

ISCI 2001: Exploring Our Ecosphere: Life & Earth Science for Early Childhood Education

Department of Biology, College of Science & Mathematics, Valdosta State University
Fall 2021 Course Syllabus

Dr. Leslie S. Jones

Office: 1096 Bailey Science Center

Phone: 219-1337

Email: lesliesj@valdosta.edu

Student/Office Hours will be in Room 1043 BSC:

Monday 1:00-2:00 in 1043 BSC

Tuesday 11:00-12:00 in 1043 BSC

Graduate Teaching Assistant: Gabrielle Frederick (gafrederick@valdosta.edu)

1. Course Format: This is an Inquiry-Oriented course which will start with a participatory lab that is followed by a lecture on the same subject. You are responsible for documenting the lab and scientific content in your electronic journal along with a specific assignment on a third slide. These will be given weekly grades and can only receive half credit if they are late.

2. 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, and especially a good teacher, takes work. I expect you to make a sincere effort to learn. In college, you are expected to spend two hours working for every credit or actual hour you spend in class.

The most important contribution to your success will be your personal work ethic because your grade will be based on an eJ Electronic Journal that demonstrates whether you learn the material. These will help you build a deeper understanding of the scientific content that is presented in the class sessions. You are expected to show conceptual knowledge, which requires far more depth than just memorizing factoids for any test. I set the bar high in my courses because I know you can learn science. I want you to learn both the scientific content and the satisfaction of achieving something that took resolve and hard work.

You should read this entire document because it spells out important information about the course. If you do not try to apply these guidelines, you are putting yourself behind everyone in the class who does review it because they will understand more than you about what to expect within the nontraditional format of the course...

3. Emails: Please Use Our Blazeview Email for All Class Matters!!!

My VSU email: lesliesj@valdosta.edu should only be used if it is urgent

*To be safe, you need to **Check Your Blazeview Email OFTEN** (several times per week) for updates*

Class emails are not text messages and are expected to be written coherently.

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.

4. Department: Since this course is part of the preparation for the Elementary Education program, I will expect everyone to maintain a high level of decorum. Since teachers cannot be late for school, tardiness will not be excused and will also count against your grade. Teachers need to be in the habit of using good grammar, speaking formal or standard English, and refraining from swearing in front of their students, so this is a good place to start. In schools, teachers need to collaborate and be team players, so please help your classmates to be successful.

5. Attendance is mandatory and will seriously impact your grade because these labs can't be repeated.

If you miss class, you are expected to send me an email in Blazeview stating the reason. You also have the responsibility of making up the work by speaking to your classmates. Dentist/doctors appointments should not be made during class – tell them you can't afford to miss. If you must quarantine for Covid, contact a classmate and try to keep up with the work. Anyone is welcome to tape the classes, especially the lectures.

6. Personal Responsibility — You must keep track of all assignment deadlines because late work will not be accepted!! If you miss a deadline, think about how you can prevent missing anymore deadlines. Your grades will be posted in Blazeview all semester so that you will know where you stand. If that is not the grade you want at the end of the semester, make more effort to succeed!

ISCI 2001: Official Course Information

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. An alternative assessment strategy will be used this semester. This nontraditional approach to college science helps prospective elementary school teachers make connections between methods of teaching and learning science.

Grade Distribution:

Attendance	10%
Electronic Journal (eJ) Weekly & BV Assignments	30%
Preliminary Midterm eJ Grade	20%
Final eJ Evaluation	40%

Holistic eJ Grading Emphasis – Portrayal of Your Understanding of the Natural World

An analytic rubric divides an evaluation piece-by-piece and list point-by-point what is expected and how the score will be calculated. This course will NOT use that type of evaluation! Instead the quality of the products will be based on a general assessment of the work.

