

ISCI 3103: Natural History for Middle Grades Fall 2024 Course Syllabus

Department of Biology, College of Science & Mathematics, Valdosta State University

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Please Use Blazeview Email for Class Communication

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Office Hours: Mon & Wed 11:30-12:30, Tues & Thurs 11:00-12:00, & Tues 4:00-5:00

Personal Appointments will be scheduled by Blazeview email

What You Need to Know!!!

This is not going to be a typical Science Class

Every class will begin at 9:00 usually with a lab/activity relating to the Topic of the Day that will last about 1 hour

The point of these will be to model **Inquiry-Oriented, Activity-Based Instruction**

Usually, the second part of class will be a presentation of scientific information to **Explain the Phenomena**

This is a 4-credit hour class for education majors so there will be **Emphasis on Pedagogy**

You are responsible for keeping notes on both lab & lecture summarizing them in your Portfolio

Deadlines are firm and will not be changed for any reason.

Your Grade Depends on Your Own Effort

Attendance – 20%

Portfolio – 30%

KRITIK Essay Writing Assignments on Standards– 10%

Class Participation, Blazeview Assignments, & Oral Reports – 10%

Midterm – Multiple Choice – 10%

Comprehensive Final Exam – 20%

Extra Credit for Community Service Activities can raise your grade

Attendance Is Imperative!!! It will count as 20% of the final grade

There will be 2 classes where students will make Oral PowerPoint Presentations: Biomes & Pollution.

You will not understand the course enough to pass unless you are present.

Absences will only be excused for good reasons and you must write a Make-up paper to be excused.

(1 ss page detailing the point of the activity & its connection to the content with vocabulary defined).

Exchange contact information with several classmates – in case you need something you miss.

Labs begin at 9:00, Tardiness/Early Exits will count against your Attendance Grade.

Use your Cellphone to **ONLY** to capture any images that will help you remember what we did.

Phones are to sit on the table (face down) and I will not police inappropriate use – I can see where your eyes are.

Any Texting or Surfing Websites will be recorded without comment and points will be deducted from your grade.

The Portfolio Is an Electronic Record of Your Construction of Knowledge from Each Class Session

This is a document that will reinforce the point of what we are doing in class and contain all handouts.

You should have a Table of Contents that is parallel to the schedule on the next page.

There must be a photo collage for each weekly topic that will serve as dividers.

Each class will be documented with no less than a full page of text interspersed with images.

Images should be from lab activities or the web. If you use a classmate's image, stamp it with their logo.

Each class is documented with headers: **Exploration** = Lab, **Explanation** = Lecture Summary, **Extension** = Something More

KRITIK Is a Writing Program – Students Evaluate Other Students' Written Papers with Systematic, Anonymous Peer Evaluation

Writing is a way for you to learn the science and express your personal opinions

Each Essay will include a Peer-Reviewed Assignment to evaluate your knowledge of the Content

KRITIK is a new program that will help you write better by seeing what others do

A Midterm Test for 10% of the grade will be a multiple-choice test that starts at the beginning of class

There are ~100 questions on labs and lectures – some involve 5-point sequences. You can submit your test – take a break until 10:30, because at that time, you return to class so that we can go over the correct answers right away and you will know how you did.

The Comprehensive Final Exam for 20% will take place in the classroom Friday, from 8:00-10:00 pm

Everything we cover or discuss in class can be included in this final evaluation of what you have learned

You are expected to have a conceptual understanding of this information

Service Extra Credit Points can be accumulated through a variety of independent activities, labs, and field trips.

We will be going out to local schools to visit teachers, that are my former students, to engage their students in science labs.

