

Science for Early Childhood Education
ESCI 4420
Spring 2007
Tuesday, Thursday 10:10 – 12:05

Instructor Information

Anna K. Scott, Ph.D.

Office Hours: Right before class, and Thursdays from 2-4, other hours by appointment

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Important Note: This syllabus is tentative. If needed, it will be modified.

Course Objectives: The primary goal of this course is that you will meaningfully learn science such that you are comfortable and excited about teaching it at the elementary level. My aim is to teach content and offer pedagogy by example, as well as give you an opportunity to practice your science teaching skills. No less important is the goal that I help you develop into a reflective practitioner such that you are continually evolving as a teacher.

Course Expectations: I expect that you participate fully and enthusiastically in all aspects of the course. Naturally this requires that you be present, physically and mentally. You are emerging professionals, and I will expect that you maintain professional conduct. This means you will arrive on time, stay for the duration, etc. Also, I expect that we maintain a culture of honesty and openness. I will ask for feedback from you about your learning in the course, and I expect that you will thoughtfully provide it. I welcome constructive criticism.

Course Materials:

Tippins, D., Koballa, T., & Payne, B. (2002). *Learning from cases: Unraveling the complexities of elementary science teaching*. Boston: Allyn and Bacon.

Georgia Performance Standards: Available at

<http://www.georgiastandards.org/science/asp>

We will meaningfully consider the following questions as well as others you generate:

1. What is the nature of science knowledge?
2. What do teachers do when they teach science?
3. How can I do inquiry and maintain a structured classroom?
4. How can I teach science as part of an interdisciplinary approach?
5. How can I assess science understanding?
6. How can girls and minorities be encouraged to learn science?

Academic Honesty:

In accordance with the **University Honor Code and Academic Honesty Policy**, academic work must meet the standards contained in *A Culture of Honesty*. Each student is responsible to inform themselves about those standards before performing any academic work. Details are available at <http://www.uga.edu/ovpi/honesty/acadhon.ht>

Grade Apportionment:

5 case study reactions at 5 points each:	25points
Field Experience Projects (2 @ 15 points each):	30 points
1 Planned Lesson (Microteaching; 2 @ 15 pts each):	30 points
Class Participation:	<u>15 points</u>
	100 points

Assignment Details:

Case study reactions: Throughout the semester, we will read 5 cases, and you will be expected to write a reaction. This is very different than a summary, and involves you thinking meaningfully about the details of the case. These will be about 3 pages, double-spaced, but this is guideline. Reflect meaningfully, write thoroughly, and stop when you have finished! ☺ Questions you might like to consider include: What is the take home message of this case? Do I agree with how the teacher handled the situation? What would I do in a similar situation? These reactions should be 100% your thoughts—don't read the published reactions until you have finished writing yours. I believe in mastery learning. If I don't feel you have been truly reflective, I will give you an opportunity to try again.

Microteaching (2 @ 15% each)

For this assignment, you and a partner will develop and teach a science lesson. This activity is intended to give you an opportunity to experience the range of practices associated with pulling off a science lesson. You and your partner will be required to submit a lesson plan for this assignment. The first round of these will occur prior to your field experience. After field experience, we will get to see your teaching again. This may involve a lesson you thought was fabulous that you saw in the schools and requires submission of a lesson plan.

Field Experience Projects:

1. **Students' ideas about science (15%)** Interview three students about their ideas about a particular science topic. Try to select students who represent the range of the overall population in the class; we will develop starter questions together in class, prior to the field experience. My goal here is to develop your awareness of kids' amazing explanations for why the world is the way it is and help you develop methods for invoking prior knowledge when you're teaching a lesson. Your final project will include:

1. A preliminary list of questions
2. Your notes from each interview
3. A write up constituting your reaction to the students' responses.

2. **Lesson Plan (15%)**

- a. Teach at least one science lesson
- b. Design and conduct at least one science center investigation you will be required to develop a lesson plan for this assignment, and *you must submit the lesson for approval prior to teaching it*. I may ask you to revise your lesson, so please allow sufficient time to make revisions. After teaching your lesson, you will interview at least one student to find out about his/her understanding of the ideas you presented. Your final product will consist of a complete lesson plan, as well as a reflective piece indicating how you felt about how the lesson went including comments from your interview.

Tentative Topic Outline and Schedule

Week	Tuesday	Thursday
January 8-January 12	Welcome Feelings about Science? Syllabus	Activity Hodge Podge GPS Overview Microteaching Assignments HW: Find one good Earth Science Lesson-explain how it addresses at least two standards
January 15-January 19	Earth Science A Private Universe Phases of the Moon Read Case: What Shape is a Star	Invoking Prior Knowledge Asking Good Questions Earth Science HW: Find a good life science Lesson-explain how it addresses at least two standards
January 22-January 26	Reaction #1 Due Life Science	Life Science
January 29-February 2	Read Case: The Day the Lobster Died HW: Find a good Physical Science Lesson-explain how it addresses at least two standards	****Science for Kids with Special Needs
February 5-February 9	Reaction #2 Due Physical Science	**** Read Case: El Secreto de las Ninas Science for ESOL kids
February 12-February 16	Physical Science	****Reaction # 3 Due
February 19-February 23	Lesson Preparation Time	Microteaching I
February 26-March 2	Microteaching I	In the field! ☺
Through March 30	FIELD EXPERIENCE	FIELD EXPERIENCE
April 2-April 6	Critical Reflection What have we learned?	Read Case: Who Said Child's Play isn't Important?
April 9-April 13	Field Assignments Due—but if you want to do them early, is my guest! ☺	Reaction #4 Due Microteaching II
April 16-April 20	Microteaching II	Read Case: Creating Learning Environments for Bilingual Students
April 23-April 27	I am not sure yet.... 🖨	Reaction #5 Due
April 30	Last day of Class	

*****Special Scheduling Issue: Because you have been scheduled to have field time on 2/1, 2/8, and 2/15 during our regularly scheduled class time, we will be meeting at different times that week. More on this later.....