



## Investigating Earth Systems

### ENVS 4150/5150 Course Syllabus - Fall 2009

#### INSTRUCTOR:



Jodi Haney, Ph.D. – School of Teaching and Learning and Dept. of Environmental Sustainability

[jhaney@bgsu.edu](mailto:jhaney@bgsu.edu)

137 Life Science (LSC)  
350 Shatzel

372-7361 (Voice @ LSC)

372-9647 (Voice @ Shatzel)

372-6941 (Main Office)

372-8207 (Secretary - Marian)

372- 7291 (Fax)

372- 7243 (Fax)

#### Office Hours:

Thursdays: 3 – 5 pm (137 LSC)

\*or by appointment



#### TEXTBOOK/ MATERIALS:

1. GLOBE Teachers Guide - FREE at <http://www.globe.gov/tctq/tqtoc.jsp>
2. High Speed Web Access - most readings will come from GLOBE website <http://www.globe.gov>
3. **BGSU** E-mail Account - For BLACKBOARD access and communications
4. Portable Disk (USB Drive) for storage/presentations of materials
5. Field/Data Log:
  - ❖ Suggested: 2" Three-Ring Binder with dividers & Calendar/Planner. STAY ORGANIZED!

#### CLASS MEETING TIME\*:

3:30 – 6:20 pm Tuesdays (140 Math/Science Bldg)

\* This class frequently meets OUTDOORS: Dress for the weather & conditions, as we will have class unless the campus is CLOSED ;-). Bring water, appropriate clothing, and insect repellent, etc. as needed.

*Welcome* to ENVS 4150: Investigating Earth Systems (via the GLOBE Program)! Throughout the

semester, we will be focusing on environmental education concepts to help you more deeply understand Earth as a System. Specifically, this course will focus on four environmental concepts: atmosphere, hydrology, soil science, and land cover/biology. Together, we will learn how to monitor our Earth through data collection in each of these areas and share the data we collect with other students, teachers, and scientists around the world using the GLOBE on-line database. To make meaning of the data, we will organize the data using mapping and graphing capabilities and analyze the data using common statistical analyses. Finally, we will report the findings of our work at a GLOBE research colloquium. You will be participating in the roles of both learner (student) and leader (teacher) throughout the semester. As such, you will have opportunities to develop strategies needed to implement the GLOBE program and earn official GLOBE teacher certification – a nice resume addition!

I consider you our most valuable resource. Please provide me with on-going feedback regarding course experiences. Let me know right away if you need special arrangements for test taking, note taking, special print, or other considerations that may help you learn more effectively. Only through open and honest communications will this class reach its true potential. I will hold exceptionally high expectations of you. A **professional** attitude is critical, not only for your success in this course, but also for a successful and rewarding future. Your work is a reflection of your professional self—it should represent your best effort.

## **UNIVERSITY MISSION, CORE VALUES, AND KEY LEARNING OUTCOMES:**

*Bowling Green State University aspires to be the premier learning community in Ohio and one of the best in the nation.*

The University embraces five core values:

- ❖ respect of one another
- ❖ cooperation
- ❖ intellectual and spiritual growth
- ❖ creative imaginings
- ❖ pride in a job well done



These values are evident in the University Learning Outcomes and were used in the design of this course.

### **University Key Learning Outcomes:**

#### ***Intellectual and Practical Skills (IPS)***

- Critical and Constructive Thinking: Inquiry, Examining Values, & Solving Problems Creatively
- Communication: Writing & Presenting
- Engaging Others in Action: Participating & Leading

#### ***General and Specialized Knowledge (GSK)***

- Conversant with the core concepts & knowledge related to human, interaction, and enterprise

#### ***Personal and Social Responsibility (PSR)***

- Interacting with and understanding diverse perspectives
- Engaging communities as a participant and leader using civic and professional knowledge as a basis for values-driven action.
- Giving full consideration to ethical integrity and actions consistent with one's principles as part of each individual's exploration of purpose.

#### ***Integrate, Apply, and Reflect (IAR)***

- Synthesis and advancement of accomplishments across general and specialized studies

## **COURSE LEARNING GOALS & OUTCOMES:**

Through the outlined course experiences, the following course goal will be met: Students will acquire new knowledge and develop inquiry and collaborative skills needed to more deeply understand Earth as a System.

As an active participant of this course, you will have the opportunity to:

- ❖ Accurately collect environmental data using standard protocols (IPS)
- ❖ Conduct and present investigations using GLOBE data to deepen your understanding of Earth Systems (IPS/GSK/IAR)
- ❖ Lead effective learning activities and data collection protocols to help learners deepen understanding and skills related to core course concepts (IPS/IAR)
- ❖ Generate and present a GLOBE Implementation Action Plan (IPS/IAR)

### **EVALUATION:**

### **Points Possible**

### **Your Scores:**

1. Essential Understandings Concept Maps (4 @ 50 pts each)	200 pts	_____
2. GLOBE Teaching Practicum	100 pts	_____
3. EAAS Research Investigation & Poster Presentation	200 pts	_____
4. GLOBE Implementation Action Plan - FINAL	200 pts	_____
5. Field/Lab Data Log	200 pts	_____
6. Performance/Leadership Indicator	100 pts	_____
	=====	
	1000 pts	_____

## **GRADING SCALE:**

Undergraduate:	90–100% = A	80–89% = B	70–79% = C	60–69% = D	Below 60% = F
Graduate:	93–100% = A	83–92% = B	73–82% = C	63–72% = D	Below 63% = F

