FLOWER CARE AND HANDLING

1. Vase life refers to the length of time that flowers remain beautiful and usable.
2. Care and handling refers to all procedures that are done to help cut flowers and foliage last longer.
3. The typical reason cut flowers wilt and die prematurely is because they are unable to absorb water. This happens when the flower stems become plugged or blocked due to:
   a. healing from an earlier cut
   b. bacteria and microorganisms have developed at the base of the stem
   c. air has been drawn into the stems at the time of cutting
   d. stems are compressed due to cutting with improper tools or dull tools
4. The quality of water is an important consideration that can increase the vase life of cut flowers.
5. When processing flowers, a new cut of 1 to 3 inches above the end of the stem opens up the water-conducting vessels of the xylem, allowing the stems to drink in water and become hydrated and turgid (firm).
6. When re-cutting flower stems, use clean, sharp, quality tools. Blunt knives and dull flower cutters cause stem damage and can lead to the rapid growth of micro-organisms on the stem end and in the vase water.
7. Excess foliage that will be below the water level should be removed from the stems. If left on the stem, the soggy foliage decomposes, increasing the growth of bacteria and the production of ethylene gas.
8. Commercial floral preservatives, also known as fresh flower food, help maintain the quality and vase life of flowers and foliage. Three primary components of preservatives are sugars (carbohydrates to nourish), biocide (inhibits the growth of microorganisms), and acidifiers (lowers pH levels). Aquaplus and Floralife are two brands of commercial floral preservatives.
9. Proper refrigeration is essential for increasing the overall storage and vase life of cut flowers and foliage. The three main functions of refrigerated storage for fresh flowers are:
   a. to reduce the rate of respiration
   b. to reduce water loss or transpiration
   c. reduce the rate of bacterial growth and ethylene production action
10. The optimal temperature range for storing cut flowers, except tropicals, is 38 – 42 °F.
11. The optimal temperature for storing cut tropical flowers is 50 °F.
12. When processing fresh flowers, you should always re-cut the stems on an angle before placing them in water. Never pound or shred the stems because it damages the water conducting vessels. Some reasons for cutting the stem at an angle include:
   a. an angled stem is easier to insert into an arrangement
   b. the angled cut creates a larger area for the stem to absorb water
   c. the stem will not be able to sit flat on the bottom of a container and therefore inhibit the uptake of water
13. Carnation grades:
   a. standard - least expensive
   b. fancy - mid-grade
   c. select - top grade and most expensive
14. One factor that affects the price of wholesale roses is stem length.
15. Gardenias are always sold commercially in a box containing three blooms.
16. The majority of cut orchids are imported. Thailand is the primary source.
17. An anti-transpirant is a spray or dip that protects the surface of a flower or leaf and minimizes water loss or transpiration.
18. Standard roses are usually sold in 25 stem bunches. Spray roses are usually sold in 10 stem bunches.
19. Standard carnations are sold in 25 stem bunches. Mini-carnations are sold in 10 stem bunches.
20. Dendrobium orchids are sold in a 10 stem bunch and always shipped in water tubes.
21. Standard roses have one head per stem. Sweetheart roses have one head per stem, but are smaller than standard roses. Spray roses are multiple small rose heads on a single stem.
22. Many foliages and accent (filler) flowers are sold in a "grower bunch" which does not have a specific number of stems.
23. Stephanotis blooms are commonly used in wedding work, and are sold in a box containing 25 blooms.
24. Fresh flowers and foliages are considered to be perishable items.
25. A hydrating solution restores flowers to a visibly turgid (firm) condition by speeding up water uptake. Quick Dip is an example of a hydrating solution. It is frequently used during flower processing to re-hydrate stems that have been dry packed.
MECHANICS/HARD GOODS

