

Horticulture

ACADEMIC SKILLS

AA SPEAKING AND LISTENING

AA1 Utilize effective verbal and non-verbal communication skills

AA2 Participate in conversation, discussion, and group presentations

AA3 Communicate and follow directions/procedures

AA4 Communicate effectively with customers and co-workers

AB READING AND WRITING

AB1 Locate and interpret written information

AB2 Read and interpret workplace documents

AB3 Identify relevant details, facts, and specifications

AB4 Record information accurately and completely

AB5 Demonstrate competence in organizing, writing, and editing using correct vocabulary, spelling, grammar, and punctuation

AB6 Demonstrate the ability to write clearly and concisely using industry specific terminology

AC CRITICAL THINKING AND PROBLEM SOLVING

AC1 Utilize critical-thinking skills to determine best options/outcomes (e.g., analyze reliable/unreliable sources of information, use previous experiences, implement crisis management, develop contingency planning)

AC2 Utilize innovation and problem-solving skills to arrive at the best solution for current situation

AC3 Implement effective decision-making skills

AD MATHEMATICS

AD1 Perform basic and higher level math operations (e.g., addition, subtraction, multiplication, division, decimals, fractions, units of conversion, averaging, percentage, proportion, ratios)

AD2 Solve problems using measurement skills (e.g., distance, weight, area, volume)

AD3 Make reasonable estimates

AD4 Use tables, graphs, diagrams, and charts to obtain or convey information

AD5 Use deductive reasoning and problem-solving in mathematics

AE FINANCIAL LITERACY

AE1 Locate, evaluate, and apply personal financial information

AE2 Identify the components of a budget and how one is created

AE3 Set personal financial goals and develop a plan for achieving them

AE4 Use financial services effectively

AE5 Demonstrate ability to meet financial obligations

AF INTERNET USE AND SECURITY

AF1 Recognize the potential risks associated with Internet use

AF2 Identify and apply Internet security practices (e.g., password security, login, logout, log off, lock computer)

AF3 Practice safe, legal, and responsible use of technology in the workplace

AG INFORMATION TECHNOLOGY

AG1 Use technology appropriately to enhance professional presentations

AG2 Demonstrate effective and appropriate use of social media

AG3 Identify ways social media can be used as marketing, advertising, and data gathering tools

AH TELECOMMUNICATIONS

AH1 Select and use appropriate devices, services, and applications to complete workplace tasks

AH2 Demonstrate appropriate etiquette when using e-communications (e.g., cell phone, e-mail, personal digital assistants, online meetings, conference calls)

EMPLOYABILITY SKILLS

EA POSITIVE WORK ETHIC

EA1 Demonstrate enthusiasm and confidence about work and learning new tasks

EA2 Demonstrate consistent and punctual attendance

EA3 Demonstrate initiative in assuming tasks

EA4 Exhibit dependability in the workplace

EA5 Take and provide direction in the workplace

EA6 Accept responsibility for personal decisions and actions

EB INTEGRITY

EB1 Abide by workplace policies and procedures

EB2 Demonstrate honesty and reliability

EB3 Demonstrate ethical characteristics and behaviors

EB4 Maintain confidentiality and integrity of sensitive company information

EB5 Demonstrate loyalty to the company

EC SELF-REPRESENTATION

EC1 Demonstrate appropriate dress and hygiene in the workplace

EC2 Use language and manners suitable for the workplace

EC3 Demonstrate polite and respectful behavior toward others

EC4 Demonstrate personal accountability in the workplace

EC5 Demonstrate pride in work

ED TIME, TASK, AND RESOURCE MANAGEMENT

ED1 Plan and follow a work schedule

ED2 Work with minimal supervision

ED3 Work within budgetary constraints

ED4 Demonstrate ability to stay on task to produce high quality deliverables on time

EE DIVERSITY AWARENESS

EE1 Recognize diversity, discrimination, harassment, and equity

EE2 Work well with all customers and co-worker

EE3 Explain the benefits of diversity within the workplace

EE4 Explain the importance of respect for feelings, values, and beliefs of others

EE5 Identify strategies to bridge cultural/generational differences and use differing perspectives to increase overall quality of work

EE6 Illustrate techniques for eliminating gender bias and stereotyping in the workplace

EE7 Identify ways tasks can be structured to accommodate the diverse needs of workers

EE8 Recognize the challenges and advantages of a global workforce

EF TEAMWORK

EF1 Recognize the characteristics of a team environment and conventional workplace

EF2 Contribute to the success of the team

EF3 Demonstrate effective team skills and evaluate their importance in the workplace (e.g., setting goals, listening, following directions, questioning, dividing work)

EG CREATIVITY AND RESOURCEFULNESS

EG1 Contribute new ideas

EG2 Stimulate ideas by posing questions

EG3 Value varying ideas and opinions

EG4 Locate and verify information

EH CONFLICT RESOLUTION

EH1 Identify conflict resolution skills to enhance productivity and improve workplace relationships

EH2 Implement conflict resolution strategies and problem-solving skills

EH3 Explain the use of documentation and its role as a component of conflict resolution

EI CUSTOMER/CLIENT SERVICE

EI1 Recognize the importance of and demonstrate how to properly acknowledge customers/clients

EI2 Identify and address needs of customers/clients

EI3 Provide helpful, courteous, and knowledgeable service

EI4 Identify appropriate channels of communication with customers/clients (e.g., phone call, face-to-face, e-mail, website)

EI5 Identify techniques to seek and use customer/client feedback to improve company services

EI6 Recognize the relationship between customer/client satisfaction and company success

