

Floriculture

2023

Purpose

The New Jersey FFA Floriculture Career Development Event is designed to create an interest in career preparation for all current and future aspects of the floriculture industry through leadership development and hands on technical skill development using industry standards which are delivered through the agriculture education curriculum.

Floriculture is a discipline of horticulture concerned with the cultivation of flowering and ornamental plants for gardens and the floral industry.

The floriculture industry encompasses the following:

- Greenhouse and field production and management.
- Garden center and floral shop management.
- Floral design and management.

Objectives

- Identify plant materials, supplies, and equipment utilized in the floriculture industry.
- Demonstrate an understanding of the biological and scientific principles and develop the skills underlying propagation, variety development, growth requirements, growing techniques, harvesting, marketing and maintenance of established floriculture plants.
- Identify and recommend solutions for plant disorders.
- Demonstrate the use of principles of design and develop related skills.
- Identify, select, operate and maintain appropriate supplies and equipment for floriculture production, design and marketing.
- Demonstrate the use of safety procedures and practices in floriculture operations.
- Operate, manage and maintain facilities for floriculture operations.
- Demonstrate interpersonal skills necessary for successful employment in the floriculture industry.
- Demonstrate proper sales and customer service skills.
- Demonstrate general business practices appropriate to the floriculture industry.
- Effectively work together as a team.

Event Rules

- Each team will be comprised of four members.
- All four scores will be used to determine total team score.
- It is highly recommended that participants wear FFA Official Dress for this event.
- Under no circumstances will any participant be allowed to touch or handle plant material during the event except when instructed by the event staff.
- Any communication between participants during the event will be sufficient cause to eliminate the team from the event.
- Any participant caught cheating during the event will be expelled from the event.
- All participants are expected to be prompt at their stations throughout the event. No provision will be made for tardiness, which will in most cases cause the late participant to lose event points.
- The event coordinator will assign the participants to a group. Participants must know their participant number and stay in their assigned group at all times or until told to change locations by the event officials.
- Any assistance given to a participant from any source during the event, other than a floriculture event official, will be sufficient cause to eliminate the team from the event.

- All participants will be given an identification number by which they will be designated throughout the event.
- Any participant in possession of an electronic and/or communication device in the event area is subject to disqualification.

Event Format

- Materials students need to provide:
- Clean clipboard, free of notes
- Two sharpened No. 2 pencils
- Floral cutters/clippers
- Ribbon shears
- Wire cutters
- Floral knife
- Calculator- Should be battery operated, non-programmable and non-scientific (basic five function only). No other calculators are allowed to be used during the event, including cell phone calculators.
- Participants may also bring an apron, and/or a tool belt and towels.

Materials students will need to prepare if announced at least 1 month prior to the event

Prepared résumé

FLOW OF EVENT

- Identification of Plant Materials and Equipment 30 minutes
- General Knowledge Examination & Problem Solving/Decision Making 30 minutes
- One Annual Practicum 30 minutes
- Two Rotational Practicum 30 minutes each

INDIVIDUAL ACTIVITIES

IDENTIFICATION OF PLANT MATERIALS AND EQUIPMENT (200 POINTS)

 Forty (40) specimens from the floriculture plant and equipment identification list will be displayed for participants to identify by technical and common names. A number will designate each specimen. Five points will be awarded for each specimen that is correctly identified. Each participant will be allowed 30 minutes to complete this phase of the event.

GENERAL KNOWLEDGE EXAMINATION (200 POINTS)

Participants will answer 20 multiple choice questions that cover all areas of the floriculture industry
as reflected in the event objectives. This phase of the event will test participants' knowledge and
understanding of basic biological and scientific principles of producing and marketing flowers, plants
and foliage. Each participant will be allowed 30 minutes to complete the exam. Each answer has a
value of ten points. This portion of the event will be conducted concurrently with ProblemSolving/Decision-Making.

PROBLEM-SOLVING/DECISION-MAKING (50 POINTS)

• Each participant will solve five problems related to the various aspects of the floriculture industry identified in the event objectives. Each problem will describe the situation or create the problem and list four possible solutions to the problem. The participant must decide on the best possible solution to the problem. All materials and information necessary to solve the problem will be available to the participant as he/she solves the problem. Each participant will be allowed 30

minutes to complete this phase of the event. Each correct solution has a value of 10 points. This portion of the event will be conducted concurrently with the General Knowledge Examination.

ANNUAL PRACTICUMS (100 POINTS)

- Each participant will complete one annual practicum:
 - 1. Job interview
 - 2. Growing procedures

JOB INTERVIEW (100 POINTS)

Each participant will appear before an employer (judge) for the purpose of interviewing for a position available in the employer's business. The event coordinator will announce specific information about the job for which the participant is applying at least 1 month prior to the event. Participants will be given two job descriptions at the event along with application forms to complete. Participants will be allowed to choose the job they wish to interview for and prepare their applications prior to participating in the practicum. Participants will be expected to prepare, prior to the event, a résumé of their experiences and background to present to the judge at the time of the interview. Ten minutes will be allowed for this practicum. Participants will be allowed five minutes to complete the interview and five minutes for judges to score the interview. Scoring criteria are presented on the job interview practicum scorecard which will be recorded by a judge.

GROWING PROCEDURES (100 POINTS)

- One or more of the three growing procedures listed below will be evaluated. Students will not demonstrate these procedures, but instead will review pictures and other supporting resources to answer a series of multiple-choice questions. Thirty minutes will be allowed for this section.
 - Potting of Young Plants (Plugs or Liners)
 - Asexual Propagation of Plants
 - Pinching Plants

ROTATIONAL PRACTICUMS (75 POINTS)

In addition to the one annual practicum, two rotational practicums will be selected from the list below for each noted year. Three practicums will be identified by the event coordinator at least 1 month prior to the event; however, only two practicums will be conducted on the day of the event.

- 1. Selling One-On-One
- 2. Media Selling
- 3. Make a Mixed Planter Combination
- 4. Make and Package a Corsage
- 5. Identifying and Controlling Plant Disorders
- 6. Handling a Hazardous Situation

SELLING ONE-ON-ONE (75 POINTS)

Each participant will assume the role of a sales person in a floriculture business (grower, florist shop, garden center, etc.) A customer (judge) with a specific need will approach the participant. The participant will help the customer meet his/her need by using sales skills. All supplies, information and the business setting in which the participant works will be provided. Ten minutes will be allowed for this practicum. Of the ten minutes, participants will be allowed five minutes for dialogue with the customer and completion of the sales form. Judges will be allowed five minutes to score the participant. Scoring criteria are presented on the selling one-on-one practicum scorecard which

will be recorded by a judge.

MEDIA SELLING (75 POINTS)

- Each participant will be asked to create or evaluate advertising from the following:
 - Newspaper/catalog ad
 - o Radio script
 - Newsletter
 - Brochure/flyer
 - o Email
 - Social media
 - Facebook
 - Twitter
 - Video YouTube
 - Web homepage
- All information and materials needed to develop the advertisement will be provided. Thirty minutes will be allowed for this practicum. Scoring criteria are presented on the media selling practicum which will be recorded by a judge.

MAKE A MIXED PLANTER COMBINATION (75 POINTS)

Each participant will make a \$35 mixed planter combination. All plant materials, growing media and containers will be provided. Thirty minutes will be allowed for each participant to make their mixed planter combination and complete the itemized listing of costs. At the beginning of the practicum, the participant will be provided with the retail price of plants and other materials to be used in their mixed planter combination. The markup is built into the retail price. Scoring criteria are presented on the making a mixed planter combination practicum scorecard which will be recorded by a judge.

MAKE AND PACKAGE A CORSAGE (75 POINTS)

Each participant will make and package a \$25 corsage. The type of corsage and information about the corsage will be announced by the event assistant in charge at the beginning of the practicum. All plant and non-plant materials needed to construct and package the corsage will be provided. Each participant will be allowed 30 minutes to complete the construction of the corsage and complete an itemized listing of costs for the corsage constructed. Scoring criteria are presented on the making and packing a corsage scorecard which will be recorded by a judge.

IDENTIFYING AND CONTROLLING PLANT DISORDERS (75 POINTS)

- Pest and disorder items may be presented as an intact specimen, photograph or preserved specimen (herbarium sheet, insect mount, etc.). Each specimen will be designated by a station number. The participant must identify the item and its classification (nutritional/environmental, insect/pest, or disease). The participant then must determine the damage location as well as chemical and culture controls for the disorder. Each participant will identify 15 specimens total for this event. No specimens or items may be touched or handled in any way. Thirty minutes will be allowed for this event. Refer to the Disorder Practicum Scorecard for additional details.
- The plant disorders will come from the following list of disorders:

Nutritional and Environmental Disorders

- Cold temperature (freeze)
- Cold water damage
- Ethylene damage

- Insufficient water damage
- Iron deficiency
- Nitrogen deficiency
- Phosphorus deficiency

Diseases

- Botrytis Gray mold
- Damping-off
- Downy mildew
- Leaf spot (Black)
- Powdery mildew
- Root rot
- Rust
- Stem rot
- Tospovirus (INSV and TSWV)

Insects and Pests

- Aphids
- Fungus gnats
- Leaf miner
- Leafhopper
- Mealybugs
- Scale
- Shore flies
- Snails/ Slugs
- Spider mites
- Thrips
- Whiteflies

HANDLING A HAZARDOUS SITUATION (75 POINTS)

Each participant will be presented with a hazardous situation that could develop in a floriculture business. The participant will answer a series of questions relating to how they would resolve the problem. Thirty minutes will be allowed for this practicum. Scoring criteria are presented on the hazardous situation scorecard which will be recorded by a judge.