Scientific Content Knowledge

Concepts & Ideas Prominent
Vocabulary Use
Integration across Lessons

Follows Directions

Headers=Same Font Every Slide
Text: All Black on White, 12pt size
Creative Image Displays

Artistic Design

Cohesive Scheme on All Dividers
Balanced Layouts & Use of Space
Use of Color = Mimics Nature

Statement of Student Support: I support all students regardless of immigration status or country of origin. As a Dreamer Ally, I support Dreamer students and promote their sense of belonging and safety as they pursue their higher education goals. For more information and resources about higher education visit a website for another university until we have something this on our VSU website: https://international.uoregon.edu/immigration_faq. I commit to not sharing your status with anyone if you reveal it to me. I also remind you that **when interacting with faculty, staff, and offices around campus you are never required to reveal your immigration status.**

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 & Director of the Office of Social Equity 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

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

- I. Assemble & Display** course content in an E-Journal 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. Recognize** how the abiotic factors influence the biotic features of representative global ecosystems
- IV. Document** recognition of select sections of the K-5 Georgia Performance Science Standards & NGSS
- 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. Short Assignments** –applying the content covered in class
- II. Oral Presentations in Class** – short reports on various topics
- III. Electronic Journal**– Course work assembled into a single electronic presentation

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 science for Elementary Education
- Empathy** –Discussion of appropriate interventions for underserved children
- Self-Knowledge** – Illustration of personal reflection on the process of learning and teaching science

*Attendance:

In this course, you are expected to attend all class Lab & Lecture meetings. Being tardy or leaving early is counted as an unexcused absence unless you speak to me and have a very good reason. If you miss Lab or Lecture for illness, you should email me on Blazeview within 24 hours. I do not want the gory details, just say that you were sick. You will still be required to complete the Day2Day slides for the lesson. Doctors and advising appointments should not be made during class. Tell them you can't make it because you have class! If you do miss lecture for any reason, you are responsible for obtaining the information from a classmate. Anyone who misses more than 20% of the class sessions for either lab or lecture will receive a failing grade for the course. Here is how your grade will be calculated:

No Absences at ALL	125%
1 Absence	100%
2 Absences	75%
3 Absences	50%
4 Absences	25%
More than 4	0%
More than 6	Course Failure

I will be taking attendance at the start of class. If you are late, it is your responsibility to see me after class to be sure the absence (A) is changed to a tardy (T). Three tardy marks are equivalent to an unexcused absence.

Personal Electronic Journal (eJ) Requirements

The reason you are creating these eJs is to articulate what you are learning in a way that is a radical alternative to the usual science tests. To ensure that you stay up to date with what we are doing in class there will be due dates for assignments that are submitted in Blazeview on a regular basis. The grades on these assignments will be an indication of how well you are doing. All it takes to pass this course is a solid work ethic and willingness to learn the science. If you do not remember much from your K-12 science classes, it does not matter. As long as you are willing to make an effort to do the work, you can succeed in this class. Each session constitutes one lesson and after the classes you need to ask yourself if you understand the subject we covered. If you do not feel confident that you grasp the scientific content, it is your responsibility to ask for help and work harder on this topic for your eJ entries. You will do well in the class if you keep up with the science and think about what and how you are learning it as we go along. Since there are no tests, you must document what you have learned from class, through web research, discussions with your classmates, or by asking one of the instructors.

The eJ document will be one continuous PowerPoint that is constructed in Office 365. The first thing you want to do is set up that file and submit the link to your file to the Blazeview dropbox in the course content section. These must be in landscape orientation and the widescreen (16:9) slide size format. The background colors should not detract from the images you display. You may select any reasonable, serif or sans serif font and should use only one for all captions throughout the entire presentation (unless you are doing something creative on a particular page). You may vary the size of the font in different places if it is fairly consistent, especially in the headings. Any long sections of text must be black type on a white background, with left-justification. Anything over 2-3 lines should not be centered. You can compose longer narratives in Word and insert them as text boxes on your slides. These must follow the Writing Guidelines that are in this syllabus.

