

# ISCI 2001: Exploring Our Ecosphere

## Life & Earth Science for Early Childhood Education

### Fall 2017 Course Syllabus, Valdosta State University

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**Office Hours:** Mon & Wed 11:00-12:00 or By Appointment. Please feel free to call the office or use email to schedule a convenient appointment or stop in anytime the office door is open.

**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 both the K-5 Georgia Science Standards of Excellence and the Next Generation 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.

**Instructional Philosophy:** *ISCI 2001* will bridge the gulf 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. By teaching for constructivist learning, emphasis will be placed on the acquisition of conceptual understanding of scientific information rather than mere memorization. A variety of alternative assessment strategies will be used in conjunction with traditional testing. This nontraditional approach to college science helps prospective elementary school teachers make connections between methods of teaching and learning science.

#### Required Platforms:

**LMS=Blazeview:** Learning Management System - Your VSU Account. This will be used for all class communication, listing your assignments, and access to various resources. Be sure to check it for details of where the Tuesday lab will be and if it is not posted by Sunday - remind me in my VSU email. (<http://www.valdosta.edu/academics/elearning/blazeview-d2l.php>) Free

**CMS=Connect:** Course Management System - McGraw Hill *Connect* Version of *Integrated Science* by Tiilery et al (6<sup>th</sup> Ed). This is a complete electronic version of the book and a versatile software product that will be the basis for most of your assignments. Log into Connect and there will be instructions on how to purchase the product. To save money, you will purchase this directly from the publisher at a Web address you will be given in class on Tuesday. (<http://connect.mheducation.com/class/l-jones-fall-2017-4>) \$85.00. After you purchase the product, you can purchase a loose-leaf printed version for -\$25.00 directly from the publisher.

**Academic Honesty:** Members of the class are expected to maintain high standards of integrity. This course will use the VSU Handbook Code of Ethics as a basic standard of behavior, and everyone in the class is required to read the Biology Department Plagiarism Policy posted at: <http://www.valdosta.edu/colleges/arts-sciences/biology/documents/resources/PlagiarismPolicy.pdf> Evidence of dishonest conduct or cheating will result in no credit for the assignment and depending on the case, a grade of "F" for the course. Do not expect lenience for claims that on the grounds of not knowing better. You will be reported to the Dean of Students and letter of concern documenting the problem to the College of Education. Be aware that employers such as school systems do call that office at VSU to check on whether you have a record of infractions.

**Access Statement:** Students with disabilities who are experiencing barriers in this course may contact the Access Office for assistance in determining and implementing reasonable accommodations. The Access Office is located in Farbar Hall. The phone numbers are 229-245-2498 (V), 229-375-5871 (VP) and 229-219-1348 (TTY). For more information, please visit VSU's Access Office or email: [access@valdosta.edu](mailto:access@valdosta.edu).

**Title IX Statement:** Valdosta State University (VSU) is committed to creating a diverse and inclusive work and learning environment free from discrimination and harassment. VSU is dedicated to creating an environment where all campus community members feel valued, respected, and included. Valdosta State University prohibits discrimination on the basis of race, color, ethnicity, national origin, sex (including pregnancy status, sexual harassment and sexual violence), sexual orientation, gender identity, religion, age, national origin, disability, genetic information, or veteran status, in the University's programs and activities as required by applicable laws and regulations such as Title IX. The individual designated with responsibility for coordination of compliance efforts and receipt of inquiries concerning nondiscrimination policies is the University's Title IX Coordinator: Maggie Viverette, Director of the Office of Social Equity, [titleix@valdosta.edu](mailto:titleix@valdosta.edu), 1208 N. Patterson St., Valdosta State University, Valdosta, Georgia 31608, 333-5463.

