**Lecture Learning Outcomes and Objectives**

**Week 6: SEED PLANTS**

*Given 2 hours of discussion and assigned reading on the subject, upon an examination and within 70% accuracy, the student should be able to:*

**Evolution of Seed Plants: Full Adaptation to Land**

1. Define a seed and explain how a seed plant life cycle differs from that of a seedless vascular plant.
2. Name and describe the significant difference between the two major types of seed plants.
3. Name, describe and compare gymnosperms and angiosperms
4. Name the two major types of flowering plants and state their differences.
5. List and describe five differences between monocots and eudicots.
6. Explain a diagram of the pine and flowering plant life cycles, pointing out significant events.

**Organs of Flowering Plants**

1. Contrast the general structure and function of roots, stems, and leaves.

**Organization and Diversity of Roots, Stems and Leaves**

1. Describe the various adaptations that lead to stem diversity.
2. Describe the various adaptations that lead to leaf diversity.
3. Describe the various adaptations and associations that lead to root diversity.

**Flowering Plants Reproductive Strategies**

1. Describe the parts of a flower and their functions; explain how pollinators contributed to the diversification of flowers.
2. Describe different types of flowers and fruits

**Seed Development**

1. Understand the seed function, its structure, dormancy and germination
2. Understand the terms spermatophytes, seed, gymnosperm, angiosperm, androecium, gynoecium carpel, cone, conifer, evergreen, dormancy, flower, fruit, megaspore, microspore, ovary, ovule, petal, sepals, pollen tube, pollination, pollen grain, germination, pollinator, stamen, stigma, stomata, style, vernalization, scarification, tuber, stolon, rhizome, corm, bulb, nodules, ecto- and endo-mycorhizzae