

BioS 433 – Plant Diversity and Conservation

Spring 2004

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Hours	MW 1:00–2:00	M 1:00–2:00 PM
Meeting Time	M, W 10:00–12:30	
Meeting Place	SEL 3101	
Course Web Site	http://www.uic.edu/depts/bios/ecoevo/masongamer/BioS433.html	

Textbooks *A Primer of Conservation Biology*, by R. B. Primack
Plant Systematics – A Phylogenetic Approach, by W. S. Judd, C. S. Campbell, E. A. Kellogg, P. F. Stevens, and M. J. Donoghue

Additional handouts will be provided in class as needed. For some topics, supplementary material can be found on World Wide Web sites; site addresses will be provided on the course web site as needed.

The objective of the course is to for you to acquire an understanding of the basic principles underlying the field of conservation biology, and combine it with an appreciation of the diversity of plants around us. We will combine lecture material on conservation biology, plant systematics, and plant evolution with hands-on studies of a selection of temperate plant families.

Grading

		<u>each</u>	<u>total</u>
Lecture	Three Lecture Exams*	60	180
	Case Study Project	25	25
	Journal Article Report	25	25
Lab	Two Lab Exams*	100	200
	Five Lab Quizzes, Lowest Grade Dropped	5	20
			450

*Lecture Exam III will take place during final exam week, but will be the length of a normal lecture exam and will not be cumulative. Lab Exam II will not be cumulative.

Grading Scale	A	403–450 points = 90–100%
	B	358–402 points = 80–89%
	C	313–357 points = 70–79%
	D	268–312 points = 60–70%
	F	< 267 points < 60%

Lecture Schedule

January 12	Biodiversity - Biological Concerns	PCB Ch. 1
January 14	Biodiversity - Economic and Political Concerns	PCB Ch. 1
January 19	<i>Dr. Martin Luther King Jr. Day - No Classes</i>	
January 21	Characterizing Plant Diversity: What is Phylogeny and Why Do We Care?	PS Ch. 1, 2
January 26	Phylogeny, Classification, and Naming	PS Ch. 2, App. 1
January 28	History of Plant Classification	PS Ch. 3
February 2	Characters - Structural and Biochemical I	PS Ch. 4
February 4	Characters - Structural and Biochemical II	PS Ch. 4
February 9	Characters - DNA	PS Ch. 4
February 11	Exam I	
February 16	Estimating Phylogeny I	PS Ch. 2
February 18	Estimating Phylogeny II	PS Ch. 2
February 23	Plant Evolution I - Seed Plants	PS Ch. 7
February 25	Plant Evolution II - Flowering Plants	PS Ch. 7
March 1	Genetic Diversity Within Species I	
March 3	Genetic Diversity Within Species I	
March 8	Lab Exam - No Lecture Today	
March 10	Plant Evolution - Species and Speciation I	PS Ch. 6
March 15	Plant Evolution - Species and Speciation II	PS Ch. 6
March 17	Exam II	
March 22	<i>Spring Break - No Classes</i>	
March 24	<i>Spring Break - No Classes</i>	
March 29	Phylogeny and Biogeography	
March 31	Phylogeny and Conservation	
April 5	Tools in Conservation - Collections, Floristics	PS Pp. 530–532
April 7	Threats to Biodiversity	PCB Ch. 2
April 12	Setting Conservation Priorities - Taxa	PCB Ch. 3
April 14	Conserving Species	PCB Ch. 3
April 19	Setting Conservation Priorities - Areas	PCB Ch. 4
April 21	***Case Study Project Presentations***	
April 26	Conserving Communities	PCB Ch. 4
April 28	Lab Exam - No Lecture Today	

Lab Schedule

January 12	Lab Orientation	
January 14	Terminology - Vegetative Features I	PS Ch. 4
January 19	<i>Dr. Martin Luther King Jr. Day - No Classes</i>	
January 21	Terminology - Vegetative Features II	PS Ch. 4
January 26	Terminology - Flowers I	PS Ch. 4
January 28	Terminology - Flowers II	PS Ch. 4
February 2	Terminology - Fruits and Inflorescences	PS Ch. 4
February 4	Introduction to Identification Keys	PS Pp. 525–527
February 9	Plant Identification - Keying	
February 11	Creating a Phylogenetic Data Set I	
February 16	Data Analysis I	
February 18	Data Analysis II	
February 23	Gymnosperms I	PS 199–213
February 25	Gymnosperms II	PS 199–213
March 1	Basal Dicots: Magnoliaceae, Lauraceae, Ethereal oils	PS 229–236
March 3	Monocots: Liliaceae, Iridaceae, Amaryllidaceae	PS 247–250, 254–6, 261–4
March 8	Lab Exam I	
March 10	Monocots: Orchidaceae	PS 264–7
March 15	Monocots-Commelinoids: Poaceae, Cyperaceae, Juncaceae	PS 276–8, 284–98
March 17	Eudicots: Ranunculaceae, Berberidaceae, Caryophyllaceae	PS 297–303, 308–10
March 22	<i>Spring Break - No Classes</i>	
March 24	<i>Spring Break - No Classes</i>	
March 29	Basal Rosids: Hamamelidaceae, Geraniaceae, Crassulaceae	PS 326–8, 330–4, 336–8
March 31	Eurosids Ia: Violaceae, Salicaceae, Fabaceae	PS 338, 351–2, 354–61
April 5	Eurosids Ib: Rosaceae, Cucurbitaceae, Fagaceae	PS 363–372, 380–6
April 7	Eurosids II: Brassicaceae, Malvaceae, Sapindaceae	PS 402–9, 401–11, 418–21
April 12	Basal Asterids: Ericaceae, Polemoniaceae	PS 421, 425–6, 431–3, 436
April 14	Euasterids Ia: Solanaceae, Convolvulaceae, Apocynaceae	PS 436–42, 448–51
April 19	Euasterids Ib: Oleaceae, Scrophulariaceae, Lamiaceae	PS 451–5, 458–9, 466–8
April 21	***Cast Study Project Presentations***	
April 26	Euasterids II: Apiaceae, Asteraceae, Campanulaceae	PS 470–3, 476–87
April 28	Lab Exam II	