**Anthropology 201: Introduction to Physical Anthropology Fall Semester, 2000**

**Instructor:** Seamus Decker <sdecker@emory.edu> **Office Hours:** 12:00 to 1:15 MW (L205B) 4-8313

**Class Time: 12:30-1:45 Tuesday-Thursday** **Laboratory (P101): 2:00-5:00 Wednesday**

**Course description:** This course surveys theories and evidence in one of the four subfields of anthropology, Physical Anthropology (also referred to as Biological Anthropology). The central theme of our endeavour will be to understand *Homo sapiens*—the species to which you must belong if you are now reading this—as an animal emergent out of the long natural history of planet Earth; an exceptional animal to be sure, but an animal nonetheless. We will be covering broad swaths of territory in order to give a representative sense of the diversity of the subfield, ranging from molecular-level processes, to individual life-histories, to population phenomenon which extend beyond the immediacy of human perception in space and time. No previous background in anthropology or biology is necessary to take this course.

**Requirements and grading:**

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|---|---|
| **Lecture (200 points total)** | |
| Exam 1 | 16.7% (50 points total) |
| Focus Paper | 16.7% (50 points total) |
| Exam 2 (non-cumulative) | 16.7% (50 points total) |
| Five (5) Quizzes | 16.7% (50 points total) |
| **Laboratory (100 points total)** | |
| Three (3) Lab Quizzes | 6% (18 points total) |
| Lab Practicum 1 | 13.6% (41 points total) |
| Lab Practicum 2 | 13.6% (41 points total) |

**Attendance** in both lecture and laboratory is required. You are allowed 2 unexcused absences in this class as a whole. The third and each following unexcused absence will result in a reduction of six (6) points from your final grade, i.e., the equivalent of 1% of the total points. I will keep track of who participates in class, and this will count into my subjective influence on final grades. You are expected to do the readings before each class session and come prepared to discuss. YOU ARE EXPECTED TO ADHERE TO THE OXFORD HONOR CODE IN ALL ASPECTS OF THIS COURSE.

**Exams** will be two-thirds objective (multiple-choice and/or true-false) and one-third essay. You will not be allowed to make-up missed tests unless you can provide courtroom-quality proof of extenuating and unavoidable factors which were health-threatening or life-changing in scale and nature.

**Lecture Quizzes** (short-answer or matching 5pts each) *will not be taxing* IF you keep up to date on the readings and lectures. Quizzes may happen at any time, there will be no advance notice. Any material already covered in readings or lecture might be included on a quiz. As long as you keep up, you should be able to earn one-sixth of your grade with ease. **Laboratory Quizzes** will be open-book "hands-on" problem-solving tasks that will be completed during laboratory. Lab quizzes will amount to turning in your laboratory work. As with the lecture quizzes, laboratory quizzes can happen on any lab day, there will be no advance notice.

**Laboratory Practicums** will involve "hands-on" work (identification, explanation, problem-solving) done in the lab. For example, you might be asked to identify a specimen, to explain a particular structure of a specimen, or to distinguish several different specimens. Lab practicums will not be open book, and will be timed. The only opportunity you will have study for lab practicums will be during laboratory periods, although I will attempt to provide a review session when students can have access to materials prior to the scheduled practicums.

**All Assessments**, i.e., all quizzes, papers, essays and multiple-choice questions, will be graded anonymously. I will use the -/+ system to differentiate within letter grades. I will post a grading scale on Learnlink.

**Required Readings:**

**(IP)** Introduction to Physical Anthropology, (1997) (7th Edition) Robert Jurmain, Harry Nelson, Lynn Kilgore, and Wanda Trevathan. West/Wadsworth an International Thomson Publishing Company. Belmont, CA. ISBN 0-314-20289-7 Abbreviated as **IP** in reading assignments for each day.

**(BB)** The Biological Basis of Human Behavior: A Critical Review, (1999) (2nd Edition) Robert Sussman (Ed.). Prentice Hall, Upper Saddle River, NJ. ISBN 0-13-799735-3. Abbreviated as **BB** in reading assignments for each day.

