

# Kansas Natural History

Lecture: M,W,F 10:30-11:20  
MS 124

Professor: Dr. Scott A. Kimball  
Email: skimball@bakeru.edu  
Phone: 785.594.4563  
Office: Mulvane 229  
Office hours: by appointment

## Course Description:

This course is an introduction to the natural landscapes of Kansas, including the physical geography and ecology of the state. The course includes an introduction to ancient influences on geography, but focuses on our current understanding of the contemporary geology, climate, topography, hydrology, and biological communities of Kansas. Special emphasis is placed on major landforms and water features, typical bedrocks and soils, and common animals and plants that are found in Kansas. This course may be used to satisfy upper credit requirements of the Biology major (Ecology track) and the Ecology minor and consequently will emphasize biological principles in assessment and assignments. Students who have taken BI 135 Kansas Natural History may not enroll in BI 335 Kansas Natural History for credit. *Pre-requisite: BI 120 or BI 251 with grade of "C" or higher.*

## Required Texts:

- Buchanan RC. 2010. Kansas Geology: An Introduction to Landscapes, Rocks, Minerals, and Fossils. University of Kansas, Lawrence, KS. 240 pp. ISBN 978-0700617265
- assigned online resources (see course Moodle page for links)

## Course Objectives:

Students completing this course should be able to:

- Describe and explain the relationships among the basic geological, hydrological, climatological, and ecological systems found in the state of Kansas.
- List and describe major biological and abiotic attributes of the 11 ecoregions in Kansas.
- Explain the major principles of geology that determine the contemporary physiographic nature of Kansas.
- Describe ancient ecological conditions in Kansas and explain how these gave rise to contemporary Kansas natural history.
- Identify and describe common plants and animals found in Kansas.
- Use primary literature in the Biological Sciences to understand current research on the biology of contemporary organisms of Kansas and the conservation threats they face.



**Baker Core:**

Students may take this course to satisfy the requirements for the Baker Core in the Themes of Exploration & Imagination or Sustainability & Progress. This course will meet the Exploration & Imagination Theme by introducing students to the ways in which natural historians explore and understand our world. It will introduce concepts specific to each discipline within natural history to help students compare, contrast, and integrate knowledge from each discipline. It will help students to understand how gaining this type of knowledge has consequences for our modern lived world through natural resource use and abuse. This course will meet the Sustainability & Progress Theme by introducing students to current and anticipated conservation issues related to Kansas natural resources. By looking at former and current natural resource extraction and habitat destruction in the state, students will better understand and contextualize the concepts of sustainability and progress.

**Grading:**

The final grade is calculated on a percentage basis:

**Weekly Quizzes = 30%**

A short quiz will be given weekly on the Monday of each week. Quizzes must be taken as scheduled. All questions will come from the lecture, text book, assigned readings, and class discussion from the preceding week's lectures. Each quiz may consist of multiple-choice questions, fill-in-the-blank, matching, true/false, and/or short answer questions. If you are absent for a quiz you will receive a zero. The lowest 2 quiz grades will be dropped. There are no make-up quizzes.

**3 One-hour Exams = 30%**

Each non-cumulative exam will cover approximately equal proportions of course material and will be organized around major themes in the course.

**Out of Class Assignments = 20%**

Students will be assigned to work together in small groups or individually to discuss and analyze questions related to lecture topics. Assignments will include the following:

- Organism(s) Annotated Bibliography
- Primary Literature Critique
- KS Organisms Scavenger Hunt with phylogeny

**Presentation = 15%**

Each student will prepare a PowerPoint presentation in the form of a mini-review of recent biological conservation research within a one of the 11 Kansas ecoregions.

**Attendance and Participation = 5%**

Class participation is expected and only possible by attending every class. Contributions to class discussions, group activities, and asking/answering questions during lecture will ensure full credit, but more importantly, participation will provide you the best opportunity to succeed in this course.

**Grade Scale:**

A	94-100%	A-	90-93%		
B+	87-89%	B	84-86%	B-	80-83%
C+	77-79%	C	74-76%	C-	70-73%

D+	67-69%	D	60-66%
F	0-59%		

**Attendance/Make-up Policy:**

Attendance during class meetings is mandatory and expected, but certain circumstances may require an isolated absence. It is the student's responsibility to notify the professor as soon as possible of the expected absence (absolutely no later than one day following the absence, in the case of an emergency) and to make necessary arrangements for lecture materials. No make-up quizzes will be allowed.

