

Oliver, A. (2006). *Creative teaching science: In the early years & primary classroom*. London: David Fulton Publishers.

* Victor, E., Kellough, R. D., & Tai, R. H. (2008). *Science K-8: An integrated approach*. 11th ed. Columbus, OH: Pearson, Merrill, Prentice Hall.

Miscellaneous

Project WILD Training Materials, \$15

Nightgazer Journal, ~\$10

Course Objectives

Students who successfully complete this course will:

- Develop positive attitudes towards science, science teaching, and learning.
- Gain confidence and competence in designing science instruction in elementary classrooms.
- Explore children's understanding of scientific phenomena and factors that influence learning.
- Create an awareness of knowledge of current literature and contemporary issues in science education.
- Foster an understanding of science inquiry as a way to motivate students and enhance their creativity.
- Incorporate science content understanding, nature of scientific knowledge, and science process skills.
- Develop an understanding of diversity and equity to meet the needs of all students in an elementary classroom.
- Employ various forms of assessment and questioning to evaluate student learning.
- Increase their familiarity with ways to use an outdoor learning environment for teaching and learning science.

Expectations

- Be an active participant in class discussions and activities.
- Attend **all** course sessions.
- Be **prompt** in attendance.
- Read and reflect **critically** on assigned readings.
- Locate and read additional materials related to elementary science teaching.
- Demonstrate reflection through discussion and writing.
- Share resources, readings, and insights.
- Collaborate with colleagues regarding learning.
- Complete **all** assigned tasks to the best of your ability.
- Communicate expectations, frustrations, and ideas.

Academic Honesty

The instructor is committed to the principles of academic honesty and subscribes to the UGA Honor Code and Academic Honesty Policy guidelines for the definition and processes of academic integrity. All students are subject to these guidelines. The instructor has and will initiate academic dishonesty proceedings in this course if there is reasonable cause to do so.

All academic work must meet the standards contained in "*A Culture of Honesty*." Each student is responsible for knowing those standards before performing academic work. *A Culture of Honesty* (the UGA Academic Honesty Policy) can be found at http://www.uga.edu/honesty/ahpd/culture_honesty.htm. Printed copies of *A Culture of Honesty*

may also be obtained from the office of the University of Georgia Vice President for Academic Affairs or from the Independent and Distance Learning office in summary form. Students may talk with their instructors about academic honesty. E-mail and/or telephone contact information is available in this course guide and in the Independent and Distance Learning Student Handbook.

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. Students with a disability or health-related issue who need class accommodation should make an appointment to speak with the instructor as soon as possible. More information is available at <http://www.drc.uga.edu/>.

Attendance Policy

Attendance and participation will affect your final grade. Regular and punctual attendance is an important part of this course. *If you miss more than two class sessions your final grade will drop by one grade level (e.g., from A- to B+).* Exemptions may be granted in cases of serious illness, death in the family, religious observance, and other events that fall under the guidelines for excused absence. Please inform me *in advance* if you are going to be absent from class.

As a class, we will explore and develop ideas related to science teaching and learning. Your participation will enhance the quality of your experience and that of your classmates. Participation involves being a thoughtful contributor to class discussions and activities. I expect that you will come to class prepared to participate in our class discussions. *Your final grade will drop by one grade level (e.g., from A- to B+) if participation becomes problematic.*

Evaluation/Grading

The quality of work submitted will reflect your personal standards of quality...keep this in mind as you make judgments regarding the conditions of the assignments you submit. You can earn an A by submitting assignments that exhibit exemplary quality. Detailed directions are provided for each assignment along with performance criteria. All assignments must be turned in on or before the day they are due. Assignments should be submitted via WebCT unless otherwise noted.

If you are unsatisfied with your performance on an assignment, you may revise and resubmit it. You must submit your revised assignment no later than two weeks after the assignment was returned to you.

