



# Agriculture, Food, and Natural Resources

## North County High School Career Cluster Program of Study

This Program of Study Template can serve as a guide, along with other career planning materials, as you continue your career path. Courses listed within this plan are only recommended coursework and should be individualized to meet each learner's educational and career goals. **Ask your high school counselor to help you fill in the required courses you need to graduate.**

Grade	English 8 semesters	Math 6 semesters	Science 6 semesters	Social Studies 6 semesters	Other Required Courses, Recommended Electives	Career & Technical Courses and/or Degree Major Courses @ Unitec	SAMPLE Occupations Relating to this Pathway
9	Comm Arts I	High School Math	High School Science Course	High School S.S. Course	Personal Finance Computer Science Ag electives	See high school counselor for course offerings	<p><b>Occupations Requiring Postsecondary Education</b></p> <ul style="list-style-type: none"> <li>▶ Agricultural Communications Specialist</li> <li>▶ Agricultural Salesperson</li> <li>▶ Food &amp; Drug Inspector</li> <li>▶ Food Meal Supervisor</li> <li>▶ Food Processor</li> <li>▶ Meat Cutter-Meat Grader</li> <li>▶ Meat Processor</li> <li>▶ Produce Buyer</li> </ul> <p><b>Occupations Requiring Baccalaureate Degree &amp; Beyond</b></p> <ul style="list-style-type: none"> <li>▶ Agricultural Educator</li> <li>▶ Bacteriologist</li> <li>▶ Biochemist-Nutritionist</li> <li>▶ Bioengineer</li> <li>▶ Dietician</li> <li>▶ Food &amp; Fiber Engineer</li> <li>▶ Food Scientist</li> <li>▶ Meat Science Researcher</li> <li>▶ Microbiologist</li> <li>▶ Quality Control Specialist</li> </ul>
10	Comm Arts II	High School Math	High School Science Course	High School S.S. Course	Personal Finance Computer Science Ag electives	See high school counselor for course offerings	
11	Comm Arts III & Comm Arts elective  *English Comp I *Public Speaking	Pre-College Algebra or high school math course  *College Algebra,	High School Science Course *General Biology	High school S.S. Electives – History & Government  *American History I & II, *Western Civ I & II *Spanish *Gen Psyche and Socio	*Anatomy & Physiology *Ag electives online *Zoology *General Chemistry *Botany  (Available for Dual Enrollment)	See high school counselor for course offerings  *Check with school counselor for dual enrollment classes available on the MAC on the web or on one of the MAC campuses	
12	Senior Comm Arts & Comm Arts elective  *English Comp II *Intro to Literature	Pre- College Algebra high school courses  *College Algebra,	High School Science Course *MFH Intro to Chem *Gen Chem	High school S.S. Electives –History & Government  *American History I & II *Western Civ I & II *Spanish *Gen Psyche and Socio	*Anatomy & Physiology *Ag electives online *Zoology *General Chemistry *Botany  (Available for Dual Enrollment)	See high school counselor for course offerings  *Check with school counselor for dual enrollment classes available on the MAC on the web or on one of the MAC campuses	

**\*Dual Credit College courses can often be substituted for high school credit. Check with your Counselor.**

**\*Dual Enrollment courses – MAC campus or Online.**

**Assessments/Certifications:** College Placement Assessments, Compass, ACT, SAT

**Clubs/Extracurricular Activities:** CTSO(s):  FBLA  FCCLA  FFA **\*Ask your Counselor what is available at your school.**

**Work-Based Learning:**  After School Employment  Internship/Mentorship  Job Shadowing  Service Learning  Supervised Business Experience



**The production, processing, marketing, distribution, financing, and development of agricultural commodities and resources including food, fuel, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.**

