Agriscience Technology III 01073 or 01023	<input type="checkbox"/> Equine Science 01062	<input type="checkbox"/> Small Animal Care 01066	<input type="checkbox"/> FBLA	<input type="checkbox"/> Part-time Employment			
<input type="checkbox"/> Agriculture IV 01074	<input type="checkbox"/> Veterinary Science 01067	<input type="checkbox"/> Agricultural Processing 01068	<input type="checkbox"/> DECA	<input type="checkbox"/> Service-Learning Project			
<input type="checkbox"/> CASE – Intro to Ag, Food & Natural Resources 01080	<input type="checkbox"/> Agricultural Mechanics Technology I 01043	<input type="checkbox"/> Natural/Environmental Resources 01063	<input type="checkbox"/> SkillsUSA	<input type="checkbox"/> Job Shadow			
<input type="checkbox"/> Agriculture Sales and Service 01034	<input type="checkbox"/> Agricultural Mechanics Technology II 01044	<input type="checkbox"/> Individual Agricultural Studies 01990	<input type="checkbox"/> TSA	<input type="checkbox"/> Internship			
<input type="checkbox"/> Agricultural Business Management 01035	<input type="checkbox"/> Agricultural Mechanics Power Systems 01045	<input type="checkbox"/> Supervised Agricultural Experience 01995	<input type="checkbox"/> Supervised Agricultural Experience (SAE)				
<input type="checkbox"/> Agricultural Welding & Fabrication 01046	<input type="checkbox"/> Advanced Ag Welding & Fabrication 01047	<input type="checkbox"/> CASE-Principles of Ag Science - Plant 01025	<input type="checkbox"/> Career Research				
		<input type="checkbox"/> CASE-Principles of Ag Science - Animal 01081	<input type="checkbox"/> Cooperative Work Experience				

North Dakota Agriculture, Food & Natural Resources Related Postsecondary Programs