**(LM)** Lab Manual and Workbook for Physical Anthropology () (3rd Edition) Diane L. France (Ed.). West/ Wadsworth, Minneapolis, MN. ISBN 0-314-07337-X.

**Focus Paper:** During the course of the semester, you will be required to show steady progress on the composition of a Focus Paper (6 to 9 pages). Pick a topic that is appropriate to this course, and propose a short survey of the topic. As soon as you have an idea, talk with (or email) me about the idea. It is not essential that your topic be something directly from the syllabus. Use your imagination and follow your interests but stay within the scope of the course. The purpose of the paper assignment is for you to go a bit beyond the scope of the course materials in educating yourself about a topic that interests you.

| Milestone | Due | Grade Value | % of Paper Total |
|---|---|---|---|
| Propose topic mission statement | 10-5 | 6 points | 10 |
| Preliminary bibliography & outline | 11-16 | 12 points | 20 |
| Final paper due | 12-12 | 42 | 70 |

**Work turned in late will not receive full credit.** The mission statement should comprise a paragraph or two up to a page maximum. Describe the topic and why it is important or of interest. What are the scientific problems/questions that could provide a theme(s) through the entire paper? Speculate about possible main points or conclusions. What I want to see with your bibliography is that you have scanned *potential* sources, and have made a sensible *selection* of material. With the outline show that you have an idea of the main topics for the paper and its structure. You may decide to take a slight departure from your original course between the mission statement and the outline/bibliography. You will not be penalized for this provided it was a wise and judicious course-change. Papers will be graded on content, style, organization, conciseness, creativity, use of evidence, and hypothetico-deductive cogency. This class takes an empirical approach, and your paper will be expected to do the same. You are encouraged to critique paradigms or ideas presented in class, and you are expected to back up such critiques with logic and evidence. Please, **no papers on Creationism**.

**Paper Assessments**: As with all other assessments in the course, write your name and ID ONLY on the back of the final page to allow for anonymous grading of your paper(s). Points for each paper milestone will be awarded as follows:

| | |
|---|---|
| Clarity of writing (grammar, syntax, spelling, etc.) | 20% |
| Effective use of salient evidence | 25% |
| Logic and analytical synthesis | 35% |
| Organization and thematic flow of paper | 10% |
| Creativity and insight | 10% |

DISTINCT ELEMENTS OF SCIENTIFIC WRITING

1. The ability to pose worthwhile questions.
2. The ability to evaluate the adequacy of an argument.
3. The ability to distinguish among fact, inference, and opinion, and to use each appropriately.
4. The ability to understand how truth is established in a discipline.
5. The ability to deal with quandaries and problems that have no pat or unique solutions.
6. The ability to give and receive criticism profitably.
7. The ability to extend a line of thought beyond the range of first impressions.
8. The ability to agree or disagree by measure.
9. The ability to articulate a complex position in a way that adds nothing to its complexity.

QUESTIONS TO ASK YOURSELF AS YOU WRITE

1. Does your opening paragraph capture audience attention? Could your paper start with your second paragraph?
2. Does your paper have a thesis, theme,or main point? Are all of your ideas clearly subordinated to the main point of your paper? Could one of your subordinate ideas better serve as the central point?
3. Would the progression of your paper profit from reordering the sequence of your major ideas?
4. Are your major ideas related in ways that you have not shown—by means of comparisons and constrasts of size, number, duration, cause and effect, and so on? Would explicating such relationships strengthen your paper?
5. Identify the patterns of oppostion in your paper. Could you profitably introduce others? Can you sharpen your patterns of opposition and increase the tension in your writing? Do you resolve your oppositions in surprising or interesting ways? Are any of your sentences awkward or ambiguous?
6. Are all your major ideas demonstrated with concrete examples? Could you use more interesting or humorous examples?
7. Are all your assertions or arguments supported with convincing evidence? Do you need additional sources?
8. Is each and every sentence/paragraph in your paper essential and non-redundant? CUT OUT FLUFF!!
9. Does your final paragraph serve to conclude the paper as a whole, or merely the preceding point? Could you simply delete it? Could you rewrite it in a more interesting way?

