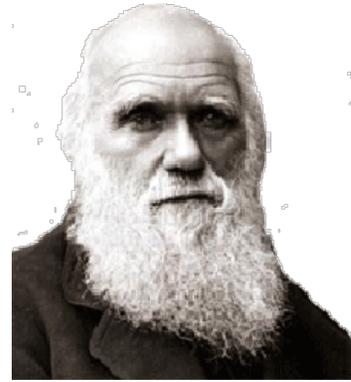


Biology 1320 – The Darwinian Revolution

Instructor

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Office hours: Tue&Thur, 12-2pm
Or by appointment

Course webpage

http://www.finchwrangler.com/Troy_Murphy/Darwin.html

All handouts, non-text readings, and other course documents will be posted on the course webpage.

Course objectives

Populations change through time, and understanding how and why they change is central to the study of biology. But, this wasn't always the case. At the time Charles Darwin was developing the theory of evolution by natural selection, most scientists and the public alike believed that plants and animals were static, not changing since the time of creation. Thus, the writings of Darwin transformed our understanding of the dynamic natural world. His ideas have further shaped the fields of medicine, agriculture, and social policy, and motivated great works of art and literature. This course will explore the development of Darwin's revolutionary ideas through a survey of his life, his major written works, and the influence of his writing on modern thinking.

Course schedule

Lecture and discussion schedule will be posted on webpage (schedule will be updated regularly, so check often for updates).

My teaching philosophy

I am here to help you to develop skills that will assist you in learning throughout your academic and professional careers. To that end, please feel free to ask questions inside or outside of class if there is something you don't understand. My goal is to provide a supportive community for your learning.

My office hours

It is best to come see me during my scheduled office hours. During office hours I can give you my undivided attention and I will work with you one-on-one to solve problems and help you to better understand material or assignments. If you cannot make it during office hours, you may schedule an appointment in advance.

My Learning Goals for you in this course are as follows:

1. To be able to describe Charles Darwin's development as a naturalist, and the development of his ideas about evolution.
2. To be able to describe natural and sexual selection, two of the mechanisms by which evolution occurs.

3. To carefully observe the natural world around you, and to think critically and creatively about the patterns you see.
4. To evaluate the influence of evolutionary theory on a wide range of topics.

Required texts

- *The Voyage of the Beagle* (Charles Darwin, 1839)
- *On the Origin of Species* (Charles Darwin, 1859 – first edition!)
- *The Descent of Man, and Selection in Relation to Sex* (Charles Darwin, 1871)
- *The Expression of the Emotions* (Charles Darwin, 1872)
- *The Beak of the Finch: A Story of Evolution in Our Time* (Jonathan Weiner, 1994)
- Additional readings will be available on the course webpage.

Interdisciplinary Cluster statement

This course is part of the Interdisciplinary Cluster, “The Spirit of Our Age: Nineteenth Century Science and Culture.” The purpose of the Cluster is to explore the emergence in the nineteenth century of institutions, concepts, disciplines, and systems that shape our contemporary politics, economics, art, literature, and scientific research. Students will examine the Darwinian Revolution using the analytical and interpretive methods appropriate to Biology. These methods include observation of the natural world, reading and analyzing historical and modern texts on evolutionary biology, and developing and evaluating evolutionary hypotheses. Upon completion of the Cluster, students should be able to see how this viewpoint may be different from other perspectives on the nineteenth century.

Grading and assessment

Field notebook – 10%

Students will keep a field notebook, much like Darwin did, in which they will record observations and notes from the two major class field experiences, as well as other observations and ponderings throughout the semester. Notebooks will be periodically assessed during the semester. (Learning Goals 2 and 3)

Travel journal assignment – 5%

After reading the *Voyage* and exploring a local natural area during a class field trip, you will write an essay in the style of an 18th century travel journal. (Learning Goals 1 and 3)

Artificial selection poster – 10%

Working with a partner, you will select one of the species shaped most dramatically by human selection and present a poster to your peers comparing the wild, progenitor species to the current domesticated versions. (Learning Goals 2 and 4)

Paper on Darwin’s influence in “your” field – 20%

You will select a concept, problem, or major work in your field of interest, and in a 3-4 page paper, evaluate how evolutionary thinking (particularly from a Darwinian perspective) influences that issue. (Learning Goal 4)

Exams – 45%

Two in-class examinations and a final exam (15% each) will assess your knowledge of course content and your ability to think critically about and solve problems related to evolution. (Learning Goals 1-4)

Class participation – 10%

You will be expected to post reading notes in response to directed reading questions on TLEARN before class (for most reading note submissions, ~200 words is appropriate), and actively participate in all class discussions and field experiences.

Late work will not be accepted, unless there is an extreme situation for which we have made an arrangement prior to the assignment deadline.

A note on regrades: If you have questions about how points were assigned or need a correction made for a tallying error on an assignment, the assignment must be brought to the professor *within one week* of the date of receipt. No grade adjustments will be made after the one week deadline.

Class attendance

Because this course includes class discussions and lectures on material that may not be in your assigned readings, you should plan to attend all class meetings. I expect that you will attend class, and that you will come to class prepared to participate. This includes completing all readings and assignments for this class *prior to class*, asking questions when there is material you do not understand, and focusing your attention on material for this class during all class meetings. Using laptops, cell phones, or any form of social media is a distraction to you and your classmates, and unless otherwise indicated, these are not allowed during class.

If you must miss a class, I expect that you will let me know beforehand. If you must miss class on the day of an exam, you may take a make-up exam **before** the exam date.

Email and Office Hours

I am excited to teach you about evolution, and I encourage you to ask questions any time there is something you do not understand, or if there is a topic you wish to discuss in more depth than we are able to explore in class. Feel free to email me with any questions about course procedures, assignments, etc., but please ask your content-driven questions in person – either in class, where your fellow students can benefit from your question, or in office hours, where I can better assess your level of understanding and provide a more complete answer to your question. I will do my best to respond to your email messages within 24-36hrs.

Honor Code

All students are covered by a policy that prohibits dishonesty in academic work. Under the Honor Code, a faculty member will (or a student may) report an alleged violation to the Academic Honor Council. It is the task of the Council to investigate, adjudicate, and assign a punishment within certain guidelines if a violation has been verified.

Further, any materials created by your instructor to enhance or assess your learning in this class (including but not limited to exams, exam keys, problem sets, and lecture slides) are proprietary materials that may not be shared with anyone without prior authorization from Dr. Johnson. **Sharing these documents in any way is a violation of the Honor Code** and infractions will be reported to the Honor Council. The sale or donation of these materials to any organization that, as a business or community service, provides study aids is included in this policy. This includes providing materials to such organizations over the internet.

Students are required to pledge all written work that is submitted for a grade: “On my honor, I have neither given nor received any unauthorized assistance on this work” and their signature. The pledge may be abbreviated “pledged” with a signature.

Note to students with disabilities

Your success in this class is important to me. If you have a documented disability and will need accommodations in this class, please speak with me early in the semester so I can be prepared to meet your needs. All discussions will remain confidential. If you have not already registered with Student Accessibility Services, contact the office at 999-7411 or sas@trinity.edu. You must be registered with SAS before I can provide accommodations. Students who require exam accommodations will take exams in the Accommodated Testing Center in Halsell 227.