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

|  |  |  |
| --- | --- | --- |
| Course Title: Environmental Biology | | |
| Course Prefix & Number: Bio 2406 | Section Number: 100 | Term Code: Fall 2016 |
| Semester Credit Hours: 4 | Lecture Hours: 3 | Lab Hours: 1 |
| Course Description (NCTC Catalog):  An introduction to basic ecological principles and techniques. Aquatic and terrestrial communities will be studied with emphasis upon biotic interrelationships and the effects of pollution upon various biotic communities. Topics covered in lecture include: 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.  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. The laboratory will combine experimental studies with field investigations. | | |
| Course Prerequisite(s): none | | |
| Course Type:   - **Academic General Education Course** (from Academic Course Guide Manual but not in NCTC Core)  - **Academic** **NCTC Core Curriculum Course**   - **WECM Course** | | |

|  |  |
| --- | --- |
| Name of Instructor: | Lisa Bellows, Ph.D. |
| Campus/Office Location: | Gainesville |
| Telephone Number: | (940) 736-3996 (cell) |
| E-mail Address: | lbellows@nctc.edu |

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

**REQUIRED OR RECOMMENDED COURSE MATERIALS**

**Principles of Environmental Science, Cunningham and Cunningham, McGraw Hill**

**GRADING CRITERIA**

|  |  |  |
| --- | --- | --- |
| **# of Graded Course Elements** | **Graded Course Elements** | **Percentage or Points Values** |
| 3 | Lecture Exams (100 points each) | 300 (60%) |
|  | Laboratory Exams/Quizzes/Assignments/Attendance | 100 (20%) |
|  | Special Project | 100 (20%) |
|  | Total | 400 (100%) |

**STUDENT LEARNING OUTCOMES**

|  |  |
| --- | --- |
|  | **Student Learning Outcome** |
| **LECTURE** | Explain the structure and impact of biogeochemical cycles. |
|  | Describe energy transformations across trophic levels. |
|  | Illustrate abiotic/biotic interactions and symbiotic relationships. |
|  | Identify various types of natural resources, human impact on these resources, and common resource management practices. |
|  | Quantify and analyze the impact of lifestyle on the environment. |
|  | Depict evolutionary trends and adaptations to environmental changes. |
|  | Describe environmental hazards and risks and the social and economic ramifications. |
|  | Describe ecological and statistical techniques and approaches used in the study of environmental biology. |
|  | Apply scientific reasoning to investigate questions and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data. |
|  | Use critical thinking and scientific problem-solving to make informed decisions in the laboratory. |
|  | Communicate effectively the results of scientific investigations. |
|  | Explain the structure and impact of biogeochemical cycles. |
|  | Describe energy transformations across trophic levels. |
|  | Illustrate abiotic/biotic interactions and symbiotic relationships. |
|  | Identify various types of natural resources, human impact on these resources, and common resource management practices. |
|  | Quantify and analyze the impact of lifestyle on the environment. |
|  | Depict evolutionary trends and adaptations to environmental changes. |
|  | Describe environmental hazards and risks and the social and economic ramifications. |
|  | Describe ecological and statistical techniques and approaches used in the study of environmental biology. |

**ATTENDANCE POLICY**

**Absences in excess of 3 class periods (including laboratory) can lead to being dropped from the course. This is solely at the discretion of the instructor. Do not assume that if you quit coming to class, you will be dropped (this could have grave consequences on your GPA).**

**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**

 Critical Thinking

 Communication

 Empirical and Quantitative

 Teamwork

 Personal Responsibility

 Social Responsibility

|  |  |
| --- | --- |
| **Last day to Withdraw** | The last day to withdraw from a course with a “W” is November 3, 2016. |

**GENERAL DESCRIPTION AND TENTATIVE SCHEDULE**

|  |  |
| --- | --- |
| **Topic** | **General Description of Subject Matter** |
| **Our environment and systems** | **Understanding the environment (Ch. 1,2)** |
| **Evolution and biological interactions** | **Evolution, species interaction, and biological communities (Ch. 3)** |
| **Field studies** | **Field studies and field experimentation protocol** |
| **Population** | **Humans population and population dynamics (Ch. 4)** |
| **Biomes and biodiversity** | **Biomes and biological diversity (Ch. 5)** |
| **Exam 1** | **Exam 1** |
| **Conservation** | **Environmental conservation including forests, grasslands, parks, and nature preserves (Ch. 6)** |
| **Agriculture** | **Food and agriculture (Ch. 7)** |
| **Health** | **Environmental health and toxicology (Ch. 8)** |
| **Atmosphere** | **Air quality, climate, and pollution (Ch. 9)** |
| **Water** | **Water quality, water resources, and water pollution (Ch. 10)** |
| **Exam 2** | **Exam 2** |
| **Geology** | **Environmental geology and earth resources (Ch. 11)** |
| **Energy** | **Energy, energy reliance, renewable and non-renewable energy (Ch. 12)** |
| **Environmental Waste** | **Solid and hazardous waste and waste management (Ch. 13)** |
| **Environmental economics** | **Environmental economics and urbanization (Ch. 14)** |
| **Sustainability** | **Environmental policy and sustainability including local to global perspectives (Ch. 15)** |
| **Final Exam** | **Final Exam** |

|  |
| --- |
| **Note from your instructor: Your respect for self, others and the learning environment is expected throughout this course.**  **Student Rights & Responsibilities**  NCTC Board policy *FLB (Local) Student Rights and Responsibilities* states that each student shall be charged with notice and knowledge of the contents and provisions of the rules and regulations concerning student conduct. These rules and regulations are published in the Student Handbook published in conjunction with the College Catalog.  **Scholastic Integrity**  Scholastic dishonesty shall constitute a violation of college rules and regulations and is punishable as prescribed by Board policies. Scholastic dishonesty shall include, but not be limited to cheating on a test, plagiarism, and collusion. See the Student Handbook for more information.  **Tobacco-Free Campus**  NCTC restricts the use of all tobacco products including cigarettes, cigars, pipes and smokeless tobacco on campus property. |

**STUDENT SUPPORT SERVICES**

|  |
| --- |
| **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>  **Student Success Center**  The Student Success Center is designed to help all students at NCTC develop tools to achieve their academic goals. The center links students to FREE tutoring, including a Writing Center, a Math Lab, and free online tutoring in the evening. The program helps students acclimate to college by providing students free interactive workshops. For more information, please visit your nearest [Student Success Center](http://www.nctc.edu/Student_Services/Access/AcademicandStudentSupportServices.htm). |