



# Agriculture, Food & Natural Resources Career Cluster

## PLAN OF STUDY

http://www.nd.gov/cte/services/career-clusters/  
<http://www.careerclusters.org>

(7/10/2010 CTE revision)

Name \_\_\_\_\_  
 School \_\_\_\_\_  
 Date \_\_\_\_\_



SAMPLE OCCUPATIONS RELATING TO THIS CAREER CLUSTER	
Pathway	Occupations (Also Agriculture teacher)
FOOD PRODUCTS & PROCESSING SYSTEMS	Agriculture Sales Representative • Ag Educator • Food Scientist • Butcher • Biochemist • Dietician • Nutritionist Bacteriologist • Food Inspector • Produce Buyer
PLANT SYSTEMS	Geneticist • Soil/Water Specialist • Botanist • Agriculture Lender • Biological Technician • Commodity Marketing Specialist • Golf Course Superintendent
ANIMAL SYSTEMS	Wildlife Biologist • Animal Nutritionist • Livestock Buyer • Agriculture Technician • Veterinary Assistant • Zoologist • Farmer/Rancher • Feed/Sales Rep
POWER, STRUCTURAL & TECHNICAL SYSTEMS	Agriculture Equipment Operator • Electrical Engineering Technician • Parts Salesperson • GPS Technician • Communications Technician • Heavy Equip. Maint.
NATURAL RESOURCES SYSTEMS	Cartographer • Range Manager • Ecologist • Fish & Game Officer • General Operations Manager • Commercial Fisherman • Mining Engineers • Hydrologist
ENVIRONMENTAL SERVICE SYSTEMS	Pollution Prevention Technician • Hazardous Materials Handler • Water Quality Manager • Toxicologist • Recycler • Waste Technician • Ag Educator
AGRIBUSINESS SYSTEMS	Sales Manager • Loan Officer • Ag Economist • Ag Chemical Dealer • Chemical Sales Representative • Ag Products Buyer • Commodity Broker

### SUGGESTED COURSE OF HIGH SCHOOL STUDY

It is suggested that students consider appropriate units of dual credit, articulation, or advanced placement opportunities for postsecondary credit.

English (*four units required to graduate; including literature, composition, and speech) <b>Choices may include:</b>	Math (*three units required to graduate) <b>Choices may include:</b>	Science (three units required to graduate) <b>*Required units</b>	Social Studies (three units required to graduate) <b>*Required units</b>	Physical Education (one unit required to graduate) <b>*Required units</b>	Career & Technical Education and Other Electives (three units of foreign or Native American language, fine arts, or career and technical education are required to graduate)	Additional Suggested Learning Opportunities
<input type="checkbox"/> English 9 <input type="checkbox"/> English 10 <input type="checkbox"/> English 11 <input type="checkbox"/> English 12  <input type="checkbox"/> Speech or Debate <input type="checkbox"/> Composition <input type="checkbox"/> World Literature <input type="checkbox"/> Dual Credit Classes	<input type="checkbox"/> Consumer Math <input type="checkbox"/> Applied Math  <b>College Prep:</b> <input type="checkbox"/> Algebra I & II <input type="checkbox"/> Geometry <input type="checkbox"/> Advanced Algebra <input type="checkbox"/> Trigonometry <input type="checkbox"/> College Algebra <input type="checkbox"/> Dual Credit Classes	<input type="checkbox"/> *Physical Science <input type="checkbox"/> * Biology <input type="checkbox"/> *1 additional unit  <b>Choices may include:</b> <input type="checkbox"/> Advanced Biology <input type="checkbox"/> Physics <input type="checkbox"/> Chemistry <input type="checkbox"/> Anatomy & Physiology <input type="checkbox"/> Horticulture <input type="checkbox"/> Dual Credit Classes	<input type="checkbox"/> *U.S. History <input type="checkbox"/> *American Gov <input type="checkbox"/> 1/2 and <input type="checkbox"/> *Economics ½, or <input type="checkbox"/> *Problems of Democracy <input type="checkbox"/> *1 additional unit <b>Choices may include:</b> <input type="checkbox"/> ND History <input type="checkbox"/> Geography <input type="checkbox"/> World History	<input type="checkbox"/> *Physical Education 1 unit <b>and</b> <input type="checkbox"/> *Health ½ unit	<input type="checkbox"/> Introduction to Agriculture <input type="checkbox"/> Foundations of Agriculture <input type="checkbox"/> Agri-Science Technology I, II, III, IV <input type="checkbox"/> Agricultural Welding & Fabrication I, II <input type="checkbox"/> Agricultural Mechanics & Technology I-IV <input type="checkbox"/> Agriculture Sales and Service <input type="checkbox"/> Botany/Horticulture Science I, II <input type="checkbox"/> Natural/Environmental Resources <input type="checkbox"/> Ag Business Management <input type="checkbox"/> Ag Processing <input type="checkbox"/> Agriculture III, IV	<b>School-Based:</b> <input type="checkbox"/> FFA <input type="checkbox"/> SAE <input type="checkbox"/> Career Research <input type="checkbox"/> Cooperative Education <input type="checkbox"/> Internship/Job Shadow <input type="checkbox"/> Service Learning Project  <b>Community Based:</b> <input type="checkbox"/> Mentorship <input type="checkbox"/> Volunteer <input type="checkbox"/> Part-time Employment

