

Biology 490 Section 3: The History of Natural History (Fall 2019)

Instructor: Dr. Brian C. Barringer
Email: bbarring@uwsp.edu
Phone: 715-346-2452
Office: TNR 476
Office Hours: Thur/Fri 10:00 – 12:00

Meeting time and location: Thur/Fri 9:00 – 9:50 in CBB 271



The School of Athens - Raphael

Required course materials: *The Great Naturalists* (2009 or 2017; Robert Huxley, ed.) (purchase). Other 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. Meetings will consist primarily of in-class discussions of reading/video/writing assignments related to course content. Many discussions will be student-led. As a *Communication in the Major* course, emphasis will be placed on both 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:

- 1) Critically analyze and discuss the history of natural history in a broad context.
- 2) Identify and describe the lives, work, and contributions of a relatively large number of natural historians who helped to shape and mold the foundations of the natural sciences.
- 3) 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.
- 4) 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 are 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 (see grading, below). 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+.



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

The course includes quite a bit of reading and (probably) 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 (see grading, below). 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.

Questions/comments about reading and video assignments: To encourage you to engage with course material before coming to class, I ask that you come up with at least one question or comment about each assignment after you read/watch it. Submit these to canvas by 9:00 AM on the corresponding morning; they are worth up to 2 points each.

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.

The other writing assignment will represent the most substantial investment of your time and energy in this course, namely the production of an ~8-page research/review paper focused on a course-relevant topic of your choice. You should start thinking about potential topics for this paper right away. I will ask that you meet with me for a few minutes to discuss your idea(s) before 10/18, though you are welcome and encouraged to do so earlier. A complete rough draft of your paper will be due no later than 11/14. The

rough draft will be evaluated and critiqued by me as well as one of your classmates. The final draft of your paper will be due no later than the last day of classes (Dec 13th).

Presentations: There are two distinct oral presentations in this class. One will be a short (five minute) presentation, delivered in collaboration with another student. The presentation will focus on the life and work of an important/influential natural historian who was/is a member of a historically-underrepresented (in STEM) group. You will also share your research/review topic with the class in the form of an oral presentation near the end of the semester. That presentation will be 10-12 minutes long with a few additional minutes for questions from the audience.

Peer evaluation: Each student in this course will be asked to evaluate and provide constructive feedback on the written work of a peer. To that end, each student will receive a rough draft of the research/review paper written by a classmate. Students will then be asked to critically evaluate the paper and answer a number of associated questions. Authors will receive peer-evaluations (and evaluations from me) in time for them to be useful as they work on their final draft.

Student-led discussions: Each of you will be asked to work with another student and take responsibility for at least one of our meetings this semester. This means you will need to 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. The two of you will then lead the class through the actual discussion.

We will also spend one meeting learning about a number of local natural historians, and those discussions will be student-led as well. Details about this will be provided in class.

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 490 grade will be withheld until the exam is taken. The exam will be offered in CBB 101 from 6-7 PM on Wed Dec 4th and Thur Dec 5th. 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
Questions/opinions	2 each
CV/resume & cover letter/personal statement	30*
Research topic meeting	10*
Natural historian presentation	20*
Research/review paper rough draft	30*
Peer evaluation	20*
Research/review paper final draft	30*
Research/review paper presentation	40*
Leading class discussion	20*
Attendance	5 per 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.

Students with disabilities: I will be happy to help you if you need special accommodations to succeed in this course. Please visit the UWSP Student Disability and Assistive Technology Center (located in LRC 609) to document your needs and then contact me so that appropriate arrangements can be made. More information can be found here: <http://www.uwsp.edu/disability/Pages/default.aspx>

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 (and let me know of any questions): <http://www.uwsp.edu/stuaffairs/Documents/RightsRespons/SRR-2010/rightsChap14.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. Your work must reflect your own thoughts and ideas expressed in your own words. In addition, you must always cite your sources of information and provide a bibliography for any written work you produce (including powerpoint slides). Please take the time to read and understand the information found here (and let me know of any questions): <http://library.uwsp.edu/guides/vrd/plagiarism.htm>

Meeting schedule: Note that I reserve the right to change this schedule or add/remove/change content, with reasonable notice, as we progress through the semester.

Date	Topic	Assignment(s) and/or items due
9/5	Course introduction	
9/6	What is natural history and why should we care?	Unity in Diversity (Huxley) Anderson 2017
9/12	The Ancients	The Ancients: Aristotle – Pliny the Elder (Huxley)
9/13	The impact of Robert MacArthur on ecology	Fretwell 1975
9/19	The Renaissance	The Renaissance: Fuchs – Gessner (Huxley)
9/20	Guest: Dr. Lee Dugatkin (Univ of Louisville)	Dugatkin 2009 and Dugatkin and Trut 2017
9/26	The Enlightenment I	The Enlightenment: Steno – Merian (Huxley)
9/27	CVs/resumes & cover letters/personal statements Finding and using relevant literature Format of research/review paper Format of presentations	Hofmann 2013 <i>CV/resume & cover letter/personal statement assigned</i> <i>Natural historian presentation assigned</i> <i>Research/review paper assigned</i>
10/3	The Enlightenment II	The Enlightenment: Catesby – Bartram (Huxley)
10/4	Primate ecology and conservation: Dian Fossey, Jane Goodall, and Birute Galdikas	TBD... Share idea(s) for natural historian presentation
10/10	The Enlightenment III	The Enlightenment: Banks – Cuvier (Huxley)
10/11	Rachel Carson and the environmental movement	TBD...
10/17	The 19 th Century I	The 19th Century: Smith – Anning (Huxley)
10/18	Natural historian student presentations	CV/resume & cover letter/personal statement due Meet with Barringer to discuss your research/review paper topic no later than today
10/24	The 19 th Century II	The 19th Century: Owen – Gray (Huxley)
10/25	Local natural historians – student led	TBD...
10/31	Student-led discussion	TBD...
11/1	Student-led discussion	TBD...
11/7	Student-led discussion	TBD...
11/8	Student-led discussion	TBD...
11/14	Student-led discussion	TBD... Research/review paper rough draft due
11/15	Student-led discussion	TBD... Peer evaluation assigned
11/21	Student-led discussion	TBD... Peer evaluation due
11/22	Student presentations	
11/28	No class – Thanksgiving break	
11/29	No class – Thanksgiving break	
12/5	Student presentations	
12/6	Student presentations	
12/12	Student presentations	
12/13	Student presentations	Final draft research/review paper due