

Lecture: Monday, Wednesday, and Friday 1:00-1:50 in room SCI 319

Laboratory: Friday 2:00-3:50pm SCI 102

### INSTRUCTORS

Dr. Adam K. Ryburn

Office: SCI 123, hours: M&TH 11–12 or by appointment

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### COURSE DESCRIPTION AND OBJECTIVES

This course is designed as an introduction to botanical field techniques, the vegetation of North America, and the flora and vegetation of New York. It combines information drawn from the disciplines of taxonomy, ecology, ethnobotany, physical geography, and wildlife ecology. The course introduces the student to many new terms and principles of plant biology. Success in this course will depend upon each student's accumulation, appreciation, and application of botanical knowledge.

The objective is to:

1. Provide an understanding and appreciation of plants. As animals, it is difficult for us to relate to plants, but plants are highly evolved organisms just as well adapted to their life styles as animals are.
2. Encourage careful observation, curiosity and thinking about plants.
3. Master the terminology used in plant description and identification.
4. Use taxonomic keys as a means of identifying unknown plants.
5. Recognition characters of major plant families, genera, and species.
6. Master the biology of the major families, genera, and species.
7. Master the economic and/or wildlife significance of the major families, genera, and species.
8. Master the relationships between climatic and edaphic factors and vegetation.
9. Master the major vegetation types of North America and New York State.
10. Master the principles of botanical nomenclature.

### TEXT & REQUIRED MATERIALS

Harris, J.G. and M.W. Harris. 2000. *Plant Identification Terminology An Illustrated Glossary*, Second Edition. Spring Lake Publishing, Spring Lake, Utah.

Three-ring notebook (1 ½") to hold standard 8.5" x 11" paper.

A packet of 100 -- 3" x 5" ruled note cards.

### LECTURE and LAB PROCEDURES

The course includes three 50-minute lectures and one 110-minute laboratory that meets weekly; with the Friday lecture often used for travel time for field trips. This course is offered in the liberal arts tradition; thus you are expected to learn a body of facts and concepts. Topics will be discussed in depth in order that you will have an understanding of the discipline's origins and present diversity.

A tentative schedule of lecture and laboratory topics is attached. Lecture presentations will consist of introductions to the important facets of field botany. Laboratory work will illustrate and support these facets. Reading assignments will be made periodically. You are responsible for all assigned material. Complete assigned readings prior to their discussion in lecture. The material presented in the course can be difficult, but will be easier to understand if you come prepared to class.

In the laboratory, the plants of North America, and in particular those of New York will be studied. This will involve: (1) learning the names (scientific and common) and diagnostic characters of approximately 150 plant taxa, and (2) identifying numerous species via taxonomic keys. Immediate recognition of taxa will be emphasized repeatedly! Laboratory activities may differ from those scheduled depending upon the weather, ***but one should always be prepared each day for a quiz over previously presented material.***

Each individual is expected to have the self-discipline to memorize the scientific names, common names, and diagnostic characters of all taxa. Spelling counts! Memorization of additional biological and ecological information about each taxon is also required.

**ATTENDANCE:** Punctual attendance is essential to success in this course because of the integrated nature of the lectures and labs and the nature of the quizzes and exams. It is assumed that excessive absence will result ultimately in inferior academic achievement by the student, thus the following College's Academic Policies & Standards pertaining to attendance will be observed. Students must attend one of the first two lectures as well as the first laboratory or the student's place will be declared "vacant". Students missing 25% or more of class, any time from the second week of class up until the last day to withdraw from the course (October 28) will be removed from the course by Dr. Ryburn and receive a WI (withdrawn involuntarily). Attendance will be monitored by in-class participation. If you are not in class, you are not learning! Missed lectures, labs, homework assignments, examinations, and quizzes cannot be made up unless justification for being absent from class is provided and accepted beforehand. **Arrive to class on time and do not leave class early.**