### EXAMPLES OF NORTH DAKOTA POSTSECONDARY PROGRAMS RELATED TO THIS CAREER CLUSTER

Pathway	Associate Degree or Less	Bachelors Degree	Masters Degree or More
FOOD PRODUCTS & PROCESSING SYSTEMS	<input type="checkbox"/> Ag Transfer (BSC, NDSCS, WSC)	<input type="checkbox"/> Ag Education (NDSU) <input type="checkbox"/> Food Safety (NDSU) <input type="checkbox"/> Food Science (NDSU)	<input type="checkbox"/> Ag Education (NDSU) <input type="checkbox"/> Food Safety (NDSU) <input type="checkbox"/> Cereal Science (NDSU)
PLANT SYSTEMS	<input type="checkbox"/> Agronomy Technician (WSC) <input type="checkbox"/> Crop & Weed Science (NDSCS) <input type="checkbox"/> Turf Management (DCB) <input type="checkbox"/> Horticulture (DCB, LRSC) <input type="checkbox"/> Ag Industry and Technology (BSC, DSU)	<input type="checkbox"/> Sports & Urban Turf Management (NDSU) <input type="checkbox"/> Crop & Weed Science (NDSU) <input type="checkbox"/> Soil Science (NDSU) <input type="checkbox"/> Range Management (DSU, NDSU) <input type="checkbox"/> Horticulture (NDSU)	<input type="checkbox"/> Plant Pathology (NDSU) <input type="checkbox"/> Entomology (NDSU) <input type="checkbox"/> Horticulture (NDSU) <input type="checkbox"/> Soil Science (NDSU) <input type="checkbox"/> Botany (NDSU)
ANIMAL SYSTEMS	<input type="checkbox"/> Equine Studies (NDSU, DSU, SBC) <input type="checkbox"/> Animal Sciences (NDSCS)	<input type="checkbox"/> Equine Studies (NDSU, DSU) <input type="checkbox"/> Animal & Range Sciences (NDSU, DSU) <input type="checkbox"/> Pre-Veterinary Medicine/Vet Tech (NDSU)	<input type="checkbox"/> Animal Science (NDSU) <input type="checkbox"/> Zoology (NDSU) <input type="checkbox"/> Range Science (NDSU)
POWER, STRUCTURAL & TECHNICAL SYSTEMS	<input type="checkbox"/> Power Plant Technology (BSC) <input type="checkbox"/> John Deere Tech (NDSCS)	<input type="checkbox"/> Ag Systems Management (NDSU)	<input type="checkbox"/> Agricultural and Biosystems Engineering (NDSU)
NATURAL RESOURCES SYSTEMS	<input type="checkbox"/> Natural Resources Management & Conservation (WSC) <input type="checkbox"/> Wildlife, Fisheries, Technology/Science (DCB)	<input type="checkbox"/> Zoology/Fisheries & Wildlife (NDSU) <input type="checkbox"/> Natural Resource Management (DSU, NDSU)	<input type="checkbox"/> Natural Resource Mgt (NDSU)
ENVIRONMENTAL SERVICE SYSTEMS	<input type="checkbox"/> Enviro & Conservation Science (FBCC, SBC, UTTC, WSC) <input type="checkbox"/> Environmental Technology (DCB)	<input type="checkbox"/> Environmental Geosciences (MIL)	<input type="checkbox"/> Environmental & Conservation Science (NDSU) <input type="checkbox"/> Environmental Engineering (NDSU)
AGRIBUSINESS SYSTEMS	<input type="checkbox"/> Ag Farm/Ranch Management (BSC, DSU, NDSCS, FBCC) <input type="checkbox"/> Ag Business & Management – Sales & Service (BSC, WSC, DSU, FBCC, NDSCS)	<input type="checkbox"/> Ag Business & Management- Sales & Service (NDSU, DSU)	<input type="checkbox"/> International Agribusiness (NDSU) <input type="checkbox"/> Agricultural Economics (NDSU)

BSC – Bismarck State College, DCB- Dakota College at Bottineau, DSU – Dickinson State University, FBCC – Fort Berthold Community College, LRSC – Lake Region State College, MIL – Military Service, NDSCS – North Dakota State College of Science, NDSU – North Dakota State University, SBC – Sitting Bull College, WSC – Williston State College UTTC – United Tribes Technical College. (7/10/2010 CTE revision)