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

# ISCI 2001 – Guidelines for Content & Evaluation

## Learning Outcomes - Students in ISCI 2001 will be expected to:

- I. Assemble & Display information showing recognition of the basic aspects of Life & Earth Science
- II. Characterize the biotic and abiotic features of the earth, as well as the place of our planet within the solar system
- III. Document recognition of select sections of the K-5 Georgia Performance Science Standards & NGSS
- IV. Compare and contrast how the abiotic factors influence the biotic features of representative global ecosystems
- V. Indicate the possession of conceptual understanding of GPS K-5 content knowledge for Life & Earth Science

## Proof of mastery for each will be demonstrated by the knowledge & skill shown in:

- I. 3E Reports & Lesson Extensions – Follow up assignments applying the content covered in class
- II. Midterm Examinations – Formative evaluations covering course content
- III. Construct an Original Concept Map - of the Science GPS for Grades K-5
- IV. Global Biome Oral Presentations – PowerPoint shows focused on a chosen global biome/ecosystem
- V. Final Examination – A summative, comprehensive evaluation of course content

## The following facets of understanding will be built into the course assessments:

**Explanation** – Description of subject matter and pedagogical practices

**Interpretation** – Demonstration of astute reasoning and ability to make meaningful connections between concepts

**Application** – Explanation of the links between subject matter and science instruction

**Perspective** – Identification of the scientific concepts involved in understanding the Life & Earth Sciences

**Empathy** – Participation in a community service activity for underserved children

**Self-Knowledge** – Illustration of personal reflection on the process of learning and teaching science

## Course Assessment:

### Written Work & Presentations

LearnSmart	20%
Class Participation, Oral Reports, Blazeview	10%
Attendance*	10%

### Exams

Midterms – (Average of 4)	40%
Final Exam – Comprehensive	20%

**Learning Management System:** You will be using your account in VSU Blazeview to submit any of the assignments for the course. Late work will not be accepted for any reason, so be in the habit of getting your work in early in case something happens. All class communication will take place here and you should check for clarification of assignments and important messages often. (<http://www.valdosta.edu/academics/elearning/blazeview-d2l.php>)

**Email:** We are going to use the **Blazeview email** for class. There is a certain standard of etiquette in higher education that is very different from the way you interact with your friends while texting. My VSU email is for emergencies.

My title is **Dr. Jones** and start any email with that included in a greeting.

The first thing you should do is tell me **which of my classes you are in**.

The next sentence should contain the **reason for your message**.

After you explain yourself, you should close the message properly.

# Tentative Course Schedule and Plan for Instruction

Dates	Topics	Assignments	Lab Activity
<b>Nature of Science</b>			
<b>1. The Natural World</b>			
Aug	14 - Levels of Organization		Organization of Knowledge
	16 - Patterns in Nature	Alphabetical Arrangements	Patterns
<b>2. "Race" Has No Biological Basis</b>			
	21 - Scientific Racism		National Geographics & Cultures
	23 - Diversity of Skin Color		Skin Color
<b>3. The Sciences</b>			
	28 - Processes		Processes
	30 - Reasoning	LS Ch 1	Fish Lab
<b>4. Assessment</b>			
Sept	4 - NO CLASS LABOR DAY	NoS Practice (Due 9/5)	
	6- NATURE OF SCIENCE TEST		
<b>Universal Dimensions</b>			
<b>5. Energy</b>			
	11 - Types	LS Ch 3, 5	
	13- Changes	LS Ch 6, 7	
<b>6. Matter</b>			
	18 - Chemicals	LS Ch 8.4 & 5, 9.1-3, 19.6	
	20 - Reactions	LS Ch 12	
<b>7. Space</b>			
	25 - Solar System	LS Ch 13	
	27 - TEST		
<b>Atmos, Hydro, &amp; Lithospheres</b>			
<b>8. Atmosphere</b>			
Oct	2 - Sun & Heat	LS Ch 4	
	4- Layers & Winds	LS Ch 14	
<b>9. Climate</b>			
	8- NO CLASS FALL BREAK		
	10 - Weather	LS Ch 17	
<b>10. Hydrosphere</b>			
	16 - Water	LS Ch 10	
	18 - Aquatic Places	LS Ch 18	
<b>11. Lithosphere</b>			
	23 - Rocks & Minerals	LS Ch 15	
	25 - Plates & Landforms	LS Ch 16	
<b>12. Assessment</b>			
	30 - TEST		
<b>Biosphere</b>			
Nov	1 - Life	LS Ch 20, 24	
<b>13. Evolution</b>			
	6 - Origins	LS Ch 21	
	8- History	LS Ch 22	
<b>14. Ecology</b>			
	13 - Biomes & Ecosystems	LS Ch 23	
	15 - Community Interactions		
<b>15. Humans</b>			
	20 - Physiology	LS Ch 25	
	21 - NO CLASS - THANKSGIVING HOLIDAY		
<b>16. Genetics</b>			
	27 - Inheritance	LS Ch 26	
	29 - TEST		
<b>17. Self-Evaluation</b>			
Dec	4 Exam Review		
<b>COMPREHENSIVE FINAL EXAM - Friday, December 8<sup>th</sup> from (8:00-10:00)</b>			

