Agriculture, Food, and Natural Resources
Unitec Sending Schools 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.**

<table>
<thead>
<tr>
<th>Grade</th>
<th>English 8 semesters</th>
<th>Math 6 semesters</th>
<th>Science 6 semesters</th>
<th>Social Studies 6 semesters</th>
<th>Other Required Courses, Recommended Electives</th>
<th>Career &amp; Technical Courses and/or Degree Major Courses @ Unitec</th>
<th>SAMPLE Occupations Relating to this Pathway</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Comm Arts I</td>
<td>High School Math</td>
<td>High School Science Course</td>
<td>High School S.S. Course</td>
<td>Personal Finance Computer Science Ag electives</td>
<td>See high school counselor for course offerings</td>
<td><strong>Oclusions Requiring Postsecondary Education</strong>&lt;br&gt;► Agricultural Communications Specialist&lt;br&gt;► Agricultural Salesperson&lt;br&gt;► Food &amp; Drug Inspector&lt;br&gt;► Food Meal Supervisor&lt;br&gt;► Food Processor&lt;br&gt;► Meat Cutter-Meat Grader&lt;br&gt;► Meat Processor&lt;br&gt;► Produce Buyer</td>
</tr>
<tr>
<td>10</td>
<td>Comm Arts II</td>
<td>High School Math</td>
<td>High School Science Course</td>
<td>High School S.S. Course</td>
<td>Personal Finance Computer Science Ag electives</td>
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<td><strong>Oclusions Requiring Baccalaureate Degree &amp; Beyond</strong>&lt;br&gt;► Agricultural Educator&lt;br&gt;► Bacteriologist&lt;br&gt;► Biochemist-Nutritionist&lt;br&gt;► Bioengineer&lt;br&gt;► Dietician&lt;br&gt;► Food &amp; Fiber Engineer&lt;br&gt;► Food Scientist&lt;br&gt;► Meat Science Researcher&lt;br&gt;► Microbiologist&lt;br&gt;► Quality Control Specialist</td>
</tr>
<tr>
<td>11</td>
<td>Comm Arts III &amp; Comm Arts elective&lt;br&gt;*English Comp I&lt;br&gt;*Public Speaking&lt;br&gt;*College Algebra, *College Trig.</td>
<td>Pre-College Algebra or high school math course&lt;br&gt;*Course offered at Potosi, Farmington, Fredericktown Schools</td>
<td>High School Science Course&lt;br&gt;*MFH – College General Biology – North County, West County Hubs</td>
<td>High school S.S. Electives – History &amp; Government&lt;br&gt;*Am. College&lt;br&gt;*History I &amp; II, *Political Systems</td>
<td>*Personal Finance&lt;br&gt;*Computer Science&lt;br&gt;*Ag electives&lt;br&gt;*Zoology&lt;br&gt;*Anatomy &amp; Physiology&lt;br&gt;*General Chemistry&lt;br&gt;*Botany (Available for Dual Enrollment)</td>
<td>See high school counselor for course offerings</td>
<td><strong>Potosi Articulated Classes Available</strong>&lt;br&gt;*Check with school counselor for more college course offerings</td>
</tr>
<tr>
<td>12</td>
<td>Senior Comm Arts&lt;br&gt;&amp; Comm Arts elective&lt;br&gt;*English Comp II&lt;br&gt;*Intro to Literature</td>
<td>Pre-College Algebra high school courses&lt;br&gt;*Course offered at Farmington High School</td>
<td>High School Science Course&lt;br&gt;*MFH - College Intro to Chemistry – North County, West County, Potosi, Fredericktown Hubs</td>
<td>High school S.S. Electives –History &amp; Government&lt;br&gt;*American College History I &amp; II, *Political Systems</td>
<td>*Personal Finance&lt;br&gt;*Computer Science&lt;br&gt;*Ag electives&lt;br&gt;*Zoology&lt;br&gt;*Anatomy &amp; Physiology&lt;br&gt;*General Chemistry&lt;br&gt;*Botany (Available for Dual Enrollment)</td>
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*Dual Credit or Dual Enrollment College courses can often be substituted for high school credit. Check with your Counselor.*

Assessments/Certifications: College Placement Assessments, Compass, ACT, SAT
Clubs/Extracurricular Activities: Ask your Counselor what is available at your school.
Work-Based Learning: □ After School Employment □ Internship/Mentorship □ Job Shadowing □ Service Learning □ Supervised Business Experience
Additional Learning Opportunities:
CTSO(s): □ □ FBLA □ FCCLA □ FFA

Click here to see Degrees & Certificates offered by Mineral Area College.
## Sample Career Specialties / Occupations

- **Agricultural Communication Specialists**
- **Agricultural Educators**
- **Agricultural Journalists**
- **Aquaticulturalists**
- **Animal Caretakers**
- **AI Technicians-Aquaticulturalists**
- **Bioinformaticists**
- **Biotechnology Lab Technicians**
- **Botanists**
- **Commodity Marketing Specialists**
- **Crop Farm Managers**
- **Custom Hay/Silage Operators**
- **Education & Extension Specialists**
- **Farmers**
- **Forest Geneticists**
- **Golf Course Superintendents**
- **Grain Operations Superintendents**
- **Greenhouse Mangers**
- **Growers**
- **Plant Breeders**
- **and Geneticists**
- **Plant Pathologists**
- **Ranchers**
- **Sales Representatives**
- **Soil & Water Specialists**
- **Tree Surgeons**
- **Agricultural Educators**
- **Agricultural Journalists**
- **Aquaticulturalists**
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## Pathways

### Food Products and Processing Systems

- **Food Processing and preserving, Packaging, Distribution, Government monitoring & regulation**
- **Agricultural Communications**
- **Agricultural Educators**
- **Agricultural Journalists**
- **Aquaticulturalists**
- **Animal Caretakers**
- **AI Technicians-Aquaticulturalists**
- **Bioinformatics Specialists**
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### Plant Systems

- **Agricultural Applications Software Developers**
- **Agricultural Educators**
- **Agricultural Journalists**
- **Aquaticulturalists**
- **Animal Caretakers**
- **AI Technicians-Aquaticulturalists**
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### Animal Systems

- **Agricultural Applications Software Developers**
- **Agricultural Educators**
- **Agricultural Journalists**
- **Aquaticulturalists**
- **Animal Caretakers**
- **AI Technicians-Aquaticulturalists**
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### Power, Structural & Technical Systems

- **Agricultural Applications Software Developers**
- **Agricultural Educators**
- **Agricultural Journalists**
- **Aquaticulturalists**
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- **AI Technicians-Aquaticulturalists**
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### Natural Resources Systems

- **Agricultural Applications Software Developers**
- **Agricultural Educators**
- **Agricultural Journalists**
- **Aquaticulturalists**
- **Animal Caretakers**
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- **and Geneticists**
- **Plant Pathologists**
- **Ranchers**
- **Sales Representatives**
- **Soil & Water Specialists**
- **Tree Surgeons**

### Environmental Service Systems

- **Agricultural Applications Software Developers**
- **Agricultural Educators**
- **Agricultural Journalists**
- **Aquaticulturalists**
- **Animal Caretakers**
- **AI Technicians-Aquaticulturalists**
- **Bioinformatics Specialists**
- **Biotechnology Lab Technicians**
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### Cluster Knowledge and Skills

- **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**

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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.