**Course Calendar: WEEKS 1 & 2: Science, Anthropology, and Evolutionary Principles**

8-31 Introductions. Precis of course. How is Biological Anthropology part of a holistic discipline?
***IP*** *Ch1 INTRODUCTION (pp. 2-20)*

9-5 Scientific and evolutionary principles. Levels of explanation.
***IP*** *Ch2 THE DEVELOPMENT OF EVOLUTIONARY THEORY (pp. 21-40)*
***BB*** *Ch1 Basic Concepts of Evolutionary Biology (pp. 3-6)*

9-6 **LAB 1** Human genetics
***LM*** *Ch1 Human Genetics (pp. 1-40)*

9-7 Biological fundamentals.
***IP*** *Ch3 THE BIOLOGICAL BASIS OF LIFE (pp. 41-68)*
***BB*** *Ch2 The Evolution of Living Systems (pp. 7-11)*

**WEEKS 3 & 4: The Eternal Thread and Epigenesis**

9-12 The eternal thread, and descent with modification.
***IP*** *Ch4 HEREDITY AND EVOLUTION (pp. pp. 69-102)*
***BB*** *Ch3 Mitosis, Meiosis, and the Origins of Genetic Variability (pp. )*

9-13 No lab. International FBDO.

9-14 Population genetics, microevolution, human biocultural evolution.
***IP*** *Ch5 MICROEVOLUTION IN MODERN HUMAN POPULATIONS (pp.103-128)*
***BB*** *Ch6 Socioecology (pp. 43-44)*
***BB*** *Ch10 Ghetto Legacy (pp. 59-62)*
**FILM:** *The Geometry of Life*

9-19 Ancient commonalities, modern human diversity.
***IP*** *Ch6 APPROACHES TO HUMAN VARIATION AND ADAPTATION (pp. 129-154)*
***BB*** *Ch26 Human Races: A Genetic and Evolutionary Perspective (pp. 180-192)*
***BB*** *Ch27 Three is Not Enough (pp. 193-196)*
***BB*** *Ch28 Why Psychologists Should Learn Some Anthropology (pp. 197-198)*

9-20 **LAB 2** Anthropometry and taxonomy
***LM*** *Ch3 (pp. 63-88)*
***LM*** *Ch5 (pp. 125-134)*

9-21 Epigenesis.
***IP*** *Ch7 GROWTH AND DEVELOPMENT (pp. 155-183)*
***BB*** *Ch4 Understanding the Genetic Construction of Behavior (pp. 19-25)*

**WEEKS 5 & 6: Macroevolution, Ontogeny and Phylogeny of the Primates**

9-26 The natural history of the primates.
***IP*** *Ch8 MACROEVOLUTION: OVERVIEW AND PRINCIPLES (pp. 185-203)*
***BB*** *Ch5 The Taxonomy and Evolution of Primates (pp. 26-42)*

9-27 **LAB 3** Comparative primate anatomy and behavioral ecology.
***LM*** *Ch6, 7 & 8 (pp. 135-170)*
**FILM**: *Five Species* and/or *Life in the Trees*

9-28 Comparative ontogeny and phylogeny of the extant primates
***IP*** *Ch9 AN OVERVIEW OF THE LIVING PRIMATES (pp. 205-238)*
***BB*** *Ch22 Species-Specific Dietary Patterns in Primates and Human Dietary Adaptations (pp. 143-157)*
***BB*** *Ch18 Ape Cultures and Missing Links (pp. 107-113)*

## WEEK 7: Ontogeny and Phylogeny of the Primates (continued)

10-3 FIELD TRIP TO ATLANTA ZOO

10-4 **LAB 4** Human Skeletal Anatomy I (axial truncal)
***LM*** *Ch2 Human Osteology (pp.41-62 )*