**CONDUCT IN LECTURES AND LABS:** Since all students are entitled to an environment that is conducive to learning, you are expected to keep disruptions to a minimum. You should be in class and ready to begin on time. If you do come in late, be as quiet as possible. All devices that generate sound, including pagers, **cell phones**, electronic games, radios, CD players and MP3 players (iPods, etc.) **MUST** be turned off before class begins. Disruption of class, whether by latecomers, noisy devices, or inconsiderate behavior (e.g. talking), will **NOT** be tolerated. Repeated violations by individuals may result in penalties, including being dropped from the class. If any of these devices are found to be operating during any exam or quiz, this action will result in failure of the assignment.

#### EXAMS, QUIZZES, CLASS ASSIGNMENTS, & GRADING

**EXAMS:** Three exams will be given during the regular semester. These exams are comprehensive, i.e., covering **all** material presented in lecture, lab, and assigned readings.

Exam 1: Friday, September 26<sup>th</sup> (1:00-3:50pm) - 100 pts.

Exam 2: Friday, November 7<sup>th</sup> (1:00-3:50pm) - 100 pts.

Final Exam: Wednesday, December 17<sup>th</sup> (11:00-1:30pm) - 200 pts.

**LECTURE QUIZZES AND ASSIGNMENTS:** Quizzes and in-class and take-home assignments will be given periodically throughout the semester. Quizzes will be given in the lecture, laboratory and on the field trips and may cover terminology, taxon recognition, taxon information,

keying, etc. Collective value for all quizzes and assignments is 100 pts. **Quizzes and assignments may or may not be announced ahead of time.**

Exams and quizzes alike will include a mix of questions in various formats: multiple choice, identification, short answer, fill-in-the-blank, labeling of drawings or diagrams, and essay. Identifications represent short answers—generally written as sentence fragments or phrases—that include specific factual information as who, what, when, where, why, how, and the scientific significance of the item. Each exam and quiz will be evaluated in terms of spelling, grammar, clarity of expression, and creativity, as well as technical expertise.

**POLICY ON MISSED EXAMS:** If you are unable to take an exam at the specified date and time you must contact me prior to the exam or within 24 hours of the date of the exam and provide a valid, documented excuse (doctor's note, arrest report, etc.) as to why you cannot take the exam in order to schedule a make-up. Failure to notify me within 24 hours will result in a grade of zero for that exam. This policy will be strictly enforced.

**FIELD TRIPS:** On occasion we will be taking local field trips to botanically unique areas around Oneonta. These trips will be taken during the lab period on Fridays. These field trips are an essential part of this course. They are opportunities to observe different plants and communities, and to examine the relationship between geography and vegetation. Each student is, therefore, required to go on each trip.

We will be taking one **mandatory** weekend field trip to a soon to be determined botanically interesting area in upstate New York. We will be leaving from campus at 8:00am on Saturday, September 20<sup>th</sup> and returning around 6:00pm on Sunday evening. Transportation will be provided by the Biology Department. More details to will be discussed later.

Because the trips are not recreational excursions, MP3 players, cell phones, alcohol, illegal substances, guns, bows, fishing gear, and other recreational items are not allowed.

**PLANT COLLECTION:** Each individual will compile a plant collection comprising 15 plant specimens from at least 10 families. Collecting techniques will be described and demonstrated in class. At least five specimens (selected by Dr. Ryburn) are to be mounted on herbarium paper and contributed to the SUCO Herbarium. The collection is to be submitted by **Friday, November 21<sup>st</sup> by 4:00pm.** Collaborative effort is not acceptable; each individual is responsible for his or her own collection! Value of the collection and attendant field notes is 100 points. Further information will be provided at a later date.

