

Competency Task List

Applied Horticulture/Horticultural Operations, General CIP 01.0601

100 Safety

Item	Task	(X) Indicates Proficiency ¹	Secondary Course Crosswalk
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 ¹	Secondary Course Crosswalk
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 ¹	Secondary Course Crosswalk
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 ¹	Secondary Course Crosswalk
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 ¹	Secondary Course Crosswalk
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 ¹	Secondary Course Crosswalk
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 ¹	Secondary Course Crosswalk
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 ¹	Secondary Course Crosswalk
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 that botanical gardens, public parks, and plants have on people in a society.		

900 Plant Identification

Item	Task	(X) Indicates Proficiency ¹	Secondary Course Crosswalk
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 ¹	Secondary Course Crosswalk
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 ¹	Secondary Course Crosswalk
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)		

L1200 Plant Production (Greenhouse/Nursery)

Item	Task	(X) Indicates Proficiency ¹	Secondary Course Crosswalk
L1201	Demonstrate proper safety and operating techniques for greenhouse/nursery tools and equipment.		
L1202	Describe the characteristics and features of various types of growing structure.		
L1203	Control and sanitize the growing environment and equipment.		
L1204	Interpret landscape design, symbols, and abbreviations.		
L1205	Transplant various types of plant material.		
L1206	Prune various types of plant material.		
L1207	Describe the characteristics of lawn/turfgrass installation and maintenance.		
L1208	Describe the characteristics and features of various types of growing structures.		
L1209	Prepare plant material for marketing or sales.		
L1210	Recognize non-traditional growth and propagation of various plant materials. (examples may include but are not limited to: hydroponics, aquaponics, aeroponics, and tissue culture)		
L1211	Recognize proper operation of the environmental control systems of a growing structure.		
L1212	Receive, handle and grade standard plant material and containers.		
L1213	Prepare plant material for marketing.		

L1300 FFA

Item	Task	(X) Indicates Proficiency ¹	Secondary Course Crosswalk
L1301	Leadership- a. Observe Parliamentary Procedures		
L1302	Leadership- b. Participate in Leadership Contests		
L1303	Leadership- c. Participate in Skill Contests		
L1304	Leadership- d. Complete an Out of School Project SOE in Horticulture		
L1305	Job Search- a. Prepare a Resume		
L1306	Job Search- b. Write a Letter of Application		
L1307	Job Search- c. Complete an Application Form for a Job		
L1308	Job Search- d. Write a Follow Up Letter After an Interview		
L1309	Job Search- e. Select Examples of Proper Conduct During Personal Interviews		
L1310	Job Search- f. Select Attitudes Desired by Employers During Interviews		
L1311	Job Search- g. Distinguish Between Employer and Employee Expectations		
L1312	Job Search- h. Select Information asked for on Application Forms		
L1313	Determining purposes and procedures of SAE		
L1314	Planning and developing SAE programs		
L1315	Understanding the history of the FFA		
L1316	Recognizing opportunities in FFA		
L1317	Developing leadership skills		
L1318	Participating in community and government organizations		

L1400 Floral Design

Item	Task	(X) Indicates Proficiency ¹	Secondary Course Crosswalk
L1401	Describe and apply the principles and elements of floral design.		
L1402	Order, receive, store and rotate inventory of floral materials.		

L1403	Demonstrate proper safety and operating techniques for floral design.		
L1404	Identify and describe the characteristics and uses of cut flowers, foliage and fillers.		
L1405	Identify and describe the use floral mechanics.		
L1406	Create corsages and other body flowers.		
L1407	Create various types of free standing floral arrangements using fresh and/or permanent materials.		
L1408	Create holiday decorations.		
L1409	Create special event designs.		
L1410	Operate a cash register.		

L1500 Landscaping Technology Skills

Item	Task	(X) Indicates Proficiency ¹	Secondary Course Crosswalk
L1501	Demonstrate proper safety and operating techniques for landscape tools and equipment.		
L1502	Find resources that describe specifications for landscape construction projects.		
L1503	Describe and apply principles of landscape and hardscaping design.		
L1504	Describe and apply principles of landscape management.		
L1505	Calculate areas and volumes from information shown on a blueprint.		
L1506	Estimate costs of landscape materials.		
L1507	Explain the purpose of Pennsylvania "One Call" service.		
L1508	Identify landscape site management issues.		
L1509	Determine drainage/elevations using the appropriate layout and leveling devices.		
L1510	Read and interpret blueprints, blueprint symbols and abbreviations.		
L1511	Prepare and plant turf using seed or sod.		
L1512	Install plants that are bare-root, containerized, balled and burlapped, boxed, or machine-moved.		

L1513	Identify appropriate types of irrigation systems and installation methods.		
L1514	Determine management schedules as appropriate for various turf and ornamental installations.		
L1515	Explain methods for rough and fine grading.		
L1516	Prune evergreen and deciduous trees and shrubs.		
L1517	Install landscape structures.		
L1518	Create landscape bed edges.		
L1519	Describe the characteristics of lawn, recreation and sports turf.		
L1520	Explain the characteristics of cool season and warm season grasses.		
L1521	Select grasses and seed mixes/blends for particular turf purposes and areas.		
L1522	Calculate quantities of turf grass for installation.		
L1523	Plan the construction of a new turf area and install turf grass.		
L1524	Develop a fertilizer program for turf grass and apply it in correct amounts.		
L1525	Develop a mowing schedule.		
L1526	Describe hydro-seeding techniques.		
L1527	Demonstrate various methods and procedures for turf maintenance, including de-thatching.		

¹ Student Demonstrated Entry-Level Industry Proficiency as Indicated by (X)