Grading

Your final grade will be calculated based on the following:

| | | |
|------------|----------|----------|
| 100-93=A | 92-90=A- | |
| 89-87=B+ | 86-83=B | 82-80=B- |
| 79-77=C+ | 76-73=C | 72-70=C- |
| 69-67=D+ | 66-63=D | 62-60=D- |
| Below 60=F | | |

Course Assignments – In Detail

Science Autobiography

In this assignment, you are asked to reflect on the question, “where is science in my life?” Think about your life history and identify five meaningful experiences/encounters you have had with science. Keep in mind that science can take on various appearances and dynamics. You will develop a creative way to display your science autobiography. Select one of the experiences and

prepare a one-page description of it. Your written one-page description should be submitted via WebCT.

(*Examples:* Develop a book; make a mobile; make a photo-essay; create a mural; write a Reader's Theater; develop an epic poem, write a collection of songs, etc.)

| <i>Science Autobiography</i> | Points |
|---------------------------------------------------------------------|----------------|
| Shows evidence of deep reflection | 2 |
| Includes a minimum of 5 examples (<i>in the creative display</i>) | 3 |
| Creative | 2 |
| One-page autobiography description | 4 |
| Typed and submitted on time | 1 |
| Total Points (12 pts.) | 12 pts. |

Due date: Wednesday, January 14, 2009 at 1:25PM

Science & Children Response Paper and Presentation

Science & Children is a professional journal for teachers concerned with the teaching of science at the elementary level. It covers topics and teaching techniques that K-5 teachers care about most.

The selected *Science & Children* journal articles are integral for developing and reflecting on your ideas about science teaching. In this assignment, you are asked to provide a one-page response to one of the article. Your response should:

- a) summarize the key ideas of the article,
- b) describe what surprised you about the article,
- c) discuss relevant ideas to teaching, and
- d) provide three potential discussion questions.

Your response should be submitted individually via WebCT prior to leading the class discussion.

In addition to the response paper, you are asked to lead a class discussion with an assigned partner.

As a team, you are to:

- a) prepare discussion questions and
- b) lead a class discussion (10-15 minutes)

| <i>Science & Children Response Paper and Presentation</i> | Points |
|------------------------------------------------------------------------------------------------------------------|----------------|
| <i>Response paper:</i> | |
| In-depth insight and reflection | 2 |
| Summary of key ideas of the article | 2 |
| Analysis from a teacher and student perspective | 2 |
| Explanation of relevant ideas to teaching. Determines and explains if the suggestions in the article are viable. | 2 |
| Three potential discussion questions | 1 |
| Typed and submitted on time | 1 |
| <i>Discussion:</i> | |
| Provides overview and context of the journal article | 1 |
| Provides and utilizes discussion questions | 1 |
| Leads engaging discussion (captures audience attention and promotes discussion) | 2 |
| Time: (10-15 minutes) | 1 |
| Total Points (15 pts.) | 15 pts. |

Due date: Varies; See WebCT for schedule

Nightgazer Journal

The night sky has guided travelers and delighted people around the world for centuries. Constellations and bright stars have been used to mark a person location and calculate how far a person has traveled. Today, it is important for students to “know Earth's place in the universe, to understand the scale of vast interstellar distances, to gauge time all the way back to the beginning, and to satisfy the tenets of science literacy, students should understand how to find and map the stars and other objects in the night sky” (NSTA, <http://www.nsta.org/publications/interactive/aws-din/din.aspx>).

The purpose of this activity is for *you to observe the moon on a regular basis and notice that it changes over time*. Using a nightgazer journal, you will make observations and ask questions that arise while watching the night sky. After two months of observation, you will be able to recognize basic patterns that later can be used to make predictions of where and when you can see the moon, and what it looks like.

Instructions

Starting the week of January 19th, 2009 you should:

1. Select a location and time to observe the moon every night. Record the information in your journal.
2. Each night go to the same place at the same time and observe the moon. Notice *exactly* where the moon is in the sky. Is it above your neighbor's house or a light post? In your journal, draw a picture of how the moon looks (its phase, its location in the sky, and its size). If desired, document other objects in the sky as well. If the moon is not present or clouds block its view, document these conditions in your journal.
3. In your journal, at least once a week, write a question(s) you have about the moon's appearance or location. Include inferences you have drawn about the night sky. These might include responses such as why does the moon change its shape or why is the moon not visible at times?