You must have clear divisions for the different sections of the course and each of them should have both a photographic Cover Page followed by a one page (600-800 word) Summary that is written after the lessons for the unit evaluation. That summary should employ the new vocabulary words you have learned in defining sentences that are composed in your own words. Nothing needs to be cited in the text because it is all general information. Use the GPS - Georgia Performance Standards for K-5 and connect how these relate to what we did in class: <https://www.georgiastandards.org/Standards/Pages/BrowseStandards/BrowseGPS.aspx> OR you can look at the NGSS - Next Generation Science Standards for the same thing <https://www.nextgenscience.org/>

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 scientific subject matter. Part of the purpose of this course is thinking about your own learning and working to develop the ability to translate scientific subject matter into interesting and effective lessons that are appropriate for young children which is known as Pedagogical Content Knowledge [PCK]. Discuss how the course content and lessons relate to Elementary Education. This section should indicate which of the Georgia Science Standards or NGSS National Standards are most closely related to what we did.

The electronic format will give you a great deal of creative freedom. Slides should include substantial scientific terminology and show what you learned in the form of cell phone pictures or photos and diagrams from the web. Any image must be explained with a statement in your own words. We are going to evaluate your pedagogical content knowledge in these entries, so use first person and discuss teaching strategies related to the lessons. Read the page about writing in this syllabus carefully. If you are not a strong writer, get help from someone by asking them to read over what you have written.

Electronic Journal Grading:

Analytic Short Assignment Scores: These 10 point grades will always depend partially on the effort you make and partially on the accuracy of the science. 10 = Excellent, 8-9 = Good, 7 – Adequate, <5 – Incomplete and Seriously Deficient 12 = Exceptionally Good

Holistic Evaluation: The overall quality will be rated as follows:

70's – Adequate – Every Set of Slides Completed as Directed with Sound Content & Good Effort
 80's- Good Work – Substantial visual record of lab activities & scientific content with detailed explanations
 90's+ Great Effort – Polished consistent presentation throughout
 125% - Above and beyond my expectations!!!

Serious Deficiencies:

0 – Any eJ that falls behind or does not show completion of all weekly Slide Sets
 50's- Poor or Insufficient -Needs substantially more effort, thought, & synthesis -
 60's - More depth of thinking to show mastery of content - Lacking vocabulary, and/or scientific information

Writing Requirements

Objectives: You will be required to produce at least one summary paragraph on each daily lesson, a composite paragraph for each weekly topic, and a comprehensive essay on the unit topic as part of each test. These assignments also have been designed to help you to learn, outside the classroom, through your own writing. Writing is an important way to learn because if you can construct sentences about something, it will organize your understanding in your mind or let you know that you need to seek more information about a subject. Notebook entries are also an opportunity to display your knowledge through more than just exams. These assignments also allow you to pursue the connections between your own personal interests and what we cover in class, so you should take pride in them and write in first person.

Focus: Well-crafted writing always has a specific purpose. You can brainstorm ideas by writing down any of the terminology you can think of, or using the key words in your notes. Decide on a specific point or argument you want to make - before you start writing. Every composition should have a central idea that is contained in a thesis that should directly address the nature of the writing assignment. Write the thesis down, include it in your introductory & concluding sentences, and check throughout the writing process to be certain that the body of your work supports it. Starting a paper can be the hardest step, so if you feel blocked, try expanding your brainstorming with Google searches on the subject. Take a blank sheet of paper without lines, and just write down any ideas you have or do some reading in the text to get ideas. Then, create an original title for your eNotebook entry or test essay.

Organization: Before you begin to write, think through how you plan to develop your thesis and use an outline to structure your thoughts with a sequence that makes sense. An Introduction and Conclusion will be the first and last sentences or paragraphs, but they can actually be written last. Start paper with something catchy in the first sentence to interest the reader. Make it perfectly clear, in the introductory statement or 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. Quotations & Subheadings are not to be used in these short assignments; let the topic sentences of the paragraphs serve that purpose. Avoid using phrases such as “In this paper I will discuss...” since it is much more sophisticated to avoid this type of “crutch statement.”