TIEBREAKERS

If ties occur, the following events will be used in order to determine award recipients:

INDIVIDUAL

- 1. Written Exam & Problem Solving/Decision Making
- 2. Plant and Equipment Identification
- 3. Annual Practicum

TEAM

- 1. Written Exam & Problem Solving/Decision Making
- 2. Plant and Equipment Identification
- 3. Annual Practicum

Scoring

Total Possible Individual Points: 700 points

Total Points per Team: 2,800 points

(1680 team points are needed to advance to Nationals)

- Identification of Plant Material and Equipment 200 points
- Written Exam & Problem Solving/Decision Making 250 points
- Annual Practicum 100 points
- Rotational Practicum #1 75 points
- Rotational Practicum #2 75 points

Awards

Awards will be presented to individuals and the first-place team based on their rankings at the CDE awards ceremony at the New Jersey State FFA Convention. Awards are sponsored by the National FFA Foundation and the New Jersey FFA Association.

The 1st place team will represent New Jersey at the National FFA Convention in October.

Individual

- Overall Medals
 - Medals Top three individuals
- H.O. Sampson Certificates (hands-on sections ONLY)
 - Certificate Top five individuals

Team

• Plaque Sponsored by the National FFA Foundation – 1st place

References

This list of references is not intended to be all-inclusive.

- Other sources may be utilized, and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.
- National FFA Core Catalog—Past CDE Q&A's (http://shop.FFA.org/cde-gas-c1413.aspx)
- Principal of Floral Design, Pat Diehl Scace, James M. DelPrince Goodheart Wilcox Publisher www.gw.com
- The AIFD Guide to Floral Design: Terms, Techniques, and Traditions The American Institute of Floral Design
- Introduction to Horticulture Science and Technology. 5th edition 2015 Schroeder, Seagle Felton, Ruter, Inter- state Publishers, Inc.
- Introductory Horticulture Carroll Shry, Edward Reiley Eight Edition
- Greenhouse Operation and Management Paul V. Nelson Seventh Edition (Specific Reference for the disorders rotational practicum)
- Ball Publishing: Ball Redbook, Volume 1&2, 18th Edition



Floriculture Plant Identification List

101	Aechmea fasciata cv.	Silver Vase Bromeliad
102	Ageratum houstonianum	Ageratum
103	Alstroemeria hybrid cv.	Peruvian Lily
104	Anemone coronaria	Anemone
105	Anethum graveolens cv.	Dill
106	Angelonia hybrid cv.	Angelonia
107	Anthurium x andraeanum cv.	Flamingo Plant
108	Antirrhinum majus cv.	Snapdragon
109	Aphelandra squarrosa cv.	Zebra Plant
110	Araucaria heterophylla	Norfolk Island Pine
111	Asparagus densiflorus	Sprengeri Fern
112	Aster pringlei	Monte Cassino Aster
113	Astilbe hybrid cv.	Astilbe
114	Begonia x semperflorens –cultorum	Wax Begonia
115	Begonia x tuberhybrida cv.	Tuberous Begonia
116	Caladium x hortulanum cv.	Caladium
117	Calibrachoa hybrid cv.	Million Bells
118	Callistephus chinensis cv.	China Aster
119	Campanula hybrid cv.	Campanula
120	Canna x generalis cv.	Garden Canna
121	Capsicum annuum	Ornamental Pepper Plant
122	Catharanthus roseus	Periwinkle
123	Celosia argentea cv.	Cockscomb
124	Chamaedorea elegans	Parlor Palm
125	Chamelaucium uncinatum	Waxflower
126	Cholorophytum comosum cv.	Spider Plant
127	Chrysanthemum x morifolium	Florist's Chrysanthemum
128	Clematis hybrid cv.	Clematis
129	Codiaeum variegatum pictum	Croton
130	Crassula argentea	Jade Plant
131	Cycas revoluta cv.	Sago Palm
132	Cyclamen x persicum cv.	Florist's Cyclamen
133	Cymbidium cv.	Cymbidium Orchid
134	Cymbopogon cv.	Lemongrass (herb)
135	Dahlia hybrid cv.	Dahlia

136	Delphinium consolida cv.	Larkspur
137	Dendrobium cv.	Dendrobium Orchid
138	Dianthus caryophyllus cv.	Carnation
139	Dracaena cincta	Red Edge Dracaena
140	Echinocactus cv.	Barrel Cactus
141	Epipremnum aureum cv.	Golden Pothos
142	Erica carnea cv.	Spring Heather
143	Eucalyptus polyanthemos	Silver Dollar Eucalyptus
144	Euphorbia pulcherrima cv.	Poinsettia
145	Eustoma grandiflorum	Lisianthus
146	Exacum affine	Persian Violet
147	Ficus benjamina cv	Benjamin Fig
148	Ficus elastica cv	Rubber Plant
149	Fragaria x ananassa cv.	Strawberry Plant
150	Freesia x hybrida	Freesia
151	Gardenia jasminoides	Gardenia
152	Gerbera jamesonii	Gerbera Daisy
153	Gladiolus x hortulanus cv.	Garden Gladiolus
154	Gomphrena hybrid cv.	Globe Amaranths
155	Gypsophila elegans cv.	Baby's Breath
156	Hedera helix cv.	English Ivy
157	Helianthus annuus	Sunflower
158	Hemerocallis cv.	Daylily
159	Hippeastrum hybrid cv.	Amaryllis
160	Hosta cv.	Hosta
161	Hoya carnosa	Wax Plant
162	Hyacinthus orientalis cv.	Hyacinth
163	Hydrangea macrophylla	Big Leaf Hydrangea
164	Impatiens hybrid cv.	Impatiens
165	Impomoea batatas cv.	Ornamental Sweet Potato
166	Iris x xiphium cv.	Dutch Iris
167	Senecio cineraria	Dusty Miller
168	Justica brandegeana	Shrimp Plant
169	Kalanchoe x blossfeldiana cv.	Kalanchoe
170	Leucanthemum x superbum	Shasta Daisy

Leucospermum hybrid cv.	Pin Cushion Protea
Liatris spicata	Liatris
Lilium hybrid cv.	Asiatic or Oriental Lily
Limonium sinuatum	Statice
Lobularia maritima	Alyssum
Maranta leuconeura	Prayer Plant
Matthiola incana cv.	Stock
Monstera deliciosa	Split Leaf Philodendron
Narcissus hybrid cv.	Daffodil or Narcissus
Nephrolepis exaltata cv.	Boston Fern
Ocimum basilicum cv.	Basil
Opuntia cv.	Cactus
Paeonia cv.	Peony
Paphiopedilum hybrid cv.	Ladyslipper Orchid
Pelargonium x hortorum cv.	Zonal Geranium
Pelargonium peltatum cv.	Ivy Geranium
Pentas hybrid cv.	Pentas
Petroselinum crispum cv.	Parsley
Petunia x hybrida cv.	Petunia
Phalaenopsis cv.	Moth Orchid
Philodendron scandens oxycardium	Heartleaf Philodendron
Pilea cadierei	Aluminum Plant
Portulaca oleracea cv.	Portulaca
Primula malacoides cv.	Primrose
	Liatris spicata Lilium hybrid cv. Limonium sinuatum Lobularia maritima Maranta leuconeura Matthiola incana cv. Monstera deliciosa Narcissus hybrid cv. Nephrolepis exaltata cv. Ocimum basilicum cv. Opuntia cv. Paeonia cv. Palargonium x hortorum cv. Pelargonium peltatum cv. Petroselinum crispum cv. Petunia x hybrida cv. Phalaenopsis cv. Philodendron scandens oxycardium Pilea cadierei

196	Rhododendron simsii cv.	Florist Azalea
197	Rosa hybrid cv	Hybrid Tea Rose
198	Rumohra adiantiformis	Leatherleaf Fern
199	Saintpaulia ionantha cv.	African Violet
200	Salvia splendens cv.	Salvia
201	Sansevieria trifasciata cv.	Snake Plant
202	Schefflera arboricola	Dwarf Schefflera
203	Schlumbergera bridgesii	Christmas Cactus
204	Sempervivum hybrid cv.	Hens and Chicks
205	Senecio x hybridus cv.	Cineraria
206	Sinningia speciosa Fyfiana Group cv.	Florist Gloxinia
207	Solidago hybrid cv	Solidago
208	Solenostemon scutellarioides	Coleus
209	Spathiphyllum	Peace Lily
210	Stephanotis floribunda	Stephanotis
211	Strelitzia reginae	Bird of Paradise
212	Syngonium podophyllum	Nephthytis
213	Tagetes species cv.	Marigold
214	Tradescantia zebrine	Wandering Jew
215	Tulipa cv.	Tulip
216	Verbena hybrid cv.	Verbena
217	Viola x wittrockiana cv.	Pansy
218	Zantedeschia hybrid cv.	Calla Lily
219	Zinnia cv.	Zinnia



