

Evolution in Darwin's World and Ours: Syllabus

ENTMLGY 3797.01. SPRING 2023

Course Information

Lecture & Discussion, Columbus campus: Wed 5:30-7:30 PM, Journalism Bldg Rm. 274,
or Zoom (link at Carmen)

Study abroad -- London, Cambridge, & Downe, UK: May 9 depart US - May 22 depart UK

General Education: Historical Study

3 credit hours

Pre-requisites: none, freshman standing or higher

Instructors

Dr. Carol Anelli, Professor

Email: anelli.7@osu.edu

Office: 253 Kottman Hall

Hours: by appointment (please email)

Dr. Jamie Strange, Professor & Chair of Entomology

Email: strange.54@osu.edu

Office: 216 Kottman Hall

Hours: by appointment (please email)

Teaching Assistant (in UK)

Liam Whiteman Email: whiteman.70@buckeyemail.osu.edu

Course description

This course explores Darwin's life, intellectual development, and evolutionary theory of species origin in broad historical context. Students practice historical thinking and research skills by close reading of various primary sources; secondary sources provide background and historical analyses. Mid-late 18th century sources of evolutionary ideas, and 19th century evolutionary and antievolutionary views, are read and discussed in scientific, social, religious, and political contexts. These themes are foundational for comprehending the origins and tenets of Darwin's theory, the milieu into which he dispatched the Origin of Species, modern evolutionary theory, and current day opposition to evolution. Class discussions of the book, Your Inner Fish, focus on modern evolutionary theory and its broad applications in biology, medicine, and other areas of human endeavor. The education abroad component provides opportunities to visit key museums and sights in London, Cambridge, and the village of Downe, England. Special visits with archivists and historians (Darwin Correspondence Project, Cambridge University; Linnaean Society, London), scientists (Natural History Museum, London), and certified guides augment course readings and discussion. A certified guide will take us through Cambridge University Botanic Garden; students interested in horticulture & landscape architecture may wish to also visit Kew Gardens.

Course materials

Required Books

Barlow, N., Editor. The Autobiography of Charles Darwin, 1809-1882, with original omissions restored. New York: W.W. Norton, 1958. *Free online; link below*.

Browne, J. Darwin's Origin of Species. New York: Grove Press, 2006.

Herbert, S. Charles Darwin and the Question of Evolution: A Brief History with Documents. Boston: Bedford/St. Martin's, 2011.

*Moore, J.A. Science As A Way of Knowing. Cambridge: Harvard University Press, 1993.

*These excerpted chapters are posted at Carmen.

Shubin, N. Your Inner Fish: A Journey into the 3.5- Billion Year History of the Human Body. New York: Pantheon Books, 2008.

Other supplemental readings provided at Carmen.

Online Primary Sources (links provided at Carmen)

Darwin's Autobiography (unexpurgated version, N. Barlow, Editor; use in lieu of physical copy):

Darwin's "secret" Transmutation Notebooks (selected excerpts of Darwin's musings on natural laws, humans, Malthus, and natural selection, with searchable images

Commentary on Darwin's Transmutation Notebooks by Darwin historian, David Kohn, example here (others on Carmen)

Letters of the Darwin Correspondence (authoritative, annotated transcriptions, with summaries and extensive supportive materials)

Excerpts from the Origin of Species

Interview with Darwin biographer James Moore, conducted by Krista Tippet

Eugenics Archive Documents

Goals for General Education Course in Historical Study

Students will recognize how past events are studied and how they influence today's society and the human condition.

Learning Outcomes Upon course completion, you will be able to:

1. Speak and write critically about past events and ideas in the history of evolutionary thought, based on examination of primary and secondary sources.
2. Describe early to mid-19th century England in historical context (e.g., social, scientific, religious, political milieu) and Darwin's life in that world, with emphasis on the paradigm shift that his evolutionary theory propelled and the 19th century responses to it.
3. Explain the tenets of modern evolutionary theory and cite evidence of its broad application and utility.
4. Provide scientific evidence for the ancient evolutionary heritage of the human body.

Meeting the Learning Outcomes

We begin the course with background information on the history of biological thought. We learn that science traces its roots to the ancient Greeks, and that human understanding of the natural world reached new heights during the Scientific Revolution. We ascertain the critical importance of fossil evidence, which began to accumulate in the 17th century, and of geologic principles elaborated on by Charles Lyell in the 19th century, for Darwin's theory.

