

ESCI 4420
Spring 2006
Science – Early Childhood
Monday and Wednesdays 1:25 – 3:20

Instructor Information:

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Please note that this syllabus is tentative and may be modified with notification as the semester progresses.

Course Description:

This will be an introduction to the fun and interesting world of elementary science teaching! This course is intended to help provide you with opportunities to construct your personal vision of what elementary science teaching and learning can be like and to help you to learn how to plan appropriate activities which fit your vision. During this semester, you will:

- be involved in both independent and group activities which can serve as a starting point for your own activity planning
- learn the concepts that these activities represent and how they are related to the Georgia Performance Standards
- learn how these activities can tie in with locally used textbooks

Course Materials:

Required texts:

Tippins, D., Koballa, T., & Payne, B. (2002). *Learning from cases: Unraveling the complexities of elementary science teaching*. Boston: Allyn and Bacon. ISBN: 0-205-30588-1

Georgia Performance Standards. Available at <http://www.georgiastandards.org/science.asp> and you will receive a copy of these in the first class meeting.

Course Goals:

During the semester, we will try to answer questions such as:

1. What is the nature of science and scientific ways of inquiry? How can an elementary classroom become a place where these happen?
2. How can elementary science be taught in an interdisciplinary fashion?
3. What can we do to teach science in a “culturally relevant” fashion for the diversity of learners that we work within our classrooms?
4. How can I become a reflective teacher of science?

Course Objectives:

1. Lose the fear! Embrace positive attitudes towards science, science teaching, and science learning.
2. Scavenge! Learn how to find and demonstrate relevant science activities for your classroom.
3. Connect! Learn how to tie activities, the curriculum, and the textbook together.
4. Blend! Learn how to tie different disciplines into your science lessons.
5. Reflect! Learn how to evaluate your experiences and the experiences of others to affect your own science teaching beliefs and practices.

Course Expectations:

I expect you to:

- Participate actively and enthusiastically in group and class discussions and activities.
- Attend ALL course sessions.
- Be on time! If you have some sort of emergency, though, and you find that you can only make – for instance – the last 30 minutes of class, come on in. Need I say that I don't want you to have an emergency every week? I will reserve the right to penalize for excessive tardiness.
- Read and reflect critically on assigned readings. In other words, when I assign a reading, I don't want a summary. I want you to bring your own thoughts to the table.
- Demonstrate reflection through discussion and writing.
- Share resources, reading, and insights!
- Complete assignments on time.
- Communicate expectations, frustrations, and ideas. This class should be a positive learning experience.

Attendance

Class participation is vital to this course. If you don't attend, you're missing activities that are done during class time. Get to class on time. It is absolutely vital in your professional life as a teacher that you're in the classroom on time and prepared *every day*. That standard will hold for this class. If it is necessary for you to miss a class due to an emergency, please make every effort to notify me *in advance*.

Academic Honesty

All academic work must meet the standards contained in "A Culture of Honesty." Students are responsible for familiarizing themselves about those standards before performing any academic work. This is extremely important, as the policy specifically states that "*Lack of knowledge of the provisions of this policy is not an acceptable response to an accusation of violating this policy.*" It may be found online at:

http://www.uga.edu/ovpi/honesty/culture_honesty.htm

You will want to pay particular attention to the following sections:

<http://www.uga.edu/ovpi/honesty/sect05.htm> - Prohibited conduct

<http://www.uga.edu/ovpi/honesty/sect06.htm> - Required conduct

Disability Policy

The University of Georgia is committed to providing equal educational opportunities for qualified students with disabilities in accordance with state and federal laws including the American Disabilities Act. Help for disabled students is available from the Disability Services/Learning Disabilities Center. More information is available at

<http://www.uga.edu/stuact/handbook/stuaffairs/disability.html>

Cell phones

Prior to each class, please either turn your cell phone off or place it in "vibrate" or "ringer off" mode.

Assignments and Grading

5 case study reactions at 6 points each	30 points
Field Experience Project	30 points
1 planned lesson	30 points
Class participation	<u>10 points</u>
	100 points

Grading scale: 90-100 = A, 80-89 = B, 70-79 = C, 60-69 = D, below 60 = F

Notes on assignments:

Case study reactions. We'll be looking at six case studies from your text over the course of the semester. Please note again: I do not want summaries of what happened in the case. I want reactions.

