### Secondary Competency Task List

#### 100 Animal Science

<table>
<thead>
<tr>
<th>Task Number</th>
<th>Task Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>Compare and contrast cultural and societal uses and contributions of animals locally and globally.</td>
</tr>
<tr>
<td>102</td>
<td>Demonstrate safe animal handling techniques for production, laboratory, and/or recreation.</td>
</tr>
<tr>
<td>103</td>
<td>Identify products and uses of major livestock and companion animal species in Pennsylvania.</td>
</tr>
<tr>
<td>104</td>
<td>Identify the basic anatomy of animals.</td>
</tr>
<tr>
<td>105</td>
<td>Describe the functions of the animal body systems and system components.</td>
</tr>
<tr>
<td>106</td>
<td>Describe normal animal behavior by species, along with causes and potential results of abnormal behavior (social, sexual, reproductive, and ingestive).</td>
</tr>
<tr>
<td>107</td>
<td>Predict genetic types using the punnet square method.</td>
</tr>
<tr>
<td>108</td>
<td>Explain the significance of the 6 classes of nutrients for animal growth, performance, maintenance and reproduction.</td>
</tr>
<tr>
<td>109</td>
<td>Describe preventative animal health and treatment techniques.</td>
</tr>
<tr>
<td>110</td>
<td>Investigate environmental, food, medicinal, public safety, and biosecurity issues related to animal health.</td>
</tr>
<tr>
<td>111</td>
<td>Evaluate the equipment and facilities used in modern animal agricultural production.</td>
</tr>
<tr>
<td>112</td>
<td>Examine the impact of pests and diseases as variables in animal production.</td>
</tr>
<tr>
<td>113</td>
<td>Investigate emerging technologies within practical applications of animal science.</td>
</tr>
</tbody>
</table>

#### 200 Plant Science

<table>
<thead>
<tr>
<th>Task Number</th>
<th>Task Description</th>
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<tbody>
<tr>
<td>201</td>
<td>Explain systems used to classify plants.</td>
</tr>
<tr>
<td>202</td>
<td>Identify the components and structures of plants.</td>
</tr>
<tr>
<td>203</td>
<td>Explain the functions of plant systems.</td>
</tr>
<tr>
<td>204</td>
<td>Identify products and uses of plant species in Pennsylvania.</td>
</tr>
<tr>
<td>205</td>
<td>Explain the basic process of photosynthesis/respiration and their importance to life.</td>
</tr>
<tr>
<td>206</td>
<td>Identify and compare the functions of the essential nutrients for plant growth and development.</td>
</tr>
<tr>
<td>207</td>
<td>Assess the environmental factors that affect the growth and development of a plant.</td>
</tr>
<tr>
<td>208</td>
<td>Compare and contrast sexual and asexual plant reproduction.</td>
</tr>
<tr>
<td>209</td>
<td>Apply concepts of Integrated Pest Management (IPM) strategies used to manage pest populations and analyze its effectiveness.</td>
</tr>
<tr>
<td>210</td>
<td>Examine the impact of pests and diseases as variables in plant production.</td>
</tr>
<tr>
<td>211</td>
<td>Determine the role of plant pollinators.</td>
</tr>
<tr>
<td>212</td>
<td>Investigate emerging technologies within practical applications of plant science.</td>
</tr>
</tbody>
</table>

#### 300 Soil Science

<table>
<thead>
<tr>
<th>Task Number</th>
<th>Task Description</th>
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<tbody>
<tr>
<td>301</td>
<td>Explain the processes of soil formation.</td>
</tr>
<tr>
<td>302</td>
<td>Identify and describe physical, chemical, and biological soil characteristics.</td>
</tr>
<tr>
<td>303</td>
<td>Conduct proper soil sampling techniques.</td>
</tr>
<tr>
<td>304</td>
<td>Analyze and interpret the results of a soil test.</td>
</tr>
<tr>
<td>305</td>
<td>Understand fertilizer rates to maintain proper plant nutrition.</td>
</tr>
</tbody>
</table>
### Agriculture, General

