# ANGIOSPERM ANATOMY PROJECT

**Plant Biology (SC/BIOL 2010.04)**

## *Information:*

- Bring a flowering plant (angiosperm) during your lab session for the Angiosperm Anatomy Project. It's a good idea to purchase 2 plants (the same flowering plant) so you don't have to worry about it dying after week 1.

- Bring your dissecting kit for the Angiosperm Anatomy Project labs.

- Bring your textbook to help you identify and label the parts of your flowering plant.

- You must attend the same lab for each project. So if you attend a Monday lab, next week you must attend the same Monday lab. You are not allowed to attend a different lab.

- You are responsible for watering the plant during the 2 weeks of the Angiosperm Anatomy Project.

- The flowering plant should include leaves, stem, roots etc...not just the flower.

- The flowering plant should be in bloom (i.e. has a flower).

- Know the species name of the plant before you buy it. At least one person in the past has thought it was one species (because the person who sold it said so) when in fact it was another.

- Literature search is appropriate (scientific publication) not the Internet or a handout at the local nursery.

- Do literature search on the flowering plant before purchasing it because there may be a lack of information on the flowering plant's ecology and evolution.

- These are examples of flowering plants that may be available for your angiosperm project. The maximum number of the same flowering plants (e.g. S*aintpaula*, African Violet) per each lab is 2. So make sure you sign up for your flowering plant with your TA.

# ANGIOSPERM ANATOMY PROJECT

## *Examples of flowering plants:*

| Scientific name | Common Name |
|---|---|
| *Saintpaula* | African Violet |
| *Hepatica acutiloba* | Liverleaf |
| *Chrysogonum virginianium* | Goldstar |
| *Primula denticulata* | Primrose |
| *Tulipa sp.* | Tulip |
| *Cyclamen persicum* | Cyclamen |
| *Gerbera jamesoni* | African daisy |
| *Begoinia schmidtiana* | Begonia |
| *Hyacinthus orientallis* | Hyacinth |
| *Rananculus asiaticus* | Turban buttercup |
| *Crocus vernus* | Crocus |
| *Oxalis acetosella* | Irish shamrock or wood sorel |
| *Dianthus caryophyllus* | Carnation |
| *Dionaea muscipula* | Venus's Fly Trap |
| *Primula acaulis* | Primose |
| *Rhododendron* | Azalea |
| *Rosa odorata* | Parade rose |
| *Anemone sylvestris* | Windflower |
| *Erodium reichardii* | Bishop's form |
| *Doronicum cordatum* | Leopard's Bane |
| *Heuchera sanguinea* | Coralbells |
| *Iberis sempervireus* | Candytuft |
| *Helichrysum thianscharizum* | Strawflower |
| *Omphalodes verna* | Blue-eyed mary |

# ANGIOSPERM ANATOMY PROJECT

## *Marking Scheme:*

Your write up should be in the form of an accurate and concise account of the anatomy of your entire plant, accompanied by your own illustrations. An explicit discussion of the function of each part of the plant and an indication of specific structural adaptations to the environment (i.e. its evolution and ecology) should follow. You need not follow the classical style of most lab reports but you should include a very brief introduction and an outline of your methods and results section that includes your interpretation of your results. You will be given an overall mark for the quality of your illustrations and the accuracy, detail, logic, and understanding of your text. You should reference any books that you use to a) identify your plant and b) to learn about its evolution and ecology. Please staple your notes and sketches made during your lab session to the back of your report which will be due one week later.

### *Introduction*

- 2 marks
- Max. 1 ½ page
- Background information.
- Purpose and objective of the lab.

### *Material and Methods*

- 1 mark
- Max. 1 page
- Short, brief paragraph, not point form, must in past tense.

### *Results*

- 3 marks
- Max. 2 page excluding diagrams/figures.
- Paragraph describing results obtained.
- Draw diagrams of your flower and its pollen.
- Identify the various structural parts (anthers, stigmas etc.).

### *Discussion*

- 3 marks
- Discuss the function of each part of the plant and an indication of specific structural adaptations to the environment (i.e. its evolution and ecology
- Discuss how pollination might be affected, and what features of the flower or the appearance of the pollen grains support your conclusions.

### *References*

- 1 mark
- More than the lab manual

**TOTAL 10 MARKS**