

# General Education Review Request

## AREA III - NATURAL SCIENCES

Course Number & Title: ANTH1 : Physical Anthropology and Anth1L: Physical Anthropology Laboratory

### Breadth Criteria:

At Foothill College, the primary objective of the general education requirements is to provide students with the depth and breadth of knowledge and understanding required to be independent, thinking persons who are able to interact successfully with others as educated and productive members of our diverse society. Design and implementation of the general education curriculum ensures that students have exposure to all major disciplines, understand relationships among the various disciplines, and appreciate and evaluate the collective knowledge and experiences that form our cultural and physical heritage. General education courses provide content that is broad in scope and at an introductory depth, and all require critical thinking.

A general education enables students to clarify and present their personal views as well as respect, evaluate, and be informed by the views of others. This academic program is designed to facilitate a process that enables students to reach their fullest potential as individuals, national and global citizens, and lifelong learners for the 21st century.

In order to be successful, students are expected to have achieved minimum proficiency in math (MATH 105) and English (ENGL 1A, 1AH or ESL 26) before enrolling in a GE course.

A completed pattern of general education courses provides students with opportunities to acquire, practice, apply, and become proficient in each of the core competencies listed below.

- B1. Communication (analytical reading, writing, speaking, and listening skills including evaluation, synthesis, and research).
- B2. Computation (application of mathematical concepts, and/or using principles of data collection and analysis to solve problems).
- B3. Creative, critical, and analytical thinking (reasoning, questioning, problem solving, and consideration of consequence).
- B4. Community and global consciousness and responsibility (consideration of one's role in society at the local, regional, national, and global level in the context of cultural constructs and historical and contemporary events and issues).
- B5. Information competency (ability to identify an information need, to find, evaluate and use information to meet that need in a legal and ethical way) and digital literacy (to teach and assess basic computer concepts and skills so that people can use computer technology in everyday life to develop new social and economic opportunities for themselves, their families, and their communities).

### Depth Criteria for Area III - Natural Sciences:

Natural science courses deal with the physical universe, the testable principles that govern its operations, its life forms, and its natural, measurable phenomena. One primary purpose of these courses is to promote an awareness of the methods of scientific inquiry and the power of scientific inquiry to describe the natural world. Emphasis is on understanding and applying the scientific method, which promotes a sense of discovery, fosters critical analysis, and encourages an understanding of the relationships between science and other human activities. A General Education natural science course should exhibit the same methods and skills used by scientists when seeking an understanding of the uncertainty and complexity of the natural world.

A successful General Education Natural Science course **must** promote in students:

- N1. An understanding of the scientific method, including its attributes and limitations;
- N2. The ability to make judgments regarding the validity of scientific evidence;
- N3. An understanding of the relationship between hypothesis, experiment, fact, theory and law;
- N4. The ability to use inductive and deductive reasoning;
- N5. The practice of thinking critically, including evaluating ideas and contrasting opinions;
- N6. The ability to evaluate, use and communicate scientific data;
- N7. An introduction to current scientific theories within the field of study;
- N8. Experience with laboratory activities using laboratory techniques consistent with those employed within the discipline;
- N9. Experience applying recognized scientific methodology in laboratory activities.\*

Additional criterion thought to enhance a natural science course include any of the following:

- N10. An appreciation of the contributions of science to modern life;
- N11. An appreciation of the contributions to science of diverse people and cultures;
- N12. An understanding of the interdependence of humans and their environment;
- N13. A recognition of how human behavior has altered the environment;
- N14. A sense of the history of science and the ideas and experiments that have led to our present understanding.