Guided by books authored by Sandra Herbert and Janet Browne, acclaimed Darwin scholars, we explore late-18th to early 19th century sources of evolutionary (and anti-evolutionary) ideas within cultural, political, and religious contexts. Through close reading and critical analyses of primary historical documents, together with consideration of key people and events, we develop an informed perspective of Darwin, his experiences, and his private life. We also bring into focus Alfred Russel Wallace, independent co-discoverer of natural selection as a mechanism of species origin. As our comprehension of Darwin's thinking and *modus operandi* deepen through our various readings, and comparisons of them, we come to grasp why scholars still debate exactly how Darwin arrived at his theory, and what his religious sentiments were, among other questions. We observe the many twists and turns of Darwin and Wallace's lives, gaining an appreciation for the role of contingency in history.

By examining arguments raised against evolutionary theory in Darwin's time we develop insight into the current evolution controversy. We also consider the enduring legacy of Darwin's theory in the broad applications of modern evolutionary theory, and examine the eugenics movement in and its impact and ramifications.

Most of our classroom time is spent discussing primary and secondary sources and honing historical thinking skills. In practice, this means scrutinizing sources, reading them closely with a critical eye, seeking corroboration among them and identifying inconsistencies, and interpreting them within appropriate historical contexts. As we formulate historical narratives, both in written and oral formats, our foremost goal is to construct plausible interpretations, based on direct evidence and carefully reasoned inference.

Course technology

For help with your password, university e-mail, Carmen, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Standard support hours are available at <https://ocio.osu.edu/help/hours>, and support for urgent issues is available 24x7.

- **Self-Service and Chat support:** <http://ocio.osu.edu/selfservice>
- **Phone:** 614-688-HELP (4357)
- **Email:** 8help@osu.edu
- **TDD:** 614-688-8743

Expectations for Attendance and Class Engagement

We emphasize that **30% of your grade** derives from **course attendance (15%) and engagement (oral contributions, 15%)**. Plan to join the class on time, with all assignments complete, prepared to engage in thoughtful discussion. **Attend every class** and alert us in advance of any difficulties. We will record our Zoom class sessions, but please do not share these, to protect your FERPA rights and those of others. **Check the Carmen website frequently, and OSU email regularly**, for updates and announcements.

We expect everyone, *at all times*, to be respectful and thoughtful of others.

- **Tone and civility.** Our classroom is a learning community; everyone must feel safe and be able to disagree amicably. Avoid inflammatory comments and sarcasm.
- **Citing your sources.** When we have academic discussions, be prepared to cite your sources to substantiate your claims and interpretations

Length and format of Assignments; Final Exam

Written Response (WR) to readings, videos, etc. Read each prompt or question carefully and answer it succinctly but in full. Your written responses (WRs) are evaluated by evidence of your close reading of the source (see Historical Thinking Skills Scoring Rubric, posted at Carmen). Your responses must show a diligent, thoughtful, “good faith” effort. Post your WRs to Carmen, please do not email them to your instructors.

Question Sets (Q) in Herbert’s book. Above guidelines for WR apply to these question sets.

Final Exam. The exam is cumulative; Proctorio, an online proctoring tool, will be used.

Academic Integrity (see **Academic Misconduct**, below) is expected; we will discuss this with you more fully in class. The exam will include a section on identification of important people, theories, concepts, and events. For these, you will choose from a selection of identifications (e.g., answer 12 out of 16). For identifications, brief answers suffice, but you must explain the person’s contributions and relevance. For theories, you should cite important people, their views, and how the theory developed over time. For concepts and events, you should be able to explain their contextual significance.

Eugenics Essay. This essay, on legislative outcomes and ramifications of the eugenics movement in the U.S., will contribute to your final exam grade. You can begin reading about, thinking about, and formulating your ideas for the essay at any time— earlier is better. The essay requires you to access a virtual eugenics archives. Elements that you must address in your essay, essay length, and other information are detailed in the Eugenics Essay rubric, posted at Carmen.

Reflective Essay on *Your Inner Fish* & Study Abroad Experience. Your TA will engage you in thoughtful discussion of the book, *Your Inner Fish*, and accompanying videos. To encourage self-reflection, and as feedback for your instructors as they consider course improvements, you will write a reflective essay. See the Reflective Essay assignment and AAC&U VALUE Rubric, posted at Carmen.

How Your Grade is Calculated

Assignment or category	Points	% of Total
Attendance (1% each; 15 sessions)	150	15%
Engagement: Oral contributions in class	150	15%
Written Responses-- WR (2% each; 11 offered, count 10)	200	20%
Herbert—Question Sets (2% each, 5 sets, all required)	100	10%
Final Exam (cumulative), including U.S. Eugenics Essay	200	20%
Reflective Essay: <i>Your Inner Fish</i> ; Your experience abroad	200	20%
Total	1000	100%

Late assignments

All assignments are due on the date and time designated; late work is subject to grade reduction of 10% per day late. Post all completed assignments to Carmen unless otherwise specified.

