

Unit/Standard Number	 <p style="margin: 0;">pennsylvania DEPARTMENT OF EDUCATION</p> <p style="margin: 0;"><u>High School Graduation Years 2016, 2017 and 2018</u></p> <p style="margin: 0;">Agriculture, General CIP 01.0000 Task Grid</p>	Proficiency Level Achieved: (X) Indicates Competency Achieved to Industry Proficiency Level
	Secondary Competency Task List	
100	Animal Science	
101	Compare and contrast cultural and societal uses and contributions of animals locally and globally.	
102	Demonstrate safe animal handling techniques for production, laboratory, and/or recreation.	
103	Identify products and uses of major livestock and companion animal species in Pennsylvania.	
104	Identify the basic anatomy of animals.	
105	Describe the functions of the animal body systems and system components.	
106	Describe normal animal behavior by species, along with causes and potential results of abnormal behavior (social, sexual, reproductive, and ingestive).	
107	Predict genetic types using the punnet square method.	
108	Explain the significance of the 6 classes of nutrients for animal growth, performance, maintenance and reproduction.	
109	Describe preventative animal health and treatment techniques.	
110	Investigate environmental, food, medicinal, public safety, and biosecurity issues related to animal health.	
111	Evaluate the equipment and facilities used in modern animal agricultural production.	
112	Examine the impact of pests and diseases as variables in animal production.	
113	Investigate emerging technologies within practical applications of animal science.	
200	Plant Science	
201	Explain systems used to classify plants.	
202	Identify the components and structures of plants.	
203	Explain the functions of plant systems.	
204	Identify products and uses of plant species in Pennsylvania.	
205	Explain the basic process of photosynthesis/respiration and their importance to life.	
206	Identify and compare the functions of the essential nutrients for plant growth and development.	
207	Assess the environmental factors that affect the growth and development of a plant.	
208	Compare and contrast sexual and asexual plant reproduction.	
209	Apply concepts of Integrated Pest Management (IPM) strategies used to manage pest populations and analyze its effectiveness.	
210	Examine the impact of pests and diseases as variables in plant production.	
211	Determine the role of plant pollinators.	
212	Investigate emerging technologies within practical applications of plant science.	
300	Soil Science	
301	Explain the processes of soil formation.	
302	Identify and describe physical, chemical, and biological soil characteristics.	
303	Conduct proper soil sampling techniques.	
304	Analyze and interpret the results of a soil test.	
305	Understand fertilizer rates to maintain proper plant nutrition.	

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306	Draw conclusions from a soil survey to determine land uses, capability factors, and land capability classes.	
307	Compare and contrast soil conservation practices and soil management techniques.	
308	Investigate emerging technologies within practical applications of soil science.	
400	Mechanical Technology and Mechanization	
401	Identify the progression of technological advancements and their potential impacts in the agricultural industry.	
402	Recognize and demonstrate safety rules and regulations.	
403	Identify and demonstrate wearing of personal protective equipment.	
404	Demonstrate positive safety attitudes and responsibilities.	
405	Select and demonstrate the safe use of appropriate tools for the maintenance of mechanical systems.	
406	Demonstrate accurate use of measurement devices and techniques used to calculate measurement.	
407	Interpret project plans, blueprints, or schematics.	
408	Investigate emerging technologies within practical applications of agricultural mechanization.	
409	Locate and comprehend Safety Data Sheets (SDS) (formerly MSDS).	
410	Utilize a variety of technical sources, i.e. owner/operator manuals, internet resources and journals within applications of mechanical technology.	
500	Leadership and Supervised Agricultural Experience (SAE)	
501	Maintain accurate program plans and records (i.e. SAE).	
502	Analyze records to determine areas of improvement (i.e. SAE).	
503	Create short and long term SMART (Specific, Measurable, Attainable, Realistic/Results-based, and Timely) goals.	
504	Participate in a selected youth community or civic organization (i.e. FFA).	
505	Perform leadership tasks associated with citizenship (i.e. FFA).	
506	Demonstrate oral, written, and verbal skills necessary for employment.	
507	Research career opportunities in agriculture.	
508	Create a plan to achieve career goals and priorities.	
600	Agribusiness	
601	Describe the role agriculture plays in local, state, national, and global economies.	
602	Identify functions, role and purpose of management in a business.	
603	Maintain accurate business and financial records.	
604	Demonstrate knowledge of nontraditional agricultural markets (i.e. bison, aquaculture, hydroponics, organic farming).	
700	Natural Resource Management	
701	Describe the history of conservation in Pennsylvania.	
702	Differentiate between renewable and non-renewable natural resources.	
703	Identify sources of point and non-point pollution.	

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704	Explain the importance of management and planning of resources.	
705	Recognize the importance of wildlife and forestry as it relates to natural resources management.	
706	Assess the impacts of invasive species on ecosystems.	
707	Recognize the importance of water quality, air quality, and waste management within ecosystems.	
708	Compare and contrast different methods of sustainable agriculture.	
709	Compare and contrast the impact of conventional and alternative energy sources on the environment.	
800	Biotechnology	
801	Define biotechnology and explore the historical impact it has had on agriculture.	
802	Investigate current applications of biotechnology in agriculture.	
803	Explore ethical, legal, and social biotechnology issues.	
900	Food Science	
901	Identify and describe foods derived from animal and plant sources.	
902	Research and describe current consumer food trends.	
903	Explain techniques and procedures for the safe handling of food products.	