

Biology 490: The History of Natural History (Fall 2022)

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Office Hours: M/T 10:00-11:00 or by appointment

Meeting time/location: M/W 9:00-9:50 in CBB 271



The School of Athens – Raphael

Required course materials: *The Great Naturalists* (2009 or 2017; Robert Huxley, ed.). All other course materials will be made available to you via Canvas.

Course Description: This course focuses on the history of natural history; that is, the history of studying nature and the foundations of what we now think of as the natural sciences, particularly as they pertain to the fields of ecology, evolution, and organismal biology. Along the way we'll spend a great deal of time learning and thinking about the complex relationships between science and society, and we'll discuss some important issues related to equity, diversity, and inclusion in science. Meetings will consist primarily of discussions of reading/video/writing assignments related to course content. Course assignments will emphasize written and oral communication as they pertain to the scientific field of biology and related disciplines.

Course Learning Outcomes: After taking this course, students will be able to:

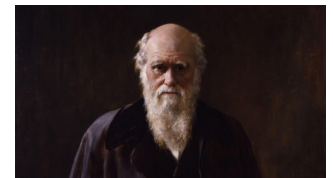
- Critically analyze and discuss the history of natural history in a broad context.
- Identify and describe the lives, work, and scientific contributions of a relatively large number of natural historians who helped to shape and mold the foundations of the natural sciences.
- Critically analyze and discuss historical and contemporary issues related to the complex relationships between science and society and diversity, equity, and inclusion in science.
- Locate, interpret, and synthesize scientific and popular-press media to explore course-relevant topics, and share related information with others via both written and oral communication.
- Critically evaluate and provide meaningful feedback on the written work and oral presentations of others.

Attendance and participation: This is an advanced course on a complex topic and we're a small group. The course relies heavily on interactions among participants; therefore, regular, on-time attendance is required. Each meeting is worth up to 5 points for attendance. If you are late to class, you will lose one of these points per minute. In addition, your final course grade will be reduced by 1/3 of a letter grade (e.g., from a C to a C-) for every unexcused absence beyond two. For example, if you would otherwise have received a B but I see that you missed (without a valid reason) four of our meetings, your course grade would be reduced to a C+.

The course includes quite a bit of reading and some videos and we will use this material to guide our discussions. I expect that you read all course documents and watch all videos before coming to class and that you are prepared to engage in thoughtful and informed discussions about this material. Your final course grade will be influenced by your participation in these discussions. If you are consistently quiet, unengaged, and/or unprepared for discussion you will not fare well in this regard.

Given that most of our meetings will be centered around reading and video assignments, I expect that you will have access to them (at least the reading assignments) so that we can refer to them and/or read directly from them while in class. This will often mean bringing your copy of *The Great Naturalists* with you to class and will sometimes mean having a laptop or other device with you to access digital copies of other reading assignments (bringing hard copies is also fine of course).

Student-led discussions: Each of you will be asked to work with a small group (~3 students) and take responsibility for one of our meetings this semester. Your group will work together to choose an interesting person and/or course-relevant topic along with associated media to provide background information for the class and inspiration for discussion. Your group will then lead the class through the actual discussion.



In the long history of humankind (and animal kind, too) those who learned to collaborate and improvise most effectively have prevailed. – Charles Darwin

Written work: There are two distinct writing assignments in this class. One is the production/revision of your curriculum vitae/resume and a cover letter/personal statement to go along with it. These materials will be tailored specifically to a real job/position that you locate (I will help you if needed). Whether you actually apply for the job/position is up to you. This assignment is due no later than 10/24.

The other writing assignment will represent the most substantial investment of your time and energy in this course, namely the production of a 6–8-page review paper focused on a course-relevant topic of your choice. You should start thinking about potential topics for this paper right away. I ask that you meet with me for ~10 minutes to discuss your idea(s) on or before 10/24. A complete rough draft of your paper is due no later than 11/16. The rough draft will be evaluated and critiqued by me and one of your peers. The final draft of your paper is due no later than 11:59 PM on the last day of fall semester classes (12/15).

Presentation: You will also share your review paper topic with the class in the form of an oral presentation near the end of the semester. Your presentation will be 10-12 minutes long and accompanied by slides.

Peer evaluations: Finally, while taking this course you will be asked to evaluate and provide constructive feedback on materials produced by some of your peers. To that end, you will be randomly assigned and have access to the rough draft of the review paper written by a classmate. You will then be asked to critically evaluate the paper and answer a number of associated questions. Authors will receive your evaluation (and an evaluation from me) in time for them to be useful as they work on their final draft.

Biology comprehensive exam: Satisfactory completion of this course requires the completion of the Biology Department’s Comprehensive Exam. Scores are used to compare class averages among various populations of biology majors to assess general student learning as an outcome of completing our department’s biology curriculum. Scores will not be made available to you or your instructor and will have no bearing on grades in this or any other class. However, your course grade will be withheld until the exam is taken. The exam will be offered in CBB 101 from 6-7 PM on Tue Dec 6th and Wed Dec 7th. You do not need to sign up ahead of time; just show up on one of those two evenings.

Grading: Point values for assignments etc. are listed below. Values with an asterisk (*) refer to assignments that, if not completed, will result in the associated loss of points and a reduction of your letter grade to the next lowest full grade (e.g., B+ to a C+).

