

# **Adirondack Ecology and Natural History**

## **BIOL 111 / Fall 2009**

### Meeting Times:

Lecture – Tuesday and Thursday, 9:30 – 10:45, Carson 101

Field (Adirondack FIG) – Friday, Full Day

### Instructor:

Bill Brown

Timmerman 229, Phone 267-2858

Office Hours – Tuesday 11-Noon and 2-3pm, Thursday 2-3pm

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### Course Description:

Ecology is the scientific study of the relationship between organisms and their environment. The Adirondack Ecology course utilizes the Adirondack region to illustrate and explore general concepts of ecology, including ecosystem structure and function, energy flow, biogeochemical cycling, and population dynamics. Natural history and identification of Adirondack plants, animals and ecosystems is incorporated through lecture, field studies and individual projects.

### Required Texts:

DiNunzio, M.G., 1984 *Adirondack Wildguide: A Natural History of the Adirondack Park*. Adirondack Conservancy, Broderick Press, Utica, NY.

Ketchledge, E.H., 1996, *Forests and Trees of the Adirondack High Peaks Region*, Adirondack Mountain Club, Lake George, NY.

Smith, T.M. and R.L. Smith, 2006, *Elements of Ecology*, 6<sup>th</sup> Edition. Pearson/Benjamin Cummings, New York.

Field Journal

### Basis for Grade:

Field Trips and Journal (15%), Projects: Ecosystem Paper, Stream Lab, Species Spotlight (20%), Quizzes (10%), Prelim Exam (15%), Final Exam (15%), Field Practicum (10%), Attendance, Class Participation and Naturalist Notes Homework (15%).

Species Spotlight – Each student will give a short (five minute) presentation on an Adirondack Species to include natural history, ecological concepts, and a scientific article.

Naturalist Notes – Discussion and homework questions on selected naturalist writings from:

Kanze, E., 2006, *Over the Mountain and Home Again*, Nicholas K. Burns, Utica, NY

Stager, C., 1998, *Field Notes from the Northern Forest*, Syracuse University, Syracuse, NY

Wessels, T., 1997, *Reading the Forested Landscape*, Countryman Press, Woodstock, VT

Class Participation – Students are expected to attend all classes and field trips. Come to class having completed readings and assignments, and prepared to participate in discussion. Only two excused absences (with documentation) will be allowed.

## Adirondack Ecology – Fall 2009 B.Brown – Tentative Schedule

Sept 1 (T)	<b>Welcome! Introduction to Ecology / The Adirondacks</b>	
Sept 3 (H)	<b>Field Journals / Reading the Landscape</b>	Naturalist Notes 1: ( <i>Reading the Forested Landscape: Introduction</i> , Wessels 13-21)
Sept 4 (F)	<b><u>Field:</u> Mt. Arab / WILD Center</b>	
Sept 8 (T)	<b>Adaptation and Evolution</b> Reading: Smith Ch 1-2; Ketch 11-18	
Sept 10 (H)	<b>The Physical Setting / Climate</b> Reading: Smith Ch 3	Naturalist Notes 2: ( <i>Mosses and Lichens</i> , Stager 113-120)
Sept 11 (F)	<b><u>Field:</u> Sagamore (Overnight)</b>	
Sept 15 (T)	<b>The Coniferous Trees</b> Reading: Smith Ch 6; Ketch 50-95	
Sept 17 (H)	<b>The Deciduous Trees</b> Reading: Ketch 96-153	Naturalist Notes 3: ( <i>Getting to Know the Neighbors</i> , Kanze 59-72)
Sept 18 (F)	<b><u>Field:</u> Paul Smiths / Forestry</b>	Bring: <i>Forest and Trees</i> , Ketch
Sept 22 (T)	<b>Stream Ecology</b> Reading: Smith Ch 24; DiNunzio 88-93	Species Spot 1
Sept 24 (H)	<b>Stream Ecology – Macroinvertebrates</b>	Quiz #1
Sept 25 (F)	<b><u>Field:</u> Cold Brook</b>	
Sept 29 (T)	<b>Cold Brook Lab</b>	Species Spot 2
Oct 1 (H)	<b>Old Rock, Young Mountains</b> Reading: DiNunzio 18-21; Atlas 10-13	Naturalist Notes 4: ( <i>Pillows and Cradles</i> , Wessels 113-127)
Oct 2 (F)	<b><u>Field:</u> Whiteface / ASRC</b>	
Oct 6 (T)	<b>Rock and Ice</b> Reading: DiNunzio 22-29; Ketch 18-31	Species Spot 3
Oct 8 (H)	<b>Soils – Soil pH</b> Reading: Smith Ch 5; Atlas 16-17	Quiz #2
Oct 9 (F)	Fall Recess	
Oct 13 (T)	Fall Recess	
Oct 15 (H)	<b>Waters</b> Reading: Smith Ch 4; DiNunzio 94-101	Naturalist Notes 5: ( <i>Night Voyage</i> , Kanze 33-41)
Oct 16 (F)	<b><u>Field:</u> Massaweepe</b>	
Oct 20 (T)	<b>Wetland Ecology</b> Reading: Smith Ch 25	Species Spot 4
Oct 22 (H)	<b>Wetland Ecosystems: Bogs to Swamps</b> Reading: DiNunzio 66-87; Atlas 20-21, 44-47, 60-61	Naturalist Notes 6: ( <i>Beavers</i> , Stager 99-110)