Attempt to view the moon on a daily basis. However, if you feel you are unable to meet the requirements of this assignment, please see the instructor.

| Nightgazer Journal | Points |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Journal is comprehensive <i>Includes:</i> - at least 4 entries/week from January 19, 2009-March 29, 2009. - each entry has a drawing of the moon and gives its location and size. | 10 |
| Includes at least one question/week about the moon's appearance or location. | 7 |
| Includes inferences drawn about the night sky. At least one inference/two weeks from February 2, 2009-March 29, 2009. | 6 |
| Journal submitted on time | 2 |
| Total Possible Points (25 pts.) | 25 pts. |

Due date: Wednesday, April 1, 2009 at 1:25PM

Field Assignment #1

Students' Understanding of Science

For this assignment, you should interview at least two students about their ideas regarding a particular science topic. Try to select students who represent a range of the overall population of the class.

One purpose of this assignment is to spend time talking with students about science. Talking with kids is a great way to learn about what they know. These conversations are intended to help you

get a sense of what students understand about a particular topic. Therefore, it is important that you write interview questions that are appropriate for the topic and that can help you explore the issue in depth with the student. Think about the questions used by the interviewer in *A Private Universe* (available at www.learner.org.) The questions did not ask the student to simply recall facts. Rather, the questions asked the student to try to make sense of scientific phenomena (in this case the questions targeted a student's ability to understand the cause of the seasons). Questions like these are more useful in figuring out what students understand about a particular topic.

During the initial meetings with your mentor teacher, discuss this assignment. Talk with your mentor about the particular science topic for the conversations, the questions (provide a copy of the interview questions), and which students will be spoken with. Also, arrange a time and location for the student interviews.

For this assignment, prepare a 3-page assessment and commentary. Include the following:

- A description of the students in the class and the students you interviewed (e.g., age, gender, perceived ability level, etc). Use pseudonyms when writing about the students, teachers, and school.
- A list of the questions you asked each student.
- A summary of students' responses to the questions (based on the notes you collected during the conversation).
- A description of any trends you see in terms of students' ideas about the topic (e.g., do students have similar ideas about a certain phenomenon? different ideas?)
- Your assessment of whether or not your questions were effective in tapping into students' ideas.
- Which questions were particularly useful for gaining insight into students' ideas?
- Are there any questions you wished you would have asked?
- A commentary about what you learned by talking with students.

Your assessment and commentary should be double-spaced with 1" margins. The following grading rubric will be used for this assignment.

If you are unable to interview students, please feel free to propose a project to fulfill this assignment that helps you assess students' understanding of science. You should consult your instructor and submit your questions prior to beginning your project.

| Field Assignment #1 - Students' Understanding of Science | Points |
|----------------------------------------------------------------------------------|----------------|
| Describes students in the class and the students interviewed | 3 |
| Provides questions asked of each student | 3 |
| Includes a summary of students' responses to the questions | 4 |
| Describes trends seen in terms of students' ideas about the topic | 4 |
| Assesses whether or not questions were effective in tapping into students' ideas | 4 |
| Provides commentary about what you learned by talking with students | 5 |
| Typed, 3-page, double-spaced with 1" margins; submitted on time | 2 |
| Total Points Possible (25 pts.) | 25 pts. |

Due date: Friday, February 20, 2009 at 11PM (upload to WebCT)

Field Assignment #2

Teaching Science in the Classroom

You will have many opportunities to see and do elementary science teaching in the context of your methods class and your field experience classroom. As part of your field experience, **select and conduct one of the following:**

- Teach a science lesson. You can design the lesson to:

- integrate science with other content areas (perhaps through literature, role play, mathematics, etc.). *If you are not assigned to teach science, prepare a lesson (in another subject) that integrates concepts in science (e.g., history may integrate scientific developments as factors of change.)*
- start with the learners' questions (e.g., What would you like to learn about rocks? How can we go about learning that?)
- focus on inquiry by encouraging students to be problem-solvers
- incorporate science content that directly relates to societal issues and/or
- use cooperative learning strategies (e.g., assigned roles) to organize the lesson and facilitate learning.

