

ISCI 2001: Life & Earth Science for Early Childhood Education Fall 2012 Course Syllabus, Valdosta State University

Tell me and I'll forget; show me and I may remember; involve me and I'll understand. ~ Chinese Proverb

COURSE INFORMATION:

Title: Life and Earth Science for Early Childhood Education (ISCI 2001 A, B & C)

Instructor: Dr. Emily K Croteau (ekcroteau@valdosta.edu; 333-5773)

Office: Bailey Science Center 2211 (new addition)

Office Hours: TR 11:00-12:00 and by appointment

Class Meetings: MW: Lab Sessions: 9:00 or 10:00 or 11:00 Bailey Science Center 1043

MW: Lecture 1:00 – 1:50 Bailey Science Center 1023

Learning Outcomes – Generally, students in ISCI 2001 will be able to:

Explain – Subject matter and pedagogical practices

Interpret and Demonstrate – Astute reasoning and ability to make meaningful connections between concepts

Apply – Links between subject matter and science instruction

Identify – Scientific concepts involved in understanding the Life & Earth Sciences

Reflect – On the process of learning and teaching science

Course Description: ISCI 2001 is a 3 hour credited course that emphasizes biological and geological principles and processes. Students will attend two class sessions within a day that focus on a single theme. Members may attend different lab sections but all lab sections will attend the same lecture. Labs and lectures will involve student participation. The first session of the day is a will be an Inquiry-Oriented, 50 minute lab that initiates the topic with an **Engagement Question and Exploration** activity. The second session will be a 50 minute lecture devoted to the elaboration of the core concepts through a detailed **Explanation** of the topic. Students will **Elaborate** on what they've learned through various assignments and will be **Evaluated** on their understanding using these assignments and tests.

Course Objectives: This science content course provides an integrated overview of Life & Earth Science content in preparation for teaching science at the elementary school grade levels. Topics covered in the K-5 Georgia Performance Science Standards will be addressed in lessons that allow Early Childhood Education majors to learn science in the non-traditional ways they will eventually be expected to teach in their own classrooms. VSU General Education Outcomes may be found in detail on VSU's website. The General Outcomes covered in this class are: 3, 4, 5, 7.

Instructional Philosophy: ISCI 2001 will bridge the gap between scientific and educational disciplinary training by allowing future teachers to learn new scientific information through a variety of instructional innovations. The course employs methods that enact the rhetoric of science education reform. This nontraditional approach to college science helps prospective elementary school teachers make connections between methods of teaching and learning science. By teaching for constructivist learning, emphasis will be placed on the acquisition of conceptual understanding of scientific information.

Textbook: *Life and Earth Science for Early Childhood Education EBook*

To purchase the Ebook:

1. Go to <http://create.mcgraw-hill.com/shop/>

2. Search for and select book by Title, ISBN, Author, or State/School.

ISBN: 9781121584235

Title: LIFE AND EARTH SCIENCE FOR EARLY CHILDHOOD EDUCATION

3. Add the book to your cart and pay using a credit card or access code.

Required Reading: The ebook has chapters taken from a few different textbooks commonly used in intro bio, geology, and environmental science courses. It covers most (if not all) of the material you will need to support what you learn in class and what you will eventually teach. Selective reading is the best way to stay on top of the material presented in class. It is not necessary to spend time on information that goes into detail over subjects that are not covered in class. For material that is not covered in the book you will have to look for other **reputable** sources. Other science texts or credible internet sites are welcomed. When using resources for homework assignments etc... you must provide the website url or book name to indicate it was used.

Academic Honesty: Members of the class are expected to maintain high standards of integrity. The VSU Biology Department Statement on Plagiarism clarifies common types of academic misconduct. Dishonesty will not be tolerated; evidence of cheating

will result in no credit for the assignment or depending on the case, a grade of “F” for the course and letter of concern documenting the problem to the College of Education. Please see end of syllabus for clarification.

Special Services: Students requiring classroom accommodations or modifications because of a documented disability should discuss this need at the beginning of the semester. Students not registered with the Special Services Program should contact the Special Services Office, Nevins Hall 1115, 245-2498.

Family Educational Rights & Privacy Act: Grades cannot be posted by Name, Social Security Number, or other Personal Identifiers. Grades and student work will not be given over the telephone, by email or to another student.