1. Floral foam must be fully soaked before flowers can be inserted. Do not force floral foam downward into water, as this can trap air pockets within the foam.
2. A floral foam brick holds about two quarts of water. Once soaked, the foam becomes heavy.
3. Styrofoam may be used for dried and silk arrangements as well as specialty fresh pieces for funerals.
4. Common ribbon sizes are #3, #9, and #40. The higher the number, the wider the ribbon. The lower the number, the narrower the ribbon.
5. Wire is given a gauge number according to its diameter or thickness. The lower the number, the thicker the wire. As the number increases, the wire becomes thinner. The most common floral wire gauges range from very thick #16 to very thin #30.
6. Two methods of securing floral foam into a container are by gluing and by taping. When using pan glue, make sure the foam is dry when gluing. Never place soaked foam into a hot glue pan.
7. Wood picks are useful in floral design because they absorb water when inserted into wet foam.
8. Waterproof tape, also called anchor tape, is pressure sensitive tape used for securing wet foam to containers. Clear tape is generally used to make design grids at the top of vases and containers for the arrangement of flowers.
9. Some examples of hard goods are wire, tape, corsage and boutonniere pins, bouquet holders, wood picks, glass vases, glue, floral foam, and ribbon.
10. Floral tape is a paraffin-coated paper used to wrap fresh stems, wrap wire, bind materials, construct corsages and boutonnieres, and many other floral items, including bridal bouquets.
11. Water tubes are made to keep cut flower stems hydrated while they are shipped, wrapped, boxed, or used in various design situations.
12. Plastic cages and spray bars are available to hold saturated floral foam for easel designs.
13. “Silk” or artificial flowers and foliages are referred to as “permanent botanicals”.
14. A unity candle is commonly used in a wedding ceremony.
15. An aisle runner is commonly used in a wedding.
16. Script is often attached to ribbon on sympathy tributes.
COLOR

1. The standard color wheel has twelve colors, including primary, secondary, and tertiary colors.
   a. **Primary colors** - red, blue, and yellow. From these, all colors can be made.
   b. **Secondary colors** - orange, green, violet. These colors are made from the combination of two primary colors.
   c. **Tertiary colors** - red-orange, yellow-green, and blue-violet. These colors are created by mixing a primary color with an adjacent secondary color on the color wheel.

2. **Monochromatic** - colors that are in the same group. Color plus the addition of black, white or gray. Example: red, pink, and maroon.

3. **Analogous** - colors that are side by side on the color wheel. Example: green, green-blue, blue.

4. **Complimentary** - colors that are opposite on the color wheel. Example: red and green or blue and orange.

5. **Shade** - a color with black added to it. Example: red, maroon

6. **Tint** - a color with white added. Example: red, pink

7. **Hue** - a color with the addition of gray. Example: Pink, dusty rose

DESIGN

1. The four flower shapes are:
   a. **Line flowers** - are so named simply for their linear shape. Examples: larkspur, liatris, gladiolus, snapdragon
   b. **Form flowers** - are so named because they have distinctive forms or shapes that are interesting. Examples: bird of paradise, ginger, anthurium, lilies
   c. **Mass flowers** - are so named because their purpose is to add mass to an arrangement. Examples: rose, carnation, spider mum, Gerbera daisy
   d. **Filler flowers** - also called "accent flowers" are used in a design to fill in empty spaces, add accent, and complete a design. Examples: baby's breath, statice, wax flower

2. "Body flowers" or "flowers to wear" include: corsages, boutonnieres, head wreaths (also called a chaplets), and leis.

