ISCI 2001: Exploring Our Ecosphere
Life & Earth Science for Early Childhood Education
Spring 2019 Course Syllabus, Valdosta State University

Dr. Leslie S. Jones

Office: 1096 Bailey Science Center
Phone: 219-1337
Email: lesliesj@valdosta.edu

Office Hours: Mon & Wed 11:00-12:00
Stop in anytime my office door is open…
Feel free to call the office or
Use BV email to schedule an appointment

A Very Important Message to Students: I am making a default assumption that you are in college to get an education. Becoming an educated person takes work, and I expect you to make a sincere effort to learn. The most important contribution to your success will be your personal work ethic because the grade will be based as much on the homework as the test scores. Every assignment has been developed to help you build a deeper understanding of the scientific content that is presented in the class sessions. Every examination will evaluate your conceptual knowledge, which requires far more depth than just memorizing factoids. I set the bar high in my courses because I want you to learn both the science content and the satisfaction of achieving something that took resolve. You need to take the time to read this document because it spells out important information about the course. If you do not read this, you are putting yourself behind everyone in the class who has done so because they will understand more than you about what to expect within the nontraditional format of the course…

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.

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 on the grounds of not knowing better. You will be reported to the Dean of Students and letter of concern documenting the problem will be sent 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.

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@valosta.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 course content in a Notebook showing recognition of the basic aspects of Life & Earth Science

II. Characterize the earth's Lithosphere, Hydrosphere, & Atmosphere & 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. Lesson Summaries – and extension assignments applying the content covered in class

II. Midterm Examinations – Formative evaluations covering course content

III. An Original Concept Map – constructed for each unit prior to the test

IV. Oral Presentations on Science in Children's Literature – Based on a chosen Dr. Seuss Book

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

Selected Georgia Standards of Excellence for K-5 That Will Be Covered

Students Should Obtain, Evaluate, and Communicate…

I. Earth Science	**During Week:**
SKE1. observations about time patterns (day to night and night to day) and objects (sun, moon, stars) in the day and night sky.	6
SKE2. information to describe the physical attributes of earth materials (soil, rocks, water, and air).	7
S1E1. weather data to identify weather patterns.	9
S2E1. information about stars having different sizes and brightness.	6
S2E2. information to develop an understanding of the patterns of the sun and the moon and the sun's effect on Earth.	9
S2E3. information about how weather, plants, animals, and humans cause changes to the environment.	8
S3E1. about the physical attributes of rocks and soils.	7
S3E2. information on how fossils provide evidence of past organisms.	12
S4E1. information to compare & contrast the physical attributes of stars and planets.	6
S4E2. a model of the effects of the position & motion of the Earth & the moon in relation to the sun as observed from the Earth.	4
S5E1. information to identify surface features on the Earth caused by constructive and/or destructive processes.	10

II. Life Science	
SKL1. information about how organisms (alive and not alive) and non-living objects are grouped.	3
SKL2. information to compare the similarities and differences in groups of organisms.	3
S1L1. information about the basic needs of plants and animals.	8
S2L1. information about the life cycles of different living organisms.	11
S3L1. information about the similarities and differences between plants, animals, and habitats found within geographic regions	14
S3L2. information about the effects of pollution (air, land, and water) and humans on the environment.	16
S4L1. information about the roles of organisms and the flow of energy within an ecosystem.	14
S5L1. information to group organisms using scientific classification procedures.	3
S5L2. information showing that some characteristics of organisms are inherited, and other characteristics are acquired.	13
S5L3. information to compare and contrast the parts of plant and animal cells.	11
S5L4. information about how microorganisms benefit or harm larger organisms.	11

ISCI 2001 - Tentative Course Schedule and Plan for Instruction

Dates	Topics	Lab Activity	Assignments
The Nature of Science [NoS]			
1. The Natural World			
Jan 14 -	Levels of Organization	Card Sort	Alphabetical Homework
16 –	Holism & Reductionism	Parts & The Whole	Ch 1 *LearnSmart*
2. The Disciplines			
21 –	**MLK HOLIDAY**		Student Info (Due 1/22)
23 –	Basic & Applied	National Geographics	Applied Science Concept Map
3. Patterns in Nature			
28 -	Math & Science	Petals & Mastermind	Original Collage*
30 –	Classification Systems	Leaves & Clouds	**Seuss Book Choice**
4. Characteristics & Methods			
Feb 4 –	Processes	Glass Beads	Creative Flow Chart
6 –	Reasoning	Fish Lab	Lab Report
5. Science Education			Practice (3 Attempts) Due 2/11
11 –	NGSS & Learning Cycles	Inquiry Orientation	Pretest (3 Attempts) Due 2/12
13 –	**Nature of Science Unit Test**		**Notebook Due**
Earth Science [ES]			
6. Space Science			
18 –	Objects in Space	Parallax	Ch 12
20 –	Timing of Events	Phases of the Moon	Ch13
7. Lithosphere			
25 –	Rock Cycle	Rocks & Minerals	Ch 15
27 –	Pedology	Soil Sifting	Ch 16
8. Hydrosphere			
Mar 2 -	**Dr. Seuss's Birthday**	**School Presentations**	
4 –	Earth's Supply	Water Cycle	Ch 10
6 –	Phase Changes	Convection Models	Ch 18
9. Atmosphere			
11 –	Global Features	Circulation Patterns	Ch 14
13 –	Weather & Climate	Clouds & Weather Instruments	Ch 17
Mar 7th = Midterm			
March 18-22	**SPRING BREAK**		
10. Abiotic Factors			
25 –	Surface Features	Landforms	
27 –	**Earth Science Unit Test**		**Notebook Due**
Life Science [LS]			
11. Living Organisms			
Apr 1 –	Life	Cell Metaphor	Ch 21
3 –	Biodiversity & Lifecycles	Brain Noodles	Ch 24
12. Evolution			
8 –	The Theory	Myths & Truths	Ch 22
10 –	Evidence	Fossils	**POSTERS Due**
13. Humans			
15 –	Origins & Migrations	Skulls	Ch 25
17 –	Diversity Is Not Race	Skin Color Inheritance	Ch 26
14. Ecology			
22 –	Energy Flow	Food Webs	Ch 23
24 –	Biomes & Ecosystems	Critter Art	
15. Global Issues			
29 –	Symbiosis & Competition	Good Buddies	
May **1-**	**Life Science Unit Test**		
16. Poster Presentations			
6 –	Science in Seuss Stories	Student Presentations	
Friday, May 10th from (10:15-12:15)		**COMPREHENSIVE FINAL EXAM**	**Notebook Due for Final Grade**

