Syllabus
ESC 6835
Earth Science for Educators I
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 the jigsaw pedagogy can be employed to simultaneously develop both problem solving strategies and disciplinary knowledge bases and skills,

5) design your own jigsaw 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 the jigsaw pedagogy. Earth Science for Educators II, ESC 6836, is taught using problem based learning. Following this course, it is expected that educators will be able to model the jigsaw teaching method 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: Global climate change module
4) Weeks 7-9: Ice sheets module
5) Weeks 10-12: Mt. Pinatubo module
6) Weeks 13-15: Stratospheric ozone 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	ESSEA	Blackboard	Due Dates	Points
Week 1 01/05/08 - 01/11/08	Welcome to the course Introduce yourself Get to know your event team	Introduce yourself		X	1/8	2
		Post resources		X	1/11	2
		Team meet and greet		X	1/11	2
		Galt	X		1/11	2
Week 2 01/12/08 - 01/17/08	Practice ESS analysis (Note: This is a short week. Starting next week, *each week will begin on a Thursday and end on a Wednesday*)	Team name selection		X	1/17	2
		Discuss readings		X	1/14	4
		Post resources		X	1/17	2
		Yellowstone ESS		X	1/17	2
		Intro cross cutting concepts	X		1/17	2
Week 3 01/18/08 - 01/23/08	Collaborating on an ESS analysis: Giant Impact Theory	Discuss and interact w/event team		X	1/20	4
		Post resources		X	1/23	2
		Submit event team project	X	X	1/23	12
Week 4 01/24/08 - 01/30/08	Global Climate Change: Cycle A	Pre-test	X		1/26	2
		Discuss and interact w/sphere team		X	1/26	4
		Post resources		X	1/30	2
		Submit individual thoughts and rubric	X	X	1/26	12
		Submit sphere team project and rubric	X	X	1/30	16
Week 5 01/31/08 - 02/06/08	Global Climate Change: Cycle B	Discuss and interact w/event team		X	2/2	4
		Post resources		X	2/6	2
		Submit event team project and rubric	X	X	2/6	16
Week 6 02/07/08 - 02/13/08	Global Climate Change: Cycle C	Post resources		X	2/13	2
		Peer review of application project		X	2/13	2
		Submit classroom application project	X	X	2/13	20
		Post test	X		2/13	2
Week 7 02/14/08 - 02/20/08	Ice Sheets: Cycle A	Pre-test	X		2/16	2
		Discuss and interact w/sphere team		X	2/16	4
		Post resources		X	2/20	2
		Submit individual thoughts and rubric	X	X	2/16	12
		Submit sphere team project and rubric	X	X	2/20	16
Week 8 02/21/08 - 02/27/08	Ice Sheets: Cycle B	Discuss and interact w/event team		X	2/23	4
		Post resources		X	2/27	2
		Submit event team project and rubric	X	X	2/27	16
Week 9 02/28/08 - 03/12/08	Ice Sheets: Cycle C (Note: This is a long week due to *spring break - March 3rd - March 9th*)	Post resources		X	3/12	2
		Peer review of application project		X	3/12	2
		Submit classroom application project	X	X	3/12	20
		Post test	X		3/12	2
Week 10 03/13/08 - 03/19/08	Mt. Pinatubo: Cycle A	Pre-test	X		3/15	2
		Discuss and interact w/sphere team		X	3/15	4
		Post resources		X	3/19	2
		Submit individual thoughts and rubric	X	X	3/19	12
		Submit sphere team project and rubric	X	X	3/19	16
Week 11 03/20/08 - 03/26/08	Mt. Pinatubo: Cycle B	Discuss and interact w/event team		X	3/22	4
		Post resources		X	3/26	2
		Submit event team project and rubric	X	X	3/26	16
Week 12 03/27/08 - 04/02/08	Mt. Pinatubo: Cycle C	Post resources		X	4/2	2
		Peer review of application project		X	4/2	2
		Submit classroom application project	X	X	4/2	20
		Post test	X		4/2	2
Week 13 04/03/08 - 04/09/08	Stratospheric ozone: Cycle A	Pre-test	X		4/5	2
		Discuss and interact w/sphere team		X	4/5	4
		Post resources		X	4/9	2
		Submit individual thoughts and rubric	X	X	4/9	12
		Submit sphere team project and rubric	X	X	4/9	16
Week 14 04/10/08 - 04/16/08	Stratospheric ozone: Cycle B	Discuss and interact w/event team		X	4/12	4
		Post resources		X	4/16	2
		Submit event team project and rubric	X	X	4/16	16
Week 15 04/17/08 - 04/23/08	Stratospheric ozone: Cycle C	Post resources		X	4/19	2
		Peer review of application project		X	4/19	2
		Submit classroom application project	X	X	4/23	20
		Post test	X		4/23	2
Week 16 04/17/08 - 04/23/08	Final project and assessments	Final galt	X		4/19	2
		Final cross cutting concepts	X		4/19	2
		Post ESSEA survey	X		4/23	2
		Final event ESS analysis	X	X	4/23	20

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