

## ISCI 2001: Life & Earth Science for Early Childhood Education Fall 2013 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

*The purpose of learning is growth, and our minds, unlike our bodies, can continue growing as long as we live.*  
~Mortimer Adler (Founding Board Member of the Encyclopedia Britannica)

### COURSE INFORMATION:

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

**Instructor:** Mr. Charles Wright (cwwright@valdosta.edu; 333-5759)

**Office:** Bailey Science Center 2050 (Dr. Bechler's Research Laboratory)

**Office Hours:** MW 2:00 – 3:00 pm and by appointment

**Class Meetings:** MW: Lab Sessions: 9:00 am section A, 10:00 am section B,  
11:00 am section C, Bailey Science Center 1043

MW: Lecture 1:00 – 1:50 pm sections A, B, and C  
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 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 Fall 2013*

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: 9781121799820

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 to support what you learn in class and what you will eventually teach. 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 an increasing incremental deduction **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 Mr. Wright, (If Dr. then adjust accordingly)

Body of text....

Sincerely, (or Respectfully)

Charles Wright

The email should have proper spelling and grammar (i.e. NO TEXT SPEAK), have a detailed subject line, 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, you set the tone for your classroom.

### **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 – (1st test 12.5%; 2nd test 17.5%; 3rd test 12.5%; 4th test 17.5%) 60%

### **Assessment of Learning:**

**Class Participation and Attendance:** Since more than half of this course involves active experiences, it is not possible to "makeup" 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 or with a partner most of the time. To deduce your class participation, the other members of your group will be asked to evaluate your participation and effort and 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, a clear demonstration of understanding of the material and whether you backed supported your information with background resources. 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 **10% 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, 12 point type, Times New Roman, word-processed essay. A rubric for this assignment will be available on Blazeview.

**Educational Resources Project (Group):** Create educational resources for **ONE CONCEPT** in **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 will 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 will be 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 will be available on Blazeview.

### **Ecosystem Topic Choices:**

**Mesic Aquatic:** Coastal Plains, Coniferous Lakes, Longleaf Pine Savannahs, Blackwater Streams, Black Water Rivers, Piedmont Province, Mountain Springs and Streams, Ridge and Valley, Large Alluvial Rivers, Maritime Forests, Sag and Gum Ponds, Appalachian Highlands Estuaries

**Hydric Coastal:** Swamps, Barrier Islands, Marshes (Fresh water), Tidal Creeks, Tidal Rivers, Bogs, Fens, Percosins, Intertidal Beach Zones, Salt Marshes, Dune Areas, Carolina Bays, Sponge and Coral Reefs, Floodplains, Open Ocean, and Deep Sea (Atlantic)

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

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

**Date Class Topic**

Week 1 Aug 12<sup>th</sup> What is Science?, 14<sup>th</sup> Intro to ISCI 2001 – Bring your Syllabus

**No Labs First Week**

Week 2 Aug 19<sup>th</sup> What is the evidence for evolution? 21<sup>st</sup> What is Life?

Week 3 Aug 26<sup>th</sup> Cells, 28<sup>th</sup> Biodiversity

Week 4 Sept 2<sup>nd</sup> **No Classes Labor Day**, 4<sup>th</sup> Microorganisms

Week 5 Sept 9<sup>th</sup> Fungi, 11<sup>th</sup> Plants

Week 6 Sept 16<sup>th</sup> **Test 1 – Life Science**, 18<sup>th</sup> Animals

Week 7 Sept 23<sup>rd</sup> Populations & Communities, 25<sup>th</sup> Ecosystems

Week 8 Sept 30<sup>th</sup> Heredity, Oct 2<sup>nd</sup> Conservation (**Midterm**)

Week 9 Oct 7<sup>th</sup> **Georgia Ecosystem Presentation – Mesic & Hydric**,

9<sup>th</sup> **Georgia Ecosystem Presentation – Coastal & Aquatic**

Week 10 Oct 14<sup>th</sup> **Test 2 – Comprehensive – Life Science**,

16<sup>th</sup> The Planets – **Life Science Conceptual Summary Due**

Week 11 Oct 21<sup>st</sup> Sun, Moon, and Stars, 23<sup>rd</sup> Earth

Week 12 Oct 28<sup>th</sup> The Ecosphere, 30<sup>th</sup> Weather and Climate

Week 13 Nov 4<sup>th</sup> Clouds, 6<sup>th</sup> **Test 3 – Earth Science**

Week 14 Nov 11<sup>th</sup> Surface Features, 13<sup>th</sup> Fossils

Week 15 Nov 18<sup>th</sup> Minerals, 20<sup>th</sup> Rocks– **Educational Resources Project Due**

Week 16 Nov 25<sup>th</sup> **No Class Thanks Giving Holiday**,

Nov 27<sup>th</sup> **No Class Thanks Giving Holiday**

Week 17 Dec 2<sup>nd</sup> Soils – **Earth Science Conceptual Summary Due (Last Day of Class)**

**Test Period Dec 6<sup>th</sup> 2:45 – 4:45pm Test 4 – Comprehensive & Earth Science**