Class Conduct

The learning environment has a very significant impact on the satisfaction and success of all students. Therefore, certain standards of decorum will be expected and maintained so that everyone can enjoy being in the lab and learning as much as possible. Inappropriate conduct such as rudeness, lack of collegiality, or other behavior that affects the classroom atmosphere negatively will result in that student or group of students being asked to **leave the classroom/lecture hall**. As future teachers, students are expected to exhibit a professional standard of decorum; intemperate language, excessive slang, and poor grammar are not acceptable.

Food and Drink:

Food and/or drink are NEVER permitted in the lab.

Cell Phone Policy:

Cell phone use is not permitted in class (lecture or lab). Cell phones should be put away immediately upon entering the lab or lecture classroom. If you are expecting an important call inform the professor and when you receive the call step outside the classroom. A ringing phone, phone out in plain view, text alert tone or observation of a student using a cell phone will result in a deduction of **1% off the final grade per offense**. Frequent offenders will be asked to **leave the class session**. Any use of a cell phone during a test will result in a failing grade for said test for said student.

How to write an email:

When writing an email to a professor it is important to show respect to both yourself and the professor. The form of the email should be as follows:

Dear Dr. Croteau,

Body of text....

Sincerely,
Hyla Opacum

The email should have proper spelling and grammar (NO TEXT SPEAK), address the professor, and have an appropriate sign off (e.g. sincerely, thank you, yours truly...). Failure to write an email correctly may result in the email going unanswered. As prospective teachers it is important to be respectful and polite and be an example of this to your students.

ISCI 2001 Course Assessment:

Written Work & Presentations

Class Participation & Attendance	2.5%
Earth Science Conceptual Essay	5%
Life Science Conceptual Essay	5%
Educational Resources Project (Group)	7.5%
GA Ecosystem Oral Presentation (Group)	10%
Short Assignments (Individual)	10%

Tests

Tests – (1 st test 12.5%; 2 nd test 17.5%; 3 rd test 12.5%; 4 th test 17.5%)	60%
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Assessment of Learning

Class Participation and Attendance: Since more than half of this course involves active experiences, it is not possible to "make-up" missed material; therefore, attendance is mandatory. Absences need to be university approved and will require documentation substantiating the absence. It is the responsibility of the student to obtain missed material from one of their classmates. During lab you will be working in groups most of the time. To deduce your class participation, the other members of your group will evaluate your participation and effort; this will form the basis of your participation grade.

Anyone who misses **more than 20% of the class sessions** will receive a failing grade for the course.

Short Assignments: Short assignments will be given throughout the course to ensure understanding of the material that is being covered and sufficient preparation for tests and large projects. These assignments are worth **10%** of your final grade which is based on whether directions were followed, the amount of effort put into the assignment and a clear demonstration of understanding of the material. These assignments will be described in class and are due at the beginning of lab. **Any assignment turned in after your lab section will be counted as late.** The penalty for late assignments is **5% per day, NO exceptions.** Assignments **MUST** have your Name, Date and Lab Section indicated on it to be awarded full points. These assignments are graded according to the effort put forth by other students (i.e. a distribution is based around the best student response and the other students are graded accordingly).

Tests: There will be two midterm tests and two comprehensive tests. The most important reason for these tests is preparation for the GACE (Georgia Assessments for the Certification of Educators; <http://www.gace.nesinc.com>) test, but also serve to assess student performance. Do not depend on rote learning or memorization for these tests. Questions will require students to demonstrate individual construction of knowledge and application of the course information. Review of ALL class material is THE BEST preparation and is essential to excelling on tests by building connections between concepts.

Conceptual Essay (individual): You will have to submit one conceptual summary for Earth Science and one for Life Science at the end of each of these units. The conceptual summary should demonstrate a **Conceptual Understanding** of the course material and summarize the scientific significance of the material by "connecting the dots" between concepts. Summaries must focus on the **SCIENCE CONTENT**; DO NOT critique or merely summarize the labs or lectures. Summaries should be a 2 page, single spaced, word-processed essay. A rubric for this assignment is available on Blazeview.

Educational Resources Project (Group)

Create educational resources for **ONE CONCEPT** in either Life Sciences or Earth Sciences that you would be responsible for teaching K-5 students. The resources will include:

1. A hard copy of a PowerPoint that you would use to teach the **CONCEPT** (NOT for teaching the activity).
2. A thorough description of a hands-on activity (including materials needed) that students in K-5 could participate in to learn the concept.
3. Teacher's notes that describe all you (or anyone using your lesson) need for the PowerPoint and activity AND a lesson plan that includes how the lesson will progress. These notes will include background information for teaching both the concept and the activity, and instructions for how the activity should proceed.
4. The GPSs that this lesson will address and how each of these will be assessed/examined for learning.
5. Any potential issues that you may experience during class and how you will troubleshoot them.
6. Modifications for large versus small class size.
7. **YOU CANNOT USE ANY ACTIVITY THAT HAS BEEN CONDUCTED IN THIS CLASS!**

A rubric for this assignment is available on Blazeview.