# Class Protocol

## Class Sessions:

Most students come to class to learn and I will not tolerate behavior that disrupts the learning environment. Come to class prepared to concentrate & pay attention. Since some people may not know what is expected in a college classroom, the following rules should make this clear. If I have to stop class and speak to you about a disruption more than once, I will ask to see you after class, and if it happens again you will be dismissed from the classroom and sent to the Dean of Students Office.

## Class Rules:

1. Attend to your personal needs before class and do not get up and walk out of class unless it is urgent.
2. Class will start promptly at the designated time, please have your notebooks open and be ready to pay attention.
3. Once class begins, refrain from side conversations. If you are asking about a word in lecture, make it short & quiet.
4. If a classmate is being rude or distracting you, let them know or say "Shhhhhhhh" loud enough for me to hear.
5. The VSU rules are no eating or drinking in the lecture hall. Water bottles are fine.
6. You are welcome to have your laptops, pads, & phones in class to record lectures, look up terms, and photograph slides. However, this is not an invitation to skype, take calls, or read & send texts. If anyone is bothering you with such behavior, report them to me after class or by email. There will be grade penalties for this type of disruption.
7. Class will end at the designated time, unless you see "THE END" on a slide before, so do not rustle your packs before this.

**Attendance\*:** Since more than half of this course involves active experiences, it's extremely difficult to "make-up" missed material. Therefore, attendance is mandatory and will be taken each class period. Three late arrivals to class will be counted as an unexcused absence. If you walk into class late, it is your obligation to see me and be sure I change the A to T in my book or on the roster. There is no recourse days later or at the end of the semester because I caught cheaters saying here are my notes for that day and other students later reported that they were lying and had written notes from someone's recording of the lecture. If you are absent, you are still responsible for any material that was covered. Anyone who misses more than 20% of the class sessions will receive a failing grade for the course. Here is how attendance will be calculated:

*		
No Absences		125%
1 Absence & All Made-Up		100%
2 Absences		75%
3 Absences		50%
4 Absences		25%
More than 4		0%

**Class Participation:** 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 all enjoy being in the lab and learning as much as possible from lecture. All students start out with 100% as their participation grade. This can be elevated to as high as 125% for consistent positive contributions that enhance the experiences of other students. This grade will be reduced at the discretion of the instructor on the basis of inappropriate conduct such as rudeness, lack of collegiality, or other negative behavior. You will be moved to another seat in either lab or lecture if I consider your behavior a problem. As future teachers, students are expected to exhibit a professional standard of decorum to be maintained in this classroom. Intemperate language, excessive slang, and poor grammar are not acceptable. We all must use grammatically correct English in the context of this class because schools will ask me if you speak well and I want to be able to verify that. If you know you need to work on this, make the effort. I expect you to correct yourself if mistakes are noticed by me or your classmates.

**Short Assignments:** It is too easy to attend class on a regular basis, but put little thought into the course material until there is pressure to study for an exam. Therefore, regular short assignments will motivate you to keep up with the course and give regular attention to the material that is being covered. These assignments will be described in class and are due at the end of the following weekend. If you miss the deadline (There will be NO exceptions). These will be graded on a 10 point scale as follows: (10=Excellent, 8-9=Good, 7=Adequate, 6=Minimal, <6 Poor).