What I want you to do is to read the case and write down your thoughts and critiques about it. Some questions you might consider are these: what was the point of the case? Was it different than you might have expected from the title? Were there issues about how the teacher reacted? How the student(s) reacted? If there was some sort of unexpected or undesired result of the lesson, what might the teacher have done differently to make things come out differently? What would you have done if this had happened in your classroom? Sometimes your reaction might be a little different at the beginning of the reading than at the end – did your thinking change? If so, how?

Please do not read the commentaries until after you have done your own writing. I don't want to read a bunch of copies of the commentaries. I want to know your thoughts.

Please bring two typed copies of your reaction to class. One of those copies is due at the beginning of class. Someone might contribute something during the discussion that you think is a really good thought, and I'd like you to write any notes or new thoughts down on the other copy and keep it for yourself.

Also, note that we're doing six cases and only five reflections are due. You must turn in a reflection on the first and last case, but may skip one of the other weeks.

Field experience project. I want you to write a case study in the same manner that you find them in the book. This is intended to tie into the assignments in your other classes! I'm aware that you're keeping a field notebook in one class and a journal in another. The best thing that you can do is to find some sort of experience in your notebook or journal that you think could serve as a good example to other preservice elementary teachers, and write it up. Was there some sort of crisis or unexpected event? Was there a student reaction that you didn't expect? I'd like this to contain different sections:

First, give me a title. Clever is good.

Second, set the stage. Give me some information about the teacher, the school, and the classroom (be careful not to use real names). Tell very briefly what aspect of teaching this involves – it could be a pedagogical, a content, a classroom management issue.

Third, tell me what happened in detail.

Fourth, ask at least two questions that would assist your readers in reflection.

Lesson plan. This, obviously, will be a lesson plan. You'll do these in teams of two. You'll pick a partner and then your team number will be drawn from a bowl.

Teams 1 and 2 must do a lesson plan on material that is covered in Weeks 1-3.

Teams 3 and 4 must do a physical science lesson.

Teams 5 and 6 must do a life science lesson.

Team 7 must do an earth science lesson.

The lesson must be accompanied by a lesson plan that includes the following:

- Title
- Concept / Topic Taught
- Standards Addressed

- General Goal(s)
- Specific Objectives
- Required Materials
- Steps required to carry out plan

Schedule (please note that this schedule is tentative and subject to modification throughout the semester):

WEEK	MONDAY	WEDNESDAY
1 January 9 & 11	Class introductions Syllabus overview GPS overview	Basic and integrated process skills SKCS1-6 S1CS1-7 S2CS1-7
2 January 16 & 18	No class	Basic and integrated process skills S3CS1-8 S4CS1-8 S5CS1-8 <i>Case 2.1 discussion</i>
3 January 23 & 25	What is Inquiry Science? Discrepant Events Productive Questions	Sociocultural Dimensions of Science Teaching and Learning <i>Case 8.1 discussion</i>
4 January 30 & February 1	Physical Science S*P*	Physical Science S*P* Team 1 Lesson Team 2 Lesson <i>Case 3.1 discussion</i>
5 February 6 & 8	Physical Science S*P*	Physical Science S*P*
6-9 February 13- March 10	FIELDWORK	FIELDWORK
March 12-18	SPRING BREAK	SPRING BREAK
10 March 20 & 22	Life Science S*L*	Life Science S*L* Team 3 Lesson Team 4 Lesson <i>Case 2.2 discussion</i>

<p>11 March 27 & 29</p>	<p>Life Science S*L* Field Experience Project Due Project Discussion</p>	<p>PROJECT WILD 1:25 – 4:30</p>
<p>12 April 3 & 5</p>	<p>PROJECT WILD 1:25 – 4:30</p>	<p>NO CLASS (Project Wild time make-up)</p>
<p>13 April 10 & 12</p>	<p>Gender Issues in Science International Science Education</p>	<p>Controversial Issues Team 5 Lesson Team 6 Lesson <i>Case 9.1 discussion</i></p>
<p>14 April 17 & 19</p>	<p>Earth Science S*E*</p>	<p>Earth Science S*E* <i>Case 7.1 discussion</i></p>
<p>15 April 24 & 26</p>	<p>Earth Science S*E*</p>	<p>Earth Science S*E* Team 7 Lesson</p>
<p>16 May 1 & 3</p>	<p>Semester reflections</p>	<p>Don't come in...you're done!</p>