Sample Career Specialties / Occupations	<p>Agricultural Communication Specialists  Agricultural Educators  Agricultural Journalists  Agricultural Sales  Bacteriologists  Biochemists  Bioengineers  Cheese Makers  Fieldmen  Food &amp; Drug Inspectors  Food &amp; Fiber Engineers  Food Brokers  Food Meal Supervisors  Food Processors  Food Scientists  Meat Cutters  Meat Graders  Meat Processors  Meat Science Researchers  Microbiologists  Nutritionists/Dieticians  Produce Buyers  Quality Control Specialists  Storage Supervisors  Toxicologists</p>	<p>Agricultural Educators  Agricultural Journalists  Aquaculturalists  Bioinformatics Specialists  Biotechnology  Lab Technicians  Botanists  Commodity Marketing Specialists  Crop Farm Managers  Custom Hay/Silage Operators  Education &amp; Extension Specialists  Farmers  Forest Geneticists  Golf Course Superintendents  Grain Operations  Superintendents  Greenhouse Mangers  Growers  Plant Breeders and Geneticists  Plant Pathologists  Ranchers  Sales Representatives  Soil &amp; Water Specialists  Tree Surgeons</p>	<p>Agricultural Educators  AI Technicians-Aquaculturalists  Animal Caretakers  Poultry Managers  Animal Health Salespersons  Animal Nutritionists  Animal Scientists  Dairy Producers  Embryo Technologists  Embryo Transfer Technicians  Equine Managers  Feed Sales Representatives  Feed Sales Specialists  Feedlot Specialists  Livestock Buyers  Livestock Geneticists  Livestock Inspectors  Livestock Producers  Meat Science Researcher  Pet Shop Operators  Reproductive Physiologists  USDA Inspectors  Veterinarians  Veterinary Assistants  Vivarian Technicians  Wildlife Biologists</p>	<p>Agricultural Applications  Software Developers  Agricultural Educator  Agricultural Engineers  Agricultural Extension  Communication Technicians  Computer Service Technical Support Technicians  Database Administrators  Electronics Systems Technicians  Engineering Specialists  Equipment/Parts Managers  GPS Technicians  Heavy Equipment Maintenance Technicians  Information Lab Specialists  Machine Operators  Machinists  Recycling Technicians  Remote Sensing Specialist  Waste Water Treatment Plant Operators  Welders</p>	<p>Agricultural Educator  Cartographers  Commercial Fishermen  Ecologists Park Mangers  Environmental Interpreters  Fish and Game Officers  Fish Hatchery Manager  Fisheries Technicians  Fishing Vessel Operators  Forest Technicians  Geologists  Hydrologists  Log Grader  Loggers  Mining Engineers  Pulp and Paper Manager  Soil Geology Technician  Range Technicians  Vessel Crew  Water Monitoring Technician  Wildlife Managers</p>	<p>Agricultural Educator  Environmental Sampling and Analysis Scientists  And Technicians  Hazardous Materials Handlers  Hazardous Materials Technicians/ Managers  Health and Safety Sanitarians  Environmental Compliance Assurance Managers  Pollution Prevention and Control Managers/Technicians  Solid Waste Disposers/ Recyclers  Solid Waste Managers/ Specialists/Technicians/ Toxicologists  Waste Water Managers  Water Environment Managers  Water Quality Managers</p>	<p>Ag Lenders  Agricultural Chemical Dealer  Field Service Representative  Chemical Sales Representative  Agricultural Commodity Broker  Agricultural Economist  Agricultural Educator  Agricultural Products Buyer  Animal Health Products Distributor  Banker/Loan Officer  Farm Investment Manager  Farm Manager  Farmer /Rancher/Feedlot Operator  Feed and Supply Store Manager  Field Representative for Bank, Insurance Company or Government Program  Livestock Rancher / Breeder  Dairy Herd Supervisor (DHIA)  Livestock Seller  Produce Commission Agent  Sales Manager  Salesperson</p>
	Path-ways	<p><b>Food Products and Processing Systems</b>  (Food Processing and preserving, Packaging, Distribution, Government monitoring &amp; regulation)</p>	<p><b>Plant Systems</b>  (Agronomic, Horticulture, Forestry, Turf, Viticulture, Soils, etc.)</p>	<p><b>Animal Systems</b>  (Large animals, small animals, wildlife animals, and research animals)</p>	<p><b>Power, Structural &amp; Technical Systems</b>  (Power, Structures, Controls, Geospatial Technology, Computer Systems, Electronics, Hydraulics, Pneumatics, etc.)</p>	<p><b>Natural Resources Systems</b>  (Habitat Conservation, Forest Products, Parks and Recreation, Mining, Environmental Services, Fisheries, Soil Conservation, etc.)</p>	<p><b>Environmental Service Systems</b>  (Pollution Prevention, Water &amp; Air Quality, Hazardous Materials, Solid Waste Management, Health &amp; Safety Sanitation, etc.)</p>
Cluster K&S	<p align="center"><b>Cluster Knowledge and Skills</b></p> <p align="center">• Premier Leadership • Personal Growth • Career Success • Organizations and Associations • Organizational Structures and Processes • Safety, Health, and Environmental Management • Health and Safety Procedures • Tools, Equipment, Machinery and Technology • Issues • Technology and Globalization • Scientific Inquiry</p>						