3. Basic styles of wedding bouquets include:
   a. colonial (or round) bouquet
   b. cascade bouquet
   c. crescent bouquet
4. A toss bouquet is for the bride to throw to the unmarried women at her reception. This bouquet is tossed instead of her bridal bouquet.
5. Set pieces are sympathy designs, also known as floral tributes, that are designed in special shapes, such as crosses, wreaths, hearts, and pillows.
6. Plants and dish gardens are popular sympathy tributes. Dish gardens are created by planting small, low-growing plants together in a shallow container to form a miniature landscape.
7. Easel sprays and fireside baskets are traditional floral tributes.
8. Flower arranging is an art. Ikebana is the art of Japanese flower arranging.
9. The basic shapes of floral arrangements are triangular, round (or circular), vertical, and horizontal.
   a. The triangular design has three distinct sides and three corners or angles. It is generally one-sided, normally viewed on just one side.
   b. The round design is also called circular, round mound, roundy-moundy. This arrangement appears the same on all sides and has no front or back.
   c. The vertical design is a floral arrangement that is taller than it is wide, often used where display space is limited. The height is exaggerated.
   d. A horizontal design floral arrangement has a strong long and low line emphasis, parallel with the tabletop, often used as a centerpiece.
10. An all-sided floral design is to be viewed from all sides.
11. A one-sided floral design has a front, and is intended to be viewed from one side.
12. The focal point in an arrangement is the center of attraction, usually within the focal area; often highlighted with a distinctive flower or an accessory item.
13. Flowers are imported into the United States from many different countries. Some countries that flowers are often imported from are South America, Costa Rica, Thailand, and Holland.
INDUSTRY INFORMATION

1. The three current major floral wire services are:
   a. FTD
   b. Teleflora
   c. 1-800 Flowers
2. Florists frequently purchase flowers, foliages and supplies from floral wholesalers.
3. Floral wholesalers will stage design shows for professional floral designers, and students are welcome. These design shows are usually free or at minimal cost.
4. *Florist Review, Professional Floral Designer, and Flowers &* are examples of professional florist magazines.
5. The Illinois State Florists Association is a trade association and offers many opportunities for participating in educational programs. Hands-on classes are available throughout the year and at the Spring Conference held each March, along with several grant contests.
6. The American Institute of Floral Designers (AIFD) is the floral industry’s premier organization that accredits floral design as a profession. AIFD accredited members are in the forefront of the industry, designing flowers for such renowned events as the Tournament of Roses Parade, Academy Awards and Presidential Inaugurations.
7. A freelance floral designer is a designer who works as needed. They frequently add to the staff of a shop during peak periods such as Valentine’s Day, Mother’s Day, wedding season, and Christmas season.
Pricing

There are many different formulas that floral shops and other floral business use to calculate the retail price of floral arrangements. No matter what method is used to calculate pricing, the retail price of a finished product will always include profit, the wholesale cost of the hard goods used, wholesale cost of fresh product used, labor cost, and the overhead expenses of the business.

Some of the overhead expenses of a business include: rent or building mortgage, phone and internet, gas, electricity, and advertising.

A “mark-up” is a method of calculation used to determine the retail price of an arrangement that includes all of the appropriate costs and expenses used to create the arrangement, as well as the profit.

Sometimes retail businesses may round the calculated retail amount to the nearest 50 cents or nearest dollar, but for the purposes of this competition, the retail amount will be the final calculation. For example: $26.93 will be the final retail price, not $26.95 nor $27.00.

For the purpose of this study guide and the multiple choice competition test, the following formula is to be used.

\[ F + H = S; \ S \times P = L; \ L + S = R \]

Always round to the nearest cent as each step is calculated.

- **F** is the total of all fresh product added together at retail price
- **H** is the total of all hard goods added together at retail price
- **S** is the subtotal of **F + H**
- **P** is the rate of labor (percentage)
- **L** is the cost of labor
- **R** is the retail price of the arrangement

*This same method of calculation is used for corsages and centerpieces, however, the rate of labor for corsages is 50% and the rate of labor for centerpieces is 20%*
Step 1 - calculate the subtotal
\( F \) (total of all fresh product added together at retail price) + \( H \) (the total of all hard goods added together at retail price) = \( S \) (the subtotal of \( F + H \))

Step 2 - calculate the cost of labor
\( S \) (the subtotal of \( F + H \)) \times \( P \) (the rate of labor [percentage]) results in \( L \) (the cost of labor)

Step 3 - calculate the retail price of the arrangement
\( L \) (the cost of labor) + \( S \) (the subtotal of \( F + H \)) = \( R \) (the retail price of the arrangement)

