

Schedule

Date	Week	Scenario	Lab Topic
June 8-9	1	Psychics and Scientists: A series of short scenarios will center on distinguishing science from non-science, a faculty research question, analysis of class score data, and what is a theory?	Tu: Intro Lab – Read pp.G1-G40 in the lab manual <u>prior to attending</u> . Work on Planning Form for Inv 1 in the LRC Monday. Bring to Lab with you Tuesday.
June 10-11		Surviving Fire and Ice: The scenario focuses on surviving in desert and tundra and adaptations for thermoregulation and water retention.	Thu: Why are larger <i>Tetra cryptoforma</i> eaten more frequently than smaller ones?
June 15-18	2	Out of the Rain Forest: An aboriginal fishing expedition in the rain forest is explored in terms of the action of a toxin produced by plants. Pesticides, coevolution, and cell respiration will be discussed.	Tu: Why are animals shaped differently in cooler climates than in warmer ones? Thu: Why do certain animals eat more at certain temperatures than others, or than they do at other temperatures?
June 22		Exam #1 – Covers Topics from Scenarios 1-3	
June 23-24	3	Chemical Defenses: A Nigerian child eats a poisonous bean, which requires extraordinary treatment by the local physician, framing investigation of cell membrane structure, secretion, intercellular communication, and neurons.	Tu: Why is diffusion through a membrane sometimes faster?
June 25		Marooned in the Galapagos: This trip raises questions about what makes a species or organism successful. Attention to the physical character of these desert islands and animals living there highlights natural selection in action.	Thu: Why do certain cells contain more of certain structures than do others?
June 29-30	4	Marooned in the Galapagos (continued)	Tu: Why do certain finches survive and reproduce more than others under various conditions of food availability?
July 1-2		Rainbow Connection: A scuba diving botanist is sent by the Smithsonian to collect algae. Blood is spilled and the biological uses of colored light, including photosynthesis, are explored.	Thu: Why do plants grow better under certain lighting conditions than others?
July 6	5	Exam #2 – Covers Topics from Scenarios 1-6	
July 7-9		Emerging Diseases: On the Amazon we meet the Yanomami amidst a breaking TB epidemic, raising the roles of symbiosis, population dynamics and evolution in development of epidemics.	Tu: Why do plants transpire water faster under certain environmental conditions? Thu: Why do some populations of bacteria become resistant to antibiotics?
July 13-16	6	Family Reunion: A family reunion opens the door to talk about cancer, DNA, protein synthesis, genetically determined diseases and biotechnology.	Tu: Why can some bacteria produce a color that others cannot?
July 17		Last day to drop with “W”	Thu: Why is a new population of people exhibiting disease symptoms?
July 20	7	Exam #3 – Covers Topics from Scenarios 1-8	
July 21-23		Hogs & Chickens: Statistics about concentrated animal feeding operations raise questions about nutrients in biogeochemical cycles, the effects of livestock and people on aquatic systems.	Tu: Why are invertebrate species disappearing from the Local Creek? Thu: Why is there less oxygen in some streams than others?
July 27-28	8	Why We Care about Fat: our contemporary preoccupation with fat sets the scene for a discussion of fat metabolism, its genetic, nervous and hormonal control, and behavioral implications.	Tu: Why do some guppies attract more mates than others?
July 29		Review	Thu: No Lab
July 30		Final Exam – Covers Topics from all Scenarios	