ISCI

## 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 the Theory of Evolution explain the history of life?

How have significant features of physiogeography of Georgia influenced the vast biodiversity of the state? How does Inquiry-Oriented, Activity-Based pedagogy influence the teaching and learning of Life Science?

Basic Knowledge & Skills Students Will Acquire: The Nature of Science as both a Body of Knowledge and Set of Processes Principles of Ecology Biodiversity: Taxonomic Classification, Functional Roles, & Patterns of Interaction Evolutionary History of Living Organisms

# ISCI - Tentative Course Schedule and Plan for Instruction

Dates & Topics	Assignments
The Natural World	
1. The Natural World	
Aug 18L Introduction, Patterns in Nature	
18 - Levels of Organization 20 Course Description	Alphabetical Hierarchies
2. Life & the Living World	
25L Abiotic & Biotic, Observation & Measurement	Register for Connect
25 Learning	
27-Life	LSChapter 1
3. Scientific Processes& Reasoning Sept 1 Balance, Pennies, & Glass Beads	3E on the Natural W orld over 2 W eeks, Extension =Photo Collage Mythos & Logos Paper & Survey Due 9/3
1 History of Science	Read Chapter 16.4 & 16.5
3- Classification	
4. The Nature of Science	3E Extension = Relate to GPS for Characteristics of Science
8L Prep for Field Labs & Demonstrations	Dertfelie Due for Initial Accessor ant
8- Nature of Science Unit Test 10- Test Review & Biodiversity Assignment	Portfolio Due for Initial Assessment
The Revelations of Ecology	Extensions All Relate to the 7 <sup>th</sup> Grade Content GPS
5. Global& Local Patterns	
15L Pine Grove Trip - Compare Abiotic Factors of Ecoregions	LSChapter 40
15 - Field Lab	
17 The Natural History of Georgia	
6. Biogeoclemical Cycling & Energy Flow	LSChapter 39
22L Lake Louise Trip 3 Ecosystems in 1 Community	
22 - Field Lab 24 Nutrient Cycling, Energy Transfer	
7. Population Dynamics	LSChapter 38
29L Langdale Park Plants & Populations	
29 Field Lab	
Oct 1 Populations & Behavior	Biodiversity Assignment Due
Sapelo Island Trip(Friday, Oct 2- 8:30am Sunday, Oct 4 8:00pm)	Cost \$110: \$25 deposit due Sept 22
8. Interdependence	LSChapter 37
6L Grand Bay Animals & Water Quality	
6-Field Lab	
8 Coexistence & Symbiosis	Ecology Practice Activity Due 10/9
Oct 8 <sup>th</sup> = Midterm	
9. The Revelationsof Ecology	
13 - NO CLASSFALL BREAK	Ecology Pretest 10/14
15 Ecology Unit Test	Portfolios Due for Formative Assessment
The Theory of Evolution (Ter	ntative Plan)
10. The EvolutionCreationism Controversy 20L Mosaics	
20L Mosacs 20 Myths & Truths about Evolution	

olutio

22 The Social Controversy 11. Evidence for Evolution

27 L Animal Skulls 27 Evidence for Evolution

LSChapter 14 e35T EMC /P &/MCID 11>>BBDC31m11 168.06 Tm[ )]TJE-22(e) 10( )-24(S)

### ISCI 3103- Evidence of Achievement = Course Portfolio

(Do Not Put Anything in This Document that Is not Your Own Coursework) (No Syllabus, No Blank Paper, No Xeroxes other than Handouts with work on them)

Inquiry - Oriented Lessons Section with Creative Cover Page for Each Week Class

For Each Weekly Lesson: Lab & Lecture Notes, Any Handouts, & Weekly Learning Cycle 3E Summary Elaborate a synthesis of the purposes of all activities. Consider why these were chosen to generate interest in the topic. Do NOT restate what was done. Emphasize why it was done. Use the Lecture Notes & Text to Complete a Summary depicting the Central Concepts Covered Work beyond the class meeting to consolidate understanding and create applications for the poster

#### Evaluation Rubric for 3E Write - Ups

Things to Avoid

Major Individual Reports

Sapelo Island PhotoNarrative

Map, Abiotic Conditions & Physiogeography Biodiversity Display Prokaryotes, Protists, Fungi, Plants, & Animals Photo Collages of Producers, Consumers, & Decomposers & Community Food Web Symbiotic Pairs, Human Impacts, & Abstract

Environmental Issue PowerPoint Outline of Global Issue & Application to Georgia

Presentation Handout

**Oral Report Grading Rubric** 

Creativity & Illustrations: This Portfolio should be much more than a sterile display of coursework. As preparation for teaching science to young students, think about colorful ways to show understanding and appreciation of the information. Use Google or other engines to download images for visual displays. If you have a camera, take pictures on our field trips.

Work Ethic

understanding of scientific information. Success depends on consistent effort and hard work. Grades are based on the quality of the product produced, not the time spent on assignments. Get your work done and do not waste your energy complaining. Teaching K-12 is much more work than you are doing now as a student!!!

Grading: The Portfolio will be given a preliminary grade as formative assessment after the midterm and a full summative assessment after the final exam that counts twice as much as the first grade. Concentrate on demonstrating critical synthesis of every class sessi

other efforts. Top grades will be awarded for clear evidence of Clear, Consistent, and Convincingcomprehension of the material. It is extremely important to focus on building a document that clearly demonstrates understanding of the course content. The grade will be a reflection of the quality of the work presented. It will not be a measure of the amount of time spent on the assignments. Remember: the grade is based on a demonstration of what was learned; it is not given for the size of the Portfolio.

	Portfo	olio Construction	Guidelines		
PORTFOLIO	Insufficient <i>∢</i> 0% Thingsto Avoid	Minimal <i>⊲</i> 0% Basic Components	Adequate >80% Solid Effort	Outstanding >90% Exceptional/Excellent	
Product Structure Inclusions Organization	Blank Cover/No Tabs Messy/Disorganized Empty/Excess Pages	Labeled Tabs Showing Several Throughout Consistent Sequence	Pictureson Dividers Consistent for Chapters Follows Checklist	Creative Innovations Additional Material Neat & Concise Document	
3EWrite-Ups	Any Reports Missing	3 Named Paragraphs	≫300 W ords Each Par	Augmented w/ Photos	
Outside Learning Summary Narratives	Long Websites/No Notes	Use of Internet Typed, Single Spacing	Text Reading Notes Full Page of Analysis	Other Good Sources Detailed Unit Summaries	
Knowledge Science Content Scientific Processes Text Objectives	Errors & Mistakes Ignored Failure to Mention	Keywords Explained Noted in Lab Activities Some Attention Given	Personal Definitions Field Trips Described Each Stated in Notes	HighlightsMajor Concepts Part of Chapter Summaries Effort to Elaborate	
Reasoning Content Analysis Nature of Science Intersection (C& NOS)	Nothing Beyond Class Ignores Importance Absent	Outlined as Covered Mentioned Discus 446.59 T257			

### artfalia Construction Cuidaling

Reading Concepts of Biology, 3rd Edition. (201)6 Sylvia Mader, McGraw Hill This introductory textbook for biology majors is unique because there are reading objectives throughout the chapters to focus attention on important content. Reading for science is very different from other types of reading. Science teachers need to be prepared to teach students to read different sources of information. Concentrate on the reading objectives, complete the

# 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 them.

#### Focus

Well-crafted writing always has a specific purpose. Every paragraph or paper should have a distinct thesis or central idea. Your