



Floriculture

Refer to the National FFA Career and Leadership Events webpage on [FFA.org](https://www.ffa.org) for the most up-to-date career and leadership development handbook edition.

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FFA VISION

Growing the next generation of leaders who will change the world.

FFA MISSION

FFA makes a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education.

FFA CODE OF CONDUCT

FFA members participating in National FFA programs understand and agree to abide by the National FFA Code of Conduct at:
<https://ffa.app.box.com/s/x6l2lkovv4x9tgiegy73mei30zvlip5i>

Guiding Principles

National FFA believes that awards and competitive events should:

1. Be inclusive and engaging for all students and FFA members.
2. Provide awards and recognition opportunities for students at all levels.
3. Inspire members to explore, learn, and be prepared for future careers related to the AFNR career pathways and FFA AFNR Value Chain.
4. Recognize achievements in skill development and knowledge, including:
 - a. leveraging relevant technologies
 - b. utilizing creative problem-solving
 - c. meeting developmentally appropriate learning objectives (Bloom's Taxonomy)
 - d. utilizing employability skills (teamwork, communication, collaboration)
5. Work with other groups to utilize or partner with existing experiences.
6. Provide feedback that promotes personal and professional growth.

Agriculture, Food and Natural Resources (AFNR)

Career Cluster Content Standards

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Purpose

The National 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 delivered through the agricultural education curriculum.

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

The floriculture industry encompasses the following areas:

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

Objectives

- Identify plants, plant materials, supplies and equipment utilized in the floriculture industry.
- Demonstrate an understanding of the biological and scientific principles of plant growth and development. 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 elements and principles of design and develop related skills.
- Evaluate marketable floral products for quality and cultural perfection in the retail industry.
- 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.
- Understand the operation, management and maintenance of 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

Review the [Career and Leadership Development Event Policy and Guidelines](#) for information on eligibility, selection, certification, team member changes, disqualification and more. [General Information for National Competition](#) can provide general guidance on preparing for national competition.

- Under no circumstances will any participant be allowed to touch or handle plant material during the event except when instructed by the event staff.
- All participants must 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.
- Various computer applications may be utilized throughout the floriculture event.
- Participants will not be allowed to swap or share tools (calculators, scissors, wire cutters, etc.) with teammates or other participants.
- All references to time limits are approximate. The committee reserves the right to adjust to the practicum and anticipated skills of the students

Event Format

MATERIALS STUDENTS NEED TO PROVIDE:

- Clean clipboard, free of notes.
- Two sharpened No. 2 pencils.
- Floral tools and materials may consist of any or all of the following materials:
 - floral scissors,
 - ribbon shears,
 - pruners,
 - wire cutters,
 - floral pliers,
 - green floral tape,
 - green waterproof tape,
 - clear waterproof tape,
 - floral wire,
 - and/or floral adhesive (in dot, strip, or liquid form).
- Apron
- Tool bag, box, or belt for carrying supplies.
- Calculator — Should be battery operated, non-programmable and non-scientific (basic five function only). No other calculators can be used during the event.
- Contestants will not be allowed to bring any material into the competition area that could be used to enhance the creativity of their design(s) that is not supplied to all participants; this includes but is not limited to, floral ribbon, wired ribbon, decorative wire, bullion wire, and any floral accents. Supplies will be checked at team check-in before the competition starts; unapproved items will be returned to the advisor before students enter the competition area.

TEAM ACTIVITY (800 POINTS)

Each team will perform an assignment routinely performed in some phase of the floriculture industry that requires teamwork. These tasks will be described in situational terms for presentation to each team. Forty-five minutes will be allowed for completing the activity. If a presentation to the judges is required, the presentation portion of the event will take place after the 45-minute time period has ended. Presentation times may vary depending on the assigned task but will be at most 10 minutes. An additional time will be allowed after judging is complete for team clean up. All materials, except floral tools needed to complete the assignment, will be provided. The event assistant in charge will announce the type of activity and information about the specific tasks at the beginning of the practicum.

The type of assignments that may be used in this phase of the event include, but are not limited to, the following:

- Prepare floral products for an event.
- Prepare and pack floral products for shipping and updating inventory.
- Create a floral product display.
- Create a greenhouse production and task schedule to meet the needs of a given customer.
- Prepare and display plant material found in a garden center.

A judge will record the scoring criteria for the team preparation and presentation on the [Team Activity Rubric](#).

INDIVIDUAL ACTIVITIES

Identification of plant materials and equipment (200 points)

Fifty specimens from the [floriculture plant](#) and [equipment identification](#) lists will be displayed for participants to identify by technical and common names. A number will designate each specimen. Four points will be awarded for each specimen that is correctly identified. Each participant will be allowed 25 minutes to complete this event phase.