Grading scale

Your final grade is based on the scale below. *Grades are not rounded up.* A curve should not be expected.

93–100: A	90–92.9: A-
87–89.9: B+	83–86.9: B
80–82.9: B-	77–79.9: C+
73–76.9: C	70–72.9: C-
67–69.9: D+	60–66.9: D
Below 60: E	

Instructor feedback and response time

Office hours

Please schedule appointments with your instructors or TA directly via email—*not* via Carmen.

Grading and feedback

We will generally post grades and feedback to written responses before the next class period.

E-mail

We strive to reply to e-mails within 24 hours on school days. Please resend your email if we seem to have overlooked it.

Academic Misconduct

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University's Code of Student Conduct, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University's Code of Student Conduct and this syllabus may constitute Academic Misconduct.

The Ohio State University's Code of Student Conduct (Section 3335-23-04) defines academic misconduct as: Any activity that tends to compromise the academic integrity of the University, or subvert the educational process. Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's Code of Student Conduct is never considered an excuse for academic misconduct, so I recommend that you review the Code of Student Conduct and, specifically, the sections dealing with academic misconduct.

If we suspect that a student has committed academic misconduct in this course, we are obligated by University Rules to report our suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University's Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact Dr. Strange and/or Dr. Anelli.

Safe and Healthy Buckeyes

Health and safety requirements: All students, faculty and staff are required to comply with and stay up to date on all university safety and health guidance (<https://safeandhealthy.osu.edu>). Non-compliance will result in a warning first, and disciplinary actions will be taken for repeated offenses.

Counseling and Consultation Services/Mental Health

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing.

If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on

campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling 614--292--5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on-call counselor when CCS is closed at 614--292--5766 and 24 hour emergency help is also available 24/7 by dialing 988 to reach the Suicide and Crisis Lifeline.

For students located in Columbus, David Wirt wirt.9@osu.edu is the CFAES embedded mental health counselor. To contact David, please call 614-292-5766. Students should mention their affiliation with CFAES if interested in speaking directly with David.

For students located in Wooster, Dr. Schaad schaad.15@osu.edu, is the CFAES embedded mental health counselor for CFAES. She is available for new consultations and to establish routine care. To schedule with Dr. Schaad, please call 614-292-5766. Students should mention their affiliation with CFAES when setting up a phone screening.

Land Acknowledgement

We would like to acknowledge the land that The Ohio State University occupies is the ancestral and contemporary territory of the Shawnee, Potawatomi, Delaware, Miami, Peoria, Seneca, Wyandotte, Ojibwe and many other Indigenous peoples. Specifically, the university resides on land ceded in the 1795 Treaty of Greenville and the forced removal of tribes through the Indian Removal Act of 1830. As a land grant institution, we want to honor the resiliency of these tribal nations and recognize the historical contexts that have and continue to affect the Indigenous peoples of this land.

Disability Accommodations

The university strives to make all learning experiences as accessible as possible. In light of the current pandemic, students seeking to request COVID-related accommodations may do so through the university's request process (slds.osu.edu/covid-19-info/covid-related-accommodation-requests/), managed by Student Life Disability Services. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

Religious Accommodations

Our inclusive environment allows for religious expression. Students requesting accommodations based on faith, religious or a spiritual belief system in regard to examinations, other academic requirements or absences, are required to provide the instructor with written notice of specific dates for which the student requests alternative accommodations at the earliest possible date. For more information about religious accommodations at Ohio State, visit odi.osu.edu/religious-accommodations

Creating an Environment free from harassment, discrimination, and sexual misconduct

The Ohio State University is committed to building and maintaining a community to reflect diversity and to improve opportunities for all. All Buckeyes have the right to be free from harassment, discrimination, and sexual misconduct. Ohio State does not discriminate based on age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation.

To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential and non-confidential resources and supportive measures, contact the Office of Institutional Equity:

1. Online reporting form at equity.osu.edu,
2. Call 614-247-5838 or TTY 614-688-8605,
3. Or Email equity@osu.edu

The university is committed to stopping sexual misconduct, preventing its recurrence, eliminating any hostile environment, and remedying its discriminatory effects. All university employees have reporting responsibilities to the Office of Institutional Equity to ensure the university can take appropriate action:

- All university employees, except those exempted by legal privilege of confidentiality or expressly identified as a confidential reporter, have an obligation to report incidents of sexual assault immediately.

