

## Competency Task List

### Applied Horticulture/Horticultural Operations, General CIP 01.0601

High School Graduation Years 2022, 2023, 2024

#### 100 Safety

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Cross-Walk
101	Follow all general safety, laboratory safety and field-site safety practices and procedures in horticulture.		
102	Follow all OSHA safety standards for the horticulture services industry.		
103	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		

#### 200 Safe and Proper Plant Health Care Practices

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Cross-Walk
201	Control weeds, insects, and plant diseases.		
202	Interpret horticulture product labels.		
203	Formulate quantities of horticultural products used in plant health care.		
204	RESERVED		
205	Investigate the concept of plant health care, e.g., disease, nutrients.		
206	Distinguish the components of an integrated pest management program including the effects of chemicals and pesticides on the environment.		
207	Analyze various horticultural pests including their signs and symptoms.		
208	RESERVED		
209	Prepare for PA Pesticide Certification.		

### 300 Basic Botany

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Cross-Walk
301	Describe the process of photosynthesis, respiration, translocation, and transpiration.		
302	Compare plant cell structure, organization, and function.		
303	Compare plant structures and explain their functions.		
304	Analyze 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	Analyze 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.		

### 400 Horticulture Business Operations

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Cross-Walk
401	RESERVED		
402	RESERVED		
403	Develop a horticultural business plan.		
404	Analyze pricing and mark-up techniques.		
405	RESERVED		
406	Research vendors to obtain product information.		
407	Perform appropriate customer and client relationship attributes.		
408	RESERVED		

409	Analyze record keeping system to determine best management practices.		
410	RESERVED		

## 500 Soils and Fertilizer

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Cross-Walk
501	Compare soil/media characteristics.		
502	Analyze 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		
510	RESERVED		
511	RESERVED		
512	Compare current issues regarding plant and soil management that impacts agronomic and horticultural practices.		
513	Analyze microbial life and its effects on soil.		

## 600 Sustainable Horticulture

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Cross-Walk
601	Investigate 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		
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## 700 Horticulture Technology

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Cross-Walk
701	Explain the uses of technologically altered plants.		
702	RESERVED		
703	RESERVED		
704	Research advanced and emerging technologies in horticulture.		
705	Perform a point of sale (POS) transaction.		

## 800 History and Current Status of Horticulture

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Cross-Walk
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.		

## 900 Plant Identification

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Cross-Walk
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	Analyze characteristics of various plant categories including woody and herbaceous plants in the horticulture industry.		
904	Identify 100 plants used in the horticulture industry by horticultural reference/botanical reference (70 to be deciduous, evergreen, annuals, perennials, and house plants)		

## 1000 Horticultural Careers and Opportunities

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Cross-Walk
1001	Describe careers and working conditions in the horticulture industry.		
1002	Perform job readiness skills needed in the horticulture industry.		
1003	Research horticulture industry certifications.		
1004	Explore postsecondary opportunities.		

## 1100 Horticultural Pathways

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Cross-Walk
1101	Apply concepts of landscape, hardscape, or floral design.		
1102	Create various horticulture designs.		
1103	Calculate measurements, areas, and volumes of horticulture designs.		
1104	Interpret landscape design, symbols, and abbreviations.		
1105	Transplant various types of plant material.		
1106	Prune various types of plant material.		

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 are not limited to: hydroponics, aquaponics, aeroponics, and tissue culture)		

<sup>1</sup> Student Demonstrated Entry-Level Industry Proficiency as Indicated by (X)