General Knowledge Examination (200 points)

Participants will answer 50 multiple-choice questions to test all areas of the floriculture industry as reflected in the event objectives, including flowers and material from the wholesaler and how they are handled, stored, and used in the flower shop; knowledge of floral design (arrangement) and marketing of floral products from the floral shop as well as participants' knowledge and understanding of basic biological and scientific principles of producing and marketing flowers, plants and foliage. Each participant will be allowed 50 minutes to complete the exam. Each answer has a value of four points.

Problem-Solving/Decision-Making (200 points)

Each participant will solve ten 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 participants as they solve the problem. Each participant will be allowed 50 minutes to complete this event phase. Each correct solution has a value of 20 points.

Annual Practicums (200 points)

Each participant will complete two annual practicums:

- Floral arrangement
- Growing procedures

Floral Arrangement (100 points)

Make a \$55 retail-priced floral arrangement in compliance with the scenario provided. (The \$55 cost will include tax and retail markup for fresh and hard goods and be within fifty cents either way of the \$55.) Participants will be allowed 20 minutes to complete their arrangements and itemized bills using the materials provided. At the beginning of the practicum, the event assistant will provide participants with the retail price of the flowers and foliage they will use in their arrangements. The participant will determine the total arrangement cost using the pricing form provided plus 20% labor on their design. The retail cost of flowers and foliage given to the participant will be determined after polling florists to determine their current retail prices on the flowers and foliage used in the event. Scoring criteria are presented on the [Floral Arrangement Practicum scorecard](#), which a judge will record.

EXPLANATION OF FLORAL ARRANGEMENT TERMS

Design: Category interpretation: design follows the objective/scenario given

Balance: Physical and visual

Creativity: Artistic inventiveness

Depth: Placement of materials at different levels throughout the arrangement

Focal Emphasis: Design has one area of design that attracts the eye to it

Line: Movement

Mechanics: Professional techniques and application

Scale: Proportion

Unity: Cohesiveness of design

Color: harmonious use of color

GROWING PROCEDURES (100 POINTS)

One of the three activities listed below will be demonstrated annually. Ten minutes will be allowed for this section, including questions from the judges. Seven (7) minutes to complete the assigned task, 1 minute for judges' questions, and 2 minutes for judges scoring.

Potting of Young Plants (Plugs or Liners)

Participants will be asked to plant young plants in the pots provided. Each participant will be given a group of young plants from which to select their transplants, an appropriate pot or pots, a potting medium, an ID stake, and a marking pencil. Scoring criteria are presented on the [Potting of Young Plants Practicum Rubric](#), which a judge will record.

Asexual Propagation of Plants

Each participant will be provided with the parent plant materials and all other materials needed to propagate plants asexually. Participants will take cuttings from the plant provided them using the available materials and place them in the correct media, best for rooting. Participants should sanitize all equipment and use it appropriately in a safe manner. Scoring criteria are presented on the [Asexual Plant Propagation Rubric](#), which a judge will record.

Pinching Plants

A plant will be placed before each participant. Participants will be judged on the procedures they follow in pinching the plant in compliance with the scenario provided. Scoring criteria are presented on the [Pinching Plants Rubric](#), which a judge will record.

Rotational Practicums (75 Points)

In addition to the two annual practicums, two practicums will be selected from the list below for each noted year. The ~~three~~ two to be used will be identified by the event superintendent in the annual team orientation packet that is available before convention on the [CDE/LDE webpage](#).

SELLING PRACTICUM (75 POINTS) (ONE WILL BE CHOSEN)

Selling One-on-One

Each participant will assume the role of a salesperson 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 their needs 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 10 minutes, participants will be allowed three minutes to review the given scenario, five minutes for dialogue with the customer and completion of the sales form. Judges will be allowed two minutes to score the participant. Scoring criteria are presented on the selling [One-on-One Practicum Rubric](#), which a judge will record.

Media Selling

Each participant will be asked to create or evaluate advertising from the following media sources:

- Newspaper/catalog ad
- Radio script
- Newsletter
- Brochure/flyer
- Email
- Social media
- Facebook
- Twitter
- Video – YouTube
- Web homepage

All information and materials needed to develop the advertisement will be provided. Up to 15 minutes will be allowed for this practicum, depending on the task assigned. Scoring criteria are presented on the [Media Selling Practicum Rubric](#), which a judge will record.

