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