ISCI 3103 – Fall 2024 – Weekly Outline

Topic	Lab	Extensions or Assignments
1. The Natural World		
8/19 – Levels of Organization	Hierarchical Arrangement	30 Level Slide
8/21 – Realms & the Syllabus	Group Diagrams	Alphabetical Hierarchies
2. Patterns in Nature		
8/26 – Algebraic & Geometric	Designs, Numeracy & Shapes	A & G Shape Slide
8/28 – Munsell System	Leaf Colors & Shapes	Leaf Display
3. National Science Education Standards		
9/2 – No Class – Labor Day		Student Information Sheet (9/5)
9/4 – Ecosphere & the NSES	Connections of Spheres	Portfolio Formative Grade #1
4. Space		
9/9 – Origins	Parallax	Origin Story
9/11 – Solar System	Moon Phases	Phase Diagram
<i>9/14 Girl Scout Field Day at Reed Bingham State Park 8:00 – 12:00 for Extra Credit</i>		
5. Earth		
9/16 – Lithosphere	Landforms	Georgia Landform Collage
9/18 – Rock Cycle	Rocks	Rock Cycle
6. Matter		
9/23 – Soil Qualities	Soil Separation	Georgia Soils Chart
9/25 – Hydrosphere	Phases of Water	Water Distribution Scheme
7. Energy		
9/30 – Photosynthesis	Chromatography	Chart of Pigments
10/2 – Flow in the Living World	Detailed Food Pyramid	PCD Pyramid in Your Biome
8. Biosphere		
10/7 – Global Solar Influence	Biome Reports	Kritik Essay #1 (10/8,10/11,10/14)
10/9 – Atmospheric Patterns	Biome Reports	Portfolio Formative Grade #2
9. Midterm (No Portfolio Entries)		
10/14 – FALL BREAK – No Class		
10/16 – Midterm Test		
10. S7L1. The diversity of living organisms and how they can be compared scientifically.		
10/21 – Microbe Microscopy-----		Your Photomicrographs
10/23 – Speciation & Biodiversity	Critter Art	Another GA Critter Art w/ Photos
11. S7L2. How cell structures, cells, tissues, organs, and organ systems interact.		
10/28 – Langdale Park Trip-----		Tree Anatomy
10/30 – Cells	Metaphor	Original Metaphor
12. S7L3. How organisms reproduce either sexually or asexually and transfer genetic information.		
11/4 – Reproductive Biology	Plant Repro Scavenger Hunt	Photo Display
11/6 – Inheritance of Adaptations	Fish Lab	Lab Report
13. S7L4. The interdependence of organisms with one another and their environments.		
11/11– Grand Bay Field Trip-----		Reflective Summary
11/13 – Symbiosis	Good Buddies	3x3 Matrix
14. S7L5. The theory of evolution of living organisms through inherited characteristics.		
11/18 – Selection	Atrium Displays	Myths & Truths Essay
11/20 – Human Evolution	Primate Skull Lab	Timeline Map of Human Evo
15. Human Impacts		
11/25 – Pollution Reports-----		
11/27 – No Class – Thanksgiving		
16. Social Justice in the Classroom		Kritik Essay #2 (12/3,12/6,12/9)
12/2 – Race Is Not Biological	Skin Color Inheritance	People on Global Map
12/4 – Sex & Gender	Nature & Nurture	N/N Photo Display
Finals Week		
12/9 – Conclusion & Review		Final Portfolio Due
Comprehensive Final Exam – Friday, December 13th from 8:00 – 10:00		

SCI 3103 – Course Design: Guidelines for Content & Evaluation

Enduring Understanding:

Science is the systematic study of the natural world which includes the totality of the physical and biological factors that have and continue to influence the evolution of living organisms.

Essential Questions:

How does Inquiry-Oriented, Activity-Based pedagogy influence the teaching and learning of Life Science?

What is the important content that needs to be covered in Middle Grades Life Science classes?

How does the Theory of Evolution explain the history of life?

How are Anthropogenic changes in aspects of the Earth's Environment evidence of Human ignorance?

Basic Knowledge & Skills Students Will Acquire:

The Nature of Science as both a Body of Knowledge and Set of Processes

Essential Subject Matter Covered in the 7th Grade Life Science Section of the GPS

Principles of Ecology

Biodiversity: Taxonomic Classification, Functional Roles, & Patterns of Interaction

Evolutionary History of Living Organisms

Techniques & Standards for Field Study of Living Organisms

Strategies for Teaching 7th Grade Life Science Based on the Georgia Performance Standards

Students in ISCI 3103 will be expected to:

I. **Display** oral competence through class participation.

II. **Describe** the evolutionary processes responsible for biodiversity and explain the characteristics of major Taxa.

III. **Compare and contrast** how anthropogenic factors influence the features of the earth and the dynamics of natural processes.