MAKE A MIXED PLANTER COMBINATION (75 POINTS)

Each participant will make a \$35 retail-priced mixed combination planter. All plant materials, growing media and containers will be provided. Twenty (20) minutes will be allowed for each participant to make their mixed combination planter 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 combination planter. The markup is built into the retail price. The selection of materials should be combined to create a floral display according to acceptable retail practices, using appropriate elements and principles of design within the floral industry. Scoring criteria are presented on the [Making a Mixed Combination Planter Rubric](#), which a judge will record.

CREATE AND PACKAGE A BODY FLOWER PIECE (75 POINTS)

Each participant will make and package a \$25 retail-priced body flower, including 20% labor. These pieces could include any of the following: corsages, boutonnieres, floral jewelry, crowns, arm, wrist, or ankle pieces, and hair accessories. The type of design and information about the piece will be provided to the participants through a given scenario at the beginning of the practicum by the event assistant in charge. All plant and non-plant materials needed to construct and package the piece will be provided. The selection of materials should be combined to create a floral display according to acceptable retail purposes, using appropriate elements and principles of design. Each participant will be allowed 20 minutes to complete the construction of the piece and complete an itemized listing of costs for the piece constructed. Scoring criteria are presented on the [Create and Packaging a Body Flower Piece Rubric](#), which a judge will record.

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.). A station number will designate each specimen. The participant must identify the item and its classification (nutritional/environmental, insect/pest or disease). The participant must then determine the damage location as well as chemical and culture controls for the disorder. Each participant will identify 15 specimens in total for this event.

No specimens or items may be touched or handled in any way. Fifteen (15) 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:

Nutritional/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
- Tosspovirus (INSV and TSWV)

Insects and Pests

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

Scoring

Phase	Individual Points	Team Points
Plant and Equipment Identification	200	800
General knowledge	200	800
Problem-solving	200	800
Annual practicums - 100 points each * Floral arrangement * Growing procedures	200	800
Rotational practicums – 2 selected * Selling * Make a Mixed Planter Combination * Create and Package a Body Flower Piece * Identifying/Controlling Plant Disorders	150	600
Team activity	0	800
TOTAL	950	4,600

TIEBREAKERS

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

Individual

1. Written exam
2. Plant and equipment identification
3. Floral arrangement practicum
4. Growing procedures

Team

1. Team activity
2. Written exam
3. Plant and equipment identification

Awards

Awards will be presented to individuals and teams at the awards ceremony based on their rankings. Advisors of cash award recipients will receive information about claiming their award following the convention. Guidelines for amounts and recipients of cash awards can be found [here](#). Corporate partners help grow the next generation of leaders through supporting AFNR pathways awards.

References

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

- Other sources may be utilized, and teachers are encouraged to use the best instructional materials available. The following list contains references that may prove helpful during event preparation.
- Past CDE materials and other resources are available on FFA.org.
- Principal of Floral Design, Pat Diehl Scafe, James M. DelPrince – Goodheart Wilcox Publisher. www.g-w.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, Interstate Publishers, Inc.
- Introductory Horticulture. Carroll Shry, Edward Reiley. Eighth 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