Oct 23 (F)	<b><u>Field:</u> Sevey Bog/ Raquette River</b>	
Oct 27 (T)	<b>Review: Trees, Bugs and Rocks People on the Landscape</b>	Species Spot 5
Oct 29 (H)	<b>Prelim Exam</b>	
Oct 30 (F)	<b><u>Field:</u> Tahawus</b>	
Nov 3 (T)	<b>Temperate Forest</b> Reading: Smith Ch 23; DiNunzio 32-33	Species Spot 6
Nov 5 (H)	<b>Northern Hardwood Forest</b> Reading: DiNunzio 48-55, Atlas 36-38	Naturalist Notes 7: ( <i>Autumn</i> , Kanze 165-187)
Nov 6 (F)	<b><u>Field:</u> Bayside Cemetery</b>	
Nov 10 (T)	<b>Spruce Fir Forest / Alpine</b> Reading: DiNunzio 102-123; Atlas 40-41	Species Spot 7
Nov 12 (H)	<b>Pine Forests / Pine Barrens</b> Reading: DiNunzio 56-65	Naturalist Notes 8: ( <i>Winter Woods</i> , Stager 165-173)
Nov 13 (F)	<b><u>Field:</u> Adirondack Park Agency / DEC Fish Hatchery</b>	
Nov 17 (T)	<b>Ecosystem Structure and Function</b> Reading: Smith Ch 16-17	<b>Ecosystem Paper Due</b> Species Spot 8
Nov 19 (H)	<b>Ecosystem Structure and Function</b> Reading: Smith Ch 18; Ketch 32-42; Atlas 99-111	Quiz #3
Nov 24 (T)	<b>Energy Flow / Nutrient Cycles</b> Reading: Smith Ch 20 and 21	Species Spot 9
Nov 26 (H)	<i>Thanksgiving Recess</i>	
Dec 1 (T)	<b>Populations</b> Reading: Smith Ch 9-10	Species Spot 10
Dec 3 (H)	<b>Extirpated Species</b> Reading: Atlas 34-35, 49-51, 58-59	Naturalist Notes 9: ( <i>In Search of Something Lost</i> , Kanze 9-22)
Dec 8 (T)	<b>Review: Adirondack Ecology</b>	
Dec 10 (H)	<b>Field Practicum (In Classroom)</b>	
Dec 11 (F)	<b>Birch Bark Books – Readings and Sketches</b>	
Dec 17 (H)	<b>Final Exam (10:15 – 12:15)</b>	