

EVPP 301

Environmental Science: Biological Diversity and Ecosystems

Lecture Syllabus

Spring 2023

Location- Innovation Hall, 222, Time (TU/TH12-1:15 pm)

Course Description and Goals: Together with EVPP 210 and 302, this course is part of a three-semester sequence for environmental science majors which provides the basic underpinning for major courses. Topics include the human dimensions of the environment, biological diversity, vertebrate organ systems, conservation biology, and general ecology.

Course Content and Instructional Methods: The course consists of a coupled lecture and laboratory; both must be taken concurrently, and your grade will depend on your performance in both lecture and lab. Below is a list of lecture topics by week. Following the lecture topics there is the lab syllabus.

Week	Topic	Readings
23-Jan	Humans and Nature-History; Population Dynamics	See Lec Notes: S&S, Ch. 9
30-Jan	Environmental Ethics; Biological Diversity: Bacteria and Archaea;	See Lec Notes; Leopold (see below)*; Sadava et al.: Ch. 24
6-Feb	Eukaryotes; Fungi, Protists;	Sadava et al.: Ch. 25 -28;
13-Feb	Biological Diversity:, Plants I; Review	Sadava et al.: Ch. 26, 27, 36
20-Feb	<b>Exam 1 (Feb 21)</b> ; Biological Div.: Plants II: Plant Structure and Function;	Sadava et al.: Ch. 32-34
27-Feb	Biological Diversity: Animal Diversity I, II	Sadava et al.: Ch. 29-30
6-Mar	Biological Diversity: Animal Diversity III, Vertebrate Organ Systems	Sadava et al.: Ch. 31, 45-50
13-Mar	SPRING BREAK	
20-Mar	Toxicology; Conservation Biology	See Lec. Notes; Silent Spring; Sadava et al.: Ch.57, S&S:Ch19, 26
27-Mar	<b>Exam 2 (Mar 28)</b> ; Population Ecology	Sadava et al.: Ch. 53; S&S: Ch.8-9
3-Apr	Population Regulation; Adaptation and Evolution; Life Histories	S&S: Ch. 5, 10, 11; Sadava et al: Ch. 54
10-Apr	Species Interactions and Communities	S&S: Ch. 12-18; Sadava et al.: Ch. 55
17-Apr	Ecosystems; Decomposers and Local Nutrients	S&S: Ch. 20-21; Sadava et al.: Ch. 56
24-Apr	Biogeochemical Cycling; Climate Basics	S&S: Ch. 22, 2
1-May	<b>Exam 3 (May 2)</b> ; Terrestrial Ecosystems	S&S: Ch. 3,4, 23, 27
8-May	Terrestrial Biomes	S&S: Ch. 23, 27

Final: Tuesday, May 16, 12:00 to 2:45 pm. Regular classroom. Part on material since third exam, part questions from previous exams.

Text: Sadava et al. *Life: The Science of Biology*. 2013. 12<sup>th</sup> Edition. (also used in EVPP 210 and 302)

S&S: *Elements of Ecology*. T.M. Smith and R.L. Smith. 9<sup>th</sup> ed. (also used in EVPP 302).

*Silent Spring* by Rachel Carson. (Bookstore will order, but can get cheap used copies online.)

Additional reading: \*Leopold: <http://home.btconnect.com/tipiglen/landethic.html>,

Lab Syllabus: The lab syllabus is in the front of the lab manual. Laboratory is a required and integral part of EVPP 301

Lab Manual: Jones, R.C., et al. 2020. EVPP 301: Environmental Science: Biological Diversity and Ecosystems. GMU bookstore.

Loose leaf – 3 holes punched.

**Grading:**

<b>Lecture:</b>	3 mid-term exams (100 pts each)	300 pts
	Final:	100 pts
	<b>Total Lecture Points</b>	<b>400 pts</b>
<b>Lab:</b>	10 Lab worksheets, 8 pts. each	80 pts
	Full Lab Report – Daphnia Toxicity	40 pts
	Oral Presentation – Effects of Nutrients on Algal Growth	30 pts
	<b>Total Lab Points</b>	<b>150 pts</b>

**TOTAL COURSE POINTS: 550 points**

Any student missing a graded assignment (including tests) for health reasons or other extenuating circumstances may be required to submit a doctor's statement or other appropriate documentation to avoid a zero for that assignment.

**Disability Statement:** If you are a student with a disability and you need academic accommodations, please see the instructor and contact the Office of Disability Resources at 703-993-2474. All academic accommodations must be arranged through that office.

**Honor Code Statement:** George Mason University has an Honor Code, which requires all members of this community to maintain the highest standards of academic honesty and integrity. Cheating, plagiarism, lying, and stealing are prohibited by the code. The instructor will make it clear when working together in lab is acceptable and when independent work is required. If you are uncertain, ask the instructor. It is the responsibility of all members of the community, both students and teachers, to report violations of the code.

**Enrollment Statement:** Students are responsible for verifying their enrollment in this class. Schedule adjustments must be made by the deadlines posted in the Schedule of Classes.

Lecture Instructor:  
Dr. Suzee Poudel  
Office: 3040 David King Hall  
Office Hours: TU/TH 1:20-2:20pm & by email appt  
Email: spoudel4@gmu.edu

Lab Instructor/TA: TBD

Revised: Jan 4, 2023