**COURSE REQUIREMENTS:** *This is a 3- hour – 400/500 level course. You should expect to spend an average of 3 – 6 hours each week preparing for this course, as described in the BGSU Student Handbook.*

- 1. Essential Understandings Concept Maps.** You will construct an IHMC Cmap concept map to depict your conceptual understanding of each of the four primary course topics (atmosphere, hydrology, soil, and land cover/biology). Your maps should demonstrate a deep understanding of these concepts as well as the connectedness of the concept with other concepts. It is expected that you will incorporate course discussions, activities, assigned readings, and prior knowledge and experiences into your maps.
- 2. GLOBE Teaching Practicum.** Your teaching team (2-3/group) will lead/teach a 2 hour lesson consisting of GLOBE Protocols GLOBE Learning Activities, What do the data mean discussions, and data entry on specific course topics. You will receive feedback from your peers and instructor regarding the effectiveness of your lesson in promoting learner understanding and skills.
- 3. Earth as a System (EAAS) Research Investigation & Poster Presentation.** You will use existing GLOBE data to conduct an extensive investigation related to one of your previous investigations or for a new investigation. You will construct a poster that includes: the question you investigated, your hypothesis, the rationale for the data selected and methods used, organized data in the form of maps/graphs/tables, an analysis of the data, and a discussion of the data in light of the posed question/hypothesis. You will orally present your findings at our GLOBE Research Colloquium. You will also submit this poster using the student inquiry web entry page on the GLOBE website.
- 4. GLOBE Implementation Action Plan.** You will develop a detailed action plan for either a formal or informal learning environment outlining how you will implement GLOBE into an educational program (K-12 or informal). Your plan will indicate the GLOBE protocols and data collection logistics you will use, as well as the materials and physical space needed to do so. You will also indicate the learning activities that will be included along the way. Finally, you will discuss any other ideas you have to make your implementation a success.
- 5. Field/Lab Data Log.** You will collect field and lab data during the course and organize and analyze this data into a Field/Lab Data Log. The log will be collected and graded based on comprehensiveness, accuracy, and insightfulness.
- 6. Performance/Leadership Indicator.** It is expected that full credit denotes individuals who have actively participated and assumed leadership throughout the course. Your oral, written, and performance contributions as well as your collaborative abilities and lab/ field performances determine this score. I will assess your performance and your final score will be determined using the rubric found below. Excused absence requests must be submitted in writing PRIOR to the absence **UNLESS** *prior consent is not possible due to legitimate circumstances.*

**100 pts – Leader in class.** Volunteers frequently for in-class activities, asks thoughtful questions frequently, answers questions frequently and with appropriate/thoughtful/logical responses. Demonstrates both passion and respect during course discussions. Adds significantly to a positive learning environment. Lab/Field performance is highly consistent, accurate and strong overall. No **unexcused** absences for this course.

**85 pts- Active Participant in class.** Frequently asks thoughtful questions and answers questions with appropriate/thoughtful/logical responses, etc. Lab/Field performance is highly consistent, mostly accurate and solid overall. A maximum of **2 unexcused** absences for this course.

**70 pts – Sufficient Participant in class.** Sometimes asks thoughtful questions, sometimes answers questions with appropriate/thoughtful/logical responses, etc. Lab/Field performance is somewhat consistent, usually accurate, and adequate overall. A maximum of **3 unexcused** absences for this course.

**55 pts – Sporadic Participant in class.** Rarely asks thoughtful questions or answers questions with appropriate/thoughtful/logical responses, etc. Lab/Field performance is not consistent, often inaccurate and weak overall. A maximum of **4 unexcused** absences for this course.

40 pts. - Same as above, but 5 - 7 absences.

35 pts. - Same as above, but 8 - 10 absences.

0 pts. - Same as above, but > 10 absences.

\*\* Must meet all criteria in any category to receive the score for that category.

#### **Miscellaneous Course Expectations:**

**Codes of Conduct and Academic Honesty Policy:** The instructor and students in this course will adhere to the University's general Codes of Conduct defined in the *BGSU Student Handbook*. Specifically, the Code of Academic Conduct (Academic Honesty Policy) requires that students do not cheat, fabricate, plagiarize, or facilitate academic dishonesty. For details, refer to:

- *BGSU Student Handbook* <http://www.bgsu.edu/offices/sa/studentdiscipline/index.html>

**Disability Policy:** In accordance with the University policy, if the student has a documented disability and requires accommodations to obtain equal access in this course, he or she should contact the instructor at the beginning of the semester and make this need known. Students with disabilities must verify their eligibility through the Office of Disability Services for Students, 413 South Hall, 419-372-8495 (<http://www.bgsu.edu/offices/sa/disability/index.html>).

**Cell Phones, Pagers, and Personal Digital Assistants:** Cell phones, pagers, and PDAs must be turned to manner mode (or off) and put out of sight during class – ***unless the technology is being utilized as a tool and are directly related to the corresponding in-class learning experience.***

#### **Quick Reference:**

- use APA 5<sup>th</sup> Edition for writing and referencing styles [see blackboard documents folder]
- save all documents as Microsoft WORD files and/or PDF or jpeg files
- use standard point size (10 -12), margins (1”), and double spacing for narratives
- use “lastname.assignmentname.filetype” as the file naming system
- place name, date, assignment name, and file name on the first page of the assignment

