

Syllabus for Senior Capstone: The Art and Science of Biodiversity

Fact Sheet

Instructor Mike Kaspari (mkaspari@ou.edu) 325-3371

Class Meets Fridays 3:00-6:00, Richards 262

Office Hours (Sutton 202): Wednesday 1:30-4:30, Friday 9:00-12:00

Required:

Five Kingdoms: an illustrated guide to the phyla of life on earth. Lynn Margulis and Karlene Schwartz

The Diversity of Life--Edward O Wilson

Demon Haunted World--Carl Sagan

New Drawing on the Right Side of the Brain Workbook--Betty Edwards

Materials

Drawing pad and plenty of pencils and any other drawing media you like (e.g., charcoal, pen and ink). See also page 13 from Edwards. Three ring binder to serve as a portfolio.

Course Description and Goals

Biodiversity is at once a scientific, artistic, and political concept. It is scientific because it quantitatively describes and analyzes the earth's vast variety of life. It is artistic because the ways we recognize and appreciate biodiversity are more subjective and less associated with the linear logic of science. It is political because the preservation of biodiversity is one goal of society that at times appears to conflict with other goals.

This course is designed to explore biodiversity in each of its domains and in doing so encourage you to develop tools that will be of some practical value in your future endeavors. In particular you will improve your skills in developing, researching, presenting, and critiquing ideas. You will exercise both verbal and spatial logic. Along the way, you will encounter many of the astounding but little known phyla and species that occupy the planet.

Rhythm of the Class

A three hour block of time is a great opportunity. We will typically split up those hours into three different periods, interrupted by breaks. In the **first** part, there will be a quiz over the readings and a series of short lectures by myself and your fellow students. Students will teach fellow students about the scientific, artistic, and political nature of the earth's phyla. In the **second** part we will focus on developing our intellectual toolkit. This will include writing, drawing, web design, rhetoric and baloney detection. In the **third** part we will frequently switch over to a debate/discussion format to analyze that week's topic. Every week, each student is expected to contribute a writing assignment on the topic, and groups of students will be selected to lead debates while the rest critique the arguments made.

Grades

The course will be graded with standard system of 90% or above=A, 80%-90%=B, etc.

Weekly readings quiz **30 points**

Class begins with a 10 minute quiz over the assigned readings.

Two phyla presentations **30 points**

You will be scheduled to give two 12 minute presentations (with 3 minutes for questions) in the first part of two classes.

Writing assignments **20 points**

On most weeks, you will have a 1 page, double-spaced essay on the readings for that week. These will be the jumping off point for discussion.

Participation **20 points**

Students that attend class, provide constructive critiques during the phylum presentations, turn in their assignments, work at developing each week's tools, and participate in discussion will receive full participation points. Attendance is mandatory. Absences will be approved in advance only under extraordinary circumstances (e.g., documented illness).

Schedule

The course is designed to be flexible, and will evolve with the discoveries and desires of the class. The diagnostic exam at the outset will go some way to setting the course agenda. That said, here is how I expect things to go, based on the last course's experiences.

Date	Hour 1	Hour 2	Hour 3
29Aug	Intro to class Diversity of Life overview	Diagnostic Exam	
5Sept	quiz 3 presentations bacteria	Introduction to Systematics	Discussion On being a skeptic
12Sept	quiz 3 presentations protocista	Drawing Exercise I	Baloney Detection in theory and practice
19Sept	quiz 3 presentations plants	Alpha Taxonomy and the artist	Discussion
26Sept	quiz 3 presentations animals	Drawing Exercise 2	Mid-course Correction
3Oct	quiz 3 presentations animals	Drawing Exercise 3 with Guest Lecture	Discussion
10Oct	TBA	TBA	TBA
17Oct	quiz 3 presentations fungi	Drawing Exercise 4	Writing for political action
24Oct	quiz 3 presentations bacteria	Museum Visit and Tour	Museum Visit and Tour
31Oct	quiz 3 presentations protocista	Basics of the web design and copyright law	Discussion
7Nov	quiz 3 presentations protocista	Tools for web construction	Discussion
14Nov	quiz 3 presentations plants	Proposal for web museum	Discussion
21Nov	quiz 3 presentations animals	Public unveiling of web museum of biodiversity	Discussion
THANKSG			
5Dec	quiz 3 presentations animals	TBA	Evaluation
12Dec	Senior Exam	Senior Exam	Senior Exam