EVPP 111 - Ecosphere: Environmental Science II

Spring 2004 - MW 9:00am-10:15am ENT 178

Instructor: Dr. Kim Largen

2/9/04 - Revised

Course Goals

"Ecosphere: Environmental Science II" (EVPP 111) is the second course of a two-semester lab science sequence (EVPP 110 & EVPP 111) which can fulfill the general education science requirements for B.A. students in the College of Arts and Science and other schools and colleges. This is an environmental science course, not an environmental studies course. We will study the components and interactions that make up the natural systems of our home planet with particular attention to the part of the Earth that is home to humans and other life forms. The course will teach basic concepts in biological, chemical, physical, and earth sciences in an integrated format with a combination of lecture, laboratory, and field exercises.

Course Structure

EVPP 111 is a linked lecture-lab course. The laboratory is an integral part of the course and cannot be taken separately. Traditional lectures will be given in which the instructor will introduce and expand on the weekly topics. Material will come from the text and from other sources. Lab material will complement and elaborate on the lecture. Lab will also be a time for small group activities that facilitate interactions among students and between students and faculty. In lab, students will be introduced to many of the tools used by natural scientists to study the natural environment such as wet chemistry, lab instrumentation, microscopy, sterile technique, field data collection, data logging, data analysis, and utilizing the web for posting and retrieving data and other information. Students will also gain experience in the evaluation of the quality of different sources of "scientific" information.

Course Grade

Evaluation of student performance in EVPP 111 will integrate components from both lecture and lab. The entire course grade is based on a total of 1000 points. The lecture portion of the grade will be worth 750 (75%) of those 1000 points. The lab portion of the grade will be worth 250 (25%) of those 1000 points. The final course grade will be assigned as follows:

Final Course Average	Final Course Grade	Grade Points
96% - 100%	A+	4.00
90% - 95%	A	4.00
88% - 89%	A-	3.67
86% - 87%	B+	3.33
80% - 85%	B	3.00
78% - 79%	B-	2.67
76% - 77%	C+	2.33
70% - 75%	C	2.00
68% - 69%	C-	1.67
60% - 67%	D	1.00
59%	F	0

Lecture Grade

Exams: There will be three non-cumulative regular exams, each of which is worth 30% of the lecture grade (225 points each). The 3rd regular exam will be administered during the scheduled "final exam" period (5/5/04). Students may choose to take an optional cumulative final exam (450 points) during the "final exam" period (5/5/04) and drop one of their grades for the first two regular exams (exam #1 or exam #2). **Lecture exams will include material from lab exercises.**

Missed Exams: ***No make-up exams will be administered.*** If a student misses a class during which regular exam #1 or #2 is scheduled, the student will receive a **zero** for that exam and will then be **required** to take the cumulative final exam. If a student knows in advance that they will miss a class during which a regular exam is scheduled (exam #1 or exam #2), it might be possible to make arrangements to take the exam in advance.

In-class Activities: A number of in-class activities will be conducted during lecture classes and will account for a total of 10% of the lecture grade (total of 75 points). The in-class activities will not be scheduled in advance and will be conducted without prior notice at the instructor's discretion. The in-class activities **cannot be made-up if missed** due to absence from lecture. If a student misses a lecture during which an in-class activity is conducted, the student will not receive credit for that activity.

Attendance: Attendance at lectures is required and expected.

Honor Code: EVPP 111 is governed by the GMU Honor Code. All individuals must do their own work on exams and non-group assignments. **Cheating will not be tolerated.**

Text:

Lecture: *Environmental Science: A Study of Interrelationships, 9th Edition*, by Enger & Smith, McGraw Hill Publishers

Lab:

- ~~*EVPP 111 Lab Manual*, edited by Largen (Available for purchase from bookstore around third week of semester. Copies of lab exercises will be provided to students until lab manuals are ready.)~~
- Printouts by students from instructor's webpage (2/18/04 - 4/30/04)
- Handouts provided by instructors (1/21/04 - 2/11/04)

Contacting the Instructor:

Dr. Kim Largen
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Office Hours:

Monday	8:15am – 8:45am	AND	10:30am – 11:00am
Wednesday	8:15am – 8:45am	AND	10:30am – 11:00am

Additional office hours will be held some weeks and will be posted weekly on the instructor's website for the following week.

Instructor's website: http://mason.gmu.edu/~klargen

Lecture Topics, Reading Assignments, Exam Schedule:

Date	Day	Topic	Text Readings*
Unit:	Human Population		
1/21	Wed	Populations: characteristics of human population	Ch. 7, Ch. 8
1/26	Mon	Populations: human population & the environment	Ch. 8
1/28	Wed	Human population explosion	Ch. 9
Unit:	Communities		
2/2	Mon	Communities: principals of communities	Ch. 5
2/4	Wed	Communities: species diversity, succession	Ch. 6
Unit:	Ecosystems		
2/9	Mon	Ecosystems: principals, flow of energy, biogeochemical cycles	Ch. 5
2/11	Wed	Ecosystems: biogeochemical cycles	Ch. 5
2/16	Mon	Ecosystems: trophic levels, ecological pyramids	Ch. 5
2/18	Wed	Ecosystems: major biomes & aquatic ecosystems	Ch. 6
2/23	**Mon**	**EXAM #1 (Populations, Communities, Ecosystems)**	
Unit:	Energy: Sources and Consumption		
2/25	Wed	Fossil Fuels	Ch. 10
3/1	Mon	Nuclear energy	Ch. 11
3/3	Wed	Renewable energy & conservation	Ch. 12
3/8	Mon	SPRING BREAK	
3/10	Wed	SPRING BREAK	
Unit:	Resources		
3/15	Mon	Soils: Soils, Minerals, Soil Preservation	Ch. 14, Ch. 15
3/17	Wed	Land Resources and Conservation	Ch. 17, Ch. 18
3/22	Mon	Soils and Their Preservation	Ch. 14
3/24	Wed	Soils, Minerals: A Nonrenewable Resource	Ch. 14, Ch. 15
3/29	Mon	Water: A Fragile Resource	Ch. 13
3/31	Wed	Water, Preserving Biodiversity	Ch. 13, Ch. 16
4/5	**Mon**	**EXAM #2 (Energy, Resources)**	
Unit:	Environmental Issues		
4/7	Wed	Addressing Environmental Problems	Ch. 2, Ch. 3
4/12	Mon	Air Pollution	Ch. 19
4/14	Wed	Air Pollution, Global Atmospheric Changes	Ch. 19, Ch. 20
4/19	Mon	Global Atmospheric Changes	Ch. 20
4/21	Wed	Water and Soil Pollution	Ch. 21
4/26	Mon	Water and Soil Pollution, Pesticides	Ch. 21, Ch. 22
4/28	Wed	Pesticides, Solid and Hazardous Waste	Ch. 22, Ch. 23
5/3	Mon	Solid and Hazardous Waste, Sustainability	Ch. 23, Ch. 24
5/5	**Wed**	**7:30am: EXAM #3 (Environmental Issues) or FINAL EXAM (CUMULATIVE)**	

* The textbook does not cover all the topics to be covered in this course. Additional readings may be assigned throughout the semester. These readings may come from materials placed on reserve in the library, internet websites, or other sources.