

3401 South 39th Street, P.O. Box 343922, Milwaukee, WI 53234-3922

COURSE SYLLABUS

BI 223 Natural History of North America 4 credits

Instructor Chris Young, Ph.D., History of Science and Technology
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Dept/Division Biology/Natural Sciences, Mathematics, and Technology

Prerequisites SC 112 or SC 118 or SC 120 or permission of the instructor

Course description:

Using concepts from botany, zoology, earth science, ecology, and environmental science, students explore the diversity of living and non-living systems. Using historical frameworks, students also explore the diversity of scientific studies of these systems. The student examines biological systems of North America, focusing primarily on the Upper Midwest region including the western Great Lakes, and the states of Wisconsin, Michigan, and Minnesota. Important to our examination of natural history will be a comparison of this region to others across North America. Students are encouraged to take up a comparison between the Upper Midwest and the diverse regions where they have visited, lived, or would someday like to travel.

Students develop a broad understanding of nature and an appreciation of human interactions in the natural world. Field trips provide an outstanding means of introducing students to the science of natural history. Course activities include study of resources in local museum collections and a variety of field sites in the Greater Milwaukee area ranging from shoreline to prairie to forest landscapes.

Specific emphasis will be placed on historical and humanistic understandings of water access. Emphasis on water access illustrates how natural and social scientific knowledge of “natural” conditions takes precedence over other sources of knowledge. In this context, scientific perspectives on policy and planning often neglect the important role that the imaginative conceptualization of water plays in our ability to understand and relate to it. In the proposed course on natural history, students will engage the intersection of diverse elements of the liberal arts.

Required textbooks

- Farber, P. L. *Finding Order in Nature*. Baltimore: Johns Hopkins University Press, 2000.
- Kaufman, K., J. Sayre, and K. Kaufman, *Kaufman Field Guide to Nature of the Midwest*, Boston: Houghton Mifflin, 2015.
- Additional readings will be distributed throughout the semester or available via the course Moodle site.

Course outcomes

Students will

1. Explore the similarities and differences in techniques used by naturalists and scientists, past and present, to appreciate natural history as a basis for understanding contemporary scientific methods.
2. Analyze relationships between the structural design of distinctive local varieties of plants and animals, relating their morphology (tissue, organ, and organ system organization) to broader organismal functions.
3. Compare and contrast basic physiological processes of organisms, including photosynthesis, membrane transport processes, and cellular respiration.
4. Demonstrate a meaningful understanding of growth patterns and representative reproductive cycles of representative and distinctive plants and animals.
5. Design, conduct, interpret, and communicate experiments to answer basic science questions.
6. Accurately analyze and compare the phylogeny and characteristics of major groups of plants and animals.
7. Effectively explain representative and distinctive ways organisms (including humans) interact, and thoughtfully analyze values that lead to resource management decisions.
8. Demonstrate and apply a comprehensive understanding of interactions between the subjects of studies in earth science, ecology, anatomy, physiology, behavior, and evolution.

Course requirements

Students will:

- Attend all class sessions on time and participate in all class activities. Peer interaction is integral to this course. If a student does miss a class, it is the **student's** responsibility to **contact her peers** to find out what was missed. It is the student's responsibility to **contact the instructor** (in advance, if possible) in order find out *whether* work can be turned in late and *when* it will be accepted. Additional activities must be completed to mitigate the effect of the absence. Because the in-class activities are vital, if there are two absences, the student must meet with the instructor to determine whether the student can continue in the course. The discussion will not be about any justification for the absence; it is assumed that only unavoidable issues would cause the absence. The discussion will be about whether the work can be adequately made up.
- Arrive on time and prepared. Late arrival is disruptive and unprofessional. Lack of preparation is unprofessional and unfair to classmates.

- Contribute effectively to group work. Each member must make sure that she participates and encourage her peers to do so as well.
- Meet deadlines for all coursework. Late assignments will not be accepted without **prior approval** from the instructor. Even if accepted, they will receive little or no feedback and no revisions will be allowed. One revision will be allowed on any assignment turned in on time. It is due within one week of the student receiving feedback.

Overview of assignments

Students will:

- Make weekly entries into a journal that will take the form of a natural history almanac. The journal may be in any of a number of media formats (online blog, wiki page, Moodle blog entries, handwritten, typed into a word processor, etc.) and may include sketches, photos, questions, descriptive essays, tweets, and memes. We will look at a variety of formats. All entries must be consistent with standard conventions of written English and accessible by all members of the class in some way. Journal entries need not be limited to the audience of the current class.
- Complete written summaries of selected readings as specified on the detailed course schedule, posted on Moodle, or announced in class.
- Complete worksheets and other assignments associated with field trips and outings, even if the student misses the outing for whatever reason.
- Complete a repeat photography assignment and share the photos in a format that can be posted online to the class.
- Complete in-class and take-home assessments as specified on the detailed course schedule and posted on Moodle.
- Complete a project plan, focusing on an experimental design for a citizen science project, lesson plan, historical case study, or other topic deemed appropriate by mutual agreement of the student and instructor.