#	Botanical Name	Common Name	#	Botanical Name	Common Name
101	<i>Aechmea fasciata cv.</i>	Bromeliad	149	<i>Eucalyptus polyanthemos</i>	Silver Dollar Eucalyptus
102	<i>Ageratum houstonianum</i>	Floss Flower	150	<i>Euphorbia pulcherrima cv.</i>	Poinsettia
103	<i>Alocasia amazonica</i>	Amazon elephant ear	151	<i>Eustoma grandiflorum</i>	Lisianthus Prairie gentian
104	<i>Aloe vera</i>	Aloe plant	152	<i>Exacum affine</i>	Persian Violet
105	<i>Alstroemeria hybrid cv.</i>	Peruvian Lily	153	<i>Ficus benjamina cv</i>	Benjamin Fig
106	<i>Anemone coronaria</i>	Wind Flower	154	<i>Ficus elastica cv</i>	Rubber Plant
107	<i>Anethum graveolens cv.</i>	Dill	155	<i>Ficus lyrata</i>	Fiddle Leaf Fig
108	<i>Angelonia hybrid cv.</i>	Angelonia	156	<i>Fragaria x ananassa cv.</i>	Strawberry Plant
109	<i>Anthurium x andraeanum cv.</i>	Flamingo Plant	157	<i>Freesia x hybrida</i>	Freesia
110	<i>Antirrhinum majus cv.</i>	Snapdragon	158	<i>Gardenia jasminoides</i>	Gardenia
111	<i>Aphelandra squarrosa cv.</i>	Zebra Plant	159	<i>Gerbera jamesonii</i>	Gerbera Daisy
112	<i>Araucaria heterophylla</i>	Norfolk Island Pine	160	<i>Gladiolus x hortulanus cv.</i>	Gladiolus
113	<i>Asparagus densiflorus</i>	Fox Tail Fern	161	<i>Gomphrena hybrid cv.</i>	Globe Amaranths
114	<i>Aster Amellus</i>	Aster	162	<i>Gypsophila elegans cv.</i>	Baby's Breath
115	<i>Astilbe hybrid cv.</i>	Astilbe	163	<i>Hedera helix cv.</i>	English Ivy
116	<i>Begonia x semperflorens – cultorum</i>	Wax Begonia	164	<i>Helianthus annuus</i>	Sunflower
117	<i>Begonia x tuberhybrida cv.</i>	Tuberous Begonia	165	<i>Hemerocallis cv.</i>	Daylily
118	<i>Caladium x hortulanum cv.</i>	Caladium	166	<i>Hibiscus spp.</i>	Hibiscus
119	<i>Calathea insignis</i>	Rattlesnake plant	167	<i>Hippeastrum hybrid cv.</i>	Amaryllis
120	<i>Calibrachoa hybrid cv.</i>	Million Bells	168	<i>Hosta cv.</i>	Hosta Plantain Lily
121	<i>Callistephus chinensis cv.</i>	China Aster	169	<i>Hoya carnosa</i>	Wax Plant
122	<i>Campanula hybrid cv.</i>	Bell Flower	170	<i>Hyacinthus orientalis cv.</i>	Hyacinth
123	<i>Canna x generalis cv.</i>	Canna	171	<i>Hydrangea macrophylla</i>	Big Leaf Hydrangea
124	<i>Capsicum annuum</i>	Ornamental Pepper	172	<i>Hypoestes phyllostachya</i>	Polka-Dot plant
125	<i>Celosia argentea cv.</i>	Cockscomb	173	<i>Impatiens hawkeri</i>	New Guinea Impatiens
126	<i>Centaurea cyanus</i>	Cornflower, Bachelor's Button	174	<i>Impomoea batatas cv.</i>	Sweet potato vine
127	<i>Chamaedorea elegans</i>	Parlor Palm	175	<i>Iris x xiphium cv.</i>	Dutch Iris
128	<i>Chamelaucium uncinatum</i>	Waxflower	176	<i>Justica brandegeana</i>	Shrimp Plant
129	<i>Cholorophytum comosum cv.</i>	Spider Plant	177	<i>Kalanchoe x blossfeldiana cv.</i>	Kalanchoe
130	<i>Chrysanthemum x morifolium</i>	Chrysanthemum	178	<i>Leucanthemum x superbum</i>	Shasta Daisy
131	<i>Clematis hybrid cv.</i>	Clematis	179	<i>Liatris spicata</i>	Blazing stars
132	<i>Codiaeum variegatum pictum</i>	Croton	180	<i>Lilium hybrid cv.</i>	Asiatic or Oriental Lily
133	<i>Colocasia esculenta</i>	Taro	181	<i>Limonium sinuatum</i>	Statice
134	<i>Cordyline fruticosa</i>	Ti Plant	182	<i>Lobularia maritima</i>	Alyssum
135	<i>Crassula argentea</i>	Jade Plant	183	<i>Mandevilla spp.</i>	Rock Trumpet
136	<i>Cycas revoluta cv.</i>	Sago Palm	184	<i>Maranta leuconeura</i>	Prayer Plant
137	<i>Cyclamen x persicum cv.</i>	Cyclamen	185	<i>Matthiola incana cv.</i>	Stock
138	<i>Cymbidium cv.</i>	Cymbidium Orchid	186	<i>Monstera deliciosa</i>	Split Leaf Philodendron
139	<i>Cymbopogon cv.</i>	Lemongrass (herb)	187	<i>Narcissus hybrid cv.</i>	Daffodil or Narcissus
140	<i>Dahlia hybrid cv.</i>	Dahlia	188	<i>Nephrolepis exaltata cv.</i>	Boston Fern
141	<i>Delosperma</i>	Ice Plant	189	<i>Ocimum basilicum cv.</i>	Basil
142	<i>Delphinium consolida cv.</i>	Larkspur	190	<i>Opuntia cv.</i>	Cactus
143	<i>Dendrobium cv.</i>	Dendrobium Orchid	191	<i>Paeonia cv.</i>	Peony
144	<i>Dianthus caryophyllus cv.</i>	Carnation	192	<i>Paphiopedilum hybrid cv.</i>	Ladyslipper Orchid
145	<i>Dracaena Marginata</i>	Red Edge Dracaena	193	<i>Pelargonium peltatum cv.</i>	Ivy Geranium
146	<i>Echinocactus cv.</i>	Barrel Cactus	194	<i>Pelargonium x hortorum cv.</i>	Zonal Geranium
147	<i>Epipremnum aureum cv.</i>	Golden Pothos	195	<i>Pentas hybrid cv.</i>	Pentas star flower
148	<i>Erica carnea cv.</i>	Winter Heath	196	<i>Peperomia sp.</i>	Peperomia