It is a serious offense to miss a lecture exam. If this happens a grade of zero will be assigned for the missed exam. It is the responsibility of the student to contact the professor *prior to* the exam to schedule a make-up. If a student fails to contact the professor prior to the absence/missed exam to make arrangements, a make-up may not be granted. Special considerations may be made, on a case by case basis, if an exam is missed due to completely unavoidable circumstances. In this case, a student may be permitted to take a make-up exam if they contact the professor prior to the day of the next scheduled class. Each student must present a valid excuse at the time of the make-up. Make-up exams, if they are granted, must be completed within 1 week of the original exam date. Make-up exams will be administered at the convenience of the professor. Only one make-up exam may be granted per semester.

*Note to Athletes:* Athletes who expect to miss an exam or a quiz due to sanctioned activities must notify the instructor as soon as possible and in all cases before the week of the expected absence. In these cases, quizzes and exams may be administered in alternative formats or at earlier dates, depending on specific circumstances and at the discretion of the professor.

**Students with Disabilities:**

Baker University is committed to providing "reasonable accommodations" in keeping with Section 504 of the Rehabilitation Act and the Americans with Disability Act of 1992. Access Services coordinates accommodations and services for all eligible students with disabilities. If you have a disability and wish to request accommodations and have not contacted Access Services, please do so as soon as possible. Access Services is located on the Baldwin City campus in the Office of Student Academic Success (in Collins Library (lower level); 785-594-8352; [kathy.wilson@bakeru.edu](mailto:kathy.wilson@bakeru.edu)). Information about Access Services can also be found at [www.bakeru.edu/sas](http://www.bakeru.edu/sas). If accommodations have been approved by Access Services, please communicate with your professor(s) regarding your accommodations to coordinate services.

**Academic Honesty:**

Students are expected to take responsibility for their own work and provide appropriate credit to the authors of works used by the student to complete course work. Students who fail to meet the University's standard of academic honesty in this course will be subject to course penalties at the discretion of the professor, which may include, but are not limited to, automatic failure of an assignment/assessment and/or failure of the course. In addition to course penalties invoked by the professor, all instances of academic misconduct will be reported to the Dean of the CAS who will invoke mandated institutional sanctions as defined in the Student Handbook. Please review the student handbook for a full description of the University's policy on academic misconduct.

*From the Student Handbook:* Baker University expects students and professors to have solely completed or prepared the work or research that bears their name, and to acknowledge the materials and sources of others.

#### Students

1. Have the responsibility to do their own academic work.
2. Must acknowledge sources of their materials and material that is the work of others.
3. Have the responsibility to inquire of the professor when they are uncertain as to what constitutes proper acknowledgment.
4. Have the responsibility to inquire of the professor as to what materials and aids are permitted in testing and research work.
5. Have an obligation to know their rights and responsibilities as delineated in the Baker University Student Handbook.
6. Have the responsibility to know the University's position with respect to academic misconduct as set forth in [the student handbook].

#### Honors Contracts:

Any student with a cumulative grade point average of 3.50 that is interested in taking this course for honors designation should talk to me about the details involved and fill in the necessary form, obtain the required signatures and meet with the honors program director to review the contract before turning in the form to the Records Office. The last day to submit a proposal for an Honors Contract is the last day to add a course for the semester.

**Credit Hour Definition and Associated Course Expectations:** Consistent with best practices in higher education, Baker University subscribes to the federal definition of the "credit hour" endorsed by the Higher Learning Commission. Driven by intended learning outcomes and verified by evidence of student achievement, the "credit hour" is an institutionally-established equivalency that reasonably approximates not less than one hour of classroom (or direct faculty) instruction and a minimum of two hours of out-of-class student work per week for the duration of the course enrollment period. A 3-credit-hour course, for example, requires approximately 45 classroom contact hours, roughly 90 out-of-class work hours and approximately 135 total instructional hours over the course of a 15-week semester. In that this course carries 4 hours of credit (3 lecture, 1 lab), approximately 60 hours of classroom instruction and 45 hours of laboratory and field instruction have been planned over the scheduled 15-week period. In addition, students are expected to spend roughly 150 hours (10 hours per week) on out-of-class assignments which include: a) assigned text readings, b) reading-related exercises and associated Moodle forum postings, c) unit evaluation and final exam preparation, d) outside lab-related assignments, e) statistical and other homework problems, and f) literature review research and manuscript preparation.