Floriculture Equipment and Supply Identification List

 #100 Ribbon (satin, sheer, wired) #3 Ribbon (satin, sheer, wired) #40 Ribbon (satin, sheer, wired) #40 Ribbon (satin, sheer, wired) #50 He Gauge floral wire 28-Gauge floral wire Anvil-and Blade Pruner Backflow Preventer Bulb Planter Cardette Cell Pack Containers Ceramic Container Chemical Resistant Gloves Coronut Coir Compressed Air Sprayer Corsage Box Corsage Pin Corsage Snips Drip Emitter, Irrigation Dry Foam Duster Duster Ellepot Propagation Cubes Enclosure Card Fern Greening Pins Fern Greening Pins Fertilizer Injectors Floral Adhesive Floral Foam Floral Foam Floral Stem Tape Fogger 		T
303 #40 Ribbon (satin, sheer, wired) 304 #9 Ribbon (satin, sheer, wired) 305 18-Gauge floral wire 306 28-Gauge floral wire 307 Anvil-and Blade Pruner 308 Backflow Preventer 309 Bouquet Sleeve 310 Bulb Planter 311 Cardette 312 Cell Pack Containers 313 Ceramic Container 314 Chemical Resistant Gloves 315 Chenille Stem 316 Coconut Coir 317 Compressed Air Sprayer 318 Corsage Box 319 Corsage Pin 320 Corsage Snips 321 Drip Emitter, Irrigation 322 Dry Foam 323 Dust Mask 324 Duster 325 Ellepot Propagation Cubes 326 Enclosure Card 327 Fern Greening Pins 328 Fertilizer Injectors 329 Floral Adhesive 330 Floral Foam 331 Floral Knife 332 Floral Preservative 333 Floral Stem Tape	301	#100 Ribbon (satin, sheer, wired)
304 #9 Ribbon (satin, sheer, wired) 305 18-Gauge floral wire 307 Anvil-and Blade Pruner 308 Backflow Preventer 309 Bouquet Sleeve 310 Bulb Planter 311 Cardette 312 Cell Pack Containers 313 Ceramic Container 314 Chemical Resistant Gloves 315 Chenille Stem 316 Coconut Coir 317 Compressed Air Sprayer 318 Corsage Box 319 Corsage Pin 320 Corsage Snips 321 Drip Emitter, Irrigation 322 Dry Foam 323 Dust Mask 324 Duster 325 Ellepot Propagation Cubes 326 Enclosure Card 327 Fern Greening Pins 328 Fertilizer Injectors 329 Floral Adhesive 330 Floral Foam 331 Floral Knife 332 Floral Preservative 333 Floral Stem Tape	302	#3 Ribbon (satin, sheer, wired)
305 18-Gauge floral wire 306 28-Gauge floral wire 307 Anvil-and Blade Pruner 308 Backflow Preventer 309 Bouquet Sleeve 310 Bulb Planter 311 Cardette 312 Cell Pack Containers 313 Ceramic Container 314 Chemical Resistant Gloves 315 Chenille Stem 316 Coconut Coir 317 Compressed Air Sprayer 318 Corsage Box 319 Corsage Pin 320 Corsage Snips 321 Drip Emitter, Irrigation 322 Dry Foam 323 Dust Mask 324 Duster 325 Ellepot Propagation Cubes 326 Enclosure Card 327 Fern Greening Pins 328 Fertilizer Injectors 329 Floral Adhesive 330 Floral Foam 331 Floral Knife 332 Floral Preservative 333 Floral Stem Tape	303	#40 Ribbon (satin, sheer, wired)
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311 Cardette 312 Cell Pack Containers 313 Ceramic Container 314 Chemical Resistant Gloves 315 Chenille Stem 316 Coconut Coir 317 Compressed Air Sprayer 318 Corsage Box 319 Corsage Pin 320 Corsage Snips 321 Drip Emitter, Irrigation 322 Dry Foam 323 Dust Mask 324 Duster 325 Ellepot Propagation Cubes 326 Enclosure Card 327 Fern Greening Pins 328 Fertilizer Injectors 329 Floral Adhesive 330 Floral Foam 331 Floral Knife 332 Floral Stem Tape	309	Bouquet Sleeve
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316 Coconut Coir 317 Compressed Air Sprayer 318 Corsage Box 319 Corsage Pin 320 Corsage Snips 321 Drip Emitter, Irrigation 322 Dry Foam 323 Dust Mask 324 Duster 325 Ellepot Propagation Cubes 326 Enclosure Card 327 Fern Greening Pins 328 Fertilizer Injectors 329 Floral Adhesive 330 Floral Foam 331 Floral Knife 332 Floral Stem Tape	314	Chemical Resistant Gloves
317 Compressed Air Sprayer 318 Corsage Box 319 Corsage Pin 320 Corsage Snips 321 Drip Emitter, Irrigation 322 Dry Foam 323 Dust Mask 324 Duster 325 Ellepot Propagation Cubes 326 Enclosure Card 327 Fern Greening Pins 328 Fertilizer Injectors 329 Floral Adhesive 330 Floral Foam 331 Floral Knife 332 Floral Stem Tape	315	Chenille Stem
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320 Corsage Snips 321 Drip Emitter, Irrigation 322 Dry Foam 323 Dust Mask 324 Duster 325 Ellepot Propagation Cubes 326 Enclosure Card 327 Fern Greening Pins 328 Fertilizer Injectors 329 Floral Adhesive 330 Floral Foam 331 Floral Knife 332 Floral Stem Tape	318	Corsage Box
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324 Duster 325 Ellepot Propagation Cubes 326 Enclosure Card 327 Fern Greening Pins 328 Fertilizer Injectors 329 Floral Adhesive 330 Floral Foam 331 Floral Knife 332 Floral Preservative 333 Floral Stem Tape	322	Dry Foam
325 Ellepot Propagation Cubes 326 Enclosure Card 327 Fern Greening Pins 328 Fertilizer Injectors 329 Floral Adhesive 330 Floral Foam 331 Floral Knife 332 Floral Preservative 333 Floral Stem Tape	323	Dust Mask
326 Enclosure Card 327 Fern Greening Pins 328 Fertilizer Injectors 329 Floral Adhesive 330 Floral Foam 331 Floral Knife 332 Floral Preservative 333 Floral Stem Tape	324	Duster
327 Fern Greening Pins 328 Fertilizer Injectors 329 Floral Adhesive 330 Floral Foam 331 Floral Knife 332 Floral Preservative 333 Floral Stem Tape	325	Ellepot Propagation Cubes
328 Fertilizer Injectors 329 Floral Adhesive 330 Floral Foam 331 Floral Knife 332 Floral Preservative 333 Floral Stem Tape	326	Enclosure Card
329 Floral Adhesive 330 Floral Foam 331 Floral Knife 332 Floral Preservative 333 Floral Stem Tape	327	Fern Greening Pins
330 Floral Foam 331 Floral Knife 332 Floral Preservative 333 Floral Stem Tape	328	Fertilizer Injectors
331 Floral Knife 332 Floral Preservative 333 Floral Stem Tape	329	Floral Adhesive
332 Floral Preservative 333 Floral Stem Tape	330	Floral Foam
333 Floral Stem Tape	331	Floral Knife
·	332	Floral Preservative
334 Fogger	333	Floral Stem Tape
	334	Fogger

335	Gas Mask
336	Glass Vase
337	Glue Gun
338	Glue Pan
339	Glue Sticks
340	Granular Fertilizer
341	Greenhouse Thermostat
342	Hanging Basket
343	Hearing Protection
344	Hook-and-Blade Pruners (bypass pruners)
345	Hose Punch
346	Hose Repair Coupling
347	Hose-End Repair Fitting
348	Hose-End Sprayer
349	Hose-End Washer
350	Impulse Sprinkler
351	Drip Emitter Tape
352	Irrigation Timer
353	Mist Nozzle (mist bed)
354	Nosegay Holder
355	Nursery Container
356	Oscillating Sprinkler
357	Peat Moss
358	Peat Pots
359	Pest Strips
360	pH Testing Meter
361	Polyethylene Film
362	Polyethylene Pipe
363	Pot Covers
364	Propagation Mat
365	Propagation Trays
366	PVC (polyvinylchloride) Pipe)
367	PVC Pipe Cutter

368	Resin-Coated Fertilizer
369	Respirator
370	Ribbon Shears
371	Rice Hulls
372	Rockwool Propagation Cubes
373	Rose and Stem Flower Stripper
374	Safety Goggles
375	Sand
376	Scoop Shovel
377	Shade Fabric
378	Sharpening Stone
379	Sheet Moss
380	Siphon Injector
381	Soil Moisture Meter
382	Solenoid Valve
383	Spaghetti Tubing (1/4" diameter or less)
384	Spanish Moss
385	Sphagnum Moss
386	Spray Suit
387	Square Point (flat) Shovel
388	Styrofoam
389	Surestik Cling
390	Tulle
391	Vermiculite
392	Water Breaker
393	Water Picks
394	Water Soluble Fertilizer
395	Water Tubes
396	Waterproof Container Tape
397	Wire Cutter
398	Wooden Pick
399	Wrist Corsage Holder



Job Interview Practicum Rubric

100 points

NAME	MEMBER NUMBER	CHAPTER	
JUDGE'S NAME	JUDGE'S SIGNATURE		DATE

		Excellent	Good	Needs Improvement	Membei Score
Introduction					
Initial presentationEye contactHandshake	 Gives name States why here	8-10 points	4-7 points	0-3 points	
Knowledge of job					
ResumeTypedCompletenessContent/Accurate		11-15 points	6-10 points	0-5 points	
ApplicationLegibilityCompleted		8-10 points	4-7 points	0-3 points	
Knowledge of the floriculture ind	ustry/job				
 Tell me about yourself What skills do you have for this job? What are your experiences relating to this job? 	 Why should I hire you over someone else? How would you handle a customer complaint 	13-20 points	7-12 points	0-6 points	
Response to questions	•	•			
What are your weaknesses?Where do you see yourself in the next 5 years?	BONUS: Would you hire this person?	11-15 points	6-10 points	0-5 points	
Personality					
ConfidenceEnthusiasm	Appearance	11-15 points	6-10 points	0-5 points	
Poise					
PostureClosure ("Thank you.")	Asks for the job or a decision date	11-15 points	6-10 points	0-5 points	