#	Botanical Name	Common Name
197	<i>Petroselinum crispum</i> cv.	Parsley
198	<i>Petunia x hybrida</i> cv.	Petunia
199	<i>Phalaenopsis</i> cv.	Moth Orchid
200	<i>Philodendron scandens oxycardium</i>	Heartleaf Philodendron
201	<i>Pilea cadierei</i>	Aluminum Plant
202	<i>Portulaca oleracea</i> cv.	Portulaca/ Moss rose
203	<i>Primula malacoides</i> cv.	Primrose
204	<i>Protea</i> sp.	Protea
205	<i>Ranunculus hybrid</i> cv.	Ranunculus/ Buttercups
206	<i>Rhododendron simsii</i> cv.	Azalea
207	<i>Rumohra adiantiformis</i>	Leatherleaf Fern
208	<i>Saintpaulia ionantha</i> cv.	African Violet
209	<i>Salvia splendens</i> cv.	Salvia
210	<i>Sansevieria trifasciata</i> cv.	Snake Plant
211	<i>Schefflera arboricola</i>	Dwarf Schefflera
212	<i>Schlumbergera bridgesii</i>	Christmas Cactus
213	<i>Sempervivum hybrid</i> cv.	Hens and Chicks

#	Botanical Name	Common Name
214	<i>Senecio cineraria</i>	Dusty Miller
215	<i>Senecio rowleyanus</i>	String of Pearls
216	<i>Solenostemon scutellarioides</i>	Coleus
217	<i>Solidago hybrid</i> cv	Solidago
218	<i>Spathiphyllum</i>	Peace Lily
219	<i>Stephanotis floribunda</i>	Stephanotis
220	<i>Strelitzia reginae</i>	Bird of Paradise
221	<i>Syngonium podophyllum</i>	Arrowhead plant
222	<i>Tagetes species</i> cv.	Marigold
223	<i>Tillandsia</i> spp.	Air Plant
224	<i>Tradescantia zebrine</i>	Inch Plant
225	<i>Tulipa</i> cv.	Tulip
226	<i>Verbena hybrid</i> cv.	Verbena
227	<i>Viola x wittrockiana</i> cv.	Pansy
228	<i>Zantedeschia hybrid</i> cv.	Calla Lily
229	<i>Zinnia</i> cv.	Zinnia
230		

Floriculture Equipment and Supply Identification List

301	#100 Ribbon (satin, sheer, wired)
302	#3 Ribbon (satin, sheer, wired)
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

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 Irrigation 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

Floral Arrangement Practicum Rubric

100 POINTS

Name	Member Number	Chapter/State	Team Number
Judge Name	Judge's Signature	Date	

	Excellent	Good	Needs Improvement	Member Score
Arrangement	85			
Category interpretation	4-5 points Design follows given scenario within provided parameters and correlates to the appropriate style, shape and design	2-3 points Design slightly followed given scenario but is somewhat lacking in appropriate style, shape, or design	0-1 points Design does not follow given scenario and/or lacks in following the given style, shape, or design	
Balance	7-10 points Design is both visually and physically balanced	4-6 points Design is slightly off balanced	0-3 points Design is not balanced visually or physically	
Creativity	7-10 points Design expresses advanced creative ability and advanced design techniques	4-6 points Design expresses some creative ability and minimal advanced design techniques	0-3 points Design lacks creative ability and Demonstrates limited design techniques	
Depth	7-10 points Placement of materials at different levels is evenly distributed throughout	4-6 points Placement of materials are somewhat distributed evenly	0-3 points Placement of items are not distributed evenly	
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	
Focal emphasis	7-10 points Design has one area of design that attracts the eye	4-6 points Design somewhat has a clear focal point	0-3 points Design does not have a clear focal point	
Line / Rhythm	7-10 points Design has a clear sense of movement created visually by the placement of floral materials	4-6 points Design has a somewhat clear sense of movement created visually by the placement of floral materials	0-3 points Design has no clear sense of movement created visually by the placement of floral materials	
Mechanics	7-10 points Techniques used to keep floral material secure and stable are hidden or done neatly	4-6 points Techniques used to keep floral material secure and stable are somewhat hidden or done neatly	0-3 points Techniques used to keep floral material secure and stable are not hidden or done neatly	
Scale / Proportion	4-5 points Design is the correct size based on container given	2-3 points Design is slightly out of proportion	0-3 points Design is not in proportion with container given	
Unity	4-5 points All principles of designs are present and executed well	2-3 points Some principles of design are executed well	0-1 points None or few principles of design are executed well	
ITEMIZED LIST OF COSTS	15			
Bill of Sale Completion	4-5 points Bill of Sale is completed entirely with a complete list of all items used and totaled	2-3 points Bill of Sale is not entirely complete or missing some items used in the design	0-1 point Bill of Sale is missing a lot of detail and/or missing several items used in the design	
Individual Pricing and Quantity Used	4-5 points All items used in the design are individually listed with correct individual price and quantity totally accurately	2-3 points Some items added incorrectly, or quantity used listed incorrectly.	0-1 point Significant number of items added or listed incorrectly	
Total Bill of Sale Pricing Accuracy	4-5 points Overall bill is legible with labor calculated correctly, and total price is listed accurately within +/- \$0.50 of \$55.00	2-3 points Overall bill includes minor errors, includes parts that are difficult to read or final price slightly off target goal of \$55.00	0-1 points Overall bill includes major errors, difficult to read, or well off target goal of \$55.00.	
TOTAL SCORE (100 points possible)				