The following employees have an obligation to report all other forms of sexual misconduct as soon as practicable but at most within five workdays of becoming aware of such information:

1. Any human resource professional (HRP); 2. Anyone who supervises faculty, staff, students, or volunteers; 3. Chair/director; and 4. Faculty member.

Diversity

The Ohio State University affirms the importance and value of diversity of people and ideas. We believe in creating equitable research opportunities for all students and to providing programs

and curricula that allow our students to understand critical societal challenges from diverse perspectives and aspire to use research to promote sustainable solutions for all. We are committed to maintaining an inclusive community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among all members; and encourages each individual to strive to reach their own potential. The Ohio State University does not discriminate on the basis of age, ancestry, color, disability, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, race, religion, sex, gender, sexual orientation, pregnancy, protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment.

To learn more about diversity, equity, and inclusion and for opportunities to get involved, please visit:

- <https://odi.osu.edu/>
- <https://odi.osu.edu/racial-justice-resources>
- <https://odi.osu.edu/focus-on-racial-justice>
- <https://cbssc.osu.edu/>

In addition, this course adheres to **The Principles of Community** adopted by the College of Food, Agricultural, and Environmental Sciences. These principles are located on the Carmen site for this course; and can also be found at <https://go.osu.edu/principlesofcommunity>. For additional information on Diversity, Equity, and Inclusion in CFAES, contact the CFAES Office for Diversity, Equity, and Inclusion (<https://equityandinclusion.cfaes.ohio-state.edu/>). If you have been a victim of or a witness to harassment or discrimination or a bias incident, you can report it online and anonymously (if you choose) at <https://equity.osu.edu/>.

Weather or short-term closing

Should in-person classes be cancelled, plan to meet via Zoom (link at Carmen), and check our course website and your OSU email for any updates.

Course Schedule and Study Abroad Itinerary-- See next two pages and following.

WR= Written Response, Q= Question Set (Herbert)

Course Schedule

Date	Topics & Videos for Class Discussion	Pre-class Assignments (Readings, lectures, videos, etc.)	Pre-class Post to Carmen
Jan 11	Welcome! Introductions; Syllabus; Considerations regarding the study of history		
Jan 18	Darwin's <i>Autobiography</i> (1 st half), pp. 11-71 Dr. Sean Carroll's lecture : Darwin's life & work	Take notes on the <i>Autobiography</i> ; View Carroll's lecture, take notes	WR #1
Jan 25	Darwin's <i>Autobiography</i> (2 nd half), pp. 71-118	Take notes on <i>Autobiography</i>	WR #2
Feb 1	Beginnings of Geology; Understanding Nature in 1850	Recorded lecture segment; Moore pp. 102-127 Take notes on lecture & reading	WR #3
Feb 8	Paradigm of Evolution vs Paradigm of Natural Theology	Recorded lecture segment; Read Moore pp. 131-143, take notes	WR #4
Feb 15	<i>DARWIN'S BIRTHDAY CELEBRATION!</i> <i>Darwin's Origin of Species</i> : Beginnings Dr. Janet Browne's lecture : Darwin & his Impact	Read Browne: Intro & Chap 1; Take notes on reading & video	WR #5
Feb 22	18C Contexts for evolutionary ideas Early 19 C Thought	Herbert pp. 1-15; p. 127- Questions Take notes on the reading	Q# 1-5, Q# 7-9
Mar 1	Video: Origin of Species—Making of a Theory Darwin's Development of the Theory	View video, take notes on all Herbert pp. 15-27; p. 127-Questions	WR #6 Q #10-13
Mar 8	A Theory by Which to Work	Browne, Chap. 2 Take notes	WR #7
-BREAK-			
Mar 22	The Forgotten Voyage — Alfred Russel Wallace FAQs, myths & misconceptions- Dr. G. Beccaloni	View video, take notes Read Dr. George Beccaloni's webpage	WR #8
Mar 29	Wallace & Darwin; Response to <i>Origin of Species</i> ; Darwin Correspondence online	Herbert pp. 27-34; p. 128- Questions Take notes on all	Q #17-18 Q #21-22
Apr 5	Publication (<i>Origin of Species</i>)	Browne, Chap 3 Take notes	WR #9
Apr 12	Controversy	Browne, Chap 4 Take notes	WR #10
Apr 19	Legacy; Social Darwinism U.S. Eugenics Movement (begin Eugenics Essay)	Browne, Chap 5 Take notes on readings & websites	WR #11
Apr 26	FINAL EXAM, 6:00-7:45 PM —Cumulative, via Procterio	Study all of your notes from the course!	