IV. **Characterize** environmental issues with emphasis on loss of biodiversity & future sustainable practices.

V. **Indicate** the possession of conceptual understanding of the Nature of Science & the 7th Grade Life Science GPS.

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

I. **Attendance & Oral Participation** – Active Efforts in Class and several Short Research Reports

II. **Essays Demonstrating Pedagogical Content Knowledge** – Peer Evaluated Using the Kritik Program

III. **Completion of SmartBook Assignments** – Adaptive Learning Activities associated with eBook & a log of learning reflections

IV. **Community Service & Participation Points** – Extra activities such as Teaching in Local Schools, Independent Labs & Field Trips

V. **Midterm & Final Exams** – Conceptual multiple choice questions based on Labs, Field Trips, eBook, LearnSmart & Trips

The Georgia Standards of Excellence cover these topics and will be discussed:

S7L1. The diversity of living organisms and how they can be compared scientifically.

S7L2. How cell structures, cells, tissues, organs, and organ systems interact.

S7L3. How organisms reproduce either sexually or asexually and transfer genetic information.

S7L4. The interdependence of organisms with one another and their environments.

S7L5. The theory of evolution of living organisms through inherited characteristics.

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 – Knowledge of the nature of science in our formulation of an understanding of the natural world

Empathy – Indication of the recognition of the value and need to sustain state environmental resources

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

SCI 3103 – Policies

Emails: Please Use My Blazeview (BV) 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.

Personal Responsibility:

You must keep track of all assignment deadlines – late work will not be accepted!!

Your grades will be posted in Blazeview, so that you will know where you stand

If that is not the grade you want for the semester, make more effort on the assignments!

If you miss the test or a presentation for any reason, you must notify me within 24 hours

Make-ups will only be given for legitimate reasons

These are probably essays since the class will already have gone over the test

The Final Exam is Friday, December 13th from 8am to 10am

Office Hours & Instructional Support:

Office Hours: **Mon & Wed 11:30-12:30, Tues & Thurs 11:00-12:00, & Tues 4:00-5:00**

I will be in my office or the lab (1043) after this class from 11:30 – 12:30 every Mon & Wed

On Tuesdays & Thursdays, I will be in my office from 11:00-12:00, and Tuesdays from 4:00-5:00

VSU provides 10 hours of free tutoring via Tutor.com (Available 24/7)– Click the BV Link

The ASC – Academic Success center provides unlimited, in-person, free-tutoring. 229-333-7570

email asc@valdosta.edu, or visit the website www.valdosta.edu/asc for more information

Attendance Policy:

You are expected to attend all class meetings because this is a participatory class

Being tardy or leaving early will be recorded & more than 3 of any of these will be considered an absence

If you do miss class for any reason, you are responsible for obtaining the notes from a classmate

Anyone who misses more than 20% of the class sessions (6) will receive a failing grade for the course

Here is how your attendance 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

Course Portfolio:

This will be an electronic documentation of your learning in every class session throughout the semester. Each weekly topic should be demonstrated with a divider that shows in images how the daily topics relate to each other. These are followed by the coverage for the 2 classes that contain text sections with the headings: EXPLORATION (Lab Activity), EXPLANATION (Scientific Content Given), EXTENSION (Something Beyond Class such as Assignments) These will periodically be submitted in BV for progress grades.

Class Participation:

Please think of all of your classmates as a Learning Community. You will be working in lab groups so it is important that you cooperate with those people. I will be changing the lab groups regularly, so you will work with everyone eventually.

Required Technology Platforms:

LMS=Blazeview (BV): Learning Management System – Your VSU Account

This will be used for **ALL** class communication, writing assignments, and access to various resources:

(<http://www.valdosta.edu/academics/elearning/blazeview-d2l.php>)

You need to check your BV email regularly for class information and updates.

If I forget to clarify something or get questions, I will send a message to the whole class.

If we are going on a trip, I will spell out the details & weather report to assure you whether we are going.

KRITIK = A peer-grading platform designed for fair and accurate assessment of your essays by other students

This applies evaluation through the collective intelligence of your classmates to your eventual grade

Your participation as an evaluator counts 40% of your Kritik grade & will strengthen your content knowledge & writing skills.

There will be two important essays:

How the “Levels of Organization” relate to the National Science Education Standards for Middle Grades

Aspects of the course content and pedagogy that support the Georgia Life Science Standards

Choices for Individual & Oral Report Topics

These will be PowerPoint reports with great PHOTOGRAPHIC images and very little text on your slides. The point is to practice speaking without notes, so practice your talks if that makes you nervous. Whichever topic you select, you should cover it comprehensively.

Origin Stories

Look into these topics early to be sure you find enough information so that you can say a few words in class. The main part is your extension where you will use text and images to describe the way this tradition describes origins of the Universe through Humans. You may change topics to another one that is closely related to the one you selected.

