

**Biol 474, Plant Ecology, 4 hours credit
Introduction and Course Syllabus
Spring Semester 2006**

Introduction

Goals:

The main objectives for this course in plant ecology are to *(1) provide a broad overview of the field of plant ecology, (2) give students a fundamental appreciation of the local boreal forest and tundra floras and ecosystems, (3) provide an overview of the Earth's major biomes, and (4) allow students to develop their skills of critically reading journal publications and presenting research in Powerpoint presentations.*

Professor:

The instructor for this course is **Prof. Skip Walker**, who is Director of the Alaska Geobotany Center (AGC). He is an active researcher in the fields of plant community and landscape ecology with a focus in arctic and alpine systems, vegetation mapping and geographic information systems, and disturbance and recovery of arctic vegetation.

Lecture and lab meeting times:

Lectures will be 8-9 AM in Irving 208 on Mondays, Wednesdays, and Fridays. Labs will meet Wed 2:15-5:15 in Room 208.

Office hours and contact:

After class or by appointment in Arctic Health Room 254, 474-2460. Also feel free to call at my home 451-0800.

Textbooks:

1. Barbour, M.G., J.H. Burk, W.D. Pitts, F.S. Gilliam, and M.W. Schwartz. 1999. *Terrestrial Plant Ecology*. Menlo Park: Addison Wesley Longman.
This book will provide the basic material for the course. The lectures will follow roughly the outline of the book. The book is available in the bookstore new for \$109.40. Used copies of the third edition are available through Amazon.com or elsewhere.
2. Walter, H. 1979. *Vegetation of the Earth and Ecological Systems of the Geo-biosphere*. New York: Springer-Verlag.
This book will be a primary source for the student presentations during the last part of the course. A newer, much expanded fourth edition (2002) by Siegmund-Walter Breckle is now the standard reference and is available for about \$60 through Amazon.com and should be used by students interested in keeping the book. The second edition (1979) is sufficient for the course and used copies may be available through Amazon.com. or elsewhere.

Journal papers

Several classes, usually on Friday, will be devoted to discussion of journal papers. Usually two papers will be assigned. These papers will be related to that week's lectures and will usually focus on topics related to the boreal forest or arctic tundra. One student will present each paper during the class and lead a short discussion (about 30 minutes total for each paper). Each student in the class will present one paper during the course of the semester. The papers for the discussion will be on reserve in the library.

Final student presentations

During the last three weeks of class, students will present papers on topics related to major biomes of the Earth (conifer forests, deciduous forests, grasslands, desert scrub, etc.). The volume by Walter (*Vegetation of the Earth*) will be the first source for these papers, and all students should read the material from this book for each student presentation and be prepared to discuss the material presented. The student making the presentation should, however, go well beyond the Walter volume and make a presentation that demonstrates an expanded research into other relevant literature sources.

Labs

The labs will focus on the flora of the Alaska boreal forest and tundra. Each lab will have herbarium specimens for up to 27 species, that each student is expected to know and identify during lab exams. There are 188 species total, including vascular plants, bryophytes, and lichens. A web site (<http://www.geobotany.uaf.edu/teaching/biol474/plantlist.html>) provides material with plant family characteristics, and photos and links to sources that provide descriptive information.

Prerequisites

Biol 239 and/or Biol 271 or other general ecology or permission of instructor.

Grading

First Lecture Exam:	100
Second Lecture Exam	100
Final Lecture Exam:	100
Lab Exam 1	50
Lab Exam 2	50
Lab Exam 3	50
Presentation of journal paper	100
Final Oral presentation	200
Class participation	<u>50</u>
TOTAL	800

Notes: These criteria may be modified somewhat as the course progresses. Final grades will be as follows: A: $\geq 90\%$; B: $\geq 80\%$; C: $\geq 70\%$; D: $\geq 60\%$; F: $< 60\%$

Students are expected to attend every class and lab.

Assignments are due at the beginning of class on the days shown in the syllabus. 5 points will be deducted for every day an assignment is late.

The instructor will work with the Office of Disabilities Services (203 WHIT, 474 7043) to provide reasonable accommodation to students with disabilities.