

Chapman University

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University Honors Program Course

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University Honors Program: HON 207-01
Darwin's Evolutionary Theory: The Science and the Controversy
Syllabus - Spring 2021
Monday & Wednesday 4 – 5:15 PM

Course Description: *Prerequisite: acceptance to the University Honors Program, or consent of instructor. This course will address the topic Darwin's theory of evolution by natural selection and its place in scientific thought, and explore the controversy surrounding it for many in the general public. We will explore the options for finding comfort with both the science of evolution and one's personal religious beliefs. (Offered as needed.) 3 credits.*

Instructor: Fred Caporaso, Ph.D., Professor, Schmid College of Science and Technology caporaso@chapman.edu
Hashinger Science Center, Room 216 (714) 997-6638

Honors Program Coordinator, Ashley Melton (714) 744-7646 melton@chapman.edu

Office Hours: Remotely; after class or by appointment. I will try my best to meet your scheduling needs.

GE Natural Science Inquiry Learning Outcome:

Students engage in scientific investigation to explore the knowledge produced by scientific processes.

Course Learning Objectives:

- * Apply the scientific method to analyze the natural world.
- * Explain the difference between a scientific theory and “theories” in everyday life.
- * Evaluate the science supporting Darwin's theory of evolution by natural selection, and its crucial role in many scientific disciplines.
- * Analyze and articulate the controversy surrounding the theory of evolution.

GE Values and Ethical Inquiry Learning Outcome:

Students articulate how values and ethics inform human understanding, structures, and behavior.

Course Learning Objectives:

- * Explore and assess the values and ethical norms of the Victorian age, and how they influenced Charles Darwin's thoughts and actions.
- * Analyze why so many Americans don't “believe” in evolution.
- * Evaluate the options for finding comfort with both the science of evolution and one's personal religious beliefs.

Honors Program Learning Outcomes:

Upon completing a course in the University Honors Program students will have:

1. Obtained a starting point for integrative exploration of the development of cultures and intellectual achievements through a variety of disciplinary and interdisciplinary perspectives.
2. Sharpened their ability to critically analyze and synthesize a broad range of knowledge through the study of primary texts and through engagement in active learning with fellow students, faculty, and texts (broadly understood);
3. Understood how to apply more integrative and interdisciplinary forms of understanding in the advancement of knowledge and in addressing complex challenges shaping the world; Developed effective communication skills, specifically in the areas of written and oral exposition and analysis.

Textbooks/Videos:

Required:

- Browne, Janet. *Darwin's Origin of Species: A Biography*. Atlantic Monthly Press, New York, 2006.
- Coyne, Jerry A. *Faith Versus Fact: Why Science and Religion Are Incompatible*. Faith Versus Fact interview of Jerry Coyne (22 min.). <https://www.youtube.com/watch?v=y6T39bz7A4w>
- Coyne, Jerry A. The Darwin Day Lecture 2016, with Jerry Coyne. *Evolution and atheism - best friends forever?* (82 min.). <https://www.youtube.com/watch?v=sazo1J4Zsj4>
- Gould, Stephen Jay. *Rocks of Ages: Science and Religion in the Fullness of Life*. Balantine Books, New York, 1999.
- Miller, Kenneth R. *Finding Darwin's God: A Scientist's Search for Common Ground Between God and Evolution*. Harper, N.Y. 2007
- NOVA. And PBS (Vulcan Productions). *Judgment Day: Intelligent Design On Trial (creationism vs evolution)* Video. WGBH. Boston. 2011. <https://www.youtube.com/watch?v=x2xyrel-2vI> 1:51:25

Recommended:

- Appleman, Philip, ed. *Darwin*. 3rd ed. Norton & Company, New York, 2001.
- Aspell, Paula S. and Mirowitz, Lisa. *What Darwin Never Knew*. DVD, NOVA, New York. 2010.
- Ayala, F. *Darwin's Gift: to Science and Religion*. Joseph Henry Press. 2007.
- Attenborough, David. *Charles Darwin and the Tree of Life*. BBC EARTH. Burbank, CA. 2009
- Bellaimey, J. *The five major world religions*. TED-Ed Animation. 2013.
<https://ed.ted.com/lessons/the-five-major-world-religions-john-bellaimey>
- Brown, William and Fabian, Andrew C. (Eds.). *Darwin. The Darwin College Lectures*. Cambridge University Press, New York, 2010.
- Carroll, Sean B. *The Making of the Fittest: DNA and the Ultimate Forensic Record of Evolution*. W.W. Norton and Company, New York, 2007.
- Carroll, Sean B. *The Making of Fittest*. DVD (5 Parts). Howard Hughes Medical Institute. Chevy Chase, MD, 2013.
<https://www.hhmi.org/biointeractive/making-fittest>
- Coyne, Jerry A. *Why Evolution Is True*. Viking – Penguin Group, New York, 2009.
- Coyne, Jerry A. *Faith Versus Fact: Why Science and Religion Are Incompatible*. Penguin Books, New York, 2016.
- Dawkins, Richard. *The Genius of Charles Darwin*. DVD. Athena, London, 2009.
https://www.youtube.com/watch?v=k5Sb33Z6DVo&list=PLN2EBL_hjGYKWqOxR3gRC_LPOq8S8uMMM
- Dawkins, Richard and Lennox, John. *The God Delusion Debate*. DVD. Fixed Point Foundation. 2009.
- Desmond, Adrian, Moore, James and Browne, Janet. *Charles Darwin: VIP*. Oxford University Press, Oxford, 2007.
- Darwin, Charles and Wilson, E.O. *From So Simple A Beginning: Darwin's Four Great Books (Voyage of the Beagle, The Origin of the Species, The Descent of Man, The Expression of Emotions in Man and Animals)*. W.W. Norton and Company, New York. 2005.
- Harris, Sam. *The End of Faith: Religion, Terror, and the Future of Reason*. W.W. Norton & Co, New York. 2004.
- Harris, Sam. *Letter to a Christian Nation*. Knopf, New York. 2006.
- Harris, Sam. *The Moral Landscape: How Science Can Determine Human Values*. Free Press, New York. 2011.
- Hitchens, Christopher and Wilson, Douglas. *Collison: Is Religion Good For The World?* DVD. Level 4. 2009.
- Miller, Kenneth R. *Only a Theory: Evolution and the Battle for America's Soul*. Viking, New York. 2008.
- Miller, Kenneth R. *Evolution: Fossils, Genes and Mousetraps*. DVD. Howard Hughes Medical Inst. Chevy Chase, MD. 2007.
- National Academies of Sciences, Engineering, and Medicine. *Science, Evolution and Creationism*. National Academies Press, Washington, D.C. 2008. (see Canvas site)**
- NOVA and PBS (Espar, David and Lewis, Susan K.). *Evolution-Darwin's Dangerous Idea*. Video. WGBH. Boston. 2001.
<https://www.youtube.com/watch?v=FUCxWMtK9CY> 120 min.
- NOVA and National Geographic (Sanders, Jay O. and Berger, Lee R.). *Dawn of Humanity*. Video. WGBH. Boston. 2015.
<http://www.pbs.org/wgbh/nova/evolution/dawn-of-humanity.html> 1:53:07
- Olson, Kenneth H. *Lens to the Natural World: Reflections on Dinosaurs, Galaxies and God*. Wipf & Stock, Eugene, OR, 2011.
- Quammen, David. *Charles Darwin: On the Origin of Species. The Illustrated Edition*. Sterling Pub. Co., Inc. New York. 2008.
- Rice, Stanley A. *Encyclopedia of Evolution*. Checkmark Books, New York. 2007.
- Shermer, Michael. *Why Darwin Matters*. Henry Holt and Company, New York, 2006.
- Shubin, Neil. *Your Inner Fish: A Journey into the 3.5-Billion-Year History of the Human Body*. Pantheon Books, New York. 2008.
- Shubin, Neil. *Your Inner Fish: The Series: Your Inner Fish; Your Inner Reptile; Your Inner Monkey*. DVD and video. DVD. Howard Hughes Medical Institute. Chevy Chase, MD. 2014 <https://www.hhmi.org/biointeractive/your-inner-fish-series>
- Shubin, Neil. *The universe within: the deep history of the human body*. Random House, New York, 2013.
- Wilson, Edward O. *The Creation: An Appeal to Save Life on Earth*. W.W. Norton and Company, New York, 2007.
- Walters, Stuart M. *Darwin's Mentor: John Stevens Henslow*. Cambridge University Press, 2001.

