

Lecture & Discussion Schedule for Honors Biology 159

Fall Quarter

1) Sept 23 R Lecture: What is science?

Discussion #1: Introduction

Assignment for the next discussion is to write a one page essay on the question: "What should you take away from a ten week introductory science course?"

2) Sept 28 T Lecture: The Epistemic Values of Science

Discussion #2: The Purpose of Introductory Science Courses

Reading assignment for next discussion: essays "The Medieval Worldview and Augustine the Bishop of Hippo", "Life in Medieval Europe", "Scholasticism", and "Science and the Reformation"

3) Sept 30 R Lecture: The Origin of Modern Science, and Science as a Profession

Discussion #3: Must we reject the word of authority in order to do science?

Reading assignment for next discussion: excerpt from Sagan's "The Demon-Haunted World"

4) Oct 5 T Lecture: The Conceptual Framework of Science

Discussion #4: How can scientists be competitors and cooperators at the same time?

Reading assignment for next discussion: Williams Chapters 1 & 2

5) Oct 7 R Lecture: Darwin's Five Theories

Discussion #5: Williams on Paley's "Argument from Design"

Reading assignment for next discussion: Williams Chapters 3 & 4

6) Oct 12 T Lecture: Common Descent, Gradualism, and Speciation

Discussion #6: What is "genetic success"?

Reading assignment for next discussion: Williams Chapters 5 & 6

7) Oct 14 R Lecture: Darwin's Revolution In Thought

Discussion #7: Williams on Sexual Reproduction

Reading assignment for next discussion: Williams Chapters 7 & 8

8) Oct 19 T Lecture: Biochemistry

Discussion #8: Williams on Growing Old and Death

Reading assignment for next discussion: Williams Chapter 9

9) Oct 21 R Lecture: Molecular Genetics

Discussion #9: From the reading assignment what are some of the moral implications of scientific knowledge?

Reading assignment for next discussion: Knoll Prologue & Chapter 1

10) Oct 26 T Lecture: Cellular Reproduction

Discussion #10: Why should we study the history of life?

Reading assignment for next discussion: Knoll Chapters 2 & 3

11) Oct 28 R Lecture: Geologic Time & The Origin of our Solar System

Discussion #11: What is our relationship to "germs" both genetically and environmentally?

Reading assignment for next discussion: Knoll Chapters 4 & 5

12) Nov 2 T Lecture: The Origin of Life

Discussion #12: What are the implications of life's early history?

Reading assignment for next discussion: Knoll Chapters 6 & 7

13) Nov 4 R Lecture: Photosynthesis & Aerobic Respiration

Discussion #13: How does the air we breathe reflect the history of life even down to recent events?

Reading assignment for next discussion: Knoll Chapters 8 & 9

14) Nov 9 T Lecture: Eukaryotes, Sexual Reproduction, and Multicellularity

Discussion: How can we define species "kinship"?

Reading assignment for next discussion: Knoll Chapters 10, & 11, (Chapters 12, 13 & the Epilogue are optional)

15) Nov 16 T Lecture: Adaptive Radiations & Mass Extinctions

Discussion: Form and function in animal life—how do we explain the way we are?

Reading assignment for next discussion: Olson Introduction, and Chapters 1, & 2

16) Nov 18 R Paleozoic & Mesozoic Vertebrate Evolution

Discussion: Who are we?

Reading assignment for next discussion: Olson Chapters 3, 4, & 5 (Chapter 6 is optional)

17) Nov 23 T Lecture: Hominin Evolution

Discussion: Genetics as History

Reading assignment for next discussion: Olson Chapters 7, & 11 (Chapter 8 is optional)

18) Nov 30 T Lecture: The Evolution of Modern Humans

Discussion: The History of Humanities Impact on the Natural World

Reading assignment for next discussion: Olson Chapters 9, 10, & 13 (Chapter 12 is optional)

19) Dec 2 R Lecture: Biology and Society

Discussion: Is "race" a scientific concept?

20) Dec 9 R Final Test 8:00-10:00 am