Be advised that the following criteria for a GE lab is consistent with a definition provided by the National Research Council, 2005:

*"Laboratory experiences provide opportunities for students to interact directly with the material world (or with data drawn from the material world), using the tools, data collection techniques, models, and theories of science. This definition includes student interaction with astronomical databases, genome databases, databases of climatic events over long*

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*time periods, and other large data sets derived directly from the material world. It does not include student manipulation or analysis of data created by a teacher to simulate direct interaction with the material world. For example, if a physics teacher presented students with a constructed data set on the weight and required pulling force for boxes pulled across desks with different surfaces and asked them to analyze these data, the students' problem-solving activity would not constitute a laboratory experience in the committee's definition."*

- \* To accomplish these goals a laboratory course **must** emphasize the methods of scientific inquiry by engaging students in:

- NL15. Observation and collection of data through direct interaction with the material world;
- NL16. Use of tools, data collection techniques, models and theories of science most prevalent in relevant research laboratories;
- NL17. Data may be from large data sets derived directly from the material world, but may not rely exclusively on student manipulation or analysis of data created by a teacher to simulate direct interaction with the material world;

- NL18. Analysis and interpretation of data;
- NL19. Formulation and testing of hypotheses;
- NL20. Communicating effectively through oral and/or written work;
- NL21. A minimum of one collaborative activity;
- NL22. A minimum of one laboratory unit or the equivalent of 33 hours of laboratory instruction per quarter.

Additional criterion thought to enhance a natural science laboratory include any of the following:

- NL23. Keep accurate and complete experimental records;
- NL24. Perform quantitative and qualitative measurements;
- NL25. Interpret experimental results and draw reasonable conclusions;
- NL26. Analyze data statistically and assess the reliability of results;
- NL27. Critically evaluate the design of an experiment;
- NL28. Design experiments to test hypotheses;
- NL29. Work effectively in small groups and teams.

#### Course Number & Title: ANTH1: Physical Anthropology

Please map each appropriate **Course Outcome/Objective** from the **Course Outline of Record** to the appropriate depth and breadth criteria.

#### Depth Map: Must include the following:

**N1.** An understanding of the scientific method, including its attributes and limitations;

##### Matching course objective(s):

**Outcome 2A:** Explain biological evolution by discussing the field of anthropology, the scientific method, and the history behind evolutionary theory.

4.A.4 Scientific method and its application to physical anthropology.

**N2.** The ability to make judgments regarding the validity of scientific evidence;

##### Matching course objective(s):

**Outcome 2D:** Assess current models for human origins by defining ancestral hominids and explaining important elements of paleoanthropology, including dating methods, experimental archaeology, specific fossil evidence, and general patterns of changing morphology and behavior.

**N3.** An understanding of the relationship between hypothesis, experiment, fact, theory and law;

##### Matching course objective(s):

**Outcome 2A:** Explain biological evolution by discussing the field of anthropology, the scientific method, and the history behind evolutionary theory.

4.A.4 Scientific method and its application to physical anthropology.

4.A.5 Historical advances in the natural sciences, resulting in part from the age of discovery and exploration.

- a. Advances in Geology (Lyell)
- b. Advances in Biological Classification (Linnaeus)

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- c. Advances in Population studies (Malthus)
- d. European ethnocentric and racist world views, particularly the notions of fixity of species and a general sense of stasis.

**N4.** The ability to use inductive and deductive reasoning;

**Matching course objective(s):**

**Outcome 2A:** Explain biological evolution by discussing the field of anthropology, the scientific method, and the history behind evolutionary theory.

**N5.** The practice of thinking critically, including evaluating ideas and contrasting opinions;

**Matching course objective(s): Outcome 2D:** Assess current models for human origins by defining ancestral hominids and explaining important elements of paleoanthropology, including dating methods, experimental archaeology, specific fossil evidence, and general patterns of changing morphology and behavior.

**N6.** The ability to evaluate, use and communicate scientific data;

**Matching course objective(s):**

Throughout the quarter students are given the ability to evaluate scientific data.

**4.B.3.D Basic Principles of Mendelian Inheritance**

Word problems using population counts and concepts of cross-breeding, including Blood Types.

**4.B.2.A&B&C**

Theory of natural selection Variation in species and how natural selection acts on this variation through differential reproductive success to alter species.