Pathway	Certificate or Associate's Degree	Bachelor's Degree	Master's Degree or More
Agribusiness Systems	<input type="checkbox"/> Ag Business Management (NDSCS) <input type="checkbox"/> Agricultural Sales and Service (DSU) <input type="checkbox"/> Agriculture transfer (BSC, DCB, DSU, NDSCS, WSC) <input type="checkbox"/> Adult Farm Management (LRSC) <input type="checkbox"/> Farm Management Education (BSC) <input type="checkbox"/> Farm/Ranch Management (BSC, DSU, NDSCS) <input type="checkbox"/> Precision Agriculture (LRSC, NDSCS)	<input type="checkbox"/> Agribusiness (NDSU) <input type="checkbox"/> Agricultural and Biosystems Engineering (NDSU) <input type="checkbox"/> Agricultural Economics (NDSU) <input type="checkbox"/> Agricultural Education (NDSU) <input type="checkbox"/> Agricultural Studies (DSU) <input type="checkbox"/> Agricultural Systems Management (NDSU) <input type="checkbox"/> General Agriculture (NDSU) <input type="checkbox"/> Precision Agriculture (NDSU)	<input type="checkbox"/> Agribusiness and Applied Economics (NDSU) <input type="checkbox"/> Agricultural and Biosystems Engineering (NDSU) <input type="checkbox"/> Agricultural Education (NDSU) <input type="checkbox"/> Extension Education (NDSU) <input type="checkbox"/> International Agribusiness (NDSU)
Animal Systems	<input type="checkbox"/> Animal Science (NDSCS) <input type="checkbox"/> Equine Studies/Horse Production (DSU, NHSC) <input type="checkbox"/> Pre-Veterinary Medicine transfer (BSC, DCB) <input type="checkbox"/> Ranch Management (NDSCS) <input type="checkbox"/> Wildlife and Fisheries Technology (DCB, NDSCS)	<input type="checkbox"/> Animal Science (NDSU) <input type="checkbox"/> Equine Science (NDSU) <input type="checkbox"/> Fisheries and Wildlife Biology/Science (UM, UND, VCSU) <input type="checkbox"/> Vet Technology (NDSU)	<input type="checkbox"/> Animal Science (NDSU)
Environmental Service Systems	<input type="checkbox"/> Environmental Science/Technology (DCB, NHSC, SBC, UTTC) <input type="checkbox"/> Water & Wastewater Technology (BSC)	<input type="checkbox"/> Energy Management (BSC) <input type="checkbox"/> Environmental Design (NDSU) <input type="checkbox"/> Environmental Geoscience (UND) <input type="checkbox"/> Environmental Science (DSU, NHSC, SBC, UTTC, UND, VCSU)	<input type="checkbox"/> Environmental and Conservation Science (NDSU) <input type="checkbox"/> Environmental Science (SBC) <input type="checkbox"/> Environmental Engineering (UND)
Food Products & Processing Systems	<input type="checkbox"/> Sustainable Ag and Food Systems (UTTC)	<input type="checkbox"/> Food Science (NDSU)	<input type="checkbox"/> Cereal Science (NDSU) <input type="checkbox"/> Food Safety (NDSU)
Natural Resources Systems	<input type="checkbox"/> Ag Management and Technology (DCB) <input type="checkbox"/> Natural Resources Management (CCCC, DCB, TMCC) <input type="checkbox"/> Recreation Management (DCB)	<input type="checkbox"/> Natural Resources Management (NDSU)	<input type="checkbox"/> Natural Resources Management (NDSU) <input type="checkbox"/> Energy Systems Engineering (UND)
Plant Systems	<input type="checkbox"/> Agriculture Industry and Technology-Agronomy (BSC) <input type="checkbox"/> Agronomy (NDSCS) <input type="checkbox"/> Aquaponics (DCB) <input type="checkbox"/> Floral Design and Greenhouse Technology (DCB) <input type="checkbox"/> Specialty Crop Production (DCB) <input type="checkbox"/> Urban Forest Management (DCB)	<input type="checkbox"/> Crop and Weed Sciences (NDSU) <input type="checkbox"/> Horticulture (NDSU) <input type="checkbox"/> Range Science (NDSU) <input type="checkbox"/> Soil Science (NDSU)	<input type="checkbox"/> Horticulture (NDSU) <input type="checkbox"/> Plant Pathology (NDSU) <input type="checkbox"/> Plant Sciences (NDSU) <input type="checkbox"/> Range Science (NDSU) <input type="checkbox"/> Soil Science (NDSU)
Power, Structure, & Technical Systems	<input type="checkbox"/> Caterpillar Dealer Service Technician (NDSCS) <input type="checkbox"/> Diesel Technology: General Diesel, Case IH, Komatsu (NDSCS) <input type="checkbox"/> Energy Services & Renewable Technician (BSC) <input type="checkbox"/> John Deere Tech (NDSCS) <input type="checkbox"/> Nuclear Power Technology (BSC) <input type="checkbox"/> Petroleum Production Technology (BSC, WSC) <input type="checkbox"/> Power Plant Technology (BSC) <input type="checkbox"/> Process Plant/Power Plant Technology (BSC, TMCC) <input type="checkbox"/> Wind Energy Technology (LRSC)	<input type="checkbox"/> Energy Management (BSC)	

North Dakota Postsecondary Institutions Offering Agriculture, Food & Natural Resources Related Programs

BSC	Bismarck State College	www.bismarckstate.edu	NHSC	Nueta Hidatsa Sahnish College	http://nhsc.edu
CCCC	Cankdeska Cikana Community College	www.littlehoop.edu	SBC	Sitting Bull College	www.sittingbull.edu
DCB	Dakota College at Bottineau	www.dakotacollege.edu	TMCC	Turtle Mountain Community College	www.tm.edu
DSU	Dickinson State University	www.dickinsonstate.edu	UM	University of Mary	www.umary.edu
LRSC	Lake Region State College	www.lrsc.edu	UND	University of North Dakota	www.und.edu
NDSCS	ND State College of Science	www.ndscs.edu	UTTC	United Tribes Technical College	www.uttc.edu
NDSU	ND State University	www.ndsu.edu	VCSU	Valley City State University	www.vcsu.edu
			WSC	Williston State College	www.willistonstate.edu