Ecosystem Report (Group)

Research Project: Each person will select a different **Georgia Ecosystem** to serve as the focus of an investigation. The research on these topics will be conducted throughout the first half of the semester and presented as part of a group PowerPoint presentation. The assignment is to learn about and share information on the specifics of these areas including the abiotic & biotic conditions (weather, climate, area of Georgia etc...), adaptations of the living organisms, food webs, other biotic factors, etc... This project focuses on the ECOSYSTEM, so, make sure your presentation covers all aspects of the ECOSYSTEM. There must be 3 introductory and 3 concluding slides that compare and contrast the ecosystems covered by the group. However, there is not a limit to the number of slides in the total presentation. A full printout of the group report in the 6 slides per page format is due to the professor at the time of presentation.

This is a group effort, however, individual grades will be given because each person will be evaluated by the others in your group in reference to preparation and amount of effort each individual gives. This does not mean that you can give an incomplete presentation this just means that if a member of a group does not perform according to the groups' standards, their grade on this assignment may be affected based on the evaluation. Presentations should be **20 minutes in duration**; any presentation less than 20 minutes will be graded accordingly (i.e. there will be a penalty). A rubric for this assignment is available on Blazeview.

Ecosystem Topic Choices**Mesic**

Coastal Plains Coniferous
 Longleaf Pine Savannahs
 Piedmont Province
 Ridge and Valley
 Maritime Forests
 Appalachian Highlands

Aquatic

Lakes
 Blackwater Streams and Rivers
 Mountain Springs and Streams
 Large Alluvial Rivers
 Sag and Gum Ponds
 Estuaries

Hydric

Swamps
 Marshes (Fresh water)
 Bogs and Fens
 Salt Marshes
 Carolina Bays
 Floodplains

Coastal

Barrier Islands
 Tidal Creeks and Rivers
 Intertidal Beach Zones
 Dune Areas
 Sponge and Coral Reefs
 Open Ocean and Deep Sea (Atlantic)

Extra Credit: There will be no extra credit assignments given in this class.

Topics & Course Schedule: Schedule is tentative and is subject to change

Date		Class Topic
Week 1	Aug	13 ISCI 2001 Intro 15 What is Science?
Week 2		20 What is the evidence for evolution? 22 What is Life?
Week 3		27 Cells 29 Biodiversity
Week 4	Sep	3 <i>Labor Day – No Class</i> 5 Microorganisms
		10 Fungi 12 Plants
		17 Test 1 – Life Science 19 Animals
		24 Populations & Communities 26 Ecosystems
Week 7	Oct	1 Heredity 3 Conservation
Week 8		8 Georgia Ecosystem Presentation – Mesic & Hydric (NO LECTURE) 10 Georgia Ecosystem Presentation – Coastal & Aquatic (NO LECTURE)
Week 9		15 <i>Fall Break – No Class</i> 17 Test 2 – Comprehensive – Life Science
		22 The Planets – Life Science Conceptual Summary Due 24 Sun, Moon and Stars
		29 Earth 31 The Ecosphere
	Nov	5 Weather and Climate 7 Clouds
Week 12		12 Test 3 – Earth Science 14 Surface Features
Week 13		19 Fossils 21 <i>Thanksgiving Break – No Class</i>
Week 14		26 Minerals 28 Rocks – Educational Resources Project Due
Week 15	Dec	3 Soils – Earth Science Conceptual Summary Due
Test Period	Dec	7 2:45-4:45 pm Test 4 – Comprehensive – Earth Science

VSU Biology Department Policy on Plagiarism

Plagiarism is a broad term used to describe many forms of cheating that involve taking credit for someone else's work. The most blatant type of plagiarism is copying from another source without giving credit to the author. Anytime the original ideas of someone else are used, appropriate citations must reference the source. The failure to acknowledge the use of someone else's ideas, even when they are paraphrased, (whether intentional or not), constitutes plagiarism. Using a paper written by someone else is obviously plagiarism. In addition, the improper citation of references can fall under this spectrum of offences. Plagiarism is equivalent to looking at someone's test and copying down their answers. It is the theft of intellectual property. The simplest way to avoid plagiarism is to give credit where credit is due! This document has been developed by the biology department faculty to explain plagiarism by clarifying appropriate academic behavior, identifying common mistakes or violations, and warning students of the serious consequences for academic misconduct relating to the misrepresentation of original work.