**Special Note:** Kansas Natural History is an intense course with a very fast pace. It is the responsibility of the student to keep up in class. Missing lecture or lab will almost certainly result in a lower course grade. It will be critical for students to keep pace by reading ahead in the chapters and by spending significant amounts of time outside of class studying and preparing for quizzes and exams. Utilize all available resources when studying, including lecture notes, text chapter review questions, figures and tables from the text and lab manual, and online resources. The formation of study groups/partners is strongly encouraged.

\*\*\*\*\*

**Tips for Success:**

- Spend at least 6 hrs. per week outside of class studying for lecture.
  - This does not need to take place all at one time (and is best if it doesn't). Keep a study journal with a list of the topics covered and the time spent on each to make sure you are allowing yourself enough time each day/week.
  - Break up your study time into manageable "units". Dedicate each study session to one subunit of the lecture material and become comfortable with that unit before moving on to the next.
  - Eliminate distractions during study time. This means turn off all electronics, remove yourself from noisy environments, and let your roommates/family know that you will need time alone while you are studying
  - Do not get behind studying!! There is *no* extra time in the semester to catch up.
- Pay special attention to the figures and tables in the text book and online resources. They are very good at summarizing information and are often (though not always) cited in lecture.
- Look for videos and images online. YouTube is a great resource for videos – though some videos are better than others.
- Record the lecture. This can be done with a cheap MP3 recorder or smart phone placed at the front of the room prior to lecture. I do not give out my lecture PowerPoints, but I encourage you to record lectures so that you can go back and listen more carefully to what was said while you may have been writing.
- Make a friend in class. A classmate can help you study, make sure you get missed notes, and add to a support network for you as you work through all of this new information.
- Please ask for help (sooner than later!). I am always willing to help, but I need to know that you would like some assistance. Then we can see how I can best help you succeed.

\*\*\*\*\*



## Lecture Schedule (subject to change):

<u>Dates</u>	<u>Subject</u>	<u>Assigned Reading</u>
Week 1 Jan 24/26/28	Introduction to Kansas Natural History (no, not <i>that</i> kind of history!)	Tewksbury et al. 2014.
Week 2 Jan 31/Feb 2/4	<b>Quiz 1</b> Ancient Kansas: From Shining Seas to Purple Plains	TBA
Week 3 Feb 7/9/11	<b>Quiz 2</b> Kansas Physiography (it means physical geography): geology	TBA
Week 4 Feb 14/16/18	<b>Quiz 3</b> Kansas Physiography (it means physical geography): climate and hydrology	TBA
Week 5 Feb 21/23/25	<b>Quiz 4</b> Kansas Ecoregions (Kansas - it's not just a big rectangle!): Introduction <b>Exam 1 --- Feb 25</b>	TBA
Week 6 Feb 28/Mar 2/4	<b>no Quiz</b> Kansas Ecoregions (Kansas - it's not just a big rectangle!): Western Kansas	TBA
Week 7 Mar 7/9/11	<b>Quiz 5</b> Kansas Ecoregions (Kansas - it's not just a big rectangle!): Eastern Kansas	TBA
Week 8 Mar 14/16/18	<b>Spring Break ----- NO CLASS WOOHOO!!!!</b>	TBA
Week 9 Mar 14/16/18	<b>Quiz 6</b> Kansas Plants (the green stuff!): woody plants - trees, shrubs, and lianas	TBA
Week 10 Mar 21/23/25	<b>Quiz 7</b> Kansas Plants (the green stuff!): forbs and grasses; non-vascular plants	TBA
Week 11 Mar 28/30/Apr 1	Terrestrial Animals of Kansas (walking, flying, and crawling critters): mammals; amphibians and reptiles <b>Exam 2 --- Apr 1</b>	TBA
Week 12 Apr 4/6/8	<b>Quiz 8</b> Terrestrial Animals of Kansas (walking, flying, and crawling critters): birds	TBA
Week 13 Apr 11/13/15	<b>Quiz 9</b> Terrestrial Animals of Kansas (walking, flying, and crawling critters): arthropods and other invertebrates	TBA
Week 14 Apr 18/20/22	<b>Quiz 10</b> Aquatic Animals of Kansas (wiggly and slimy critters): fishes, aquatic invertebrates, amphibians and reptiles	TBA
Week 15 Apr 25/27/29	<b>Quiz 11</b> Future Kansas: Conservation Issues (we've got problems)	TBA
Week 16 May 2/4/6	Future Kansas: Conservation Issues cont'd <b>Exam 3 --- May 6</b>	TBA
<b>FINAL WEEK</b>	<b>Final Exam --- Wednesday, 8:30-11:30 AM</b>	