

Unit/Standard Number	<p style="text-align: right;"><u>High School Graduation Years 2019, 2020 and 2021</u></p> <p style="text-align: center;"><b>Applied Horticulture/Horticultural Operations, General CIP 01.0601 Task Grid</b></p>	Proficiency Level Achieved: (X) Indicates Competency Achieved to Industry Proficiency Level
<b>Secondary Competency Task List</b>		
<b>100</b>	<b>SAFETY</b>	
101	Identify and follow all general safety, laboratory safety and field-site safety practices and procedures in horticulture.	
102	Identify and follow all OSHA safety standards for the horticulture services industry.	
103	Identify and follow procedures written in the Safety Data Sheet (SDS) information system.	
104	Operate horticulture equipment.	
105	Select the proper protective clothing and equipment.	
106	RESERVED	
<b>200</b>	<b>SAFE AND PROPER PLANT HEALTH CARE PRACTICES</b>	
201	Control weeds, insects, and plant diseases.	
202	Interpret horticulture product labels.	
203	Calculate and mix quantities of horticultural products used in plant health care.	
204	RESERVED	
205	Define the concept of, "Plant Health Care," such as disease, nutrients etc.	
206	Distinguish the components of an Integrated Pest Management program including the effects of chemicals and pesticides on the environment.	
207	Identify various horticultural pests including their signs and symptoms.	
208	RESERVED	
209	Prepare for PA Pesticide Certification.	
<b>300</b>	<b>BASIC BOTANY</b>	
301	Describe the process of photosynthesis, respiration, translocation, and transpiration.	
302	Identify plant cell structure, organization and function.	
303	Identify plant structures and explain their functions.	
304	Identify conditions essential for seed germination.	
305	Explain the environmental factors that affect the growth and development of a plant.	
306	Distinguish between sexual and asexual plant reproduction.	
307	Identify plant nutrient requirements.	
308	Describe the nutrient cycles.	
309	Classify plants and use appropriate binomial taxonomic terminology.	
310	Describe techniques used to control environmental factors.	
311	Describe how weather and climate impact growing conditions and plant selection.	

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<b>400</b>	<b>HORTICULTURE BUSINESS OPERATIONS</b>	
401	Determine criteria for selecting a site for a horticulture business.	
402	Research state and local requirements for horticulture businesses.	
403	Develop a horticultural business plan.	
404	Analyze pricing and mark-up techniques.	
405	Determine human resource needs and business ethics in a horticulture business.	
406	Research vendors to obtain product information.	
407	Perform appropriate customer/client relationship attributes.	
408	Identify and develop various horticulture record keeping systems.	
409	Analyze record keeping system to determine best management practices.	
410	RESERVED	
<b>500</b>	<b>SOILS AND FERTILIZER</b>	
501	Identify and describe soil characteristics.	
502	Identify soil and/or plant nutrients.	
503	Describe soil management techniques.	
504	Conduct proper soil sampling techniques.	
505	Test soil for pH, texture, macronutrients and soluble salts.	
506	Interpret commercial soil test reports.	
507	Describe criteria for selecting fertilizers and soil amendments.	
508	Describe factors influencing fertilizer application.	
509	RESERVED	
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512	Identify current issues regarding plant and soil management that impacts agronomic and horticultural practices.	
<b>600</b>	<b>SUSTAINABLE HORTICULTURE</b>	
601	Identify different methods of sustainable horticulture.	
602	Compare sustainable watering and fertilizing techniques to conventional techniques.	
603	Compare sustainable plant material selection to conventional plant material.	
604	Recycle horticultural waste.	
605	RESERVED	
<b>700</b>	<b>HORTICULTURE TECHNOLOGY</b>	

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701	Explain the uses of technologically altered plants.	
702	RESERVED	
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704	Research advanced and emerging technologies in horticulture.	
705	Perform a Point of Sale (POS) transaction.	
<b>800</b>	<b>HISTORY AND CURRENT STATUS OF HORTICULTURE</b>	
801	Describe major historical developments in the field of horticulture.	
802	Compare/contrast the effect human beings have had on various plant species.	
803	Determine how development of certain plant species has affected cultural development.	
804	Describe the role horticulture plays in the economy of the state and nation.	
805	RESERVED	
806	Critique the impact of that botanical gardens, public parks, and plants have on people in a society.	
<b>900</b>	<b>PLANT IDENTIFICATION</b>	
901	Outline the proper use of plant material in various segments of the horticulture industry.	
902	Determine the impact of environmental factors on plant materials.	
903	List the identifying characteristics of various plant categories including woody and herbaceous plants in the horticulture industry.	
904	Identify 100 plants used in horticulture industry by horticultural reference/botanical reference. (70 need to be deciduous, evergreen, annuals, perennials and house plants)	
<b>1000</b>	<b>HORTICULTURAL CAREERS AND OPPORTUNITIES</b>	
1001	Describe careers and working conditions in the Horticulture industry.	
1002	Perform job readiness skills needed in the Horticulture industry.	
1003	Research horticultural industry certifications.	
1004	Explore post-secondary opportunities.	
<b>1100</b>	<b>HORTICULTURAL PATHWAYS</b>	
1101	Describe and apply principles of landscape, hardscape or floral design.	
1102	Create various horticulture designs.	
1103	Calculate measurements, areas, and volumes of horticulture designs.	
1104	Read and interpret landscape design symbols and abbreviations.	
1105	Transplant various types of plant material.	
1106	Prune various types of plant material.	

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1107	Describe the characteristics of lawn/turfgrass installation and maintenance.	
1108	Describe the characteristics and features of various types of growing structures.	
1109	Prepare plant material for marketing or sales.	
1110	Recognize non-traditional growth and propagation of various plant materials. (Examples may include but not limited to; hydroponics, aquaponics, aeroponics, and tissue culture.)	