TOTAL SCORE (100 POINTS POSSIBLE): 100



One-on-One Practicum Rubric

75 points

NAME	MEMBER NUMBER	CHAPTER	
JUDGE'S NAME	JUDGE'S SIGNATURE		DATE

	Excellent	Good	Needs Improvement	Member Score
Took Initiative	9-11 points Student started dialogue, greeting and/or introduction given	5-8 points Dialogue required prompting by judge	0-4 points No introduction given, no dialogue started by student	
Communicated Effectively	9-11 points Modeled active listening skills and asked appropriate questions	5-8 points Did not ask enough questions or had to be prompted by judge	0-4 points Student did not ask any questions	
Exhibited ambition and efficiency	9-11 points Student able to gauge customer service and move further with the sale	5-8 points Judge had to help, offer suggestions to accomplish the sale	0-4 points Low energy and judge had to pull information from student	
Diplomatic and courteous	9-11 points Displayed proper customer service, used polite terminology	5-8 points Sometimes displayed proper customer service skills	0-4 points Did not display proper customer service or polite terminology	
Knew merchandise, prices and policies	9-11 points Explain accurately what options were available while using correct terminology	5-8 points Was able to explain partial information/options to judge	0-4 points Did not give correct information about selling option	
Accuracy of information collected	9-11 points Order form filled out correctly with all required information	5-8 points Missing some information or some information listed incorrectly on order form	0-4 points Order form not filled out or filled out incorrectly	
Closed sale properly	7-9 points Student tried to increase the sale, displayed proper customer service, offered a thank you	4-6 points Did not increase sales or did not say thank you	0-3 points Did neither up sale or offer thank you	

TOTAL SCORE (75 POINTS POSSIBLE):



Floriculture: Making a Mixed Combination Planter Rubric

75 points

NAME	MEMBER NUMBER CHAPTER	
JUDGE'S NAME	JUDGE'S SIGNATURE	DATE

	Excellent	Good	Needs Improvement	Member Score
Selection of products	6-8 points Plants selected correctly to match scenario given and pot size	3-5 points Some of the plant selected match pot size and given scenario	0-2 points Plants selected do not match pot size or scenario	
Preparation of plant materials	6-7 points Soil is filled to the correct level, plants are planted at correct depth, and soil firmed after planting	3-5 points Some of the items for correct planting are missing or incorrectly demonstrated O-2 points Plants were not prepared properly and/or soil was not prepared properly		
Labeling of combo	7-10 points Labeled with date planted, plant names, and cultivars	4-6 points Labeled with some but not all information required	0-3 points no label present or labeled incorrectly	
Balance	9-12 points Plants are evenly spaced within the pot, plants are physically and visually balanced with container size	5-8 points Plants are slightly off balance, placement of plants does not align with physical or visual display	0-4 points Plants are not balanced visually or physically	
Design	11-15 points Principles of design are followed while completing the mixed planter	6-10 points Some of the principles of design are followed	0-5 points None or few of the principles of design we followed when completing the planter	
Attractiveness	10-13 points Mixed Planter is presented in a sellable fashion, no broken pieces/part, pot clean, and plants faced in pot	5-9 points Mixed Planted is presented in a somewhat sellable condition	0-4 points Mixed Planter is presented in poor, unfinished, or nonsellable condition	
Pricing	7-10 points Price sheet has each plant used identified correctly with correct quantity used. Sheet includes no or minor calculation errors and within +/- \$0.50 of \$35	4-6 points Price sheet has 1 or 2 missing plants or plants/price sheet totaled incorrectly	0-3 points Price sheet is incomplete and/or totaled inaccurately	

TOTAL SCORE (75 POINTS POSSIBLE): 75



Mixed Combination Planter Itemized List of Costs

NAME	MEMBER NUMBER CHAPTER		
JUDGE'S NAME	JUDGE'S SIGNATURE	DATE	
Quantity	PLANT MATERIAL	Unit Cost	Total
	TOTAL FLOWER/FOLIAGE	MATERIAL COST	
Quantity	MATERIAL USED	Unit Cost	Total
Quantity	MATERIAL USED	Unit Cost	Total
Quantity	MATERIAL USED	Unit Cost	Total
Quantity	MATERIAL USED	Unit Cost	Total
Quantity		Unit Cost RD GOODS COST	Total
Quantity	TOTAL HAP		Total
Quantity	TOTAL HAR	RD GOODS COST	Total
Quantity	TOTAL HAR	RD GOODS COST at Material Cost	Total
Quantity	TOTAL HAR Total Plan Total H	RD GOODS COST at Material Cost ard Goods Cost	Total



Floriculture: Making and Packing a Corsage Rubric

75 points

NAME	MEMBER NUMBER	CHAPTER	
JUDGE'S NAME	JUDGE'S SIGNATURE		DATE

	Excellent	Good	Needs Improvement	Member Score
Mechanical Application	11–15 points Techniques used to keep floral material secure and stable are hidden or done neatly	6–10 points Techniques used to keep floral material secure and stable are somewhat hidden or done neatly	0-5 points Techniques used to keep floral material secure and stable are not hidden or done neatly	
Color	7–10 points Color is used evenly/harmoniously throughout	4–6 points Color is used somewhat correctly	0–3 points Color is not used correctly	
Creativity	11–15 points Design expresses a high level of creative ability and advanced design techniques.	6–10 points Design expresses some creative ability and minimal advanced design techniques	0–3 points Design lacks creative ability and demonstrated limited design techniques	
Balance	7–10 points Design is physically and visually balanced	4–6 points Design is slightly off balance	0–3 points Design does not follow the principles of design regarding balance	
Design & Category Interpretation	4–5 points Design follows scenario given for an overall cohesive design	2–3 points Design somewhat follows scenario given and overall design is somewhat cohesive	0–1 point Design does not follow given scenario	
Bill of Sale Completion	7–10 points Bill of Sale is completed entirely with a complete list of all items used	5–8 points Bill of Sale is not entirely complete or missing some items used in the design	0–4 points Bill of Sale is missing a lot of detail and/or missing several items used in the design	
Pricing Accuracy (accuracy of pricing identification)	7–10 points All items used in the design are listed with correct price, totally accurately, labor calculated corrected, within 50 cents up or down of \$25.00	4–6 points Some items added incorrectly and/or final price slightly off target goal of \$25.00	0–3 points Significant number of items added incorrectly or way off target goal of \$25.00.	

TOTAL SCORE (75 POINTS POSSIBLE): 75



Corsage Itemized List of Costs

DATE

NAME		MEMBER NUMBER CHAPTER		
JUDGE'S NAME		JUDGE'S SIGNATURE	DATE	
Quantity	FLOWER/FOLIAGE USED		Unit Cost	Total
		TOTAL FLOWER/FOLIAGE	MATERIAL COST	
Quantity	MATERIAL USED		Unit Cost	Total
		TOTAL HAP	RD GOODS COST	
		Total Flower/Foliage	Material Cost	
		Total Ha	ard Goods Cost	
			Subtotal	
			Labor 20%	
		TOTAL	CORSAGE COST	



Disorder Practicum Scorecard

NAME MEMBER NUMBER

CHAPTER STATE

		Member Answer	Possible Points	Member Score
1.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
2.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
3.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
4.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
5.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
6.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
7.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
8.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	

		Member Answer	Possible Points	Member Score
	Cultural/ Biological Control #:		1	
9.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
10.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
11.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
12.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
13.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
14.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
15.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
	TOTAL PO	INTS	75	

TEAM NUMBER

Disorder Practicum Continued

CLASSIFICATION:

100 Diseases

101 Insects/Pests/Mites

102 Nutritional/Environmental

IDENTIFICATION:

200 Aphids

201 Black Leaf Sport

202 Botrytis - Grey Mold

203 Damping-off

204 Downy Mildew

205 Ethylene Damage

206 Fungus Gnats

207 Insufficient Watering

208 Iron Deficiency

209 Leaf Miner

210 Leafhopper

211 Mealybugs

212 Nitrogen Deficiency

213 Phosphorus Deficiency

214 Powdery Mildew

215 Root Rot

216 Rust

217 Scale

218 Shore Flies

219 Snails/Slugs

220 Spider Mites

221 Stem Rot

222 Thrips

223 Tospovirus (INSV and TSWV)

224 Whiteflies

CHEMICAL CONTROL:

400 Fungicide

401 Insecticide

402 Miticide

403 Mulluscicide

404 No Treatment Listed

CULTURAL CONTROL:

500 Apply Complete Fertilizer

501 Correct/ Adjust Temperature

502 Correct/ Adjust Watering

503 Ladybird Beetles

504 Nematodes

505 Parasitic Wasps

506 Predatory Mites

507 Reduce Relative Humidity

508 No Treatment Listed



Media Selling Practicum Rubric

75 Points

NAME	MEMBER NUMBER CHAPTER	
JUDGE'S NAME	JUDGE'S SIGNATURE	DATE

	Excellent	Good	Needs Improvement	Member Score
Identified and appeal to target group	9-12 points	5-8 points	0-4 points	
Informed the consumer	7-9 points	4-6 points	0-3 points	
Creativity	7-9 points	4-6 points	0-3 points	
Easy to read or view	7-9 points	4-6 points	0-3 points	
Presented one idea	7-9 points	4-6 points	0-3 points	
Contained essential information	7-9 points	4-6 points	0-3 points	
Grammar, spelling, accuracy	7-9 points	4-6 points	0-3 points	
Proper use of space and format	7-9 points	4-6 points	0-3 points	
	<u> </u>			

TOTAL SCORE (75 POSSIBLE POINTS): 75



Hazardous Situation Practicum Rubric

75 Points

NAME	MEMBER NUMBER CHAPT	TER
INCIVIL	WILMIDER MOIVIDER	
JUDGE'S NAME	JUDGE'S SIGNATURE	DATE

	Excellent 4-5 points	Good 2-3 points	Needs Improvement 0-1 point	Weight	Member Score
Utilize proper personal safety precautions	Was able to identify/demonstrate all proper PPE	Missing only 1 piece of PPE	Did not know or excluded much of the PPE	X 4	
Utilize proper safety procedure in clearing up the situation	All necessary safety hazards including appropriate handling of materials and equipment discussed	Most necessary safety hazards including appropriate handling of materials and equipment discussed	Safety hazards and handling considerations not addressed	X 5	
Proper disposal of problem materials	Understood and demonstrated the procedures for disposal of the contaminant	Understood and demonstrated most of the necessary procedures for disposal	Disposal procedures lacked completeness	X 4	
Utilize proper follow-up procedures	Provided follow-up procedures for contaminant and to address prevention	Provided some follow-up procedures for contaminant and some to address prevention	Follow up procedures and prevention were missing	X 2	