#### **CLASS POINTS**

Exercises	100 points
Plant Collection	100 points
Exams	400 points
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Total	600 points

#### **Grade Levels:**

<b>Grade</b>	<b>Percentage</b>
A	90-100
B+	87-89
B	80-86
C+	77-79
C	70-76
D+	67-69
D	63-66
E	<60

**No extra credit will be given for papers, readings, reports, etc. for the purpose of grade improvement.**

## INTERNET RESOURCES

More information related to this course can be found at anytime by accessing the Angel site for this course (<http://angel.oneonta.edu>). Here you will find an updated schedule of upcoming events in class, copies of handouts and homework assignments, answer keys to quizzes, exams, and homework assignments, and to check the current status of your grade in the course. To log in you will need to use your user ID and password. If any problems arise while trying to use or access the site, contact Dr. Ryburn.

Other illustrations, diagrams, images, and supporting text can be found by referencing the topic at a number of internet search engines. For finding and viewing images, the best recourses are those of [www.google.com](http://www.google.com) and [www.yahoo.com](http://www.yahoo.com) under the search images areas.

## ACADEMIC HONESTY

The university codes of academic honesty and conduct will be rigorously observed. In addition to the university criteria, the instructor makes the following provisos: any incident of academic dishonesty or academic misconduct, including cheating on exams, quizzes, homework, etc., when confirmed will result in a **failing grade for the course**. The required notification to the chair of the Biology Department and Vice President of Student Development will be made. It is the responsibility of each individual to insure that other individuals do not see his or her homework, report, exam, or quiz answers, etc., and that other individuals do not plagiarize or otherwise misuse his or her work. Passive cooperation is unacceptable; it will be considered academic dishonesty.

**The instructor reserve the right to modify the requirements of the course, the format of the examinations, and the scheduling of activities as necessary to enhance the learning process.**

**FIELD BOTANY – BIOL 320**  
**TENTATIVE SCHEDULE OF LECTURE & LABORATORY ACTIVITIES**

DATE	TOPIC
Aug. 27	Introduction. Vegetative Phytography
29	Vegetative Phytography. Techniques of Plant Preservation
Sept. 1	Hierarchy of Classification. Nomenclature and Taxonomic Literature
3	How to Use a Taxonomic Key
5	Local Field Trip to Botanically Interesting Areas
8	Floral and Inflorescence Phytography
10	Introduction to Composites
12	Local Field Trip to Botanically Interesting Areas
15	Introduction to Graminoids
17	Introduction to Vascular Aquatic Plants
19	No Classes – Comp Day
20-21	Weekend Field Trip
22	Introduction to Ferns and Fern Allies
24	Review for Exam 1
26	Exam 1
29	Principles of Ecogeography
Oct. 1	Principles of Ecogeography
3	Local Field Trip to Botanically Interesting Areas
6	Principles of Ecogeography
8	Principles of Ecogeography
10	Fall Break – No Classes
13	Tundra Vegetation
15	Tundra Vegetation
17	Coniferous Forest Vegetation. Work on Plant Collections.
20	Coniferous Forest Vegetation
22	Coniferous Forest Vegetation
24	Coniferous Forest Vegetation. Keying of Dominant Taxa
27	Deciduous Forest Vegetation
29	Deciduous Forest Vegetation
31	Deciduous Forest Vegetation. Work on Plant Collections.

- Nov. 3 Grassland Vegetation
- 5 Review for Exam 2
- 7 Exam 2
- 10 Grassland Vegetation
- 12 Desert Vegetation
- 14 Desert Vegetation. Keying of Dominant Taxa
- 17 Temperate Shrubland Vegetation
- 19 Temperate Shrubland Vegetation
- 21 Plant Collection Due by 4:00pm
- 24 Thanksgiving Break – No Classes
- 26 Thanksgiving Break – No Classes
- 28 Thanksgiving Break – No Classes
- Dec. 1 Woodland and Savanna Vegetation
- 3 Woodland and Savanna Vegetation
- 5 Tropical Vegetation. Identifying Woody Taxa in Winter Condition.
- 8 Tropical Vegetation
- 10 Tropical Vegetation
- 12 Course Wrap-up. Final Exam Review
- 17 Final Exam (11:00-1:30pm)