Example: A floral arrangement is made using

Fresh product
5 stems Yellow Roses
1 stem Baby’s Breath
4 stems Yellow Standard Carnations
6 stems Leatherleaf Fern

Hard Goods
1 6” Design Dish
1/3 Brick of Floral Foam
1 foot Waterproof Tape

1. Multiply the Quantity of Product by the Wholesale Cost to calculate a Wholesale Cost of Product Used. 5 roses x .95 = $4.75

2. Next multiply the Wholesale Cost of Product Used by the Mark-up to calculate the Retail Price of Product Used. $4.75 x 3 = $14.25.
   Continue the same method with baby's breath: 1 stem baby's breath x $.75 = $.75.
   $.75 x 3 = $2.25
   Continue the same method with standard yellow carnations: 4 x $.45 = $1.80.
   $1.80 x 3 = $5.40.
   Continue the same method with leatherleaf fern: 6 x $.09 = $.54. $.54 x 3 = $1.62
3. Add together all totals of Retail Price of Fresh Product Used to find the Total Retail Fresh Product Used \( F \), which is $23.52.
   Use the same method in calculating hard goods, but use a 2.5 Mark-up

4. Multiply the Quantity of Product by the Wholesale Cost to calculate a Wholesale Cost of Hard Goods Used. 1 dish at $.80

5. Next multiply the Wholesale Cost of Hard Goods Used by the Mark-up to calculate the Retail Price of Hard Goods Used. $.80 x 2.5 = $2.00
   Continue the same method for floral foam: 1/3 block of floral foam .34 x 2.5 = $.85.
   Continue the same method with waterproof tape: 1 foot $.10 x 2.5 = $.25.

6. Add together all totals of the Retail Price of Hard Goods Used to find the Total Retail Hard Goods Used \( H \), which is 3.10

7. Add Total Retail Fresh Product Used \( F \), which is $23.52 and Total Retail Hard Goods Used \( H \), which is 3.10, to find \( S \) $26.62

8. Multiply the Subtotal \( S \) $26.62 x 20% labor (.20), which is \( L \) $5.32 rounded to the nearest cent. Add \( S \) $26.62 and \( L \) $5.32, which results in Retail Price of this centerpiece \( R \) $31.94
### Rate of Labor for centerpiece = 20%

<table>
<thead>
<tr>
<th>Fresh Flowers and Foliage</th>
<th>Centerpiece</th>
<th></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Product description</strong></td>
<td><strong>Quantity of product</strong></td>
<td><strong>Wholesale cost</strong></td>
<td><strong>Wholesale cost of product used</strong></td>
<td><strong>Mark-up</strong></td>
<td><strong>Retail price of fresh product used</strong></td>
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<tr>
<td>Standard Yellow Rose</td>
<td>5</td>
<td>.95 per stem</td>
<td>4.75</td>
<td>3 x</td>
<td>14.25</td>
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<tr>
<td>Baby’s breath</td>
<td>1 stem</td>
<td>.75 per stem</td>
<td>.75</td>
<td>3 x</td>
<td>2.25</td>
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<tr>
<td>Standard Yellow Carnation</td>
<td>4</td>
<td>.45 per stem</td>
<td>1.80</td>
<td>3 x</td>
<td>5.40</td>
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<tr>
<td>Leatherleaf fern</td>
<td>6 stems</td>
<td>.09 per stem</td>
<td>.54</td>
<td>3 x</td>
<td>1.62</td>
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**Retail Fresh Product Used**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>F</td>
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<table>
<thead>
<tr>
<th>Hard Goods</th>
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</thead>
<tbody>
<tr>
<td><strong>Product description</strong></td>
<td><strong>Quantity of product</strong></td>
<td><strong>Wholesale cost</strong></td>
<td><strong>Wholesale cost of product used</strong></td>
<td><strong>Mark-up</strong></td>
<td><strong>Retail price of hard goods used</strong></td>
</tr>
<tr>
<td>Design dish</td>
<td>1 dish</td>
<td>.80 per dish</td>
<td>.80</td>
<td>2.5 x</td>
<td>2.00</td>
</tr>
<tr>
<td>Floral foam</td>
<td>1/3 brick</td>
<td>.34 per 1/3 brick</td>
<td>.34</td>
<td>2.5 x</td>
<td>.85</td>
</tr>
<tr>
<td>Waterproof tape</td>
<td>1 foot</td>
<td>.10 per foot</td>
<td>.10</td>
<td>2.5</td>
<td>.25</td>
</tr>
</tbody>
</table>