Buddhism

Druze

Hawaiian

Hindu

Inuit

Iroquois

Shinto

Taoism

Zuni

Biomes: Geographic Regions with Characteristic Climates & Vegetation

Start by comparing the distinctive Abiotic Factors. Then, contrast the different examples of these places found all over the world. Finally, emphasize the specific adaptations of some organisms.

Polar Regions

Tundra

Montane

Beaches, Coastal Regions & Islands

Coral Reefs and Ocean Shelf Areas

Open Ocean & Deep Benthos

Deserts & Chapparals

Forests

Grasslands & Savannas

Forms of Pollution: These will be group reports with 2 or 3 people.

Groups will be responsible for finding & leading a class activity in a cohesive 30 minute class session with the report.

Materials – Radioactivity, Plastics, Fossil Fuels

Land – Garbage Dumps, Erosion, Pesticides & Fertilizers

Water – Warming, Sewage, Eutrophication

Air – Industrial Smog, Aerosols, Particulates

General Information Everything That Must Be Stated for Everyone's Protection

Cheating Will Not Be Tolerated

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. Everyone in the class is expected 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 leniency for claims on the grounds of not knowing better. By taking this course, you agree that all required course work may be subject to submission for textual similarity review to Turnitin, a tool within BlazeVIEW. For more information on the use of Turnitin at VSU see [Turnitin for Students](#). 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.

Submission of Papers that use AI and are not original papers written by the student will result in failure. This course will use Turnitin AI detection to check for the use of Chat GPT and other AI-generated content in student papers. This will identify instances of plagiarism. Turnitin will be used as a "tool that can help promote academic integrity by checking student papers for originality. Turnitin's advanced algorithms can detect subtle instances of plagiarism, including those that involve the use of AI." This is to ensure that you "are submitting original work and that academic standards are being upheld." You will be shown how to use AI as a resource in class. The difference between Paraphrasing and Plagiarism will be made clear.

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. Faculty members can't speak to parents without the student signing a consent form that is filed in the registrar's office.

Statement of Social Justice Commitment & Student Support

As an educator, I have a strong personal commitment to teaching the principles of Diversity, Equity, & Inclusion (DEI) to all of my students, but especially future educators. For me this is the most important part of being an American and should not be a political issue. When I see examples of discrimination and lack of respect for others, it motivates me to want to teach against it. Therefore, as part of the course content, there will be relevant lessons on Sex & Gender to clarify the complexity of LGBTQ+ issues and the Evolution of Human Skin Color to demonstrate how "Race" was invented to justify racism.

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. A helpful site is: 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.**

Non-Discrimination and Title IX Statement

Valdosta State University (VSU) upholds all applicable laws and policies regarding discrimination on the basis of race, color, sex (including sexual harassment and pregnancy), sexual orientation, gender identity or expression, national origin, religion, age, veteran status, political affiliation, or disability. The University prohibits specific forms of behavior that violate Title IX of the Education Amendments of 1972. Title IX of the Education Amendments of 1972 prohibits discrimination on the basis of sex in education programs and activities that receive federal funding. VSU considers sex discrimination in any form to be a serious offense. Title IX refers to all forms of sex discrimination committed against others, including but not limited to: sexual harassment, sexual assault, sexual misconduct, and sexual violence by other employees, students or third parties and gender inequity or unfair treatment based on an individual's sex/gender. The designated Title IX Coordinator for VSU is Mr. Darius Thomas. To view the policy or to report an incident visit: <https://www.valdosta.edu/administration/student-affairs/title-ix/>

Accommodations Statement

Students with disabilities who are experiencing barriers in this course may contact the Access Office (<https://www.valdosta.edu/student/disability/>) for assistance in determining and implementing reasonable accommodations. Please note, you will be required to provide documentation from an appropriately licensed medical professional indicating the requested accommodations are medically necessary. The Access Office is located in University Center Room 4136 Entrance 5. The phone numbers are 229-245-2498 (V), 229-375-5871. For more information, please visit VSU's Access Office or email: access@valdosta.edu.

To request reasonable accommodations for pregnancy and childbirth, please contact Myia Milller 333-5409, maburden@valdosta.edu.

Mental Health Services are available and treatment does work. You can learn more about confidential mental health services available on campus at <https://www.valdosta.edu/hopeconnect>

If you, or someone you know, needs support, is distressed, or exhibits concerning behavior, help by making a referral to the BIT Team. <https://www.valdosta.edu/administration/student-affairs/bit.php>