

SYLLABUS

ANTH 100 (online) - History and Theory of Biological Anthropology

Anthropology Department, UC Santa Cruz

Summer Session 1, 2024



Dr. Jay S. Reti

Lecture: online

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**Office: online (Zoom)
during office hours**

**Office hours:
Zoom by
appointment (just
email me and we'll
find a good time!)**

COURSE DESCRIPTION

Welcome to the History and Theory of Biological Anthropology! I look forward to an engaging and fun summer session with all of you where we get to discuss evolutionary theory and answer some big questions concerning its history. This course provides a historical and theoretical overview of biological anthropology by reading and discussing evolutionary theory and the history of evolutionary thought. Through lectures, weekly readings, small group discussions, and response assignments, students will learn about the emergence of evolutionary theory and the key scholars who have contributed to its development since the 17th Century. Course topics include the development of evolutionary theory and the modern synthesis, the advent of evolutionary developmental biology, reactions against rising adaptationist conclusions, and modern applications to biological anthropological theory. These and other key topics will help students understand how biological anthropology has emerged as a major discipline within the social and biological sciences. Summer sessions move quickly, so please plan your time and stay on top of your readings and assignments.

LEARNING OUTCOMES

In this course, students will be exposed to a wide array of academic literature concerning the history and theory of biological anthropology, including evolutionary theory. By the end of the course, students will:

- 1) have working knowledge of the key historic texts and ideas that have contributed to our understanding of evolutionary principles today,
- 2) be able to articulate how changing evidence has influenced our understanding of evolutionary theory,
- 3) apply this knowledge of evolutionary theory to topics in biological anthropology, and
- 4) form a critical eye in analyzing textual sources related to evolutionary theory and biological anthropology.

Course assignments (papers and small group discussions) will allow students to actively engage with the material and demonstrate their broader understanding of how theoretical understanding of evolution has changed through time.

LAND ACKNOWLEDGMENT:

The land on which we gather is the unceded territory of the Awaswas-speaking Uypi Tribe. The Amah Mutsun Tribal Band, comprised of the descendants of indigenous people taken to missions Santa Cruz and San Juan Bautista during Spanish colonization of the Central Coast, is today working hard to restore traditional stewardship practices on these lands and heal from historical trauma.

REQUIRED TEXT:

There is no textbook required for this course! Instead, we will use an assortment of research articles, which are available on the course Canvas website. Students will also be required to read excerpts of Darwin's "On the Origin of Species" over the course of the class. Students may purchase a paper copy of the book or access the PDF version of the book available on Canvas course website.

COURSE REQUIREMENTS:

Your grade will be determined via five components:

Assignments and responses:	30%
Midterm Exam:	20%
Final Exam:	20%
Final Paper:	20%
Quizzes:	10%

The exams will consist of a combination of short responses and open-ended longer response questions. Weekly discussions will be based on assigned small groups (3-5 students per group). Each student will be assigned a group number and be responsible for coming up with an individual response to a question concerning the lecture and assigned articles. This response must be posted to the class-wide discussion post for that section by the due date outlined in the course schedule found below. Each student must then read these responses and respond to a minimum of two other students' responses by the due date listed in the schedule below. Instructors will monitor these discussions for accuracy and analysis, clarifying where needed and paying particular attention to the posts in the large group discussion.

STUDENT ACCESSIBILITY

I aim to make our learning community as accessible as possible. This means that I strive to provide accessible materials and to create opportunities for different kinds of engagement in our classroom. If you are a student with a disability who requires accommodations to achieve equal access in this course, please affiliate with the Disability Resource Center (DRC). I encourage all students to benefit from learning more about DRC services by contacting the DRC by phone at 831-459-2089 or by email at drc@ucsc.edu. For students already affiliated, make sure that you have requested Academic Access Letters, where you intend to use accommodations. You can also request to meet privately with me during my office hours or by appointment, as soon as possible. I would like us to discuss how we can implement your accommodations in this course to ensure your access and full engagement in the class and its important material. I look forward to working with all of you!