Total Score (75 Possible Points): 75



Agriculture, Food and Natural Resources Content Standards

Measurement Assessed	Where measured in event	Academic Content Standards Addressed
ABS.01.01. Performance Indicator: A business.	pply micro- and macroeconom	ic principles to plan and manage inputs and outputs in an AFNR
ABS.01.01.01.b. Apply microeconomic principles to calculate values associated with different inputs and outputs in AFNR businesses (e.g., price, point of equilibrium, opportunity costs, marginal costs, etc.).	Exam, Problem Solving/Decision Making, Selling One-on-one, Floral Design, Mixed Combo Planter and Corsage	CCSS.ELA-Literacy.L.9-10.6 CCSS.ELA-LITERACY.L.11-12.6 CCSS.ELA-LITERACY.RST.9-10.4 CCSS.ELA-LITERACY.RST.11-12.4 CCSS.MATH.CONTENT.HSS.ID.C.7 CCSS.MATH.CONTENT.HSS.IC.B.6 Financial Investing: Benchmarks: Grade 12, Statement 9
ABS.04.03.02.a. Research and summarize examples that illustrate the importance of risk and uncertainty within AFNR businesses.	Selling One-on-One	Financial Investing: Benchmarks: Grade 12, Statement 11 Protecting and Insuring: Benchmarks: Grade 12, Statements 2 Protecting and Insuring: Benchmarks: Grade 12, Statements 3 Protecting and Insuring: Benchmarks: Grade 12, Statements 4
ABS.05.02.02.b. Assess different responses/customer reactions that could be presented during different types of sales calls used in AFNR businesses (e.g., competitor prices, competing products, post-sale service, complaints about product, etc.). ABS.05.03. Performance Indicator: A	Selling One-on-One	CCSS.ELA-LITERACY.SL.9-10.6 CCSS.ELA-LITERACY.SL.11-12.6 CCSS.ELA-LITERACY.RH.9-10.7 CCSS.ELA-LITERACY.RH.11-12.7 Buying Goods & Services: Benchmarks: Grade 12, Statements 1 Buying Goods & Services: Benchmarks: Grade 12, Statements 3 Buying Goods & Services: Benchmarks: Grade 12, Statements 4 Buying Goods & Services: Benchmarks: Grade 12, Statements 5 develop marketing plans to accomplish AFNR business
objectives.	ssess marketing principles and	deterop marketing plans to decomplish At the business
ABS.05.03.02.a. Examine and categorize strategies used in marketing programs for AFNR businesses (e.g., Internet, direct to customer, social media, etc.).	Selling	CCSS.ELA-LITERACY.L.9-10.6 CCSS.ELA-LITERACY.RST.9-10.4 CCSS.ELA-LITERACY.RST.11-12.4 CCSS.ELA-LITERACY.W.9-10.2 CCSS.ELA-LITERACY.W.11-12.2 CCSS.ELA-LITERACY.RH.9-10.7 CCSS.ELA-LITERACY.RH.19-10.7 CCSS.ELA-LITERACY.SL.9-10.6 CCSS.ELA-LITERACY.SL.11-12.6 Buying Goods & Services: Benchmarks: Grade 12, Statements 1 Buying Goods & Services: Benchmarks: Grade 12, Statements 3 Buying Goods & Services: Benchmarks: Grade 12, Statements 4 Buying Goods & Services: Benchmarks: Grade 12, Statements 7
BS.02.02. Performance Indicator: Impequipment in a laboratory.	plement standard operating pr	ocedures for the proper maintenance, use and sterilization of
BS.02.02.03.c. Perform sterilization techniques for equipment in a	Growing Procedures (asexual propagation)	HS-ETS1-2

laboratory using standard operating procedures.		
BS.02.04. Performance Indicator: Saf operating procedures.	ely manage and dispose of bio	ological materials, chemicals and wastes according to standard
BS.02.04.01.b. Assess the need for personal protective equipment and select the appropriate equipment to wear when working with biological and chemical materials.	Equipment list/Handling Hazards Situations	CCSS.ELA-Literacy.RST.9-10.4 CCSS.ELA-Literacy.RST.11-12.4
BS.02.04.02.a. Classify and describe hazards associated with biological and chemical materials.	Handling Hazards Situations	CCSS.ELA-Literacy.RST.9-10.4 CCSS.ELA-Literacy.RST.11-12.4
BS.02.04.03.a. Summarize what happens to waste after it leaves the laboratory and examine opportunities to reduce waste and unnecessary costs.	Handling Hazards Situations	CCSS.ELA-Literacy.RST.9-10.4 CCSS.ELA-Literacy.RST.11-12.4
CS.01.01. Performance Indicator: Exa	mine issues and trends that in	npact AFNR systems on local, state, national and global levels.
CS.01.01.01.b. Analyze and document AFNR issues and their impact on local, state, national and global levels.	Problem Solving	
CS.01.01.02.b. Analyze current trends in AFNR systems and predict their impact on local, state, national and global levels.	Problem Solving	
CS.01.02. Performance Indicator: Exa	mine technologies and analyz	e their impact on AFNR systems.
CS.01.02.01.b. Apply appropriate use of technologies in AFNR workplace scenarios.	Written Exam, Growing procedures	
CS.01.02.02.b. Analyze how technology is used in AFNR systems to maximize productivity.	Written Exam, Growing procedures	
CS.02.01. Performance Indicator: Res	search geographic and econom	nic data related to AFNR systems.
CS.02.01.02.c. Devise a strategy to solve a problem in an AFNR system using a set of economic data.	Problem Solving, Team Activity-media selling	
CS.02.02. Performance Indicator: Exaglobal society and economy.	mine the components of the A	AFNR systems and their impact on the local, state, national and
CS.02.02.01.c. Devise a strategy for explaining components of AFNR systems to audiences with limited knowledge.	Team Activity, Written Exam	
CS.02.02.02.c. Evaluate how society traditions, customs or policies have resulted from practices with AFNR systems.	Written Exam	
CS.02.02.03.b. Assess the economic impact of an AFNR system on a local,	Written Exam, Selling one on one	

state, national and global level.		
_	ntify required regulations to m	naintain and improve safety, health and environmental
management systems.	ntilly required regulations to h	iaintain and improve safety, nearth and environmentar
CS.03.01.01.c. Evaluate how AFNR organizations/businesses promote improved health, safety and environmental management.	Hazard materials, Plant Disorders, Written Exam	
CS.03.01.02.c. Construct and implement methods to evaluate compliance with required safety, health and environmental management regulations.	Problem Solving, Plant Disorders, Hazardous Materials, Written Exam	
CS.03.02. Performance Indicator: Dev performance.	velop a plan to maintain and ir	mprove health, safety and environmental compliance and
CS.03.02.01.c. Create a plan to improve safety, health and environmental management regulations in an AFNR business.	Hazardous Materials Situation	AFNR Career Cluster, Statement 6
CS.03.02.02.c. Devise a strategy to educate employees on environmental compliance and performance in an AFNR business.	Hazardous Materials Situation	AFNR Career Cluster, Statement 6
CS.03.03. Performance Indicator: App	oly health and safety practices	to AFNR worksites.
CS.03.03.01.b. Analyze and summarize current health and safety practices of AFNR business.	Hazardous Materials Situation	
CS.03.03.02.c. Create a plan to communicate appropriate responses for health and safety situations within an AFNR business.	Hazardous Materials Situation	
CS.03.03.03.b. Assess first aid knowledge and procedures relevant to AFNR worksites.	Written Exam, Hazardous Materials Situation	
CS.03.03.04.c. Create a plan to mitigate the level of contamination or injury identified as a risk in the workplace.	Hazardous Materials Situation	
CS.03.04. Performance Indicator: Use equipment.	e appropriate protective equip	ment and demonstrate safe and proper use of AFNR tools and
C3.03.04.01.c. Design plans to ensure the use of appropriate protective equipment when using various AFNR tools and equipment.	Written Exam, Hazardous Materials Situation, Plant and Tool ID	
C3.03.04.02.c. Evaluate and select appropriate tools and equipment to complete AFNR tasks.	Written Exam, Hazardous Materials Situation, Plant and Tool ID	
CS.03.04.03.b. Assess and demonstrate appropriate operation, storage and maintenance techniques	Hazardous Material Situation	

for AFNR tools and equipment.			
CS.04.01. Performance Indicator: Ide	ntify and implement practices	to steward natural resources in different AFNR systems.	
CS.04.01.01.b. Analyze available practices to steward natural resources in AFNR systems (e.g., wildlife and land conservation, soil and water practices, ecosystem management, etc.).	Plant and Tool ID, Growing Procedures	AFNR Career Cluster, Statement 2 AFNR Career Cluster, Statement 3	
CS.04.01.02.b. Analyze and assess sustainability practices that can be applied in AFNR systems (e.g., energy efficiency, recycle/reuse/repurpose, green resources, etc.).	Plant and Tool ID, Growing Procedures, Written Exam	AFNR Career Cluster, Statement 2 AFNR Career Cluster, Statement 3	
CS.04.02. Performance Indicator: Ass	ess the natural resource relate	ed trends, technologies and policies that impact AFNR systems.	
CS.04.02.01.b. Analyze natural resources trends and technologies and document how they impact AFNR systems (e.g., climate change, green technologies, water resources, etc.).	Written Exam	AFNR Career Cluster, Statement 7	
CS.05.01. Performance Indicator: Eva pathways (e.g., goals, degrees, certifi		ents to pursue a career opportunity in each of the AFNR career portfolios, interviews, etc.).	
CS.05.01.01.c. Evaluate progress toward AFNR career goals and identify opportunities for improvement and necessary adjustments to one's plan of action	Job Interview		
CS.05.01.02.c. Implement one's personal plan of action for obtaining the required education, training and experiences and evaluate progress to identify opportunities for improvement and necessary adjustments.	Job Interview		
CS.05.01.03.c. Evaluate, update and improve a set of personal tools to reflect current skills, experiences, education, goals, etc. and complete the processes needed to pursue and obtain a career in an AFNR pathway.	Media Selling, Corsage, floral arrangement, asexual propagation, team activity, Selling one on one		
CS.05.02. Performance Indicator: Exa	CS.05.02. Performance Indicator: Examine careers in each of the AFNR pathways.		
CS.05.02.01.c. Interpret and evaluate the results of a personal career assessment and connect them to potential careers in AFNR pathways.	Job Interview		
CS.05.02.02.c. Conduct interviews with career professionals within AFNR pathways and summarize the results.	Job interview		