Ability level(s) offered

- Analysis Level 4 (2 4)
- Problem Solving Level 3 (3 3)
- Problem Solving Level 4 (3 4)
- Valuing Level 3 (4 3) (optional validation)

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However, much of the material in the Library and on the Internet can be used for educational purposes by following Fair Use Guidelines. You may use approximately 10% of

a written text, of images out of a book, or information from a web-page for a course project. You can also play excerpts from movies and music. Of course, when you do use materials that you have not personally created, you must give full credit to the originator.

Additionally, there are resources available at Alverno College that have been paid for and are yours to use. These include databases that offer free music streaming, web-pages that encourage student use (such as OWL at Purdue), ARTstor, which offers millions of images, and much more. Visit your Library and your Library Web-Page often for resources and updates.

For more information on copyright laws and fair use see

- <http://www.alverno.edu/techserv/studenttechlinks/copyright/>

Email expectations

Your Alverno email is an official way the college uses to communicate with you. This includes all instructor communication. You are expected to read your Alverno email.

Statement of professional behavior

Appropriate professional behavior is expected of all students. Your professionalism in this course must be of the highest standards. Included within the realm of professionalism is your ability to interact appropriately with other students and the professor in class and online. Confidentiality of student records is also of the utmost concern. Unprofessional behaviors will be addressed by the instructor and may result in an Unsatisfactory progress code.

Other important Alverno College technology use policies

From the *Alverno Student Handbook*

Be Ethical: Accurately identify yourself and your affiliations; use the Alverno College name only for official school business; use Alverno College technologies for lawful purposes only.

Be Respectful: Do not share confidential information; do not send offensive communications or materials; do not send chain letters, spam, or unsolicited advertisements.

Be Secure: Do not share your password; change your password when prompted; if you are using a personal computer, it must have an anti-virus software.

Inclement weather policy

In the event that Alverno closes because of bad weather on a class day, please go to Moodle for an announcement about how we will adjust the schedule, including what work to submit electronically and/or to have completed for the next time we meet on campus.

Student accessibility

Alverno College makes every effort to provide accessible facilities and programs for individuals with disabilities. For accommodations/services please contact Colleen Barnett, colleen.barnett@alverno.edu or at Ext. 6026.

Alverno College Department of Biology Statement on Academic Honesty

Students must do the plagiarism exercise and fill out the plagiarism form in their SC 118 or 120 class, and must fill out the form in each BI class.

After this, they are expected to know how to properly use information from sources. This includes paraphrasing in their own words, giving sources for all material including pictures used in presentations, and properly indicating quotes.

In introductory courses, we are teaching the proper conventions of attribution. Failures to properly format attributions (e.g. quoting with a citation but without using quotation marks, failing to cite sources of figures in presentations) may be corrected by revision. In more advanced courses we assume that students know and understand the importance of proper attribution. Failure to use it will result in a U on the paper or presentation involved and a note in the student's biology file.

In both introductory and advanced courses repeated or multiple failures in attribution, whether in the same or subsequent courses, will be treated as intentional plagiarism, will result in a U in the course, and will be reported to the student's advisor.

If a student does not know whether what she intends to do is plagiarism or not, it is her responsibility to ask the instructor. This is especially important where the assigned work at risk may be required to pass the course.

A lot of Alverno work is collaborative, but most assessments and some key assignments are not. Cheating includes copying work from other students or sharing data on assignments which have been assigned as individual work, seeking help from others on takehome assessments, using unauthorized notes during assessments or quizzes, and using any other unauthorized sources of information on assessments or quizzes. Allowing work to be copied or providing help on individual assignments is as much cheating as copying another's work. Students are responsible for asking the instructor if they are in any doubt about what resources have been authorized for use on takehome assignments, homework, or assessments.

To avoid accusations of cheating, students should be aware of and avoid suspicious behavior during assessments and quizzes.

Accusations of cheating will be reviewed by the Biology Department. Confirmed cases of cheating may result in a U for the course or a U on the assignment with no opportunity for retake, and will be reported to the student's advisor and noted in her biology file. A second instance of cheating, whether in the same or a subsequent course, will result in a U for the course, and most likely in expulsion.

In upper-level courses, students are expected to understand what constitutes plagiarism and cheating, and the first instance of these behaviors will be treated as intentional dishonesty. The penalty will be determined by the instructor/instructors teaching the course, with or without consultation with the student's major advisor or the Biology Department.