Grading:	Points:
Midterm Exam – Wednesday March 17	100
Final Exam – Monday May 17 4:15- 6:45 PM	
Super Term Paper- due before 11:59 PM	200
5 Quizzes/Reflection papers – due Random Mondays	100 (25 each)
Short essay about cool crucial stuff you learned in HON 207	
<i>Lowest of first 3 quizzes dropped</i>	
Group Presentation- Analysis of an assigned scholarly video	
Brief PowerPoint intro./ lead discussion by posing questions	
/help class reach conclusions about key topics	100
Active and appropriate participation (class attendance; focused and meaningful involvement in class activities)	<u>50</u>
TOTAL POINTS	550

GRADING SCALE

A	509	93%
A-	492	90%
B+	481	88%
B	454	83%
B-	437	80%
C+	426	78%
C	399	73%
C-	382	70%
D+	371	68%
D	344	63%
D-	327	60%
F	Below 327	

• **Due to the COVID-19 pandemic this course will be taught remotely.**

In this class, Zoom and Panopto software will be used to record live class discussions. As a student in this class, your participation in live class discussions will be recorded to assist those who cannot attend the live session, or to serve as a resource for those who would like to review content that was presented. These recordings will be made available only to students who are enrolled in the class, and only during the period in which the course is offered. All recordings will become unavailable to students in the class shortly after the course ends.

• All students are encouraged to attend every class meeting. Active and appropriate participation (class attendance; focused and meaningful involvement in class activities). Each student is required to take an active part in class discussions.

• **All cell phones must be off and put out of reach during class time. Side chatting or cell phone use in class is unacceptable.**

• **Make-up exams will only be offered for extraordinary documented reasons (e.g. a documented hospitalization) pre-approved by the instructor prior to the test. A headache, cold or visit to the Health Center is not an acceptable reason. Make-up exams are discouraged and will be much more challenging than the original exam. There will be no make-up quizzes.**

• Assignments must be submitted in on time through Canvas (click on “Assignments” and follow the instructions, make sure you click on “submit” as your last step). Students will be penalized 20% for handing an assignment in late on the day it is due and another 40% for each day the assignment is late thereafter. Before handing in assignments make sure they are proofed, edited, referenced properly (you may use any one of the following Citation Styles: APA, MLA, Chicago, Turabian, IEEE - LibGuides at University of Pittsburgh (<https://pitt.libguides.com/citationhelp>) and typed neatly (double spaced in font 12)!

• In addition to the readings and lectures listed in the course outline, students may be responsible for other assignments given in class. Please note that this course requires close attention, active participation, and heavy reading and writing assignments at times; also, all reading assignments may not be discussed in class. Please be aware that the course outline is just a guide. We may vary the contents and the time projections, depending on unexpected events, speakers, etc. and the needs of the class.

Chapman University's Academic Integrity Policy:

Chapman University is a community of scholars that emphasizes the mutual responsibility of all members to seek knowledge honestly and in good faith. Students are responsible for doing their own work and academic dishonesty of any kind will be subject to sanction by the instructor/administrator and referral to the university Academic Integrity Committee, which may impose additional sanctions including expulsion. Please see the full description of Chapman University's policy on Academic Integrity at

https://www.chapman.edu/academics/academic-integrity/_files/academic-integrity-policy.pdf

Chapman University's Students with Disabilities Policy

“In compliance with ADA guidelines, students who have any condition, either permanent or temporary, that might affect their ability to perform in this class are encouraged to contact the Disability Services Office. If you will need to utilize your approved accommodations in this class, please follow the proper notification procedure for informing your professor(s). This notification process must occur more than a week before any accommodation can be utilized. Please contact Disability Services at (714) 516-4520 or visit www.chapman.edu/students/student-health-services/disability-services if you have questions regarding this procedure or for information or to make an appointment to discuss and/or request potential accommodations based on documentation of your disability. Once formal approval of your need for an accommodation has been granted, you are encouraged to talk with your professor(s) about your accommodation options. The granting of any accommodation will not be retroactive and cannot jeopardize the academic standards or integrity of the course.”

Chapman University's Equity and Diversity Policy

Chapman University is committed to ensuring equality and valuing diversity. Students and professors are reminded to show respect at all times as outlined in [Chapman's Harassment and Discrimination Policy](#). Any violations of this policy should be discussed with the professor, the [Dean of Students](#) and/or otherwise reported in accordance with this policy.

