Syllabus
ESC 6836
Earth Science for Educators II
3 credits

Prerequisites: None

Meeting time and location: This course will take place entirely over the internet. You will communicate with your fellow students and instructors using BlackBoard, which can be accessed at http://blackboard.fau.edu. You will need to login to BlackBoard using your FAUNet ID (the first portion of your FAU e-mail address). Your initial password for Blackboard is your PIN (for students this is 2 zeros followed by your 2 digit DAY of birth and 2 digit YEAR of birth).

Instructors

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- Please include Earth Science in the subject line of all e-mails
- I typically check e-mail once or twice a day. Please allow 24 hours for me to respond to e-mail. I might not respond to e-mails received over the weekend until Monday.

Office hours: Mondays 12:00 – 1:00 pm
Tuesdays 1:30 – 3:00 pm
Thursdays 4:00 – 5:30 pm
By appointment
In the event that I must unexpectedly cancel office hours I will post an announcement on Blackboard.

Textbooks: None required.

Course objectives: By the end of this course, you should be able to

1) analyze an environmental event from an Earth system science standpoint,

2) identify relationships between each of the Earth system spheres (atmosphere, hydrosphere, biosphere, and lithosphere),

3) investigate, analyze, and develop solutions and/or conclusions regarding an Earth systems science issue,

4) recognize that problem based learning can be employed to simultaneously develop both problem solving strategies and disciplinary knowledge bases and skills,

5) design your own problem based learning lessons that can be used in your classroom to build Earth systems science knowledge and problem solving skills.

Background and logistics: This course is being taught in conjunction with the Earth System Science Education Alliance (ESSEA), which supports institutions across the country in offering a series of online Earth system science courses for educators. The primary goal of the ESSEA courses is to enhance Earth system science knowledge and simultaneously instruct educators on inquiry-based pedagogies. This course is taught using problem based learning. Earth Science for Educators I, ESC 6835, is taught using the jigsaw pedagogy. Following this course, it is expected that educators will be able to model problem based learning in their own classrooms.

The content material for the course is hosted on the ESSEA website (http://esseacourses.strategies.org/index .php). You can access the ESSEA website by clicking on ESSEA in BlackBoard. You will need to login to this site to view the course content. The Institute for Global Environmental Strategies, which is the funding agency for the ESSEA program, conducts research and evaluation on the effectiveness of the ESSEA courses. Therefore you will need to upload all of your assignments to the ESSEA website and participate in surveys hosted on the ESSEA website. All of the online discussions and instructor announcements will be hosted on FAU's BlackBoard site (http://blackboard.fau.edu).

Format of the course: The course is divided into the following 6 components. A detailed schedule is included on the final page of this syllabus. (*Note: ESSEA is providing a growing number of modules. Below is a list of specific modules as an example. The actual modules offered will likely vary from semester to semester.)*

1) Week 1: Welcome to the course, introductions
2) Weeks 2-3: Practice Earth system science analyses
3) Weeks 4-6: Brazilian deforestation module
4) Weeks 7-9: Amphibian crisis module
5) Weeks 10-12: Tsunami module
6) Weeks 13-15: Three Gorges Dam module
7) Week 16: Final project and assessments

During each of the above modules, students will be presented with information about an Earth system science issue. Students will work collaboratively in groups to evaluate relationships between components of the Earth system in the context of the given issue. After gathering data, observations, and facts about the issue, students will reach conclusions, form opinions, and report their ideas. The content, assignments, and grading rubrics for each of the modules are hosted on the ESSEA website (http://esseacourses.strategies.org/index.php or click on ESSEA in BlackBoard). Visit this website to view the modules, but use BlackBoard to communicate with fellow students and the instructors.

Grading: The graded components of this course are listed on the schedule on the final page of this syllabus. Projects will be graded using rubrics to evaluate students' scientific understanding, depth of reasoning, and quality of support for their conclusions. The rubrics are accessible on the ESSEA website (http://esseacourses. strategies.org/index.php or click on ESSEA in BlackBoard). A total of 400 points is available in this course. Letter grades will be assigned as follows:

A	372-400	C	292-307
A-	360-371	C-	280-291
B+	348-359	D+	268-279
B	332-347	D	252-267
B-	320-331	D-	240-251
C+	308-319	F	less than 240

Posting of grades: You will be able to view the grades for your assignments by clicking on My Grades in BlackBoard.

Academic integrity: All students enrolled in FAU courses are expected to abide by the University's honor code and to not engage any academic irregularities including cheating, plagiarism, or "other activities that interfere with the classroom."

Plagiarism is taking credit for someone else's words or ideas. This includes, but is not limited to, ***copying out of a book or off a web page without giving proper credit***, ***minimally rewording or rearranging sentences from a book or web page***, and passing off another's idea or solution as your own. All direct quotes must be placed in quotation marks and the source must be referenced. (*Modified from http://www.cerritos.edu/ladkins/a106/Spring_2002/Plagiarism%20Pledge.htm (9/21/07)).* Penalties for plagiarism may include, but are not limited to, receiving a zero on this assignment and/or failing the course. For more information about the University's Honor Code see http://www.fau.edu/regulations/chapter4/4.001_Honor_Code.pdf.

	Topics	Assignments
Week 1	Welcome to the course Introduce yourself Get to know your event team	Introduce yourself
		Post resources
		Team meet and greet
		Galt
Week 2	Practice ESS analysis	Team name selection
		Discuss readings
		Post resources
		Sample ESS analysis
		Intro cross cutting concepts
Week 3	Collaborating on an ESS analysis	Discuss and interact w/event team
		Post resources
		Submit event team project
Week 4	Brazilian deforestation: Cycle A	Report on your prior knowledge
		Provide feedback form teammates
		List questions and plans to investigate
		List answers
		Team problem statement
Week 5	Brazilian deforestation: Cycle B	Build ESS model
Week 6	Brazilian deforestation: Cycle C	Draft PBL lesson
		Provide feedback for teammates
		Final PBL lesson
Week 7	Amphibian crisis: Cycle A	Report on your prior knowledge
		Provide feedback form teammates
		List questions and plans to investigate
		List answers
		Team problem statement
Week 8	Amphibian crisis: Cycle B	Build ESS model
Week 9	Amphibian crisis: Cycle C	Draft PBL lesson
		Provide feedback for teammates
		Final PBL lesson
Week 10	Tsunami: Cycle A	Report on your prior knowledge
		Provide feedback form teammates
		List questions and plans to investigate
		List answers
		Team problem statement
Week 11	Tsunami: Cycle B	Build ESS model
Week 12	Tsunami: Cycle C	Draft PBL lesson
		Provide feedback for teammates
		Final PBL lesson
Week 13	Three Gorges Dam: Cycle A	Report on your prior knowledge
		Provide feedback form teammates
		List questions and plans to investigate
		List answers
		Team problem statement
Week 14	Three Gorges Dam: Cycle B	Build ESS model
Week 15	Three Gorges Dam: Cycle C	Draft PBL lesson
		Provide feedback for teammates
		Final PBL lesson
Week 16	Final project and assessments	Final galt
		Final cross cutting concepts
		Post ESSEA survey
		Final PBL lesson

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