- a. Galapagos finches and recent studies by Rosemary and Peter Grant.
- b. Shortcomings of Darwin's explanation of evolution in reference to 19th century genetics and theories of inheritance (blending).

**4.C.5** Primate field studies, student conducts a field study comparing primates found at the zoo.

**N7.** An introduction to current scientific theories within the field of study;

**Matching course objective(s): Outcome 2D:** Assess current models for human origins by defining ancestral hominids and explaining important elements of paleoanthropology, including dating methods, experimental archaeology, specific fossil evidence, and general patterns of changing morphology and behavior.

**4.B.13** Contrast Darwinian gradualism with punctuated equilibrium (S.J. Gould).

**N8.** Experience with laboratory activities using laboratory techniques consistent with those employed within the discipline;

**Matching course objective(s):**

**From Anth1L 4.B.1-5**

**B** Students conducting laboratory research will gain proficiency in the following areas.

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1. instrumentation such as microscopes and centrifuges.
2. the appropriate handling of human remains.
3. crime scene investigation techniques.
4. data gathering and analysis using current statistical and mapping programs.
5. graphing and interpretation of data using scientific methodology.

**N9.** Experience applying recognized scientific methodology in laboratory activities.

**Matching course objective(s):**  
from ANTH1L sections 10.1-3

**10. Lab Content**

1. Scientific Method Exercises
  - a. Field Study using Method
  - b. Microscope training
2. Darwin's Natural Selection
  - . Examples from nature
    - a. Cellular transformation
3. Genetics
  - . Field study of phenotypic traits

**Depth Map: Additionally, include any of the following:**

**N10.** An appreciation of the contributions of science to modern life;

**Matching course objective(s):**

**Outcome 2E:** Link behavior and biology today by discussing human variation, modern race concepts, basic population genetics, examples of biocultural evolution, and potential future evolutionary trends.

**N11.** An appreciation of the contributions to science of diverse people and cultures;

**Matching course objective(s):**

**N12.** An understanding of the interdependence of humans and their environment;

**Matching course objective(s):**

**Outcome 2E:** Link behavior and biology today by discussing human variation, modern race concepts, basic population genetics, examples of biocultural evolution, and potential future evolutionary trends.

**N13.** A recognition of how human behavior has altered the environment;

**Matching course objective(s):**

**Outcome 2E:** Link behavior and biology today by discussing human variation, modern race concepts, basic population genetics, examples of biocultural evolution, and potential future evolutionary trends.

**N14.** A sense of the history of science and the ideas and experiments that have led to our present understanding.

**Matching course objective(s):**

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### Depth Map: Additionally, must emphasize the following:

N15. Observation and collection of data through direct interaction with the material world;

Matching course objective(s): SEE ANTH1L

**Outcome 2C:** Explain the field of primatology by identifying various non-human primates and describing their physical and behavioral characteristics, including a focus on behavioral ecology and social structures.

#### 6.C Written Project

1. Short anthropology field project involving the comparative study of primate physiology and behavior at the zoo.
2. See paper assignment here:

### ***Primate Observation***

One of the ways that Physical Anthropologists approach the understanding of ancient and modern human social and cultural behavior is through the study of our closest living relatives: the Primates. In this assignment, you will become a Primatologist. Your assignment is to observe at least two different Primate species at a zoo and compare their behaviors to each other *and then discuss how this might help us to understand human behavior*. **\*If you cannot go to a zoo to observe the Primates, you may choose to do an alternative written research paper, upon approval by the instructor.**

You will be required to observe two *different* primate species for a two-hour period (you will record each primate for one hour). You may perform your observations at any zoo you would like – the closest zoos are the San Francisco Zoo and the Oakland Zoo, however you may be able to visit Happy Hollow in San Jose (information on each of these zoos is located on the back of this sheet). Choose any two primate species: the S.F. and Oakland Zoos have the widest array of primates, including chimpanzees and Gorillas. I would recommend choosing two very different species for your observations. **I also strongly recommend contacting the zoo ahead of time and finding out when they feed the primates and/or when the primates tend to be most active –this will decrease your chances of sitting in front of a primate enclosure watching your subjects sleep for an hour!**

