

**** Bio158 Honors Organismal & Ecological Biology 2017 Course Info & Schedule****
Bring a pen, a pencil note pad/folder with lined paper NO COMPUTER, IPAD, CELL PHONE USE EXCEPT IN CHALLENGES WHERE REQUIRED

2017 Student Learning Expectations/Outcomes for Freshmen Honors Bio 158

The following five learning outcomes are common to both semesters of the biology core sequence for biology majors, of which honors Bio 158 is a part. These can be summarized under the overall goal: To understand the conceptual basis of the interconnectedness of all life as it relates to the environment, physical processes, evolutionary processes and genetic underpinnings.

1. ON Evolution: To have a deep understanding of the mechanisms underlying the fact that populations of organisms and their cellular components have changed over time through both selective and non-selective evolutionary processes

2. ON Structure & Function: To recognize that all levels of life (organisms, populations, communities and ecosystems, etc. are made of structural components whose arrangement determines system function.

3. On Information Flow & Storage: To learn the basic structure of how information (DNA, composing genes) is exchanged within and among organisms to direct their functioning.

4. On Transformations of Energy and Matter: To understand that all living things acquire, use, and release matter and energy for cellular functioning. And that while nutrients recycle, energy does not.

5. ON Systems: To learn how living systems are interconnected, and interact and influence each other.

Grading scale: Grades will be based on the standard grading system, though a curve will be applied to the final total to control for excessive expectations on our part. All students scoring within 93% of the top student's score will receive an A etc. We will keep you informed periodically with respect to top scores on graded items.

INFORMATION

Readings assigned below are from: 1) lecture notes provided in the Bio 158 blackboard site that you should study before lecture & bring to add to; 2) in urls listed under particular dates; pdfs posted at Blackboard Bio 158 site by date under assignments and 4) from two books: The 6th Extinction, by Elizabeth Kolbert and Your Inner Fish by Neil Shubin which are available from the book store. Though not required, you may find it useful to have at your disposal a college-level biology textbook, something you can purchase a used version of.

****Discussions will meet only as scheduled below. TAs will be available for office hrs during all other discussion times for their particular time periods.*** Dr. Riechert is available after class from 12:30-1:30 on Tuesdays & Thursdays, as well as by appointment (email sriecher@utk.edu with suggested times you are available)

CHECK CANVAS UNDER BOTH ASSIGNMENTS & MATERIALS AS WELL FOR EACH LECTURE DATE WHEN PREPARING FOR CLASS. YOU SHOULD BE PREPARED TO BE QUIZZED ON ASSIGNED READINGS & LECTURE NOTES ON THE DATE INDICATED HERE.

Quiz format: Complete without notes in pen; revise in pencil during course of lecture

SCHEDULE

1. August 24 THURS. Introduction to the Course; Assignment to Teams & Evaluation of Personality as it affects team performance. Take home pretest

2. August 29 TUES. Challenge: Case in Point for Active Learning Challenge

Assignment. Read and complete preliminary analysis required for Challenge 1: A Case in Point- From Active Learning to the Job Market.

3. August 31 THURS. The Nature of Science and Science Method

Reading Assignment - Chapters 1&2 6th Extinction Book

DISCUSSION AUG 25 & 30 Termite Experiments, Science Method Review & 6th Extinction Readings Chapters 3 & 4

4. September 5 TUES. Introduction to Life and Biodiversity: Introduction to your Diversity Assessment assignment – Team plan measure and complete data collection; individual (calculate own indices and write up in report format to turn in and oral presentation in Discussion Sept 8 & 13)

Reading Assignment - Chapters 5&6 of the 6th Extinction.

5. September 7 THURS. Challenge: Threats to Biodiversity

Readings - Threats to Biodiversity Background pdf; & Chapters-7&8 of 6th Extinction Book.

6. September 12 TUES. Climate Creates Environments Favoring Diversity of Life:

Biogeographical Realms Produced by Climate & Topography: Biomes

DISCUSSION SEPT 8 & 12 Team Diversity Reports

7. September 14 THURS. Biome Challenge. Readings Chapters 9&10 6th Extinction Book

8. September 19 TUES. Global Climate Change Challenge Reading Assignment- Chapters 11 & 12 6th Extinction Book

9. September 21 THURS. Transformation of Energy & Matter Supports a Diversity of Organisms. Reading Assignment – Chapter 13 6th Extinction Book

10. September 26 TUES. Trophic Structure Challenge

DISCUSSION: SEPT 26 & 28 Biodiversity Review

28. October 11 TUES. Exam I Biodiversity & Environmental Factors affecting it.

Mendelian Genetics

Reading Assignment – Chapters 1&2 Your Inner Fish Book

12. October 3 THURS. Mendelian Genetics Challenge

OCTOBER 5-6 FALL BREAK

13. October 10 TUES. Chromosomal Inheritance
Reading Assignment – Chapters 3& 4 Your Inner Fish Book

14. October 12 THURS. Chromosomal Inheritance Challenge

18. October 17. TUES. Population Genetics & Challenge
Reading Assignment – Chapters 5&6 Your Inner Fish Book
DISCUSSION: Oct. 17 & October 19 Genetics Review

19. October 19. THURS. Speciation

11. October 24 TUES. Evolution by Natural Selection

12. October 26 THURS. Adaptation and Natural Selection Challenges

13. October 31 TUES. Evolutionary Trees & Challenge

20. November 2. THURS.
Reading Assignment – Chapters 7 & 8 Your Inner Fish Book

Exam II Take Home Scenario handed out

21. November 7. TUES. Beginnings/Origins of Life
Reading Assignment – Chapter 9 Your Inner Fish Book

22. November 9. THURS. Origins Challenge

23. November 14. TUES. Biodiversity Through Time & Prokaryotes-Eukaryotes

24. November 16. THURS. Advances in the Seas
Reading Assignment – Chapter 11 Your Inner Fish Book

25. November 21. TUES. Mountain Building

26. November 28. TUES. Vertebrate Success

27. November 30. THURS. Exam III Phylogenetic Sequence

28. December 5. From Primates to Humans Challenge

FINAL EXAM: Per schedule yet to be dictated by administration