Paragraphs: These assignments will be single-spaced. 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 idea that is significant enough to be separated from the rest.

Format: Always have an original title on your paper, centered at the top of the page. Think of something that summarizes the unique slant you are taking because we have to read many of these. It should catch our interest. Your papers are to be typed using something comparable to 12-point Times New Roman type, single-spacing, and 1 inch margins. Other professors often expect double-spacing, but I prefer to read single-spacing and require your papers to be single-spaced. After a draft, 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 substantial text or no less than 800 words.

Grading: These short papers and other assignments will each be worth 10 points. Outstanding papers will receive an additional 2-5 points. Assignments will be described in class, so listen carefully and be sure that you know what is expected or ask about anything that is unclear. There will also be a description on the Dropbox in Blazeview. 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 by other people who write well or even a visit to the Academic Success Center (ASC) in the library can also make a difference. You do not need a science tutor to read these papers. Ask for an English or Writing tutor at the ASC. Proofread your own work to avoid careless errors. Spelling, Punctuation, and Grammar do effect the quality of your work and your grade. These papers will be graded on Effort, Quality, Organization, Content, and whether or not you followed these directions. We will look specifically at your coverage of the topic and the clarity and thoughtfulness of your presentation. Do not complain about your grade because it is very unlikely that it will be changed. Instead, learn from the feedback and improve your next paper.

Automatic Grade Reductions:

- Failure to single-space & Missing a clear thesis or title
- Lack of Organization (Equal Introduction & Conclusion) Solid Body with logical flow
- Poor paragraph structure - no topic sentences, uneven lengths, no transitions
- Lack of focus, failure to compile a convincing argument, or make a good case
- Inaccurate or deficient scientific content
- Typographical Errors & Grammar, Spelling, & Punctuation (GSP) Mistakes
- Not the assigned length which will be from ½ to 2 pages, but is usually limited to 1 page (which is no less than 3/4)
- Failure to follow these writing instructions

Requirements for Submission:

Submit your work on Blazeview in the designated assignment box as a PDF because this will ensure that the formatting will be preserved. The due date will be announced in class, is posted on the class schedule, and listed in Blazeview. If you fail to submit your work by the time the box closes, it will not be accepted FOR ANY REASON, so that is the reason to turn assignments in early. If you miss the final deadline, accept your penalty and do better next time!

Please follow the guidelines in order to get the best grades.

ISCI 2001 – Fall 2021 - Tentative Weekly Outline

1. Opening

8/16 - Challenge
8/18 - Levels of Organization

2. Electronic Journal & Natural World

8/23 - Realms
8/25 - Sciences

3.

8/30 - Patterns in Nature
9/1 - Natural/Anthropogenic

4. Space

9/6 - **XXXXXXXX - Labor Day**
9/8 - Parallax

5.

9/13 - Solar System
9/15 - Lunar Cycle

6. Earth

9/20 - Ecosphere
9/22 - Atmosphere & Weather

7.

9/27 - Tectonic Plates
9/29 - Landforms

8. Habitats

10/4 - Stream Study
10/6 - Critter Art & Energy Flow

9.

10/11 - **XXXXXXXX – FALL BREAK**
10/13 - Biodiversity & Classification

10. Life

10/18 - Leaf Colors
10/20 - Photosynthetic Pigments

11.

10/25 - Fish Lab & Evolution
10/27 - Cells

12. Matter

11/1 - Water
11/3 - Rocks & Minerals

13.

11/8 - Biogeochemical Cycles
11/10 - pH

14. Energy

11/15 - Forms
11/17 - Gravity & Oscillations

15.

11/22 - EM Spectrum & Waves
11/24 - **XXXXXXXX - Thanksgiving**

16. Science

11/29 - Holism & Reductionism
12/1 - Reasoning & Processes

17. Closing

12/6 - Pedagogical Content Knowledge