10-5 Comparative primate behavior
**FOCUS PAPER MISSION STATEMENTS DUE**
***IP*** *Ch10 FUNDAMENTALS OF PRIMATE BEHAVIOR (pp. 239-263)*
***BB*** *Ch25 Deception in Primates (pp. 172-177)*
***BB*** *Ch19 Bonobo Sex and Society (pp. 114-120)*

10-10 Review and/or catchup
**FILM:** *The Other Chimpanzee and/or Can Chimps Talk*

10-11 **LAB 5** Human Skeletal Anatomy II (appendicular)
***LM*** *Ch2 Human Osteology (pp.41-62)*

10-12 Exam 1 (in our regular classroom)

## WEEKS 8 & 9: Windows to the Past: Primate Evolutionary Ecology

10-18 LABORATORY PRACTICUM 1 (41 pts.)

10-19 Behavioral ecology. The evolution of social systems
***IP*** *Ch11 PRIMATE MODELS FOR HUMAN EVOLUTION (pp. 265-291)*
***BB*** *Ch11 The Evolution of Hunting (pp. 65-72)*

10-24 Evolution of the pre-Hominid primates.
***IP*** *Ch12 PRIMATE EVOLUTION (pp. 293-324)*
***BB*** *Ch21 Reconstructions of Early Hominid Socioecology: A Critique of the Primate Models (pp. 130-142)*

10-25 **LAB 6** Human skeletal variation and forensic anthropology
***LM*** *Ch4 (pp. 89-122)*

10-26 Evolution of the Hominids; early work.
***IP*** *Ch13 PALEOANTHROPOLOGY (pp. 325-351)*
***BB*** *Ch17 Flesh and Bone (pp. 102-106)*
**FILM:** *The Story of Lucy*

## WEEK 10: Windows to the Past: The Hominid Fossil Record

10-31 Evolution of the Hominids; more recent work and interpretation.
***IP*** *Ch14 PLIO-PLEISTOCENE HOMINIDS (pp. 353-390)*
***IP*** *Ch15 PLIO-PLEISTOCENE HOMINIDS (pp. 391-406)*

11-1 **LAB 7** Primate evolution through the Miocene
***LM*** *Ch9 & 10 (pp.171-192)*

11-2 The Spark of Humanity.
***IP*** *Ch16 HOMO ERECTUS (pp. 407-433)*
***BB*** *Ch7 The Major Features of Human Evolution (pp. 45-54)*

## WEEK 11: Windows to the Past: The Hominid Fossil Record (continued)

11-7 Archaic *Homo sapiens*
***IP*** *Ch17 NEANDERTHALS AND OTHER ARCHAIC HOMO SAPIENS (pp. 435-466)*
***BB*** *Ch23 Ancient Odysseys (pp. 158-)*
**FILM:** *Language and the Mind*

11-8 **LAB 8** Early Hominids
***LM*** *Ch11 (pp. 193-200)*

11-9 The evolution of anatomically modern humans.
***IP*** *Ch18 HOMO SAPIENS SAPIENS (pp.467-493)*
***BB*** *Ch24 Time, Temporal Envelopes and the Middle and Upper Paleolithic Transition (pp. 161-171)*

## WEEKS 12 & 13: The Sociobiology Controversy

11-14 Sociobiology; the promise of an integrative approach to epigenetic understanding.
***BB*** *Ch13 Sociobiology: A New Approach to Understanding the Basis of Human Nature (pp. 74-76)*
***BB*** *Ch14 The New Synthesis is an Old Story (pp. 77-80)*
***BB*** *Ch15 Sociobiology: The Art of Storytelling (pp. 81-85)*
***BB*** *Ch16 Why Did Lucy Walk Erect? (pp. 86-101)*