- Design and conduct an exploratory science center.

You will be required to develop a lesson plan for this assignment, and *you must submit the lesson for approval prior to teaching it*. You may be asked to revise your lesson, so allow sufficient time to make revisions. Submit your draft lesson plan by Monday, February 23, 2009 via WebCT.

In addition to this assignment, **you should:**

- make arrangements with one of your classmates whose field assignment is located at the same school *or* your mentor teacher to observe the students during your lesson. The observer should focus on the actions and comments of the students in the classroom. Ask the observer to take notes and provide you the findings. The observer should use pseudonyms when writing about the students, teachers, and school.
- reflect on your teaching. Write a reflection. Take this opportunity to write your thoughts and feelings. Consider whether the aim of the lesson was achieved. What went well? What didn't go as you had planned? What came up during the lesson that wasn't anticipated? Did you deviate from your lesson plan? If so, why? Were the students engaged and learning? To what extent did students learn the objectives? Did students need additional knowledge/information before beginning this lesson? Did other needs become apparent in lesson? Which methods were effective? Did you check the students' understanding throughout the lesson? Were the materials available and appropriate? Are there any students who did particularly well, or had a particularly difficult time with the lessons concepts? How do you account for their performance? What might you do differently next time?

Complete the following form by having your mentor teacher and observer sign it.

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Field Assignment # 2 | |
| _____ (Student Teacher's Name) | |
| MENTOR: | |
| My student teacher, _____ (name,) has taught a science lesson <u>and/or</u> taught a science exploratory center during his/her field experience. | |
| _____ | _____ |
| (Name- Print) | Signature |
| | _____ |
| | Date |
| * * * * | |
| OBSERVER: | |
| I observed _____ (name) as he/she taught a science lesson <u>or</u> science exploratory center. | |
| _____ | _____ |
| (Name- Print) | Signature |
| | _____ |
| | Date |

| Field Assignment #2 - Teaching Science in the Classroom | Points |
|------------------------------------------------------------------------------------------------------------------------------|----------------|
| Lesson Plan: | |
| States grade level and science concept(s) | 1 |
| Details purpose | 1 |
| Lists learning outcomes | 2 |
| Includes the Georgia Performance Standards | 1 |
| Provides a explanation of science concepts that are required to understand and teach the lesson | 4 |
| States accommodations and modifications (<i>for students</i>) | 2 |
| Includes: | |
| - materials and safety | 1 |
| - 5E implementation (explains the activity, details what the students do and ask, as well as what the teacher does and asks) | 8 |
| - teacher background and resources | 1 |
| Organized format | 1 |
| Submitted lesson plan on time | 1 |
| Submitted a complete and signed assignment form | 2 |
| Total Possible Points (25 pts.) | 25 pts. |

Due date: Draft lesson plan due by Monday, February 23, 2009 at 11PM (upload to WebCT); Signed assignment form due Monday, March 16, 2009.

Post-field Experience Reflection

Following your field experience, you will be asked to reflect on your experience and what you learned about teaching science to elementary students. An appointment will be scheduled with each student and the instructor to discuss their experience.

| Post-field Experience Reflection | Points |
|----------------------------------------------------------------------------------------|----------------|
| Demonstrates in-depth insight and reflection | 4 |
| Discusses what was learned about science teaching and learning during field experience | 3 |
| Provides one significant, relevant example from field experience | 3 |
| Total Possible Points (10 pts.) | 10 pts. |

Due date: Varies; See WebCT for schedule.