ISCI 2001 - Course Structure

Course Format: Throughout the semester, we will have weekly thematic topics that are covered in two different subtopics on each day. The lab and lecture will both address the same subject and should be seen as parts of one lesson in your notes.

Assessment:

Written Work & Presentations	
Course Notebook	30%
LearnSmart	10%
Attendance* Dr. Seuss Project, & Class Participation	10%
Exams	
Midterms – (10% Each)	30%
Final Exam – Comprehensive	20%

Examinations: There will be three 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 it 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 for need formal citation of the text in your Notebook because in the sciences general information does not need to be listed as a reference, but do not copy anything directly – always rewrite information in your own words.

LearnSmart Computer Assignments: Your success in this course depends on your completion of the online assignments. These comprise 10% 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. 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.

Course Notebook Requirements

Requirements:

- Fairly new, 1-inch, 3-ring notebook with clear sleeve cover
- Decorated w/ Your Name, Course # & Name, Term on Cover
- 4 Dividers with Tabs
  - Course Information
    - Printed Syllabus with Important Points Highlighted
    - Dr. Seuss Project & Then
  - Each Content Unit (NoS, ES, LS)
- Use blank paper for images & lined paper for handwritten class notes
  - (Punch holes carefully) Most presentations in Portrait Format (Holes on top for Landscape)
  - NO BLANK PAPER WHEN SUBMITTED – I do not want to carry it around!
- Make your own PowerPoint Slides with Google Images & Captions to "Show What You Know!"
- Any part may be drawn or handwritten for this notebook, but presentation matters – nothing sloppy

Lab & Lecture Notes for Each Lesson:

- Lecture Notes – Taken in class, can be re-typed and supplemented from recorded lecture
  - Information, not style is important
- Lab Notes - Written after class, summarizing purpose of activity should include phone photos of labs
  - Not what you did – elaborate on what you learned or the scientific point

Notebook's Required Sequential Structure: Pages in this Exact Order

- Course Content
- Unit Sections
  - Daily Notes with any other related information
    - Weekly Topic Synopsis - right after the 2 days of lessons
  - End of Unit
    - Vocabulary List
    - Unit Summary

<u>Holistic</u> Evaluation – The basis of your grade will be the effort you make!!! (Each higher grade adds on to the last)

- Everyone has their own style, so make this notebook yours, but make it neat & thoughtful!
  - 60's- Poor -Needs development to show mastery of the content
    - Lesson Notes <u>complete</u> for EVERY Lab & Lecture: Title & Date – What you learned, Not what we did
  - 70's – Adequate - Could Use More Depth of Thinking
    - Cumulative Vocabulary List – 10-20 Significant Terms with definitions in your own words
    - Photo Essay or drawing of the topic of each unit on the Divider
  - 80's- Good Work - Each Lesson has 1 page of Supplemental Information can be notes from book chapter
    - Downloaded Images from WWWeb on lesson topics (~4 per page with your notes about content on the page)
    - Weekly Topic Synopsis: At least 1 analytic paragraph connecting 2 lessons with relevant images
  - 90's+ Great Effort – Shows Pedagogical Content Knowledge in single essay containing:
    - Unit Summary – Very thoughtful & well-writtten with…
    - Scientific content connected to relevant GSEs listed on page 2
- Deficiencies:
  - 0 – Any major sections missing or a sloppy overall presentation lacking effort
  - 50's – Insufficient - Needs much more thought, synthesis, vocabulary, and/or scientific information

Timing of Notebook Grades:

- 10% @ after Unit 1 - NoS
- 30% after Unit 2 - ES
- 60% at the Final Exam

Pedagogy: - Since this science content course is part of the major in Elementary 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.

WWWeb 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.

Class Protocol

Learning Management System: A great deal of important extraneous communication will take place in the VSU Blazeview (BV) email. Therefore, you should be in the habit of checking it often for clarification of assignments and important messages. **(http://www.valdosta.edu/academics/elearning/blazeview-d2l.php)**

Email: If you would like to contact me, please use **Blazeview email**. 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 you should 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** because I have several.
The next sentence should contain the **reason for your message**.
After you explain yourself, you should close the message properly.

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 roster. There is no recourse several days later or at the end of the semester because I have 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 (Every class attended)	125%
1 Absence (Lab & Lecture on the Same Day)	100% - As long as a legitimate reason is given
2 Absences (Either Lab or Lecture)	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.

Expectations on ISCI 2001 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 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 cover. 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!