CS.06.01. Performance Indicator: Exp	lain foundational cycles and s	ystems of AFNR.
CS.06.01.01.c. Teach others about the impact of foundational cycles within AFNR systems.	Team Activity/Written Exam	
CRP.01.01. Performance Indicator: M	odel personal responsibility in	the workplace and community.
CRP.01.01.01.c. Evaluate past workplace and community situations and determine how personal responsibility positively or negatively impacted outcomes.	Team Activity	
CRP.01.01.02.c. Model personal responsibility in workplace and community situations.	Team Activity, Sales, Job Interview	
CRP.01.02 Performance Indicator: Eve decisions on employers and commun		erm and long-term impacts of personal and professional
CRP.01.02.01.c. Make and defend personal decisions after analyzing their near- and long-term impacts on self and others.	Problem Solving, Job Interview	
CRP.01.02.02.c. Make and defend professional decisions after evaluating their near- and long-term impacts on employers and community.	Job Interview	
CRP.02.01. Performance Indicator: Use problems in the workplace and comm		t and apply academic learning, knowledge and skills to solve
CRP.02.01.01.c. Apply academic knowledge and skills to solve problems in the workplace and reflect upon the results achieved. Problem Solving, Team Activity, Hazardous Situation, Plant Disorder,	Media Selling	
CRP.02.01.02.c. Apply academic knowledge and skills to solve problems in the community and reflect upon results achieved.	Media Selling	
CRP.02.02. Performance Indicator: Usworkplace and community.	se strategic thinking to connec	t and apply technical concepts to solve problems in the
CRP.02.02.01.b. Assess workplace problems and distinguish the most appropriate technical concepts to apply.	Problem Solving, Plant Disorders	
CRP.03.01. Performance Indicator: De	esign and implement a person	al wellness plan.
CRP.03.01.02.b. Analyze the relationship between personal wellness and workplace performance.	Job Interview, Floral Design	

CRP.03.02. Performance Indicator: Do	esign and implement a person	al financial management plan.
CRP.03.02.01.a. Research and examine components in a personal financial management plan (e.g., income, expense, budgeting, savings, credit, etc.).	Corsage, Floral Arrangement, Asexual Propagation	
CRP.03.02.02.a. Examine and categorize personal financial practices (e.g., earning, spending, use of management tools, credit, etc.).	Corsage, Floral Arrangement, Asexual Propagation	
CRP.04.01. Performance Indicator: Spinformal settings.	peak using strategies that ensu	re clarity, logic, purpose and professionalism in formal and
CRP.04.01.01.c. Evaluate other's verbal and non-verbal communications (e.g., speeches, presentations, oral reports, etc.) and propose recommendations for improvement in clarity, logic, purpose and professionalism.	Job Interview, Team Activity, One on One Selling, Growing Procedure	
CRP.04.01.02.c. Evaluate personal strengths and areas for growth with regard to speaking formally and informally with clarity, logic, purpose and professionalism, and identify ways to improve.	Job Interview, Team Activity, One on One Selling, Growing Procedure	
CRP.04.02. Performance Indicator: Pr	roduce clear, reasoned and col	nerent written communication in formal and informal settings.
CRP.04.02.01.c. Evaluate the effectiveness of different forms of written communication for achieving their intended purpose.	Job Interview/Media Selling	
CRP.04.02.02.c. Compose clear and coherent written documents (e.g., agendas, audio-visuals, drafts, forms, etc.) for formal and informal settings.	Job Interview/Media Selling	
CRP.04.03. Performance Indicator: M	lodel active listening strategies	s when interacting with others in formal and informal settings.
CRP.04.03.01.c. Evaluate personal effectiveness and devise a plan to improve active listening skills.	One on one selling	
CRP.04.03.02.c. Model active listening strategies in formal and informal settings.	One on one selling, Job Interview	
CRP.05.01. Performance Indicator: As positively impact the workplace and		the information and resources needed to make decisions that
CRP.05.01.01.c. Evaluate workplace and community decision-making processes and devise strategies for improvement.	Team Activity	

CRP.05.01.02.c. Evaluate workplace and community situations and recommend the information and resources needed to support good decisions.	Team Activity	
CRP.05.01.03.c. Synthesize information and resources and apply to workplace and community situations to make positive decisions.	Team Activity	
CRP.05.02. Performance Indicator: Nathe potential environmental, social a		isions at work and in the community using information about
CRP.05.02.01.c. Evaluate and defend decisions applied in the workplace and community situations.	Team Activity	
CRP.05.02.02.c. Evaluate workplace and community situations and propose decisions to be made based upon the positive impact made on environment, social and economic areas.	Team Activity	
CRP.06.01. Performance Indicator: So assumptions in the workplace and co		dge and experience to generate original ideas and challenge
CRP.06.01.01.b. Synthesize information, knowledge and experiences to generate ideas for workplace and community situations.	Team Activity	
CRP.06.02. Performance Indicator: A improve the efficiency of processes a		nd community situations to identify ways to add value and
CRP.06.02.02.b. Predict and communicate potential gains in efficiency and value-added from implementing an improved process or procedure.	Team Activity	
CRP.06.03. Performance Indicator: C workplace and community organizat		tion to act upon new ideas and introduce innovations to
CRP.06.03.02.b. Elicit and assimilate input and feedback from individuals and organizations about new ideas or innovations for the workplace or community.	Team Activity	
CRP.07.01. Performance Indicator: So making in the workplace and community	The state of the s	esearch processes and methods to generate data for decision-
CRP.07.01.01.c. Evaluate business' and organizations' use of research methods and processes and propose recommendations for improvement.	Plant Disorders	
CRP.07.01.02.b. Assess the positives and negatives of using different research strategies and methods to	Plant Disorders	

generate data for workplace and community decisions.		
		and data used when considering the adoption of new
technologies, practices and ideas in t	he workplace and community.	
CRP.07.02.02.b. Assimilate data to assist in making a decision about the adoption of a new technology, practice or idea by workplaces and community organizations.	Plant Disorders	
CRP.08.01. Performance Indicator: A perspectives.	pply reason and logic to evalua	ate workplace and community situations from multiple
CRP.08.01.01.c. Evaluate how applying critical thinking skills can impact workplace and community situations.	Problem Solving/Team Activity	
CRP.08.01.02.b. Assess solutions to workplace and community problems for evidence of reason, logic and consideration of multiple perspectives.	Job Interview, Plant Disorders	
CRP.08.02. Performance Indicator: In	vestigate, prioritize and select	solutions to solve problems in the workplace and community.
CRP.08.02.01.c. Devise strategies to evaluate the effectiveness of solutions for resolving workplace and community problems.	Problem Solving, Team Activity	
CRP.08.02.02.c. Evaluate and select solutions with greatest potential for success to solve workplace and community problems.	Problem Solving, Team Activity	
CRP.08.03. Performance Indicator: Es	stablish plans to solve workpla	ce and community problems and execute them with resiliency.
CRP.08.03.01.c. Evaluate the effectiveness of different problemsolving models for reaching a solution to workplace and community issues.	Hazardous Situation, Problem Solving	
CRP.08.03.02.c. Implement and evaluate plans to solve workplace and community problems.	Hazardous Situation, Problem Solving	
		and effective leaders in the workplace and community (e.g.
integrity, self-awareness, self-regular	tion, etc.).	
CRP.09.01.01.c. Evaluate ethical and effective leadership characteristics demonstrated by others.	Job Interview, Team Activity	
CRP.09.02.01.c. Evaluate opportunities to apply personal management skills into daily tasks and responsibilities.	Team Activity	
CRP.09.02.02.c. Model personal management skills and identify	Team Activity	

opportunities for continuous improvement.		
CRP.09.03. Performance Indicator: Decommunity (e.g., positively influencing		tribute to a positive morale and culture in the workplace and icating, etc.).
CRP.09.03.01.b. Analyze the relationship between demonstrating respectful and purposeful behaviors (e.g., collaborative, clear expectations, etc.) and increased influence in the workplace and community.	Team Activity	
CRP.09.03.02.b. Devise strategies for continuation and improvement of respectful and purposeful behaviors that contribute to positive morale and culture in workplace and community (e.g., recognize others' skills, promote collaboration, etc.).	Team Activity	
CRP.10.01. Performance Indicator: Id goals and preferences.	entify career opportunities wi	thin a career cluster that match personal interests, talents,
CRP.10.01.01.c. Plan a career path based on personal interests, goals, talents and preferences.	Job Interview	
CRP.10.01.02.c. Match potential career opportunities in career clusters with personal interests, talents, goals and preferences.	Job Interview	
CRP.10.02. Performance Indicator: Excreate goals for continuous growth in		quirements (e.g., education, certification, training, etc.) and
CRP.10.02.01.c. Devise and implement plans to complete the requirements for career advancement.	Job Interview	
CRP.10.02.02.b. Create goals for personal improvement and continuous growth in a career area.	Job Interview	
CRP.10.03. Performance Indicator: As personal goals in a chosen career are		rom experts (e.g., counselors, mentors, etc.) to plan career and
CRP.10.03.01.b. Assess career and personal goals and determine additional information career area experts could provide.	Job Interview	
CRP.10.04. Performance Indicator: Id path.	entify, prepare, update and in	prove the tools and skills necessary to pursue a chosen career
CRP.10.04.01.c. Select and use appropriate tools to pursue career advancement opportunities and assimilate feedback from the process to identify improvements for the future.	Entire Event	