Teaching Science to Children- In class Presentation

The purpose of this assignment is for you to discuss your experience(s) related to science teaching and learning with your classmates. You may select to present a science activity/lesson you taught to the elementary students or discuss your students' ideas regarding a particular science topic that emerged from your interviews. You will not be expected to upload a file for this assignment. Your presentation will be graded using the following rubric.

| Teaching Science to Children - In class Presentation | Points |
|------------------------------------------------------|--------|
| <i>Presentation Skills</i> | |
| - Engaging (captures audience attention) | 2 |
| - Presentation is not read | 2 |
| <i>Content</i> | |
| Synopsis of students' interviews | 6 |
| - summarizes student responses | |

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <ul style="list-style-type: none"> - describes of trends - assessment of questions <p><i>OR</i> Presentation of science activity/lesson</p> <ul style="list-style-type: none"> - states activity/lesson's goal - discusses of science concepts addressed in activity/lesson - demonstrates the activity/experiment | |
| - Reflection of what you learned about science teaching and learning through the activity | 3 |
| - Provides one significant, relevant example from field experience | 2 |
| Total Possible Points (15 pts.) | 15 pts. |

Due date: Varies; See WebCT for schedule.

Revised Lesson Plan & Reflection

The purpose of this activity is for you to modify the lesson plan you developed as part of your field experience. Using what you learned from teaching a science lesson or science exploratory center, improve your lesson. The lesson plan will be evaluated and assessed based on its ability to develop an understanding of a science content area or topic and the process skills common to science. In addition, the lesson should take into account your understanding of your students' prior knowledge about a scientific phenomenon, associated assumptions, and cultural background. The draft lesson plan and a rationale for your modifications should accompany your updated lesson plan.

| Revised Lesson Plan & Reflection | Points |
|------------------------------------------------------------------------------------------------------------------------------|--------|
| <i>Lesson Plan:</i> | |
| States grade level and science concept(s) | 1 |
| Details purpose | 1 |
| Lists learning outcomes | 1 |
| Provides the Georgia Performance Standards | 1 |
| Provides a explanation of science concepts that are required to understand and teach the lesson | 2 |
| States accommodations and modifications (<i>for students</i>) | 1 |
| Includes: | |
| - materials and safety | 1 |
| - 5E implementation (explains the activity, details what the students do and ask, as well as what the teacher does and asks) | 3 |
| - teacher background and resources | 1 |
| Organized format | 1 |
| Develops an understanding of a science content area/topic (including scientific process skills) | 4 |
| <i>Rationale for the modifications:</i> | |
| States modifications | 2 |
| Justification for changes | 7 |
| - discusses how the lesson builds students' conceptual understanding | |
| - discusses how a knowledge of the students' prior knowledge influenced choices made in the design of the lesson plan | |
| - discusses effective science teaching methods in your lesson | |
| - If desired, includes an explanation of materials, resource selection, etc. | |

| | |
|---------------------------------------------|----------------|
| Submitted draft lesson plan with assignment | 1 |
| Submitted assignment on time | 1 |
| Total Possible Points (28 pts) | 28 pts. |

Due date: April 8, 2009 at 1:25PM.

Case Reaction

Case #1: “El Secreto de las Ninas”

The purpose of this assignment is for you to read and reflect on “El Secreto de las Ninas” (found in *Learning from Cases: Unraveling the Complexities of Elementary Science Teaching*). You will need to develop a typed, two-page, single spaced response.

This is an opportunity for you to clarify your own beliefs and biases and consider the case in relation to your personal experience as a teacher. Reaction papers will be graded using the following rubric.

| Case Reaction #1 | Points |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Catchy title for the case reaction | 1 |
| In-depth insight and reflection | 2 |
| Analysis from multiple perspectives | 2 |
| Include at least six of the following elements: a. your interpretation of the dilemmas/challenges presented in the case; b. theories about science teaching and learning; c. the solutions you recommend or your evaluation of the solutions found in the case; d. an explanation of why you think your solutions are viable or your justification of other solutions; e. your experiences as a student, teacher, or parent; f. common sense; g. any moral or lessons you think you can draw from your reading and interpretation of the case; h. experiences of friends, colleagues, or relations; and/or i. references to any components of the case itself. | 6 |
| Typed and submitted on time | 1 |
| Total points possible (12 pts.) | 12 pts. |

Due date: March 18, 2009 by 1:25pm (uploaded to WebCT)

Case Reaction

Case #2: “The Day the Lobster Died”

The purpose of this assignment is for you to read and reflect on “The Day the Lobster Died” (found in *Learning from Cases: Unraveling the Complexities of Elementary Science Teaching*). You will need to develop a typed, two-page, single spaced response.

