

Plant Diversity Proficiency

Department of Botany

Approved by the Department of Botany 13 November 2012

Background

The Department of Botany requires that each student demonstrate proficiency in a number of topics. One of these is "Plant Diversity." This is unofficially called the "BOT 201" proficiency since the requirement is modeled after the content of this course.

Many graduate students who have not earned an undergraduate degree from the University of Hawai'i at Manoa, Department of Botany, will not have had a course that corresponds to the full intent of this proficiency. However, such students are likely to have satisfied at least part of this proficiency.

The following guidelines are provided to students and committees on how this proficiency can be fully satisfied.

Guidelines

A student does *not* need to register for BOT 201, but *does* need to show proficiency in the evolutionary diversity of algae, fungi, and terrestrial plants.

Proficiency can be demonstrated in several ways:

- Establishing that equivalent content was part of previous taken courses.
- Enrolling in BOT 201 and taking the BOT 201 exams.
- Sitting in on parts of BOT 201 to fill in missing topics and taking the BOT 201 exams.
- Independently reading up on the missing topics and taking the BOT 201 exams that cover these topics.

It is recommended, although not required, that students also attend the lab sessions for BOT 201.

Hints for Independent Study

The following list corresponds to the current lecture topics from the BOT 201 course.

Plant Evolutionary Diversity Topics

Fungi Section

- Introduction to Fungi, Protista (Heterokontophyta): Oomycota, Protista (Amoebozoans) Myxomycota, Flagellated fungi: Chytridiomycota
- Flagellated fungi: Chytridiomycota
- Zygomycota
- Ascomycota, introduction, and yeast & yeast-like fungi
- Ascomycota, filamentous ascomycetes
- Basidiomycota
- Deuteromycota (A “Form Phylum”)
- Symbiotic relationships with fungi as partners

Algae Section

- Eubacteria: Cyanobacteria
- Plantae: Chlorophyta
- Plantae: Rhodophyta
- Protista (Heterokontophyta): Phaeophyceae
- Protista (Heterokontophyta): Bacillariophyceae
- Protista: Dinophyta
- Algal symbioses, Economic Aspects of Phycology, Algae in Unusual Habitats
- Origin of Land Plants

Viridae Plantae Section

- Anthophyta (Cells Tissues & Organs)
- Anthophyta (Cells Tissues & Organs) Sporophytes, Gametophytes, Gametangia & Sporangia
- Anthocerophyta & Hepatophyta
- Bryophyta
- Psilophyta - Lycopphyta (Lycopodiales)
- Pterophyta
- Lycopphyta (Selaginellales) - Coniferophyta (Sexual Reproduction)
- Coniferophyta (Vegetative Growth) Anthophyta (Primary -> Secondary Growth)
- Anthophyta (Introduction & Vegetative Anatomy)
- Anthophyta (Sexual Reproduction)

A good source to use when preparing for these topics is the latest version of Raven, Evert, and Eichhorn, *Biology of Plants*, W. H. Freeman, currently titled “*Raven Biology of Plants*” in its 8th edition.