

WAYLAND BAPTIST UNIVERSITY
DIVISION OF MATHEMATICS & SCIENCES

COURSE NO. & TITLE: BIOLOGY 3307 (BIOL3307) - ECOLOGY

CATALOG DESCRIPTION: The basic ecological principles and concepts of the components of aquatic and terrestrial environments with emphasis on the nature of populations, communities, and ecosystems.

PREREQUISITE: None

RESOURCES (LIBRARY AND TEXTBOOK): Smith, Robert L. and Smith, Thomas M. Ecology and Field Biology, 6 Ed. Addison Wesley Longman, Inc 2001, pages:766.

COURSE OUTLINE:

BIOLOGY 3307 (BIOL3307) - ECOLOGY

Instructor: Dr. Rich Wilson

Home phone: 797-4742

RPWilson61@AOL.com

Week 1: What is Ecology and why is it so important today? We will examine ecological communities, population curves, succession, carrying capacity, biomes and the world's ecology. In class Assignment: Each student will be assigned a terrestrial biome and with the help of pass outs in class and your text book, prepare a short summary of your assigned biome to discuss with the class. Video: World biomes: Pole to Pole.

Next week's assignment: Text book: Chapters: 1, 28 and 29. Pass outs: Ecology/Environmental Science.

Week 2: Conclude terrestrial biomes and discuss aquatic biomes. Next: Aquatic life zones. Assignment: Each student will study an aquatic life zones from pass outs and your text book and prepare a short summary of your assigned biomes to discuss with the class. Videos: Terrestrial ecosystems and Aquatic zones.

Next week's assignment: Text book: Chapters 19 and 31. Also the following pass outs:

1. Pass out on Mt Lemmon.
2. Pass out on Darwin's evolutionary theory
3. Biodiversity.

Week 3: Field trip up Mt Lemmon. Visit major ecosystems as we go up in elevation on Mt Lemmon. Take notes on key points of the Mt. Lemon ecosystems we visit. Turn in notes next week. (Note: We will be outdoors so bring water, and wear suitable clothes and a camera or video if you wish. We will travel by car and leave from the Wayland U parking lot). There will be minimal walking. Return to class where we will discuss Darwin's theory of evolution. Biodiversity. Videos: Carl Sagan's: One Voice in the Cosmic Fugue. Human population growth.

Next week's assignment: Text book: Chapters 10, 11 and 18.

Also the following pass outs:

1. Population Explosion.
2. Birth Control
3. The Production and Distribution of Food

Week 4: Complete discussion on evolution and biodiversity. Animal and plant population dynamics in nature. Population genetics. Discuss the world population and issues related to the population explosion Video:

Populations in India, China, Japan and Africa contrasted. Take notes to discuss after the video. **Next week's assignment: Text book:** Chapter 30, 2 and 3. Pass out on Air Pollution.

Week 5: Continue in class what we discussed from last week. Population control and human population growth. Contraception. The Production and distribution of food in the world. Human genetics and population issues. **Next week's assignment: MID-TERM EXAM.** Over first 5 weeks of class. Test is multiple choice, short answer, and essay.

Week 6: MID-TERM EXAM. Test is multiple choice, short answer, and essay. Missed exam will be made up at the time of the final exam. In class lecture: Video: "Crude Oil". Take notes and prepare to discuss in class about the video.

Next week's assignment: Text book: Chapter 6, Pass outs: Air Quality and Pollution. Renewable Energy.

Week 7: Air quality and pollution and global warming. Climate change. Video: China Revs Up. (issues of air pollution in one of the worst cases in the world). Take notes on points of interest to you in the video to discuss in class. Energy Resources and renewable energy. In class discussion on sections of the pass out.

Next week's assignment: Chapter 32. Bring an article from newspaper, magazine or Internet on any topical related to global warming, air pollution, and renewable energy issues and prepare to discuss it with the class (2 to 5 mins each).

Week 8: In class summary of what we discussed last week. Continue our discussion from last week on renewable energy and global warming. Video: Renewable Energy. Take notes on key points in the video. Turn in notes after video.

Next week's assignment: Chapter 32 Pass outs: Sewage and Solid Waste Management. Bring an article from newspaper, magazine or Internet on any topical related to Global warming, air pollution, and renewable energy issues, and prepare to discuss it with the class (3 to 5 mins each).

Week 9: Finish our discussion on global warming and renewable energy. Video: If oil runs out.

Discussion on video:

Next week's assignment: Pass out: Fresh water and ground water.

Week 10:: Discussion of pass out on fresh water and ground water. America's Western National Parks. Write on three parks you would like to visit and why?

Next week's assignment. Final Exam.

Week 11: Final Exam. The Final Exam is over course work with emphasis on the materials since the Mid-term exam. Test will be multiple choice, short answer, and essay. Video: World's ecology and man's impact.

Exams and Grades

The final grade evaluation will be based on the following criteria:

In class projects/written work.....	.100 points
Midterm exam.....	100 points
Final exam.....	<u>100</u> points
Total points.....	300 points maximum for class grade

Attendance

If you will miss a class or can not be at class the full period you need to inform the instructor or you will lose full credit for the period. You should not miss more than 2 total of classes during the term. Please let your instructor know if you will not be in class before class starts. Missed exercises done in class can be made up one week later with a drop of one letter grade.

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