Floral Arrangement Itemized List of Costs

Name	Member Number	Chapter/State	Team Number
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Judge Name	Judge's Signature	Date
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Quantity	Flower/Foliage	Unit Cost	Total
TOTAL FLOWER/FOLIAGE MATERIAL COST			

Quantity	Material Used	Unit Cost	Total
TOTAL HARD GOODS COST			

Total Plant Material Cost	
Total Hard Goods Cost	
Sub Total	
Labor 20%	
TOTAL ARRANGEMENT COST*	

**Participants will be provided the retail price of flowers and foliage that they will use in their arrangement by the event official at the beginning of the practicum. The markup is built into the retail price of the flowers and the foliage used in the arrangement.*

Asexual Plant Propagation Rubric

100 POINTS

Name	Member Number	Chapter/State	Team Number		
Judge Name	Judge's Signature				Date
	Excellent	Good	Needs Improvement		Member Score
Proper sanitation and equipment use	4-5 points Thoroughly covering cutting instrument with a sterile solution	2-3 points Cleaning cutting instrument with solution	0-1 point No sanitation procedures followed or not followed properly	(X2)	
Selection of cuttings	4-5 points Small uniform terminal shoot cuttings	2-3 points Used some cuttings of the same size and type	0-1 point too large, nonterminal shoots, or not uniform in size	(X2)	
Making cuttings	5-6 points Straight, flush even cut of the basal end	3-4 points Some cuttings cut properly and some incorrectly cut	0-2 points basal end cut at angle or damaged	(X2)	
Preparation of cuttings for sticking in growing media	5-6 points Selected/ prepared cuttings that did not require further preparation	3-4 points Selected cuttings that required removal of damaged and/or unneeded foliage	0-2 points left damaged and/or unnecessary foliage on plant	(X2)	
Use of rooting hormone	4-5 points Poured correct amount of rooting hormone into separate container, applied hormone & tapped off excess amount	2-3 points Too much or too little put in separate container, applied correctly but did not tap off extra hormone	0-1 point applied directly from source container and/or did not use rooting hormone	(X2)	
Selection of growing media	5-6 points Select best rooting medium for optimum rooting	3-4 points Select moderate but not best choice for optimum rooting	0-2 points selected incorrect rooting medium	(X2)	
Sticking of cuttings in growing media	5-6 points Creating a dibble in media prior to placing cutting, placing at proper depth, firming media correctly	3-4 points Correctly demonstrated at least 1 or 2 of the correct principles	0-2 points no prior hole made, planted too deep, or left unstable	(X2)	
Cuttings labeled correctly	4-5 points Labeled with date propagated, plant name, and cultivar	2-3 points Labeled with some but not all information required	0-1 point no label present or labeled with incorrect information	(X2)	
Response to questions	5-6 points Answered judges questions correctly	3-4 points Answered some questions correctly	0-2 points Did not or incorrectly answered questions	(X2)	
TOTAL SCORE (100 POINTS POSSIBLE)					