11-15 **LAB 9** The genus *Homo*
***LM*** *Ch12 (pp. 201-212)*

11-16 The pernicious spectre of sociobiology misunderstood and misapplied.
***BB*** *Ch12 Gingrich: Men Love the Muck (pp. 73)*
***BB*** *Ch29 Toward a Theory of Human Multiple Birthing: Sociobiology and r/K Reproductive Strategies (pp. 199-203)*
***BB*** *Ch30 Differential K Theory and Racial Hierarchies (pp. 204-214)*
***BB*** *Ch31 Race, Genes and IQ—An Apologia (pp. 215-226)*
***BB*** *Ch32 The Poor Person's Guide to the Bell Curve (pp. 227-228)*
***BB*** *Ch33 Critique of the Bell Curve (pp. 229-233)*
**FOCUS PAPER BIBLIOGRAPHY AND OUTLINE DUE**

11-21 What has sexual selection wrought in humans?
***BB*** *Ch40 Male and Female (pp. 257-265)*
***BB*** *Ch41 Our Cheating Hearts (pp. 266-272)*
***BB*** *Ch42 The Curious Courtship of Sociobiology and Feminism: A Case of Irreconcilable Differences (pp. 273-285)*

11-22 No lab. Thanksgiving Break.

## WEEKS 14, 15 & 16: Human Biology and Human Adaptation

11-28 Socioecology and psychoneuroendocrinology.
***BB*** *Ch50 Gray Matters (pp. 333-338)*
***BB*** *Ch51 The Trouble with Testosterone (pp. 339-342)*
***BB*** *Ch52 Social Status Sculpts Activity of Crayfish Neurons (pp. 343-344)*
***BB*** *Ch53 Life at the Top: Animals Pay the High Price for Dominance (pp. 345-346)*
***BB*** *Ch54 How the Brain Uses a Simple Dopamine System (pp. 347-349)*

11-29 **LAB 10** Stone tool assemblages, and flint-knapping.

11-30 Socioendocrinology of human violence.
***BB*** *Ch20 The Myth of Man the Hunter/Man the Killer and the Evolution of Human Morality (pp. 121-129)*
***BB*** *Ch43 The Biology of Violence (pp. 286-293)*
***BB*** *Ch44 Modern Biological Determinism: The Violence Initiative, the Human Genome Project, and the New Eugenics (pp. 294-304)*
***BB*** *Ch45 Scapegoat Biology (pp. 305-308)*
***BB*** *Ch46 Genetic Ties May Be Factor in Violence in Stepfamilies (pp. 309-310)*

12-5 The biology of human sociality; Mother-infant bonding, and the ecology of human parental care.
***BB*** *Ch47 Infant Killing as Evolutionary Strategy: Reality or Myth (pp. 311-314)*
***BB*** *Ch48 Infanticide: Let's Not Throw out the Baby with the Bath Water (pp. 315-319)*
***BB*** *Ch55 Illuminating How Babies Are Built for Sociability (pp. 350-352)*

12-6 LABORATORY PRACTICUM 2 (41 pts)

12-7 The ontogeny of complexity. The nature-nurture debate won't die . . .
***BB*** *Ch49 How the Human Got Its Spots (pp. 320-332)*
***BB*** *Ch39 The Nature of Human Universals (pp. 246-256)*
***BB*** *Ch56 Hormones, Genes, and Behavior (pp. 353-356)*

12-12 Integration and synthesis.
***BB*** *Ch57 Think Again (pp. 357-359)*
***BB*** *Ch58 Our Genes, Ourselves? (pp. 360-370)*
***BB*** *Ch59 A Gene for Nothing (pp. 371-375)*
**FOCUS PAPER FINAL DUE**

EXAM 2 (non-cumulative; same format as Exam 1; in our regular classroom)

*"It seemed worth while to try how far the principle of evolution would throw light on some of the more complex problems in the natural history of man. False facts are highly injurious to the progress of science, for they often endure long; but false views, if supported by some evidence, do little harm, for every one takes a salutary pleasure in proving their falseness and when this is done, one path towards error is closed and the road to truth is often at the same time opened."*
*Charles Darwin "The Descent of Man" (1871).*