**CIP 01.0000**

#### Task Grid

<table>
<thead>
<tr>
<th>Task</th>
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<tbody>
<tr>
<td>306</td>
<td>Draw conclusions from a soil survey to determine land uses, capability factors, and land capability classes.</td>
</tr>
<tr>
<td>307</td>
<td>Compare and contrast soil conservation practices and soil management techniques.</td>
</tr>
<tr>
<td>308</td>
<td>Investigate emerging technologies within practical applications of soil science.</td>
</tr>
<tr>
<td>400</td>
<td><strong>Mechanical Technology and Mechanization</strong></td>
</tr>
<tr>
<td>401</td>
<td>Identify the progression of technological advancements and their potential impacts in the agricultural industry.</td>
</tr>
<tr>
<td>402</td>
<td>Recognize and demonstrate safety rules and regulations.</td>
</tr>
<tr>
<td>403</td>
<td>Identify and demonstrate wearing of personal protective equipment.</td>
</tr>
<tr>
<td>404</td>
<td>Demonstrate positive safety attitudes and responsibilities.</td>
</tr>
<tr>
<td>405</td>
<td>Select and demonstrate the safe use of appropriate tools for the maintenance of mechanical systems.</td>
</tr>
<tr>
<td>406</td>
<td>Demonstrate accurate use of measurement devices and techniques used to calculate measurement.</td>
</tr>
<tr>
<td>407</td>
<td>Interpret project plans, blueprints, or schematics.</td>
</tr>
<tr>
<td>408</td>
<td>Investigate emerging technologies within practical applications of agricultural mechanization.</td>
</tr>
<tr>
<td>409</td>
<td>Locate and comprehend Safety Data Sheets (SDS) (formerly MSDS).</td>
</tr>
<tr>
<td>410</td>
<td>Utilize a variety of technical sources, i.e. owner/operator manuals, internet resources and journals within applications of mechanical technology.</td>
</tr>
<tr>
<td>500</td>
<td><strong>Leadership and Supervised Agricultural Experience (SAE)</strong></td>
</tr>
<tr>
<td>501</td>
<td>Maintain accurate program plans and records (i.e. SAE).</td>
</tr>
<tr>
<td>502</td>
<td>Analyze records to determine areas of improvement (i.e. SAE).</td>
</tr>
<tr>
<td>503</td>
<td>Create short and long term SMART (Specific, Measurable, Attainable, Realistic/Results-based, and Timely) goals.</td>
</tr>
<tr>
<td>504</td>
<td>Participate in a selected youth community or civic organization (i.e. FFA).</td>
</tr>
<tr>
<td>505</td>
<td>Perform leadership tasks associated with citizenship (i.e. FFA).</td>
</tr>
<tr>
<td>506</td>
<td>Demonstrate oral, written, and verbal skills necessary for employment.</td>
</tr>
<tr>
<td>507</td>
<td>Research career opportunities in agriculture.</td>
</tr>
<tr>
<td>508</td>
<td>Create a plan to achieve career goals and priorities.</td>
</tr>
<tr>
<td>600</td>
<td><strong>Agribusiness</strong></td>
</tr>
<tr>
<td>601</td>
<td>Describe the role agriculture plays in local, state, national, and global economies.</td>
</tr>
<tr>
<td>602</td>
<td>Identify functions, role and purpose of management in a business.</td>
</tr>
<tr>
<td>603</td>
<td>Maintain accurate business and financial records.</td>
</tr>
<tr>
<td>604</td>
<td>Demonstrate knowledge of nontraditional agricultural markets (i.e. bison, aquaculture, hydroponics, organic farming).</td>
</tr>
<tr>
<td>700</td>
<td><strong>Natural Resource Management</strong></td>
</tr>
<tr>
<td>701</td>
<td>Describe the history of conservation in Pennsylvania.</td>
</tr>
<tr>
<td>702</td>
<td>Differentiate between renewable and non-renewable natural resources.</td>
</tr>
<tr>
<td>703</td>
<td>Identify sources of point and non-point pollution.</td>
</tr>
<tr>
<td>Unit/Standard Number</td>
<td>Proficiency Level Achieved: (X) Indicates Competency Achieved to Industry Proficiency Level</td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Agriculture, General</td>
<td></td>
</tr>
<tr>
<td>CIP 01.0000</td>
<td></td>
</tr>
<tr>
<td>Task Grid</td>
<td></td>
</tr>
<tr>
<td>704</td>
<td>Explain the importance of management and planning of resources.</td>
</tr>
<tr>
<td>705</td>
<td>Recognize the importance of wildlife and forestry as it relates to natural resources management.</td>
</tr>
<tr>
<td>706</td>
<td>Assess the impacts of invasive species on ecosystems.</td>
</tr>
<tr>
<td>707</td>
<td>Recognize the importance of water quality, air quality, and waste management within ecosystems.</td>
</tr>
<tr>
<td>708</td>
<td>Compare and contrast different methods of sustainable agriculture.</td>
</tr>
<tr>
<td>709</td>
<td>Compare and contrast the impact of conventional and alternative energy sources on the environment.</td>
</tr>
<tr>
<td>800</td>
<td>Biotechnology</td>
</tr>
<tr>
<td>801</td>
<td>Define biotechnology and explore the historical impact it has had on agriculture.</td>
</tr>
<tr>
<td>802</td>
<td>Investigate current applications of biotechnology in agriculture.</td>
</tr>
<tr>
<td>803</td>
<td>Explore ethical, legal, and social biotechnology issues.</td>
</tr>
<tr>
<td>900</td>
<td>Food Science</td>
</tr>
<tr>
<td>901</td>
<td>Identify and describe foods derived from animal and plant sources.</td>
</tr>
<tr>
<td>902</td>
<td>Research and describe current consumer food trends.</td>
</tr>
<tr>
<td>903</td>
<td>Explain techniques and procedures for the safe handling of food products.</td>
</tr>
</tbody>
</table>