Pinching Plants Rubric

100 POINTS

Name	Member Number	Chapter/State	Team Number
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Judge Name	Judge's Signature	Date
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	Excellent 8-10 points	Good 4-7 points	Needs Improvement 0-3 points		Member Score
Selection of plant part to pinch	Followed given scenario to determine correct pinch	Some pinches were made in incorrect places on plant	Most all pinches were made on incorrect places	(x2)	
Use of proper procedures in making pinches	Used proper tools and/or techniques in making pinches	Used some but not all proper tools and/or techniques in making pinches	Used few or not any of proper tools and/or techniques in making pinches	(x2)	
Made proper pinches	Plant pinched correctly to get desired effect per instructions	Some pinches were too little or too much to get desired effect per instructions	Most or all of plant pinches would not allow the plant to reach desired effect per instructions	(x2)	
Overall effect of making pinches	The plant will reach desired outcome after pinching, no damage to plant parts left after pinch, and pinches correctly done	The plant will have some difficulty achieving desired outcome, some plant parts left have damage, and some pinches not done correctly	The plant will not be able to achieve desired outcome, much damage to plant part left, and most pinches not done correctly	(x2)	
Answered questions correctly	Answered questions correctly	Answered some questions correctly	Did not or incorrectly answered questions	(x2)	
TOTAL SCORE (50 POSSIBLE POINTS)					

Potting of Young Plants Practicum Rubric

100 POINTS

Name	Member Number	Chapter/State	Team Number		
Judge Name	Judge's Signature		Date		
	Excellent	Good	Needs Improvement		Member Score
Potting Process					
Selection of plugs or liners	5-6 points Plugs/liners are uniform in size and shape, correct number selected based on pot size provided	3-4 points Plugs/liners are somewhat uniform in size and shape, just slightly off in selecting the correct number	0-2 points Plugs/liners are not uniform in size and shape, correct number not selected based on pot size provided	(x2)	
Proper planting depth	5-6 points Hole is made prior to placing plant in soil, the entire root system is covered, leaving proper stem length visible	3-6 points minor amount of roots are showing, planted slightly too deep	0-2 points A large amount of roots are showing or plant stem is covered with soil	(x2)	
Labeling of plant/pot	5-6 points Labeled with date planted, plant name, and cultivar	3-4 points Labeled with some but not all information required	0-2 points no label present or labeled with incorrect information	(x2)	
Correct growing medium level in pot	5-6 points Growing media is filled to the inner lip of the pot, leaving enough room to water the plant	3-4 points Growing media is filled slightly too high or too low	0-2 points Growing media is left very low or completely fills up the pot	(x2)	
Plug or liner arrangement and angle	5-6 points Plugs/Liners evenly spaced for pot size given and plugs/liners planted in upright position	3-4 points plugs/liners planted slightly too close or too far apart, planting slightly tilting	0-2 points Plugs/liners not spaced corrected and not planted upright	(x2)	
Firmness of growing medium	5-6 points After planting, growing media is tapped/ pressed firmly around each plant leaving the plant upright	3-4 points Growing media is left slightly loose or left slightly too firm restricting plant growth	0-2 points Growing media is not firmed after planting or left entirely too firm restricting plant growth	(x2)	
General appearance (free from handling damage)	5-6 points Final product presented to the judge with plants upright, pot clean, and in sellable condition	3-4 points Final product presented to the judge in slightly sellable condition	0-2 points Final product presented to judge in non-sellable condition	(x2)	
Response to questions	5-6 points Answered questions correctly	3-4 points Answered some questions correctly	0-2 points Did not or incorrectly answered questions	(x2)	
TOTAL (100 POINTS POSSIBLE)					

One-on-One Practicum Rubric

75 POINTS

Name	Member Number	Chapter/State	Team Number	
Judge 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 options	
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)				

Making a Mixed Combination Planter Rubric

75 POINTS

Name	Member Number	Chapter/State	Team Number	
Judge 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	0-2 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 non-sellable 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. Sheet also includes errors on quantity used or totaled incorrectly	0-3 points Price sheet is incomplete and/or totaled inaccurately	
TOTAL SCORE (75 POINTS POSSIBLE)				

Mixed Combination Planter Itemized List of Costs

Name	Member Number	Chapter/State	Team Number
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Judge Name	Judge's Signature	Date
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Quantity	Plant Material	Unit Cost	Total
TOTAL FLOWER/FOLIAGE MATERIAL COST			

Quantity	Material Used	Unit Cost	Total
TOTAL HARD GOODS COST			

Total Plant Material Cost			
Total Hard Goods Cost			
<i>Sub Total</i>			
TOTAL MIXED PLANTER COST			

Date _____

Making and Packing a Body Flower Piece Rubric

75 POINTS

Name	Member Number	Chapter/State	Team Number	
Judge 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 points 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)				

Body Flower Piece Itemized List of Costs

Name	Member Number	Chapter/State	Team Number
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Judge Name	Judge's Signature	Date
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Quantity	Flower/Foliage Used	Unit Cost	Total
TOTAL FLOWER/FOLIAGE MATERIAL COST			