TRANSFER STUDENTS

Welcome to UCSC, transfer students! I have experience teaching at community colleges, California State Universities, and multiple UC campuses. I understand that students with different backgrounds have had different exposure to lower division course material, writing assignments and requirements, and academic cultures. If there are any course concepts that I assume you know and you do not, please be encouraged to discuss both during class and during office hour meetings with me. My goal is to make sure that all of my students are on the same page, comprehending the course material and its implications.

ACADEMIC INTEGRITY

All members of the UCSC community benefit from an environment of trust, honesty, fairness, respect, and responsibility. You are expected to present your own work and acknowledge the work of others in order to preserve the integrity of scholarship.

Academic integrity includes:

- Following exam rules
- Viewing exam materials only when permitted by your instructor
- Incorporating proper citation of all sources of Information
- Using only permitted materials during an exam
- Keeping what you know about an exam to yourself
- Submitting your own original work

Violations of the Academic Integrity policy can result in dismissal from the university and a permanent notation on a student's transcript. For the full policy and disciplinary procedures on academic dishonesty, students and instructors should refer to the [Academic Misconduct page](#) at the [Division of Undergraduate Education](#).

GENERATIVE AI: INTEGRITY AND POLICY

Integrity – other people's perception of your word as true – is one of the most valuable assets you can cultivate in life. Being attentive to integrity in academic settings allows others to trust that you have completed work for which you are taking credit. This is symbolic of the public trust from which you will benefit in your future occupation and activism after you graduate from UCSC. The creativity of your words, expression, understanding, and knowledge matters a great deal in your work as anthropologist, and it matters to me. My AI policy reflects the emphasis our discipline places on original thought and scholarship.

AI Policy:

- In this class, I ask that you complete your work *without* using AI-generated sources to augment, think through, or write your assignments. My assignments are designed to make use of AI difficult and obvious.
- There is one exception: you are welcome to use AI tools for pre-submission editing (spell-check and grammar-check) as long as you do not use them for thinking or drafting.
- On rare occasions, I may create an assignment in which I ask you to critique content generated by AI; if this occurs, I will provide clear assignment-specific AI-use guidelines within the prompt.
- If you submit work that appears to have been written using AI sources, I will ask you to meet with me to discuss your thinking and writing process. If, after our conversation, I conclude it's more likely than not that you did not personally complete an assignment you submitted under your name, I may refer you to your college provost for further conversation.
- If you have questions about AI use and/or proper attribution of other people's work, please come ask me! Scholarly citing is not particularly intuitive, and part of my role is to help you learn those conventions.

COURSE SCHEDULE

Dates	Topics and Readings	Assignment To-Do List
<p>June 24 – June 27</p>	<p>Topics:</p> <ol style="list-style-type: none"> 1. Introduction to the course 2. Pre-Darwinian concepts of humans, science, evolution <p>Readings: Nott 1843 – Mullato as a hybrid Farber 1972 – Buffon and the concept of species</p>	<p>June 25:</p> <ol style="list-style-type: none"> 1. Post a personal introduction in the “Introductions” Discussion 2. Take the Orientation Quiz on Canvas 3. Complete weekly readings 4. Lecture viewing due <p>June 26:</p> <ol style="list-style-type: none"> 6. Individual discussion posts due <p>June 27:</p> <ol style="list-style-type: none"> 7. Discussion responses due 8. Schedule personal Zoom meeting times with Dr. Reti (Use “Calendar” tool in Canvas to find a meeting time slot)
<p>June 28 – July 2</p>	<p>Topics:</p> <ol style="list-style-type: none"> 3.. Lamarck and What Darwin didn’t know <p>Readings: Darwin 1859 – Preface and Chapter 1 Mayr 1972 – Lamarck Revisited</p>	<p>July 1 or 2:</p> <ol style="list-style-type: none"> 1. Meet with Dr. Reti for 10-minute introduction via Zoom (sign up for meeting times in Canvas Calendar by June 30) <p>July 1:</p> <ol style="list-style-type: none"> 2. Complete weekly readings 3. Lecture viewing due 4. Watch film: <i>What Darwin Didn’t Know</i> 5. Individual discussion posts due <p>July 2:</p> <ol style="list-style-type: none"> 6. Discussion responses due
<p>July 3 – July 5</p>	<p>Topics:</p> <ol style="list-style-type: none"> 3 Response to Darwinian evolution: Owen and Huxley <p>Readings: Owen 1860 – Review of On the Origin of Species Huxley 1887 – On the reception of “The Origin of Species”</p>	<p>July 4: (holiday, but I’ll give you through the end of July 4 to post)</p> <ol style="list-style-type: none"> 1. Complete weekly readings. 2. Lecture viewing due <p>3. Individual discussion posts due</p> <p>July 5:</p> <ol style="list-style-type: none"> 4. Discussion responses due

