Syllabus: BIO 346 Natural History of Nebraska

Course number: BIO 346
Number of credits: 3
Course instructor: Josef Kren, e-mail: josef.kren@doane.edu

Description:

Lecture series and field trips designed to provide students with an overview of natural history of Nebraska. Lectures encompass geology and geography of Nebraska through time, biodiversity of plants and animals, with a focus on the Sandhills and Platte river ecosystems. This course is designed for non-biology majors seeking a general understanding of nature of Nebraska and sharing environmental concerns.

Course Objectives:

- Introduce the student to geology and geography of Nebraska in a historical context.
- Introduce the student to the diversity of animals and plants of Nebraska in a historical context.
- Develop a basic knowledge of the major information resources for scientific disciplines.
- Develop problem solving and communication skills essential to communication in science.
- Understand issues related to the importance of environment protection.
- Understand science in personal and social perspectives.

After completing the course you should be able to describe and discuss issues related to natural environment of Nebraska, its protection and related problems.

I will present the ‘scientific background’ for each of the covered topics and will expect all of us (the community of active learners) to get involved in discussing the topics from various points of view. I expect and greatly value critical thinking and discussion.

Course policies

Textbook:


Home Assignments:
Most of home assignments will include scientific articles search by using Google Scholar, Academic Search, EBSCO, etc., their critical evaluation and use for preparation of midterm and final papers.

**Additional readings:**

You will receive copies of scientific and popular articles for additional reading during the term.

**Attendance:**

Students are expected to attend every lecture/field trip during the course. Each class meeting is highly interactive and the learning is impossible to recreate in a make-up assignment. But we understand that, sometimes, life interrupts our plans. In the case of an illness, work requirement, or family emergency, you must contact the teacher or a designated college official to explain your absence. You will be required to complete an additional assignment due the week following the missed class. In the event that you are forced to miss two or more class meetings, special arrangements must be made with the teacher to determine if the requirements for the course can be met.

**Grading:**

Your grade in this course will be based on:
- A/ research papers dealing with topics we will discuss in class.
- B/ discussion in class. I want everyone to get involved in discussion and present his/her political, religious, social, and economics view of the covered topics.

- Overall performance: 100-95 % = A+
  94-90 % = A
  89-85 % = B+
  84-80 % = B
  79-75 % = C+
  74-70 % = C
  69-60 % = D
  < 59 % = F

**Doane College Academic Integrity Policy:**

The Doane College Academic Integrity Policy will be adhered to in this class. All projects and tests will represent your own work. Any use of others’ ideas and words without proper citation of sources is plagiarism and will result in penalties to be determined by the instructor and/or the dean of undergraduate studies.
Schedule of sessions:

Session 1:

**Geology of Nebraska**

Overview
Agate fossil beds national monument
Ashfall fossil bed

Session 2:

**Flora of Nebraska**

Shortgrass prairie
Tallgrass prairie
The national forest

Session 3:

**Fauna of Nebraska**

Invertebrates
Vertebrates
Fish, reptiles
Birds, mammals

Session 4:

**Water in Nebraska**

Rivers
Lakes
Ogallala Aquifer
Rainwater basin

MIDTERM PAPER

Session 5:

**The Sandhills**

The Sandhill Crane migration (movie)

Session 6:

**Spring Creek Prairie (field trip)**
Session 7:

Nine Mile Prairie (field trip)

Session 8:

Environmental issues in Nebraska
Places of interest in Nebraska

FINAL PAPER