Quantity	Material Used	Unit Cost	Total
TOTAL HARD GOODS COST			

Total Flower/Foliage Material Cost

Total Hard Goods Cost

Subtotal

Labor 20 %

TOTAL CORSAGE COST

Disorder Practicum Scorecard

75 POINTS

Name **Member Number** **Chapter/State** **Team Number**

		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	
	Cultural/Biological Control #:		1	

		Member Answer	Possible Points	Member Score
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 POINTS			75	

CLASSIFICATION

- 1 Diseases
- 2 Insects/Pests /Mites
- 3 Nutritional/Environmental

IDENTIFICATION

- 01 Aphids
- 02 Black Leaf Spot
- 03 Botrytis – Grey Mold
- 04 Cold Temperature (freeze)
- 05 Cold Water Damage
- 06 Damping-off
- 07 Downy Mildew
- 08 Ethylene Damage
- 09 Fungus Gnats
- 10 Insufficient Watering
- 11 Iron Deficiency
- 12 Leaf Miner
- 13 Leafhopper
- 14 Mealybugs
- 15 Nitrogen Deficiency
- 16 Phosphorus Deficiency
- 17 Powdery Mildew
- 18 Root Rot
- 19 Rust
- 20 Scale
- 21 Shore Flies
- 22 Snails/ Slugs
- 23 Spider Mites
- 24 Stem Rot
- 25 Thrips
- 26 Tospovirus (INSV and TSWV)
- 27 Whiteflies

CHEMICAL CONTROL

- 1 Fungicide
- 2 Insecticide
- 3 Miticide
- 4 Mulluscicide
- 5 No Treatment Listed

CULTURAL CONTROL

- 1 Apply Complete Fertilizer
- 2 Correct/Adjust Temperature
- 3 Correct/Adjust Watering
- 4 Ladybird Beetles
- 5 Nematodes
- 6 Parasitic Wasps
- 7 Predatory Mites
- 8 Reduce Relative Humidity
- 9 No Treatment Listed

Media Selling Practicum Rubric

75 POINTS

Name	Member Number	Chapter/State	Team Number	
Judge Name	Judge's Signature		Date	
		Excellent	Good	
		Needs Improvement	Member Score	
Identified and appealed 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	
TOTAL SCORE (75 possible points)				

Team Activity Rubric

800 POINTS

Name	Member Number	Chapter/State	Team Number
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Judge Name	Judge's Signature	Date
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Indicator	Very strong evidence of skill 5-4 points	Moderate evidence of skill 3-2 points	Weak evidence of skill 1-0 points	Points Earned	Weight	Total Score
Preparation						525
Established team leadership role	One member seemed to assume leadership and others cooperated.	One member seemed to assume leadership.	No leadership role(s) were established.		X 10	
Member participation in planning activity	All members participated in discussion, shared ideas, and developed a plan of action to accomplish the assigned task.	Limited member discussion occurred before work began.	No member discussion occurred before work began.		X 25	
Developed a workable plan to reach team project goal	Duties were assigned to all team members, and responsibilities were equally assigned. Input was given by entire team.	Duties were assigned and all had near equal parts. Most of the team provided input to the plan.	Duties were not clearly assigned, and participation varied. At least one team member did not contribute to the plan.		X 25	
Teamwork displayed during the entire planning process	Team members worked together the entire time to complete the assigned task and were supportive of each other.	Two or three team members worked together to complete the assigned task.	Two member or less worked together to complete the assigned tasks.		X 15	
Technical Value/ Correct Information/ Realistic Plan created	Ideas discussed are creative, include accurate information, and realistic for the size and scope of the chapter	Ideas discussed lack creativity but are accurate and realistic	Ideas discussed are not realistic but include some errors.		X 15	
Plan outlined to complete assigned task and present a sellable proposal or final product	Clearly defined plan is developed with input from all members; team members have a clear understanding of responsibilities during presentation	Vaguely defined plan is created, and presentation is discussed but not clearly laid out	Little or not thought to final plan and/ or plan proposal.		X15	
Team Presentation Portion of the Team Activity						275
Member participation during presentation	All members participated, listened to the presenter and team leadership was provided.	All members participated but there was no clear leadership or interaction between members.	One or more members had almost no participation.		X 20	
Quality/ completion of assigned tasks	All team members displayed enthusiasm about the final product and were positive about the proposed solution.	All team members share ideas, but 1-2 tasks are left unaddressed or not up to industry standards.	Not all team members participated and/or more than 2 tasks were left incomplete.		X 35	
TOTAL POINTS (800 possible points)						