CRP.10.04.02.c. Apply skills to complete common processes involved in pursuing a career and assimilate input and feedback from experts (e.g., mentors, teachers, business persons, etc.) to improve.	Entire Event	
CRP.11.01. Performance Indicator: Rothe workplace and community.	esearch, select and use new te	chnologies, tools and applications to maximize productivity in
CRP.11.01.01.b. Analyze advantages and disadvantages of new technologies, tools and applications to maximize productivity in the workplace and community.	Plant Disorders, Written Exam	
CRP.11.01.02.b. Select, apply and use new technologies, tools and applications in workplace and community situations to maximize productivity.	Plant Disorders, Written Exam	
CRP.12.01. Performance Indicator: Coglobal competence in the workplace	The state of the s	ojects and builds consensus to accomplish results using cultural
CRP.12.01.01.c. Evaluate the effectiveness of team-oriented projects at work and in the community and make recommendations for future improvements.	Team Activity	
CRP.12.01.02.c. Devise and implement methods to obtain feedback from team members on their experiences after completing workplace and community projects.	Team Activity	
CRP.12.01.03.c. Evaluate personal level of cultural and global competence and implement plans for growth and improvement in workplace and community situations.	Team Activity	
	•	s to engage team members to work toward team and tions (e.g., meetings, presentations, etc.).
CRP.12.02.01.c. Create novel strategies to engage team members based on the situation.	Team Activity	
CRP.12.02.02.c. Evaluate the effectiveness of strategies to engage team members in a variety of workplace and community situations.	Team Activity	
ESS.01.01. Performance Indicator: Ar	nalyze and interpret laboratory	and field samples in environmental service systems.
ESS.01.01.01.c. Collect and prepare sample measurements using appropriate data collection	Growing Process and Asexual Propagation	CCSS.ELA-LITERACY.SL.11-12.5 CCSS.ELA-LITERACY.RST.11-12.9 CCSS.MATH.CONTENT.HSN.Q.A.1

CCSS.MATH.CONTENT.HSN.Q.A.2 CCSS.MATH.CONTENT.HSN.Q.A.3 CCSS.MATH.CONTENT.HSS.ID.A.2 CCSS.MATH.CONTENT.HSS.ID.A.2 CCSS.MATH.CONTENT.HSS.ID.A.2 CCSS.MATH.CONTENT.HSS.ID.B.5 HS-ESS2-2 O1.02. Performance Indicator: Properly utilize scientific instruments in environmental monitoring situations (e.g., labor ipment, environmental monitoring instruments, etc.). Equipment ID O1.02.02.a. Identify basic ironmental monitoring ruments and explain their uses. O4.01. Performance Indicator: Use pollution control measures to maintain a safe facility and environment. O4.01.03.c. Construct a plan for dling hazardous Situations Situations O1.02. Performance Indicator: Classify different types of natural resources in order to enable protection, conservation ancement and management in a particular geographical region. O1.02.02.b. Apply identification Plant Identification AFNR Career Cluster – Natural Resources Systems Paths	ratory
CCSS.MATH.CONTENT.HSS.ID.B.5 HS-ESS2-2 101.02. Performance Indicator: Properly utilize scientific instruments in environmental monitoring situations (e.g., labor input) instruments, etc.). 101.02.02.a. Identify basic ironmental monitoring ruments and explain their uses. 104.01. Performance Indicator: Use pollution control measures to maintain a safe facility and environment. 104.01.03.c. Construct a plan for idling hazardous Situations 105.01.02. Performance Indicator: Classify different types of natural resources in order to enable protection, conservation ancement and management in a particular geographical region.	ratory
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O1.02. Performance Indicator: Properly utilize scientific instruments in environmental monitoring situations (e.g., labor ipment, environmental monitoring instruments, etc.). O1.02.02.a. Identify basic ironmental monitoring ruments and explain their uses. O4.01. Performance Indicator: Use pollution control measures to maintain a safe facility and environment. O4.01.03.c. Construct a plan for dling hazardous Situations O5.01.02. Performance Indicator: Classify different types of natural resources in order to enable protection, conservation ancement and management in a particular geographical region.	oratory
ipment, environmental monitoring instruments, etc.). 101.02.02.a. Identify basic frommental monitoring ruments and explain their uses. 104.01. Performance Indicator: Use pollution control measures to maintain a safe facility and environment. 104.01.03.c. Construct a plan for dling hazardous waste in given ations. 105.01.02. Performance Indicator: Classify different types of natural resources in order to enable protection, conservation ancement and management in a particular geographical region.	ratory
ruments and explain their uses. O4.01. Performance Indicator: Use pollution control measures to maintain a safe facility and environment. O4.01.03.c. Construct a plan for dling hazardous waste in given ations. O4.01.02. Performance Indicator: Classify different types of natural resources in order to enable protection, conservation ancement and management in a particular geographical region.	
04.01. Performance Indicator: Use pollution control measures to maintain a safe facility and environment. 04.01.03.c. Construct a plan for dling hazardous waste in given ations. 6.01.02. Performance Indicator: Classify different types of natural resources in order to enable protection, conservation ancement and management in a particular geographical region.	
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Situations	
ancement and management in a particular geographical region.	
ancement and management in a particular geographical region.	١,
.01.02.02.b. Apply identification Plant Identification AFNR Career Cluster – Natural Resources Systems Pathy	
nniques to determine the species Statement 3 n herbaceous plant. Statement 3 CCSS.ELA-LITERACY.RST.11-12.1	way,
CCSS.ELA-LITERACY.RST.11-12.1	
CCSS.ELA-LITERACY.RST.11-12.8	
CCSS.ELA-LITERACY.WHST.9-10.2	
CCSS.ELA-LITERACY.WHST.11-12.2	
CCSS.ELA-LITERACY.WHST.9-10.7	
CCSS.ELA-LITERACY.WHST.11-12.7 CCSS.ELA-LITERACY.WHST.9-10.9	
CCSS.ELA-LITERACY.WHST.19-10.9	
CCSS.MATH.CONTENT.HSN-Q.A.1	
CCSS.MATH.CONTENT.HSN-Q.A.2	
HS-ESS3-2	
5.01.02.03.b. Apply identification Identifying and controlling AFNR Career Cluster – Natural Resources Systems Pathy	way,
niques to determine the species Plant Disorders Statement 3	
vildlife or insect. CCSS.ELA-LITERACY.RST.11-12.1 CCSS.ELA-LITERACY.RST.11-12.7	
CCSS.ELA-LITERACY.RST.11-12.7	
CCSS.ELA-LITERACY.WHST.9-10.2	
CCSS.ELA-LITERACY.WHST.11-12.2	
CCSS.ELA-LITERACY.WHST.9-10.7	
CCSS.ELA-LITERACY.WHST.11-12.7	
CCSS.ELA-LITERACY.WHST.9-10.9	
CCSS.ELA-LITERACY.WHST.11-12.9	
CCSS.MATH.CONTENT.HSN-Q.A.1	
CCSS.MATH.CONTENT.HSN-Q.A.2	
HS-ESS3-2 AFNIR Carper Cluster Natural Resources Systems Paths	
5.01.02.05.a. Research and Equipment Identification AFNR Career Cluster – Natural Resources Systems Pathy Statement 3	way,
nine the characteristics used to Statement 3 CCSS.ELA-LITERACY.RST.11-12.1	
types, climate, geography, etc.). CCSS.ELA-LITERACY.RST.11-12.1	
CCSS.ELA-LITERACY.RST.11-12.8	
CCSS.ELA-LITERACY.WHST.9-10.2	
CCSS.ELA-LITERACY.WHST.11-12.2	
CCOOLLET LITERACT. VVIIO1.111-12.2	
CCSS.ELA-LITERACY.WHST.9-10.7	