This is an opportunity for you to clarify your own beliefs and biases and consider the case in relation to your personal experience as a teacher. Reaction papers will be graded using the following rubric.

| Case Reaction #2 | Points |
|--------------------------------------------------------|--------|
| Catchy title for the case reaction | 1 |
| In-depth insight and reflection | 2 |
| Analysis from multiple perspectives | 2 |
| Include at least six of the following elements: | 6 |

| | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <ul style="list-style-type: none"> a. your interpretation of the dilemmas/challenges presented in the case; b. theories about science teaching and learning; c. the solutions you recommend or your evaluation of the solutions found in the case; d. an explanation of why you think your solutions are viable or your justification of other solutions; e. your experiences as a student, teacher, or parent; f. common sense; g. any moral or lessons you think you can draw from your reading and interpretation of the case; h. experiences of friends, colleagues, or relations; and/or i. references to any components of the case itself. | |
| Typed and submitted on time | 1 |
| Total points possible (12 pts.) | 12 pts. |

Due date: March 30, 2009 by 1:25pm

Course Agenda

| DATE | TOPIC | READING Read prior to the class (for the day reading assignment is posted) | ASSIGNMENTS DUE |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| January 12 | <ul style="list-style-type: none"> • Why should children learn science? • Inquiry and Science • Course Introduction <p>-----</p> <p>Physical Science, <i>Magnetism</i></p> | | |
| January 14 | <ul style="list-style-type: none"> • Nature of Science • Science process skills, <i>observing, inferring, and classifying</i> <p>-----</p> <p>Physical Science, <i>Buoyancy and Density</i></p> | The Nature of Science, Science for All Americans Online (<i>via WebCT, Reading Assignments</i>) | Science Autobiography Due |
| January 19 | No Class – Holiday | | |
| January 21 | <ul style="list-style-type: none"> • Nature of Science (con't) • Science process skills, <i>measuring, predicting, and communicating</i> • Experimenting and Variables <p>-----</p> <p>Physical Science, <i>Sound</i></p> <p>-----</p> <ul style="list-style-type: none"> • What science to teach? • Georgia Performance Standards and National Science Education Standards • Discussion of field experience assignments | Visit and skim K-5 Georgia Performance Standards for Science (<i>via WebCT, Reading Assignments</i>) | |
| January 22 | Meet Your Teacher Day | | |
| January 23 | In the Field/School Visit | | |
| January 26 | <ul style="list-style-type: none"> • Questioning strategies • Video: <i>A Private Universe</i> | Handout, Guiding Questions | Provide the science topic and/or concept you and your mentor agreed that you will teach as a lesson or as a science exploratory center during your field experience. |
| January 28 | <ul style="list-style-type: none"> • Approaches to science instruction • Why might some science concepts be taught as guided inquiry/discovery? | Inquiring Minds Do Want to Know, (<i>Course Reserves</i>) “Inquirize” Your Teaching, (<i>Course Reserves</i>) | Bring in interview questions. |

| | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| | <ul style="list-style-type: none"> • Going from activity to inquiry <p>-----</p> <p>Physical Science, <i>Light</i></p> | | * <i>Science & Children</i> Presentation 1 |
| January 30 | In the Field/School Visit | | |
| February 2 | <ul style="list-style-type: none"> • Considering the learning cycle as a model for science teaching • Alternatives concepts and science learning <p>-----</p> <p>Physical Science, <i>Heat</i></p> | <p>5 E Learning Cycle Model, <i>(via WebCT, Course Content)</i></p> <p>Examining the Learning Cycle, <i>(Course Reserves)</i></p> | * <i>Science & Children</i> Presentation 2 |
| February 4 | <ul style="list-style-type: none"> • Assessing students' science learning <p>-----</p> <p>Physical Science, <i>Pendulums</i></p> | <p>Assessing for Science Learning, <i>(Course Reserves)</i></p> | * <i>Science & Children</i> Presentation 3 |
| February 6 | In the Field/School Visit | | |
| <p>Field Experience (February 9-March 6, 2009)</p> <p>Field Experience Assignment #1 due by <u>Friday, February 20, 2009</u></p> <p>Field Experience Assignment #2 (lesson plan due prior to teaching the lesson) due by <u>Monday, February 23, 2009</u>; Signed assignment form due <u>Monday, March 16, 2009</u>.</p> | | | |
| <p>UGA Spring Break</p> <p>March 9-13, 2009</p> | | | |
| March 16 | <ul style="list-style-type: none"> • Learning goals-lessons to units <p>-----</p> <p>Biological science, <i>Plants</i></p> | <p>The Science Representation Continuum, <i>(Course Reserves)</i></p> | |
| March 18 | <ul style="list-style-type: none"> • Culturally relevant science teaching <p>-----</p> <p>Biological science, <i>Worms and Insects</i></p> | <p>El Secreto de las Ninas, Tippins et al., (2002). <i>Learning from cases: Unraveling the complexities of elementary science teaching</i></p> <p>Cultural Diversity in the Science Classroom, <i>(Course Reserves)</i></p> | Case Reaction #1, <i>El Secreto de las Ninas</i> |
| March 23 | Post-field Experience Reflection (<i>see schedule</i>) | | |
| March 25 | Post-field Experience Reflection (<i>see schedule</i>) | | |
| March 30 | <p>Teaching Science to Children- In class Presentations (3)</p> <p>-----</p> <p>Biological science, <i>Mammals and Birds</i></p> | <p>The Day the Lobster Died, Tippins et al., (2002). <i>Learning from cases: Unraveling the complexities of elementary science teaching</i></p> | Case Reaction #2, <i>The Day the Lobster Died</i> |
| April 1 | <p>Teaching Science to Children- In class Presentations (2)</p> <ul style="list-style-type: none"> • Integrating science with other subjects | <p>Science the "Write" Way, <i>(Course Reserves)</i></p> <p>Science and Mathematics: A Natural Connection,</p> | |

| | | | |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| | <ul style="list-style-type: none"> How can science be used to improve writing skills? <p>-----</p> <p>Biological science, <i>Human Body</i></p> | <i>(Course Reserves)</i> | <p>*<i>Science & Children</i> Presentation 4</p> <p>Nightgazer Journal Due</p> |
| April 6 | Teaching Science to Children- In class Presentations (4) | | |
| April 8 | Teaching Science to Children- In class Presentations (4) | | Revised Lesson Plan & Reflection Due |
| April 13 | Project WILD training <i>(tentative)</i> | | |
| April 15 | Project WILD training <i>(tentative)</i> | | |
| April 20 | <ul style="list-style-type: none"> Ways to explain science - building science knowledge <p>-----</p> <p>Earth Science, <i>Rocks & Minerals, Weathering, and Erosion</i></p> | Explaining Science, <i>(Course Reserves)</i> | * <i>Science & Children</i> Presentation 5 |
| April 22 | No class- Honor's Ceremony. 2pm. Hodgson Hall, Performing Arts Center | | |
| April 27 | Tour/Visit to the UGA Natural History Museum | | |
| April 29 | <ul style="list-style-type: none"> Creating and managing a classroom for science learning <p>-----</p> <p>Earth Science, <i>Oceanography</i></p> | <p>Learning to Observe and Infer, <i>(Course Reserves)</i></p> <p>Considering Context, <i>(Course Reserves)</i></p> | * <i>Science & Children</i> Presentation 6 |
| April 30 <i>Monday Class Schedule</i> | Last day of class | | |

* *Science & Children* presentations are scheduled assignments. See WebCT for description and schedule.