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| |  | | --- | | NORTH CENTRAL TEXAS COLLEGE  COURSE SYLLABUS | |

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| Course Title: **Environmental Biology** | | |
| Course Prefix & Number: **BIOL 2406** | Section Number:  **100** | Semester: **Spring 2017** |
| Semester Credit Hours: **4** | Lecture Hours: **48** | Lab Hours: **32** |
| Principles of environmental systems and ecology, including biogeochemical cycles, energy transformations, abiotic interactions, symbiotic relationships, natural resources and their management, lifestyle analysis, evolutionary trends, hazards and risks, and approaches to ecological research.  This laboratory-based course accompanies Biology 2306, Environmental Biology. Laboratory activities will reinforce principles of environmental systems and ecology, including biogeochemical cycles, energy transformations, abiotic interactions, symbiotic relationships, natural resources and their management, lifestyle analysis, evolutionary trends, hazards and risks, and approaches to ecological research. | | |
| Course Prerequisite(s): None | | |
| Required or Recommended Course Materials:  Cunningham, W. P., & Cunningham, (2016). Principles of Environmental Science: Inquiry and Application 9th ed.). New York: McGraw Hill. | | |

**INSTRUCTOR INFORMATION**

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| Name of Instructor: | Lisa Bellows, Ph.D. |
| Campus/Office Location: | Gainesville Campus, Room 408 or 1306A |
| Telephone Number: | 940-668-7731 Ext. 4346 |
| E-mail Address: | lbellows@nctc.edu |
| Office Hours: | Monday, Tuesday, Wednesday 9am – 11am or by appointment |

**GRADING CRITERIA**

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| **Graded Course Elements** | **Point Values** |
| Exam 1 | 100 points |
| Exam 2 | 100 Points |
| Exam 3 | 100 Points |
| Lab Exam 1 | 100 Points |
| Lab Exam 2 | 100 Points |
| Environmental Topics Presentation | 100 Points |
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| **TOTAL** | **600 Points** |

**STUDENT LEARNING OUTCOMES**

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|  | At the successful completion of this course the student will be able to: |
| LECTURE LEARNING OUTCOMES | |
| 1. | Explain the structure and impact of biogeochemical cycles. |
| 2. | Describe energy transformations across trophic levels. |
| 3 | Illustrate abiotic/biotic interactions and symbiotic relationships. |
| 4. | Identify various types of natural resources, human impact on these resources, and common resource management practices. |
| 5. | Quantify and analyze the impact of lifestyle on the environment. |
| 6. | Depict evolutionary trends and adaptations to environmental changes. |
| 7. | Describe environmental hazards and risks and the social and economic ramifications. |
| 8 | Describe ecological and statistical techniques and approaches used in the study of environmental biology. |
| LABORATORY LEARNING OUTCOMES | |
| 1. | Apply scientific reasoning to investigate questions and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data. |
| 2. | Use critical thinking and scientific problem solving to make informed decisions in the laboratory. |
| 3. | Communicate effectively the results of scientific investigations. |
| 4. | Explain the structure and impact of biogeochemical cycles. |
| 5. | Describe energy transformations across trophic levels. |
| 6. | Illustrate abiotic/biotic interactions and symbiotic relationships. |
| 7. | Identify various types of natural resources, human impact on these resources, and common resource management practices. |
| 8. | Quantify and analyze the impact of lifestyle on the environment. |
| 9. | Depict evolutionary trends and adaptations to environmental changes. |
| 10. | Describe environmental hazards and risks and the social and economic ramifications. |
| 11. | Describe ecological and statistical techniques and approaches used in the study of environmental biology. |

**ATTENDANCE POLICY**

Absences exceeding 9 contact hours of lecture and or laboratory of BIOL 2406 may result in student being dropped from the course. It shall be at the discretion of the instructor to drop students who are absent in excess of 9 contact hours.

**TENTATIVE SCHEDULE**

Last day to withdraw from a course with a “W” is April 6, 2017

Spring Break is March 13-18, 2017

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| **Date** | **Topic** | **Chapter** |
| 1/17-1/20 | Introduction and General Overview | 1 |
| 1/23-1/27 | Environmental Systems | 2 |
| 1/30-2/3 | Evolution, Species Interactions, Biological Communities | 3 |
| 2/6-2/10 | Human Population | 4 |
| 2/13-2/17 | Biomes and Biodiversity | 5 |
| 2/20-2/24 | **EXAM 1**  Conservation | 6 |
| 2/27-3/3 | Food and Agriculture | 7 |
| 3/6-3/10 | Health and Toxicology  **LAB EXAM 1** | 8 |
| 3/13-3/17 | SPRING BREAK |  |
| 3/20-3/24 | Climate and Air Pollution | 9, 10 |
| 3/27-3/31 | **EXAM 2**  Water | 11 |
| 4/3-4/7 | Geology and Energy | 12, 13 |
| 4/10-4/14 | Solid Waste | 14 |
| 4/17-4/21 | Economics and Urbanization | 15 |
| 4/24-4/28 | Policy and Sustainability | 16 |
| 5/1-5/5 | **Presentation of Environmental Topics**  **LAB EXAM 2** |  |
| 5/8-5/12 | **FINAL EXAM WEEK** |  |

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**DISABILITY SERVICES (OSD)**

The Office for Students with Disabilities (OSD) provides accommodations for students who have a documented disability. On the Corinth Campus, go to room 170 or call 940-498-6207. On the Gainesville Campus, go to room 110 or call 940-668-4209.  Students on the Bowie, Graham, Flower Mound, and online campuses should call 940-668-4209.

North Central Texas College is on record as being committed to both the spirit and letter of federal equal opportunity legislation, including the Americans with Disabilities Act (ADA) of 1990, ADA Amendments Act of 2009, and Section 504 of the Rehabilitation Act of 1973 (P.L. 93-112). <http://www.nctc.edu/StudentServices/SupportServices/Disabilityservices.aspx>

**CORE CURRICULUM FOUNDATIONAL COMPONENT AREA**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Communication

 Mathematics

X Life and Physical Science

 Language, Philosophy & Culture

 Creative Arts

 American History

 Government/Political Science

 Social and Behavioral Sciences

 Component Area Option

**REQUIRED CORE OBJECTIVES**

x Critical Thinking

 Communication

 Empirical and Quantitative

 Teamwork

x Personal Responsibility

x Social Responsibility

**COURSE TYPE**

 Academic General Education Course (from ACGM but not in NCTC Core)

XAcademic NCTC Core Curriculum Course

**** WECM Course

**STUDENT HANDBOOK**

Students are expected to follow all rules and regulations found in the student handbook. http://nctc.smartcatalogiq.com/en/2016-2017/Catalog/North-Central-Texas-College-Student-Handbook

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| Name of Chair/Coordinator: | Doug Elrod, Ph.D. |
| Office Location: | Corinth Campus 351 |
| Telephone Number: | (940) 498-6291 |
| E-mail Address: | daelrod@nctc.edu |