		CCSS.ELA-LITERACY.WHST.9-10.9 CCSS.ELA-LITERACY.WHST.11-12.9 CCSS.MATH.CONTENT.HSN-Q.A.1 CCSS.MATH.CONTENT.HSN-Q.A.2 HS-ESS3-2
NRS.04.02. Performance Indicator: D	iagnose plant and wildlife dise	eases and follow protocols to prevent their spread.
NRS.04.02.01.b. Analyze a plant disease based on its symptoms, identify if the disease needs to be reported to authorities and determine which authorities it should be reported to.	Identifying and Controlling Plant and Disorders	CCSS.ELA-LITERACY.RST.11-12.7 CCSS.ELA-LITERACY.WHST.11-12.8 CCSS.ELA-LITERACY.WHST.11-12.7 CCSS.ELA-LITERACY.WHST.11-12.8 CCSS.ELA-LITERACY.WHST.11-12.8 CCSS.ELA-LITERACY.WHST.11-12.9 CCSS.MATH.CONTENT.HSN-Q.A.1 CCSS.MATH.CONTENT.HSN-Q.A.2 CCSS.MATH.CONTENT.HSN-Q.A.3 HS-LS2-7
PS.01.01. Performance Indicator: Det	termine the influence of environment	onmental factors on plant growth.
PS.01.01.01.c. Analyze plant responses to varied light color, intensity and duration and recommend modifications to light for desired plant growth.	Plant Disorder	
PS.01.01.02.c. Design, implement and evaluate a plan to maintain optimal air and temperature conditions for plant growth.	Exam – Growing Practicum – Disorder	
PS.01.01.03.c. Analyze plant responses to water conditions and recommend modifications to water for desired plant growth.	Exam – Growing Practicum – Disorder	
PS.01.02. Performance Indicator: Pre	pare and manage growing me	dia for use in plant systems.
PS.01.02.01.c. Formulate and prepare growing media for specific plants or crops.	Exam, Growing, Mixed Combo	
PS.01.02.02.c. Determine the hydraulic conductivity for soil and how the results influence irrigation practices.	Exam and Growing	
PS.01.03. Performance Indicator: Dev	velop and implement a fertiliza	ation plan for specific plants or crops.
PS.01.03.01.c. Monitor plants for signs of nutrient deficiencies and prepare a scouting report to correct elements negatively affecting plant growth in a field or greenhouse.	Exam, Disorder and Growing	CCSS.MATH.CONTENT.HSN.Q.A.2 CCSS.MATH.CONTENT.HSN.Q.A.3
PS.01.03.02.c. Adjust the pH of growing media for specific plants or crops.	Exam and Disorder	CCSS.MATH.CONTENT.HSN.Q.A.2 CCSS.MATH.CONTENT.HSN.Q.A.3
PS.01.03.03.c. Prescribe fertilizer applications based on the results of a laboratory analysis of soil and plant	Exam, Disorder and Problem Solving	CCSS.MATH.CONTENT.HSN.Q.A.2 CCSS.MATH.CONTENT.HSN.Q.A.3

tissue samples.			
PS.01.03.05.b. Assess production methods for their short- and long-term effects on soil.	Exam and Disorder	CCSS.MATH.CONTENT.HSN.Q.A.2 CCSS.MATH.CONTENT.HSN.Q.A.3	
PS.01.03.06.c. Devise a plan to meet plant nutrient needs based on environmental factors present.	Disorders and Exam	CCSS.MATH.CONTENT.HSN.Q.A.2 CCSS.MATH.CONTENT.HSN.Q.A.3	
PS.02.01. Performance Indicator: Class	ssify plants according to taxon	omic systems.	
PS.02.01.02.c. Identify and describe important plants to agricultural and ornamental plant systems by scientific names.	ID and Exam		
PS.02.02. Performance Indicator: Appwith plant systems.	oly knowledge of plant anaton	ny and the functions of plant structures to activities associated	
PS.02.02.01.b. Compare and contrast mitosis and meiosis.	Exam	HS-LS1-4	
PS.02.02.03.c. Evaluate the function of the xylem, phloem and cambium tissues and the impact on plant systems.	Exam	HS-LS1-4	
PS.02.02.04.c. Devise a plan for plant management practices that takes into account leaf structure and functions.	Team activity and Crop Schedule	HS-LS1-4	
PS.02.02.05.c. Evaluate flower structures and analyze the impact of plant structure on plant breeding, production and use.	Exam	HS-LS1-4	
PS.02.02.06.b. Analyze and categorize the major types of seeds and fruit.	Exam	HS-LS1-4	
PS.02.03. Performance Indicator: App	oly knowledge of plant physiol	logy and energy conversion to plant systems.	
PS.02.03.01.c. Evaluate the impact of photosynthesis and the factors that affect it on plant management, culture and production problems.	Disorders, Team activity/Crop Schedule, Problem Solving and Exam	HS-LS1-5	
PS.02.03.02.c. Evaluate the impact of plant respiration on plant growth, crop management and post-harvest handling decisions.	Floral Arrangement, Team activity Exam and Problem Solving	HS-LS1-5	
PS.03.01. Performance Indicator: Demonstrate plant propagation techniques in plant system activities.			
PS.03.01.01.b. Examine and describe the process of plant pollination and/or fertilization.	Exam		
PS.03.01.03.c. Evaluate asexual propagation practices based on productivity and efficiency.	Growing Procedure		

PS.03.02. Performance Indicator: Develop and implement a management plan for plant production.				
PS.03.02.01.b. Inspect propagation material for evidence of pests or disease.	Disorders, Growing Procedure	CCSS.ELA-Literacy.RI.9-10.1 CCSS.ELA-Literacy.RI.9-10.8 CCSS.ELA-Literacy.RST.9-10.3 CCSS.ELA-Literacy.WHST.9-10.2 CCSS.ELA-Literacy.WHST.9-10.4 CCSS.ELA-Literacy.WHST.9-10.9		
PS.03.02.02.b. Prepare soil and growing media for planting with the addition of amendments.	Growing Procedure, Team activity	CCSS.ELA-Literacy.RI.9-10.1 CCSS.ELA-Literacy.RI.9-10.8 CCSS.ELA-Literacy.RST.9-10.3 CCSS.ELA-Literacy.WHST.9-10.2 CCSS.ELA-Literacy.WHST.9-10.4 CCSS.ELA-Literacy.WHST.9-10.9		
PS.03.02.05.c. Prepare plant production schedules utilizing plant growth knowledge to get plants to their optimal growth stage at a given time.	Team activity	CCSS.ELA-Literacy.RI.9-10.1 CCSS.ELA-Literacy.RI.9-10.8 CCSS.ELA-Literacy.RST.9-10.3 CCSS.ELA-Literacy.WHST.9-10.2 CCSS.ELA-Literacy.WHST.9-10.4 CCSS.ELA-Literacy.WHST.9-10.9		
Ps.03.02.06.b. Compare and contrast the types of technologies used for controlled atmosphere production.	Exam, Equipment ID	CCSS.ELA-Literacy.RI.9-10.1 CCSS.ELA-Literacy.RI.9-10.8 CCSS.ELA-Literacy.RST.9-10.3 CCSS.ELA-Literacy.WHST.9-10.2 CCSS.ELA-Literacy.WHST.9-10.4 CCSS.ELA-Literacy.WHST.9-10.9		
PS.03.02.07.b. Compare and contrast the types of systems used in hydroponic and aquaponic plant production.	Exam, Equipment ID	CCSS.ELA-Literacy.RI.9-10.1 CCSS.ELA-Literacy.RI.9-10.8 CCSS.ELA-Literacy.RST.9-10.3 CCSS.ELA-Literacy.WHST.9-10.2 CCSS.ELA-Literacy.WHST.9-10.4 CCSS.ELA-Literacy.WHST.9-10.9		
PS.03.03. Performance Indicator: Develop and implement a plan for integrated pest management for plant production.				
PS.03.03.01.c. Devise solutions for plant pests, diseases and disorders.	Exam and Disorders			
PS.03.03.02.b. Predict pest and disease problems based on environmental conditions and life cycles.	Exam, Disorders and Problem Solving			
PS.03.03.04.b. Examine and apply procedures for the safe handling, use and storage of pesticides including personal protective equipment and reentry interval.	Handling Hazardous Situations			
PS.03.05. Performance Indicator: Harvest, handle and store crops according to current industry standards.				
PS.03.05.01.b. Assess the stage of growth to determine crop maturity or marketability and demonstrate proper harvesting techniques.	Mixed Combo	CCSS.ELA-Literacy.RST.9-10.3 CCSS.ELA-Literacy.RST.9-10.4 CCSS.ELA-Literacy.WHST.9-10.2a		
PS.03.05.03.b. Research and analyze practices used to maintain a safe product through harvest, processing,	Team activity and Handling Hazardous Situations	CCSS.ELA-Literacy.RST.9-10.3 CCSS.ELA-Literacy.RST.9-10.4 CCSS.ELA-Literacy.WHST.9-10.2a		

storage and shipment (e.g., Food Safety Modernization Act, Good Agricultural Practices, etc.).			
PS.03.05.04.b. Analyze the proper conditions required to maintain the quality of plants and plant products held in storage and during shipping.	Team activity	CCSS.ELA-Literacy.RST.9-10.3 CCSS.ELA-Literacy.RST.9-10.4 CCSS.ELA-Literacy.WHST.9-10.2a	
PS.03.05.05.b. Demonstrate techniques for grading, handling and packaging plants and plant products for distribution.	Team activity	CCSS.ELA-Literacy.RST.9-10.3 CCSS.ELA-Literacy.RST.9-10.4 CCSS.ELA-Literacy.WHST.9-10.2a	
PS.04.01. Performance Indicator: Evaluating, identifying and preparing plants to enhance an environment.			
PS.04.01.01.c. Implement a design that uses the proper plants based on the situation and environment.	Mixed Combo, Floral Arrangement, Team activity, Growing Procedure, Corsage		
PS.04.01.02.c. Evaluate a design and provide feedback and suggestions for improvement (e.g., a floral arrangement, a landscape or a landscape plan, etc.).	Mixed Combo, Floral Arrangement, Team activity and Corsage		
PS.04.02. Performance Indicator: Create designs using plants.			
PS.04.02.01.c. Analyze designs to identify use of design principles and elements.	Mixed Combo, Floral Arrangement, TA, Growing Procedure, Corsage	AFNR Career Cluster – Natural Resources Systems Pathway, Statement 3 AFNR Career Cluster – Plant Systems Pathway, Statement 2 STEM Career Cluster, Statement 4	
PS.04.02.02.c. Evaluate the proper use of design tools in creating designs.	Mixed Combo, Floral Arrangement, TA, Growing Procedure, Corsage	AFNR Career Cluster – Natural Resources Systems Pathway, Statement 3 AFNR Career Cluster – Plant Systems Pathway, Statement 2 STEM Career Cluster, Statement 4	