Recognition of and respect for the ownership of property is one of the distinguishing features of civilization. Ideas come from individuals and are effectively owned by their originators; thus they are intellectual property. In the academic sphere, the ideas of others are often encountered, most often in published form. As with tangible property, intellectual property is subject to ownership and protection. Moreover, publication establishes ownership of intellectual property. It is essential to respect the ideas and writing of others by **scrupulously** citing the sources of any and all ideas that are taken from other people's work.

Writing assignments are a very important way for students to demonstrate the ability to assimilate information and express personal knowledge in a coherent manner. The writing process is an active learning experience involving the demonstration of academic skills such as analysis, inference, and appropriate presentation. Assessment of student writing allows faculty members to evaluate not only an individual's understanding of course material, but also the mastery of processes that are considered an important part of biological education. Therefore, it is extremely important that any written work submitted represents a student's personal synthesis displayed in sentences completely constructed by the student.

The Writing Tutorial Services website at Indiana University (<http://www.indiana.edu/~wts/pamphlets/plagiarism.shtml>) gives the following guidelines for avoiding plagiarism. You must give credit whenever you use:

- another person's idea, opinion, or theory;
- any facts, statistics, graphs, drawings—any pieces of information—that are not common knowledge;*
- quotations of another person's actual spoken or written words; or
- paraphrase of another person's spoken or written words.

*In the sciences there is one important clarification to these rules. Any information, even if it is a theory or original idea, that has become widely circulated enough to be found in textbooks is defined as common knowledge. For example, Charles Darwin and Alfred Wallace do not need to be cited every time "natural selection" is mentioned.

There are a variety of ways to obtain assistance on writing assignments. Your professor can clarify expectations in class, help individually in an office conversation, or elaborate instructions by email. The new VSU Student Success Center will provide personal tutoring. There are a plethora of websites devoted to providing writing tutorials. By default, the biology department expects students to use the style recommended by the Council of Science Editors (CSE, formerly and still known as CBE), and succinct directions on how to use this format for citations and references is available on various websites such as: <http://library.osu.edu/sites/guides/cbegd.php>. Specific examples of citation styles may be given to you by your professor that will supersede the CSE/CBE Style.

Quotations

Sometimes students get a little carried away with the use of quotations. Copying large volumes of material, placing it in quotes and citing the author is not plagiarism, but neither is it evidence of your ability to write a paper. So, you may receive a failing grade for excessive quotations because you failed to actually **write** the paper (see paragraph 3 above). There is a huge difference between transcribing a paper (quoting) and writing a paper (using your own words). You should use quotations judiciously when writing science papers. This style may differ from what instructors in other disciplines are telling you to do, so remember that science papers rarely use quotes of any kind. Generally, no more than five-ten words should be used in a single quote, and not more than one or two quotes per ten-page paper. If you do more than this then you must discuss it with your professor before you turn in your paper for grading.

Punishment for Plagiarism

Plagiarism will not be tolerated in the biology department. Any student caught plagiarizing will receive a failing grade on the assignment and depending on the situation may automatically fail the course. Ask before making mistakes and do not assume that we are too lazy to check or too stupid to catch cheaters. Ignorance is no excuse and do not expect sympathy for academic misconduct.

Lab Reports

Students will frequently work in groups during the laboratories. However, lab reports are **never** group projects unless specific instructions to the contrary have been given by the instructor **in writing**. When lab groups work together on projects, each person is expected to do their own analysis of the results. Never use another person's graphs, tables, or words in a report that is supposed to have been written independently. In other words, each student must prepare their own tables and graphs in addition to written descriptions within the report. If lab reports are plagiarized in whole or in part then **all reports in question will be penalized**, not just the reports that were plagiarized. Therefore, **never** give your reports to a classmate to copy.

Long-Term Consequences for Cheating

If a professor takes punitive action on a student's plagiarism incident then, depending on the situation, the incident may be reported to the Dean of Students where it will be entered into the student's disciplinary record. If you send an application to a professional program such as Medical School or Law School, those schools will contact Academic Affairs at VSU and ask them for your Disciplinary Record. **The cheating incident will then be reported to the schools to which you have applied**. So, you can see that there can be terrible long-term consequences for plagiarism.

I have read and understood this policy.

Student Signature

Printed Name

Date