**Examinations:** There will be four midterms and a comprehensive final examination. These multiple choice tests will consist of conceptual questions that probe understanding of the course material. This course will be taught in a way that requires students to demonstrate individual construction of knowledge and the questions on these assessments are written to judge the ability to apply the course information. Hard work on the LearnSmart is the best preparation for these exams. Many students say that they do not need to cram for the tests because they are confident that they have learned the material by doing the LearnSmart before each lesson.

**Textbook:** *Integrated Science* - This book actually covers much more material than will be addressed in this course, but was put together because will be a valuable resource for this class. Concentrate on doing selective reading in the Smartbook and do not spend time on information that goes into detail over subjects that were not covered in class. There is no need for formal citation of the text or Websites when general information is included in your writing, but do not copy – rewrite information in your own words.

**WWWWeb for Explanations:** – The web is a great resource for supplementing the information presented in class sessions. Use the Web mostly to obtain images that can be used to compose visual displays that demonstrate understanding of the topics.

**Pedagogy:** - Since this science content course is part of the major in Early Childhood Education, students are expected to focus on the “art and science of teaching” as well as the subject matter. You should be conscious of this because questions about teaching will be on the exams. Thinking about learning and working to develop Pedagogical Content Knowledge or the ability to translate scientific subject matter into interesting and effective lessons that are appropriate for young children are part of the purpose of this course.

**Computer Assignments:** Your success in this course depends on your completion of the online assignments. These comprise 20% of your grade, so they are very important because they help you learn the information and prepare for the tests. Effort on these assignments is clearly correlated to the grades students receive. However, do not just do this work without thinking. You will waste the time you spend doing these activities, if you do not concentrate on learning as you do it.

The *LearnSmart* (LS) prompts are lower order questions that drill on vocabulary and basic concepts. Think about the questions when you read the prompts. Think about what the answer is. Indicate how confident you really are. If you get the question wrong, ask yourself why you did not know it. That type of thinking is the best thing you can do to improve your learning. If you look back and it is right in the book, consider the fact that you might need to read more carefully. You can start as early as you want for all of the chapters in each unit to be sure you get the chapters completed on time. You will find the lectures much easier to understand after finishing these exercises. As you do *LS*, jot down words on questions you miss so that you can be sure to look for those explanations in lecture. If something is still unclear, be sure to ask. Do not expect questions like these on the test because those will be conceptual and require higher order thinking.

*LearnSmart* is an adaptive program. The number of points you get and the number of times you see a topic depends on getting the correct answer and how certain you are that you know the answer. Be sure to use the Confidence prompts carefully. You get the most points if you say you are "sure" and get the answer correct. You will also finish faster if you do that. However, if you say you are "sure" and get it wrong, you lose big points. If you get it wrong with one of the other prompts, the penalty is not as bad. You will get other questions on that topic or the same question until you master it.

If you have problems, YOU must call McGraw Hill's Customer Support! Get the Case Number and if they do not help you, then email me in Blazeview and be sure to send me the case number so I can try to do something about it. So that you can prepare for the tests and exam, there will be a *Connect Practice* activity for each unit.

**For McGraw Hill Customer Support: Call (800) 331-5094**

As we finish each unit, you should go to the reports page to see which topics were a problem for you. The reports even show which *LS* questions you missed the first time. You can go back and drill on *LearnSmart* as often as you want, but you only get credit for completing *LS* before the lecture deadline. There are over 80 students in this class, so it is your responsibility to log on and learn to use the *Connect* programs after I explain them in class. Find your Metacognitive score and compare it to the grade you want on a test because there is usually a high correlation between these and how people score on the tests.

# Expectations on ISCI 3103 Writing Assignments

## Objective

Written assignments will reinforce class lessons and will help you to learn, outside the classroom, through your own thinking. Papers are an opportunity to display your knowledge through more than just exams or what you might or might not say in class. These assignments also allow you to show your own style of expression and personal interests, so you should take pride in them.