COURSE SCHEDULE

Week	Topics and Readings	Assignment To-Do List
<p>July 6 - 9</p>	<p><u>Topics:</u></p> <ol style="list-style-type: none"> 1. Darwin’s immediate impact (De Vries, Fisher, Haeckel) 2. Mendel and the Modern Synthesis <p><u>Readings:</u> Bowler 1977 – De Vries, Morgan, and Mutation Theory Stauffer 1957 – Haeckel, Darwin, and Ecology Mayr and Provine 1981 – The Modern Synthesis</p>	<p><u>July 8:</u></p> <ol style="list-style-type: none"> 1. Complete weekly reading 2. Lecture viewing due <p><u>July 8:</u></p> <ol style="list-style-type: none"> 3. Individual discussion posts due <p><u>July 9:</u></p> <ol style="list-style-type: none"> 4. Discussion responses due
<p>July 10 – July 12</p>	<p><u>MIDTERM EXAM!</u></p>	<p>DUE JULY 12 BY 11:59PM VIA CANVAS UPLOAD</p>
<p>July 13 - 16</p>	<p><u>Topics:</u></p> <ol style="list-style-type: none"> 1. Revolt against adaptationists <p><u>Readings:</u> Barash 1976 - Bluebirds Gould and Lewontin 1979 – The Spandrels of San Marcos</p>	<p><u>July 15:</u></p> <ol style="list-style-type: none"> 1. Complete weekly readings. 2. Lecture viewing due <p><u>July 15:</u></p> <ol style="list-style-type: none"> 3. Individual discussion posts due <p><u>July 16:</u></p> <ol style="list-style-type: none"> 4. Discussion responses due
<p>July 17 - 19</p>	<p><u>Topics:</u></p> <ol style="list-style-type: none"> 1. Socio-Biology 2. Sexual Selection <p><u>Readings:</u> Dawkins 1976 – The selfish gene excerpt (intro) Andersson 1994 – Introduction to sexual selection</p>	<p><u>July 18:</u></p> <ol style="list-style-type: none"> 1. Complete weekly readings. 2. Lecture viewing due 3. Watch Documentary: “Lord of the Ants” <p><u>July 18:</u></p> <ol style="list-style-type: none"> 4. Individual discussion posts due <p><u>July 19:</u></p> <ol style="list-style-type: none"> 5. Discussion responses due

COURSE SCHEDULE

Week	Topics and Readings	Assignment To-Do List
<p align="center">July 20 - 24</p>	<p><u>Topics:</u></p> <ol style="list-style-type: none"> 1. Ancient DNA and the modern contribution of genetics 2. Evolutionary Developmental Biology (“Evo-Devo”) <p><u>Readings:</u></p> <p>Sankararaman et al. 2014 – Neanderthal genomics Hall 2003 – Evo Devo Gunz et al. 2010 – Brain development in humans and neanderthals</p>	<p><u>July 22:</u></p> <ol style="list-style-type: none"> 1. Complete weekly reading 2. Lecture viewing due <p><u>July 23:</u></p> <ol style="list-style-type: none"> 3. Small group discussion posts due <p><u>July 24:</u></p> <ol style="list-style-type: none"> 4. Large group discussion posts due
<p align="center">Finals July 25-26</p>	<p align="center"><u>FINAL EXAM</u> And <u>FINAL PAPER</u></p>	<p><u>Friday, July 26 (by 11:59pm):</u></p> <ol style="list-style-type: none"> 1. Final Exam Due 2. Final Paper Due

COURSE PAPER ASSIGNMENT: GENERAL INSTRUCTIONS

During this quarter, we have been introduced to many different historic figures in evolutionary theory and biological anthropology. Each historic scientist and philosopher contributed their own experience, thoughts, and research to the ongoing questions of how evolution works. It is my intention for this assignment to get you thinking about these contributions and to really consider evolutionary theory, philosophy, and evidence for the time period that you are focusing on.