**Retail Hard Goods Used**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>3.10</td>
</tr>
</tbody>
</table>

Subtotal of Retail Fresh Product + Retail Hard Goods = **$26.62** (S)

Labor cost = **$5.32** (L)

$23.83 (F) + $3.10 (H) = $26.62 (S)

$26.62 (S) x .20 (P) = $5.32 rounded (L)

$5.32 (L) + $26.62 (S) = $31.94 (R)

The Retail Price for this centerpiece is **$31.94**
**Rate of Labor for corsage = 50%**

<table>
<thead>
<tr>
<th>Fresh Flowers and Foliage</th>
<th>Corsage</th>
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<tr>
<td><strong>Product description</strong></td>
<td><strong>Quantity of product</strong></td>
</tr>
<tr>
<td>Pink Miniature Carnation blooms</td>
<td>6</td>
</tr>
<tr>
<td>Waxflower</td>
<td>1/2 stem</td>
</tr>
<tr>
<td>Leatherleaf fern</td>
<td>1 stem</td>
</tr>
</tbody>
</table>

**Retail Fresh Product Used**

| **Total** | **F 7.02** |

<table>
<thead>
<tr>
<th><strong>Hard Goods</strong></th>
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</thead>
<tbody>
<tr>
<td><strong>Product description</strong></td>
</tr>
<tr>
<td>#3 ribbon</td>
</tr>
<tr>
<td>24 gauge wire</td>
</tr>
<tr>
<td>Floral tape</td>
</tr>
</tbody>
</table>

**Retail Hard Goods Used**

| **Total** | **H 2.13** |

Subtotal of Retail Fresh Product + Retail Hard Goods = **$9.15** (S)

Labor cost = **$4.58** (L)

$7.02 (F) + $2.13 (H) = $9.15 (S)

$9.15 (S) x .50 (P) = $4.58 rounded up (L)

$4.58 (L) + $9.15 (S) = $13.73 (R)

The Retail Price for this corsage is **$13.73**
This portion of the Study Guide is only a **partial list** of the basic design techniques that may be included on the multiple choice test as well as the corsage construction portion of the competition. It is designed as a general guide for beginning design students. This guide is **not** intended to be all inclusive.

1. Floral tape should be smooth and tight when wrapped around wires and stems.
2. Wiring and taping flowers and leaves replaces most of the natural stems. Wire allows more freedom and flexibility to design, and removes the weight and bulk of a natural stem.
3. When finishing corsages and boutonnieres, cut wire should not be exposed. The cut wire ends should be covered smoothly with floral tape.
4. Finished corsages should be balanced, light weight, and properly constructed using the appropriate wiring and taping methods.
5. A focal area is often established with a bow or focal flower.
6. **Pierce wiring method** - popular wiring method for flowers with a visible calyx such as miniature roses and carnations.
7. **Hook wiring** - this method of wiring is used for flowers with flattened heads lacking a visible calyx such as daisies, chrysanthemums, and asters.
8. **Clutch Wiring or Wrap-around wiring** - filler flowers and small clusters of mass flowers are often wired using this method.
9. **Cross-wiring** - cymbidium orchids and gardenias are often wired using this method.
10. **Stitch wiring** - individual broad-leaf foliage such as camellia, ivy, pittosporum, and salal are wired with this method to lengthen stems and provide support. Only a wire "stitch" is visible on the right side of the leaf, while the two lengths of the wire are parallel on the back side of the leaf.