## Focus

Well-crafted writing always has a specific purpose. Every paragraph or paper should have a distinct thesis or central idea. Your thesis should directly address the nature of the writing assignment. Decide on the topic and a specific case you want to make before you start writing. Write the thesis or topic sentence down and check back throughout the writing process to be certain that the work supports it. Concentrate on demonstrating your understanding of the scientific information.

## Paper Organization

Before you begin to write, think through how you plan to develop your thesis and use an outline to structure the paper. An Introduction and Conclusion will be the first and last paragraphs of your paper. Start paper with something catchy to interest the reader. Make it perfectly clear, in this introductory section, what your point or central idea will be. Support that concept throughout the body of your paper. Paragraphs in the middle will be the Body of your text. Subheadings should be used for clarity. Your assignments in this class should usually be in first person. Avoid using statements such as "In this paper I will discuss..." since it is much more sophisticated to avoid this type of "crutch statement."

## Paragraphs

Divide the paper by major themes and make each of these a distinct paragraph. You should have at least 3 paragraphs on a 1-page, single-spaced paper. The first sentence of each paragraph is a topic sentence that shows what the paragraph covers. ONE SENTENCE IS NEVER AN ENTIRE PARAGRAPH because there should be at least 3 sentences elaborating any significant idea.

## Format

A header on the upper right should include the student's name and the date of submission. Each paper should have a creative title identifying the approach to the assignment. Since the course will be paperless, coversheets are not necessary. Your papers are to be typed using something comparable to 10-12 point Times New Roman type, single-spacing, and reasonable (0.5 to 1 inch) margins. Other professors often expect double-spacing, **I require single-spacing**. The lengths of these papers are stated in the assignments. After your draft your ideas, if the paper is too long, go back through and shorten it up by taking out the less important aspects. If it is too short, go back and incorporate more support or add more detail to what you are saying. When I say 1 page that means one sheet of paper that is full of text. Put your references and heading on that sheet. Use the word counting function on your word processor to be sure your text is 600-800 words per assigned page when single-spaced.

## References

Any very general scientific information does not need to be cited. We consider this common knowledge because the place you found it is not the original source of the information. How would you know? The answer is if you can find the same information in 2 or 3 books, it does not require a citation in the text or a reference at the end of the paper. However, you must be very careful about giving appropriate credit to the sources of any original outside information that you use. If you use original information, it should be cited in the text of the paper. You also should have properly formatted references at the end of the paper that include: Author (Last name, Initials), Year (In parentheses), Title, Place & Name of Publisher, Pages. Use the APA or American Psychological Association style and check the web if you want an example of this. Even WWWeb sources must be cited properly. Be sure to reword or paraphrase text from any of your sources to avoid plagiarism. Paraphrasing means changing more than 1 word in a sentence. Think about what something says and completely restate it in your own words. No direct quotes are allowed in papers for this course to prevent you from making your paper look like a mosaic of other people's ideas. The point of writing is to demonstrate your thinking, so first person is usually fine.

## Grading

Your assignments will be described in detail in lecture, so listen carefully and be sure that you know what is expected or ask about anything that is unclear. Grades will be docked for any failure to follow directions precisely. If you need more clarification than is given in the *Blazeview* description, contact your classmates by email, phone, or posting a question on the *Blazeview* discussion board. Focus on the objective of the assignment and address it clearly in thesis of your paper. You can dramatically improve your work if you critique your own rough draft and revise it at least once. Outside feedback can also make a difference. Proofread to avoid careless errors. Spelling, Punctuation, and Grammar do effect our impression of the quality of your presentation. These papers will be graded on Effort, Quality, Organization, Content, Proper citations and whether or not you followed these directions. I will look specifically at extent of your coverage of the topic and the clarity in your presentation of the material. If you need assistance with your writing, please see me for help and/or contact the Student Success Center. There will be a due date on the *Blazeview* assignments. If you miss that, you have 24 hours to submit the assignment late with a 10% reduction in the grade before you are locked out. I will not accept late work after that!