Student Support at Chapman University. Over the course of the semester, you may experience a range of challenges that interfere with your learning, such as problems with friend, family, and or significant other relationships; substance use; concerns about personal adequacy; feeling overwhelmed; or feeling sad or anxious without knowing why. These mental health concerns or stressful events may diminish your academic performance and/or reduce your ability to participate in daily activities. You can learn more about the resources available through Chapman University's Student Psychological Counseling Services here:

<https://www.chapman.edu/students/health-and-safety/psychological-counseling/>

Fostering a community of care that supports the success of students is essential to the values of Chapman University. Occasionally, you may come across a student whose personal behavior concerns or worries you, either for the student's well-being or yours. In these instances, you are encouraged to contact the Chapman University Student Concern Intervention Team who can respond to these concerns and offer assistance: <https://www.chapman.edu/students/health-and-safety/student-concern/index.aspx>. While it is preferred that you include your contact information so this team can follow up with you, you can submit a report anonymously. 24-hour emergency help is also available through Public Safety at 714-997-6763.

2/1	Science: As a way of knowing The Scientific Method; A Scientific theory	Canvas documents: National Academy of Science. Science, Evolution and Creationism.
2/3	Darwin's Dangerous Idea – DVD	Quiz #1 The Biology of Skin Color video
2/8	Darwin's Dangerous Idea – DVD; Quiz #1	B- Introduction, Chapters 1,2,3
2/10	Quiz # 1 Discussion; Darwin - Life Highlights	B- Chapters 4 & 5
2/15	Darwin - Life Highlights	H - John Stevens Henslow as a mentor
2/17	Darwin – Natural Selection; Artificial Selection	Quiz #2 The Making of the Fittest video
2/22	Darwin – Natural Selection; Quiz #2	Watch - Miller-video–Fossils, genes & mousetraps DVD chapters 1-27
2/24	Quiz # 2 Discussion; Proofs of Evolution	Miller-DVD–Fossils, genes & mousetraps–Chapters 28-37
3/1	Voyage of the Beagle, The Galápagos Islands	
3/3	Punctuated Equilibrium- Gould, The Cambrian Explosion; Grants- Finches on Daphne Major	Quiz #3 Great Transitions video
3/8	Turtles, Tiktaalik Ardi; Quiz #3	
3/10	Quiz #3 – Discussion	
3/15	Discussion - Fossils, genes & mousetraps, Review for exam- see study guide	
3/17*	MIDTERM EXAM	
3/22 & 3/24	SPRING BREAK	ENJOY & BE SAFE
3/29	Review exam	
3/31	Scopes Monkey Trial, 1925, Inherit the Wind	Quiz #4 and #5 Dawn of Humanity video – 2hours https://www.youtube.com/watch?v=RzLJAa5X4Fo
4/5*	Quiz #4 and #5 due at 10 AM; Discussion	Co, G, J, M (watch/read as background for your Super Term Paper)
4/7*	<i>The Evolutionary Arms Race- Evolution DVD</i>	Part 1, Group 1
4/12	Group 1 - Discussion	Part 1, Group 1
4/14*	<i>What Darwin Never Knew- From Fruit Flies To What Makes Us Human?</i>	Part 2, Group 2
4/19*	Group 2 - Discussion	Part 2, Group 2
4/21*	<i>What about God? – Evolution DVD BBC</i>	Group 3
4/26*	Group 3 - Discussion	Group 3
4/28*	<i>The Four Horsemen- The Conversation That Sparked an Atheist Revolution -Part 1 -58 min</i>	Group 4
5/3	Group 4 - Discussion	Group 4
5/5	Dawkins – <i>The Genius of Charles Darwin</i>	Group 5
	Part 2, The Fifth Ape DVD	
5/10*	Group 5 – Discussion of Part 2, The Fifth Ape	Group 5
5/12	Discussion, NOMA, review	G
5/17*	FINAL EXAM/Super Term Paper	

* Important dates to remember – test or assignment due!!! All quizzes are due before 11:59 PM on date listed above

B= Browne, Co= Coyne, G= Gould, H= Handouts from instructor- see Canvas, J= Judgment Day M= Miller

HAVE A GREAT SUMMER!!!