EJ ORGANIZATIONS, SYSTEMS, AND CLIMATES

EJ1 Define profit and evaluate the cost of conducting business

EJ2 Identify "big picture" issues in conducting business

EJ3 Identify role in fulfilling the mission of the workplace

EJ4 Identify the rights of workers (e.g., adult and child labor laws and other equal employment opportunity laws)

EJ5 Recognize the chain of command, organizational flow chart system, and hierarchy of management within an organization

EK JOB ACQUISITION AND ADVANCEMENT

EK1 Recognize the importance of maintaining a job and pursuing a career

EK2 Define jobs associated with a specific career path or profession

EK3 Identify and seek various job opportunities (e.g., volunteerism, internships, co-op, part-time/full-time employment)

EK4 Prepare a resume, letter of application, and job application

EK5 Prepare for a job interview (e.g., research company, highlight personal strengths, prepare questions, set-up a mock interview, dress appropriately)

EK6 Participate in a job interview

EK7 Explain the proper procedure for leaving a job

EL LIFELONG LEARNING

EL1 Acquire current and emerging industry-related information

EL2 Demonstrate commitment to learning as a life-long process and recognize learning opportunities

EL3 Seek and capitalize on self-improvement opportunities

EL4 Discuss the importance of flexible career planning and career self-management

EL5 Employ leadership skills to achieve workplace objectives (e.g., personal vision, adaptability, change, shared vision)

EL6 Recognize the importance of job performance evaluation and coaching as it relates to career advancement

EL7 Accept and provide constructive criticism

EL8 Describe the impact of the global economy on jobs and careers

EM JOB SPECIFIC TECHNOLOGIES

EM1 Identify the value of new technologies and their impact on driving continuous change and the need for life-long learning

EM2 Research and identify emerging technologies for specific careers

EM3 Select appropriate technological resources to accomplish work

EN HEALTH AND SAFETY

EN1 Assume responsibility for safety of self and others

EN2 Follow safety guidelines in the workplace

EN3 Manage personal health and wellness

OCCUPATIONAL SKILLS

OA DEVELOP AND IMPLEMENT A CROP MANAGEMENT PLAN FOR A GIVEN PRODUCTION GOAL THAT ACCOUNTS FOR ENVIRONMENTAL FACTORS

- OA 1 Describe the proper methods to collect soil samples
- OA 2 Analyze fertility and pH based on soil sample results
- OA 3 Analyze fertility and pH based on water sample results
- OA 4 Analyze site according to soil type, slope, and drainage
- OA 5 Differentiate the function of various growing media components
- OA 6 Determine the optimal air, temperature, and water conditions for plant growth
- OA 7 Describe plant responses to light color, intensity and duration

OB APPLY THE PRINCIPLES OF CLASSIFICATION, PLANT ANATOMY AND PLANT PHYSIOLOGY TO PLANT PRODUCTION AND MANAGEMENT

- OB 1 Explain systems used to classify plants
- OB 2 Describe the components, types, and functions of plant roots
- OB 3 Describe the components, types, and functions of plant stems
- OB 4 Describe the components, types, and functions of plant leaves
- OB 5 Describe the components, types, and functions of plant flowers (including seeds and fruit)
- OB 6 Differentiate sexual and asexual reproduction in plants
- OB 7 Analyze the life cycle of plant growth/development from seed to seed (e.g., annual, biannual, perennial)
- OB 8 Explain requirements necessary for photosynthesis to occur and identify the products and byproducts of photosynthesis
- OB 9 Explain factors that affect cellular respiration and identify the products and byproducts of cellular respiration

OC PROPAGATE, CULTURE AND HARVEST PLANTS AND PLANT PRODUCTS BASED ON CURRENT INDUSTRY STANDARDS

- OC 1 Explain the importance of equipment cleaning/sanitation in horticulture crop production
- OC 2 Describe processes for servicing equipment according to manufacturer's recommendations

OC 3 Compare and contrast methods of plant propagation (e.g., tissue culture, grafting, layering, cutting, stolonizing)

OC 4 Differentiate various watering technologies and methods

OC 5 Determine proper techniques to control and manage plant growth through mechanical, cultural, and chemical means

OC 6 Predict plant responses to plant growth regulators and different forms of tropism

OC 7 Examine the importance of macronutrients and micronutrients to plant growth

OC 8 Identify major local weeds, insect pests and infectious and noninfectious plant diseases in horticultural crops

OC 9 Predict pest and diseases problems based on environmental conditions and life cycles

OC 10 Outline pest control strategies associated with integrated pest management

OC 11 Explain safe handling and application of chemicals

OC 12 Describe the purpose of plant patents in the agricultural industry

OC 13 Generalize how GMO's impact the horticulture industry

OD APPLY PRINCIPLES OF DESIGN IN PLANT SYSTEMS TO ENHANCE THE ENVIRONMENT (E.G., FLORAL, FOREST, LANDSCAPE, FARM)

OD 1 Explain design elements of line, form, texture and color and express the visual effect each has on the viewer

OD 2 Discuss the applications of art in agriculture/horticulture

OE EFFECTIVELY UTILIZE BUSINESS/MARKETING STRATEGIES TO DEVELOP A SUCCESSFUL OPERATION

OE 1 Discuss how imports and exports impact the horticulture markets in the US and abroad

OE 2 Interpret how horticulture crop production varies based on geographic location within Kentucky and the US, and economic impact therein

OE 3 Distinguish roles and responsibilities of state and federal government agencies as they impact horticulture businesses

OE 4 Examine the impact of environmental issues on horticulture production (e.g., surface or ground water, government regulations, chemical residue, runoff, water testing)

OE 5 Assess methods to determine target audience and products for a horticulture business

OE 6 Outline the types of fixed and variable costs in horticulture production

OE 7 Develop production, maintenance and harvest schedules for horticulture crops