1. Acquire and demonstrate foundational understanding of the basic properties of plant life from the subcellular to the ecosystem level of organization.

2. Acquire and demonstrate basic understanding in chemistry, physics, and mathematics to interpret biological phenomena.

3. Acquire and demonstrate detailed knowledge in at least five of these core areas of plant biology: Genetics, Physiology, Structural biology, Ecology, Systematics, Evolution, Cryptogamic biology.

4. Explore these core areas in the context of the laboratory and/or the field.

5. Engage in plant biology research (to include algae, photosynthetic bacteria, and fungi): develop hypotheses, acquire scientific information, and interpret results in the context of the historical scientific literature in one or more specialized botanical subdisciplines.

6. Develop an appreciation of communicating scientific information, especially in written form.