For this paper assignment, please conduct research on a major figure in evolutionary theory, biology, or biological anthropology. During our second class we watched a documentary that introduced you to many different figures in evolutionary theory. A few of the prominent ones, and many others, are below. Your research should **NOT BE A BIOGRAPHY**, but rather focus on the research of the individual you select and how their research contributed to our historic and current evolutionary theory. This may be in a positive light or a negative light, but you need to explain what evolutionary theory was thought to be during their time of research and how their research contributed to the understanding of that theory during their lifetime (and since they died, if applicable).

Research Subjects (many other exist as well, just ask me before picking someone else!)

- | | | |
|--------------------------|-------------------------|----------------------|
| 8. Comte du Buffon | 15. Thomas Henry Huxley | 1. Rosalind Franklin |
| 9. Carolus Linnaeus | 16. Gregor Mendel | 2. George G. Simpson |
| 10. Jean-Baptist Lamarck | 17. Thomas Hunt Morgan | 3. Stephen J. Gould |
| 11. Charles Darwin | 18. Hugo de Vries | 4. Edward O. Wilson |
| 12. Charles Lyell | 19. Julian Huxley | 5. Mary Leakey |
| 13. Richard Owen | 20. Ronald Fisher | 6. Bernard Wood |
| 14. Ernst Haeckle | 21. Ernst Mayr | 7. Lee Berger |

Paper Details:

Due Date: DUE FRIDAY, JULY 26 by 11:59PM
(ONLINE: CANVAS UPLOAD)

Acceptable File Formats: .doc, .docx, or PDF

Length: 6-8 pages

Format Details: double-spaced, 12-point font, Times New Roman, 1" margins

Citations: Parenthetical in-text citations (APA style guide, see [Purdue OWL website for info](#))

Reference Section: APA formatted reference section

Number of Reference: At least 6 acceptable, academic references, but many more may help to strengthen your paper. Grading will focus on arguments made, as detailed in the rubric below.

Reference Details: Academic references (peer-reviewed journals, edited books) – should be well-researched and include many references that round out your discussion and argument (at least six, but many more would help to strengthen your paper)

Paper Rubric:

Criteria	Ratings					Points
Argument Construction	<u>Outstanding:</u> (45-50 points) Clear thesis and argument direction; contextualizes historic placement and ideas, clearly explains impact of ideas for the time and makes these relevant to current evolutionary thought.	<u>Good:</u> (40-45 points) Clear thesis; generally addresses history and impact of figure; may not contextualize evolutionary ideas; articulates some relevance of evolutionary ideas to current debates.	<u>Almost there:</u> (30-40 points) Unclear or broad thesis; lacks details of history and impact of the figure, but clearly attempts to contextualize what they have researched; may not articulate impact of figure on peers on current evolutionary debate	<u>Needs work:</u> (20-30 points) Unclear or no thesis; lacking relevant research and/or understanding of the concepts that this figure articulated; paper may focus more on summary than argument	<u>No attempt:</u> (0-20 points) No thesis, poor or no analysis, summary only	50 points
References	<u>Outstanding:</u> (22-25 points) 6+ references that are relevant and appropriate; references are used correctly and cited throughout paper	<u>Good:</u> (18-22 points) 6+ references, most of which are relevant and appropriate; some references not cited correctly throughout paper	<u>Almost there:</u> (14-18 points) 4-5 references, mostly cited correctly; some references may need work for content or academic relevance	<u>Needs work:</u> (10-14 points) Minimum amount of research conducted and/or references are inappropriate/not relevant/consistently cited incorrectly	<u>No attempt:</u> (0-10 points) No research conducted (fewer than 3 sources); sources not relevant and/or not cited correctly or at all	25 points
Editing	<u>Outstanding:</u> (13-15 points) Paper written edited for proper grammar, spelling, and structure	<u>Good:</u> (11-13 points) Paper generally edited but retains some grammatical, spelling, and/or structural issues	<u>Almost there:</u> (9-11 points) Paper reads clearly, grammatical/spelling errors are found throughout and begin to impact clarity	<u>Needs work:</u> (5-9 points) Grammatical, spelling, and/or structural issues impede ability to read the paper and assess its arguments	<u>No attempt:</u> (0-4 points) Paper is not edited and language is unclear to the point that instructor cannot assess its argument	15 points
Formatting	<u>Outstanding:</u> (9-10 points) Paper accurately follows APA formatting guidelines, including bibliography and in-text citations	<u>Good:</u> (7-8 points) Paper generally attempts to follow APA formatting but may need review for in-text citations and bibliography	<u>Almost there:</u> (6-7 points) Paper needs review for APA formatting, but consistently attempts to cite references and includes a bibliography	<u>Needs work:</u> (4-6 points) Paper makes little effort to meet APA formatting; references are cited inconsistently; bibliography is missing references and/or shows no APA formatting	<u>No attempt:</u> (0-3 points) Paper lacks citations and/or lack a bibliography	10 points
TOTAL:	90-100 points	80-90 points	70-80 points	50-70 points	<50 points	100 Points

Summer Session Discussion Topics:

Week	Readings	Group	Discussion Topics:
<p>1 July 24 - 27</p>	<p>Nott 1843 – Mullato as a hybrid</p> <p>Farber 1972 – Buffon and the concept of species</p>	1	<p>EVERYONE: Before reading Farber’s article, think about your current understanding of how Darwin changed the scientific world.</p>
		2	<p>Student # 1 and 2: Read Farber’s article about the Comte du Buffon and explain Buffon’s complex ideas regarding evolution. How does Buffon define the concept of “species”? How is his understanding of what represents a “species” different from how we define the concept of a species today?</p>
		3	<p>Student # 3 and 4: Nott lived a century after the Comte du Buffon. Given Buffon’s definition of “species”, do you think that Buffon would agree with Nott’s conclusions? Explain why or why not?</p>
		4	
<p>2 June 28 – July 2</p>	<p>Darwin 1859 – Preface and Chapter 1</p> <p>Mayr 1972 – Lamarck Revisited</p>	1	<p>Student # 1: Define “Lamarckian Evolution.” How does Lamarck’s view of the evolutionary process differ from Darwin (this should be an explanation in some detail!)?</p>
		2	<p>Student # 2: What is the major topic that Darwin covers in the beginning of <i>On the Origin of Species</i>? Why does Darwin begin with such examples of evolution? In other words, how does beginning the book this way strengthen Darwin’s arguments for natural selection?</p>
		3	<p>Student # 3 and 4: What are some of the major misconceptions of Lamarck’s research and conclusions? What aspects of Lamarck’s conclusions might have influenced Darwin’s own research?</p>
		4	

Weekly Small Group Discussion Topics:

<p>3 July 3 - 5</p>	<p>Owen 1860 – Review of <i>On the Origin of Species</i> Huxley 1887 – On the reception of “<i>The Origin of Species</i>”</p>	1	<p>Student # 1 and 2: Read Huxley’s retrospective. Look at Darwin’s publication of <i>On the Origin of Species</i> and compare it with Owen’s initial review. How did perspectives change in the 27 years between these publications?</p>
		2	
		3	<p>Student # 3: Categorize Owen’s criticisms of Darwin. In other words, what broad <i>types</i> of criticisms does Owen wage against Darwin? Do you think that these</p>
		4	<p>Student # 4: Outline some specific examples from Huxley that counter the arguments made by Owen. Your responses should select several examples and be specific about them. Are these criticisms warranted? Which of these critiques is the most damning for Darwin in 1859? Why?</p>
<p>4 July 6 - 9</p>	<p>Bowler 1977 – De Vries, Morgan, and Mutation Theory Stauffer 1957 – Haeckel, Darwin, and Ecology Mayr and Provine 1981 – The Modern Synthesis</p>	1	<p>Student # 1. Describe the differences between how Hugo De Vries and Thomas Hunt Morgan view the role that mutation plays in the evolutionary process.</p>
		2	<p>Student # 2. Ernst Haeckel made many contributions to furthering evidence for Darwinian evolution. Explain how the introduction of “ecology” changed the way that biologists viewed natural selection.</p>
		3	<p>Student # 3: Thomas Hunt Morgan’s perspective on mutation changed over the course of his life. How does Morgan’s early opinion on Natural Selection differ from his later opinion concerning Natural Selection?</p>
		4	<p>Student # 4: Why might the “modern synthesis” help to demonstrate the strength of Darwinian natural selection and end the idea of mutationism, which we discussed last week?</p>

Weekly Small Group Discussion Topics:

<p>5 July 10 – 12</p>	<p>Midterm Exam</p>		<p>No discussion this week.</p>
<p>6 July 13 – 16</p>	<p>Gould and Lewontin (1979) – The Spandrels of San Marcos Barash 1976 - Bluebirds</p>	<p>1</p>	<p>Student # 1: What does the term “Adaptationist” refer to? Would Gould and Lewontin describe themselves as “adaptationists?” Why or why not?</p>
		<p>2</p>	<p>Student # 2: Think about our definition of Natural Selection and ask yourself how Barash applies Natural Selection to his study. What criticisms can you make of this article in its inception, methods, and/or conclusions?</p>
		<p>3</p>	<p>Student # 3: Gould and Lewontin specifically criticize the article by Barash (1976) that we previously read. Why do they criticize him and label him an “adaptationist?”</p>
		<p>4</p>	<p>Student # 4: Gould and Lewontin discuss the idea of “pluralism” – that more than one mechanism is responsible for evolutionary change (not only Natural Selection). Discuss some of the other mechanisms that might influence the evolution of life.</p>
<p>7 July 17 – 19</p>	<p>Dawkins 1976 – The selfish gene excerpt Andersson 1994 – Introduction to sexual selection</p>	<p>1</p>	<p>Student # 1: What does the concept of the “selfish gene” refer to? How is this interpretation different from a standard interpretation of natural selection?</p>
		<p>2</p>	<p>Student # 2: Sexual selection can operate in many different ways. Discuss the nuances of how the <i>process</i> of sexual selection can influence the ways in which organisms adapt.</p>

		3	Student # 3: Look at Table 1.1.1. in Andersson’s chapter on Sexual Selection. Discuss how different behaviors might demonstrate differential adaptations to breeding events and mating behaviors.
		4	Student # 4: Is Sexual Selection a separate evolutionary process (not just Natural Selection)? Or can sexual selection be classified as a sub-category of Natural Selection? Discuss what you, as a group, think and why.
8 July 20 - 24	Sankararaman et al. 2014 – Neanderthal genomics Hall 2003 – Evo Devo Gunz et al. 2010 – Brain development in humans Neanderthals	1	Student # 1: What is the main question that Sankararaman et al. (2014) are addressing? Discuss the methods that they use to identify these specific genetic markers.
		2	Student # 2: What are the overall conclusions of the Sankaraman et al. (2014) article? How does this application of genetics differ from the initial genetic applications of the modern synthesis?
		3	Student # 3: How does Gunz et al. demonstrate the application of Evo-Devo to human evolution? In other words, how does an Evo-Devo perspective allow us to ask novel questions of the fossil record?
		4	Student # 4: Consider both the articles for this week and my lecture. Think back to our initial discussions of the Biological Species Concept and Buffon’s definition of species. Does a modern understanding of genetics and genetic differences change our definition of species or does it make the Biological Species Concept more robust?
Finals	Final Exam and Final Paper		Final Exam Due on July 26 Final Paper Due on July 26