Activity	# Points possible
CV/resume & cover letter/personal statement	30*
Review paper topic meeting	10*
Review paper rough draft	30*
Peer evaluation of review paper	20*
Review paper final draft	30*
Review paper oral presentation	40*
Student-led discussion	10*
Attendance	5 each meeting
Participation	40



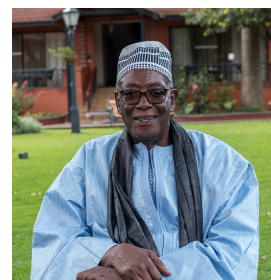
Miss Anning, as a child, ne’er passed a pin upon the ground; but picked it up, and so at last, an ichthyosaurus found. – J. W. Preston, describing Mary Anning

Your final grade in this course will be based on the percentage of all possible points that you earn throughout the semester. To determine your final grade the following metric will be used:

≥ 94%	90-93%	87-89%	84-86%	80-83%	77-79%	74-76%	70-73%	67-69%	60-66%	≤ 59%
A	A-	B+	B	B-	C+	C	C-	D+	D	F

Late policy: Because there is so much collaboration in this class, assignments must be turned in on time. Assignments lose 20% of their value for each day they are late. Note also that if an assignment is late, it might mean that you forfeit the ability to take part in other, associated assignments. For example, if you are late turning in the rough draft of your review paper, you will not be able to conduct a peer evaluation of someone else’s paper. You would end up losing those points as well.

Students with disabilities: I will be happy to help you if you need special accommodations to succeed in this course. Please visit the UWSP Disability Resource Center (located in CCC 108) to document your needs and contact me so that appropriate arrangements can be made. More information can be found here: <http://www.uwsp.edu/disability/Pages/default.aspx>.



In the end, we will conserve only what we love; we will love only what we understand, and we will understand only what we are taught. – Baba Dioum, Senegalese Forestry Engineer

Academic integrity: It is your responsibility to be aware of your rights and responsibilities as a UWSP student. Please take the time to read and understand the information found here: <https://www.uwsp.edu/dos/Documents/UWS%2014-1.pdf>. It is also your responsibility to be aware of the definition(s) of the word plagiarism and take care to avoid committing plagiarism in your work. Please take the time to read and understand the information found here: <https://libraryguides.uwsp.edu/plagiarism>.

Course schedule: Note that I reserve the right to change this schedule or add/remove/change content, with reasonable notice.

Date	Topic	Assignment(s) and/or items due
9/7	Course introduction	
9/12	What is natural history and why should we care?	(Huxley) Unity in Diversity Anderson 2017
9/14	The Ancients	(Huxley) The Ancients: Aristotle – Pliny the Elder
9/19	The diversity-innovation paradox in science Science's diversity problem Making a case for diversity in STEM fields	Hofstra et al. 2020 Blei 2020 Chubin and Malcom 2008
9/21	The Renaissance	(Huxley) The Renaissance: Fuchs – Gessner
9/26	Picture a Scientist The gender gap in science Women who win prizes get less money and prestige	Picture a Scientist (video documentary) Holman et al. 2018 Ma et al. 2019
9/28	The Enlightenment I	(Huxley) The Enlightenment: Steno – Merian
10/3	CVs/resumes & cover letters/personal statements Format of research/review paper Format of presentations	Hofmann 2013 <i>CV/resume & cover letter/personal statement assigned</i> <i>Review paper assigned</i>
10/5	The Enlightenment II	(Huxley) The Enlightenment: Catesby – Bartram
10/10	Primate ecology and conservation: Dian Fossey, Jane Goodall, and Birute Galdikas	See associated videos and reading assignments on Canvas
10/12	The Enlightenment III	(Huxley) The Enlightenment: Banks – Cuvier
10/17	Rachel Carson and the environmental movement	Rachel Carson (video documentary)
10/19	The 19 th Century I	(Huxley) The 19th Century: Smith – Anning
10/24	Jefferson's moose Science's debt to the slave trade	Dugatkin 2011 Kean 2019 <i>DUE: CV/resume & cover letter/personal statement</i> <i>DUE: Discuss your review paper topic with Barringer</i>
10/26	The 19 th Century II	(Huxley) The 19th Century: Owen – Gray
10/31	Natural history close to home	Leopold 1949 Dungy 2017 Waller and Reo 2018
11/2	Student-led discussion	Media to be determined by student group
11/7	Student-led discussion	Media to be determined by student group
11/9	Student-led discussion	Media to be determined by student group
11/14	Student-led discussion	Media to be determined by student group
11/16	Student-led discussion	Media to be determined by student group <i>DUE: Review paper rough draft</i>
11/21	*** No in-person meeting *** Diversity, equity, and inclusion in STEM	See associated Canvas discussion module Peer evaluation assigned
11/23	*** No meeting ***	Work on peer evaluation and enjoy Thanksgiving break
11/28	Student presentations	DUE: Peer evaluation of review paper
11/30	Student presentations	
12/5	Student presentations	Take Bio Comp Exam on 12/6 or 12/7 in CBB 101 6-7 PM
12/7	Student presentations	Take Bio Comp Exam on 12/6 or 12/7 in CBB 101 6-7 PM
12/12	Student presentations	
12/14	Student presentations (if needed)	DUE: Review paper final draft due on Canvas no later than 11:59 PM on 12/15



By the way, a negro lived in Edinburgh, who had travelled with Waterton, and gained his livelihood by stuffing birds, which he did excellently: he gave me lessons for payment, and I used often to sit with him, for he was a very pleasant and intelligent man. – Charles Darwin speaking about John Edmonstone, a freed slave from Guyana who taught him taxidermy.