

**SUL ROSS STATE UNIVERSITY - PLANT MORPHOLOGY - 4408 & 5407 - FALL SEMESTER
2014**

Professor: Jim Zech
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 Office Hours: By appointment or T: 9:00-11:00 A.M.; 1:00-1:50 P.M.; MWF: 10:00-10:50 A.M.
 Time and Place: Lecture: MWF: 11:00 - 11:50 A.M.; 101 WSB; Lab: M: 1:00 - 3:00 P.M.; 206 WSB

Text: Morph and Evol of Vasc Plts, Gifford and Foster, 3rd Ed - Optional
 Various Papers: Not Optional

TENTATIVE CLASS SCHEDULE:

| WEEK | DATE | LECTURE TOPICS | LAB: |
|------|----------------------------------|---|------------------------------------|
| 1 | 8/25 8/27 8/29 | Introduction Definitions Schools | No Lab this Week |
| 2 | 9/1 9/3 9/5 | LABOR DAY Schools Homology | No Lab this Week. |
| 3 | 9/8 9/10 9/12 | Homology Terms Terms | No Lab this Week. |
| 4 | 9/15 9/17 9/19 | Sporangia Sporangia Gametangia | Shapes, Shapes, Shapes |
| 5 | 9/22 9/24 9/26 | Gametangia Alternation of Gen. Alternation of Gen. | Scopes; Alternation of Generations |
| 6 | 9/29 10/1 10/3 | Early Land Plts; Terms Early Land Plts; Terms Bryophytes | Bryophytes |
| 7 | 10/6 10/8 10/10 | Bryophytes Rhyn, Zost, & Trim Rhyn, Zost, & Trim | Surfaces |
| 8 | 10/13 10/15 10/17 | Early Lycopods Early Lycopods Lycophyta | Fossils |
| 9 | 10/20 10/22 10/24 | Lycophyta Sphenophyta Sphenophyta | Steles |
| 10 | 10/27 10/29 10/31 | Psilophyta Filicopyta: Eu. and Lept Filicopyta: Eu. and Lept. | Fern Allies |
| 11 | 11/3 11/5 11/7 | Monilophyta Progymnospermophyta Pteridospermophyta | Ferns |
| 12 | 11/10 11/12 11/14 11/15 | Pteridospermophyta Cycadeoidophyta SABOT: Morphology Scavenger Hunt SABOT: Morphology Scavenger Hunt | Cycads, Gnets, and Gingko |
| 13 | 11/17 11/19 11/21 | Cycadeoidophyta Cycadophyta Cycadophyta | Conifers |
| 14 | 11/24 11/26 11/28 | Ginkgophyta THANKSGIVING - NO CLASSES THANKSGIVING - NO CLASSES | Lab Exam Review |
| 15 | 12/1 12/3 12/5 | Pinophyta Gnetophyta; <i>Ephedra</i> & Dble Fert Papers DEAD DAY - NO CLASSES | Lab Exam |
| 16 | 12/10 | FINAL EXAM (10:15 A.M. - 12:15 P.M.) | |

IMPORTANT DATES:

SEPT 1 (MON) - LABOR DAY; NOV 14 (FRI) - LAST DAY TO DROP WITH A W; NOV 14-15 (FRI - SAT) - SAN ANTONIO BOTANIC GARDEN; NOV 26-28 (WED - FRI) - THANKSGIVING BREAK; DEC 3 (WED) - LAST CLASS DAY; DEC 10 (WED) - FINAL EXAM (10:15 a.m.)

POINT DISTRIBUTION:

| | |
|-----------------------------------|----------------|
| Lecture Examinations (Take-Home): | |
| First Midterm | 100 |
| Second Midterm | 100 |
| Final (Selectively Comprehensive) | 150 |
| Lab Practical: | 100 |
| SABG Project: | 100 |
| Extinct/Extant Presentation: | 50 |
| Fern Fun Facts | 50 |
| Cycad Fun Facts | 50 |
| Literature Review: | 100 (Grad) |
| TOTAL POINTS CLASS: | 700/800 (Grad) |

GRADING:

Your final grade in Plant Morphology will be determined by the total points you receive divided by the total points possible and the scale listed below, with no deviation from this scale. I will also be determining a **SUBJECTIVE GRADE**. This will be determined by my evaluation of your attendance, participation, and attitude. The subjective grade will influence your final grade in the course, especially in borderline cases.

Grading Scale (percent of total points): A=90-100; B=80-89; C=70-79; D=60-69; F=59 & lower

RULES TO LIVE BY:

This lecture has been scheduled for 50 minutes and the lab for approx. 2 hrs. You should plan to be here for the **ENTIRE** time block. I will start at the hour, plan to be on time. Bring your texts to class and read any applying material before coming to class. Keep the classroom clean. No tobacco, eating, cheating, sleeping, **CELL PHONES**, feet on the furniture, etc. Always handle microscopes, prepared slides, and demonstration material with care.

- Exams are to be completed individually - **NO GROUP EFFORT**.
- Presentations are to be made using power point (LARGE BLOCK FONT).
- We will be reading several papers and discussing them during class. **PLEASE** read **ALL** papers assigned and be ready to contribute to the discussion.
- All assignments must be typed: exams; literature reviews; etc.
- **CHOICES; FIND THE BALANCE.**

ABSENCES:

MY BEST ADVICE IS DON'T BE. Regular attendance is expected and required to pass the course. If you must miss class see me **BEFORE** class or inform me **BEFORE** class so other arrangements can be made. I will not give make-up exams unless I am contacted **BEFORE** the absence. Exams must be made up within 1 week of their originally scheduled date. Because of its complicated nature and the time involved in putting it together, the final lab practical must be taken on the date scheduled with no make-up available (SRSU).

FOR GRADUATE CREDIT ONLY:

1. LITERATURE REVIEW:

Review 10 current (within the last year) journal articles which cover some morphological aspect of the Bryophytes, Fern Allies, Ferns, or Gymnosperms (Angiosperms do not qualify!). The articles must be from at least two different volumes of at least two separate journals. Suggested sources: *American Journal of Botany*, *Madroño*, and *Systematic Botany*. For each article be sure to include: (1) a proper citation; (2) a summary; and (3) your impression.

PROGRAM LEARNING OUTCOMES:

- Demonstrate a mastery of aerobic respiration and its significance for living organisms.
- Be able to identify evolution and the processes that influence it.
- Be able to identify the components of cell structure and their functions.
- Compare the fundamental concepts of Mendelian genetics.
- Compare and contrast the process of photosynthesis to other cellular processes.
- Be able to identify the processes of molecular biology.

COURSE OBJECTIVES:

- Students shall be able to define Plant Morphology according to both the German and United States schools;
- Students will be able to discriminate between a homosporous and heterosporous life cycle, as well as be able to construct examples of both;
- Students are expected to evaluate the nonvascular plants and identify trends within the group, and more importantly connections with the vascular plants;
- Students are expected to compare and contrast various groups of vascular plants, recognizing developmental trends within and among groups; and
- Students are expected to summarize evolutionary trends among the plant groups studied.

DISABILITIES INFORMATION:

Qualified students with disabilities needing academic or other accommodations to ensure full participation in the programs, services and activities at SRSU should contact Counseling and Accessibility Services, 112 Ferguson Hall, Box C-122, 432-837-8203.