#### **Part I: The Observation & Field notes (20 points)**

Visit a zoo and *systematically* record and describe the behavior of two different primate species. You should keep detailed fieldnotes for this part of the assignment. Observe each primate species for *at least* one hour and describe what the animals do along with the exact time each behavior occurs. If there is more than one individual in the enclosure, you should choose one animal and specifically track that individual's behavior. Make a note of all behaviors you observe, including the individual's range of movement within the enclosure, the nature of any interactions with other individuals, reactions to any external stimuli like loud noises or the antics of other zoo visitors, food procurement behavior, etc. In particular, you should watch for actions related to the following categories of behavior:

1. food acquisition and sharing practices
2. mating strategies (i.e. monogamy, polygamy, etc.)
3. social organization (i.e. large vs. small groups)
4. intelligence

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You will receive 10 points for each primate observed. *You will be required to turn in your field notes with your final paper, so be sure to take careful notes during your observations and keep them afterwards!!!* Be creative with your observations – if you want to take pictures or draw maps, diagrams, etc., these may also be handed in with your final paper.

#### Part II: The Report (70 points)

After making your observations at the zoo, read back through your notes: do any behavioral patterns emerge? Did some behaviors occur over and over? What behaviors seem to be most common and what sort of functions are they associated with (i.e. food acquisition, competition for mates, alliance building, etc.)?

#### **Section 1: Introduction (10 points)**

For Section 1 of the body of your paper, Describe very clearly what this paper will be doing, state the nature of your research question or hypothesis, and finally, state what the research results were.

#### **Section 2: Primate Descriptions (5 points)**

Write up brief descriptions of the primates you observed at the zoo, based on your fieldnotes. Be sure to describe any interesting behaviors observed and your general impressions of the primates. This section should also include the specific location of your primate observations (Zoo name and location), the date and time of your observations, the common name of the Primates you observed (i.e. chimpanzee, lemur, etc.), and the scientific name of the species (Genus & species name). Use **your own** observations to describe the primates. **DO NOT USE ONLINE SOURCE DESCRIPTIONS HERE.**

#### **Section 3: Primate Comparison (20 points)**

Compare and contrast the behaviors of the two primates you observed. How do the behaviors of the primates differ from one another? How are they similar? In terms of evolution and natural selection, **why might these differences and similarities exist?** For each behavior or physical trait – you **MUST** interpret **WHY** they are the same or different. In particular, try to address the four categories of behavior outlined above in Part I (food acquisition and sharing, mating strategies, social organization, intelligence). Try to determine if they share or don't share **ANCESTRAL TRAITS** and if they do or don't **WHY**.

#### **Section 4: The Effects of Captivity (10 points)**

For Section 3 of the body of your paper, reflect on the effects that being in captivity and on display in a zoo might have on the behaviors of the primates you observed. How "natural" do you think the behaviors you observed are? Would the primates act differently if observed in the wild? If so, can you explain why?

#### **Section 5: Insights into Human Behavior (20 points)**

Finally, for Section 4 of the body of your paper, consider what kind of insights the primate

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behaviors you observed might give us into human behavior, either ancient or modern. Can you identify similar patterns of behavior in humans? If so, do you think that these patterns may come about for similar reasons as in the Primates, or for different reasons? What, ultimately, can studying Primates really tell us about humans, based especially on your work as a Primatologist? Again the main idea here is to determine whether you see any ANCESTRAL TRAITS, which are physical or behavioral.

#### **Section 6: Conclusion (5 points)**

To conclude you must consider the phylogenic relationship of the species and explain WHY in terms of your DATA they seem to be similar or different from each other and from *Homo sapiens*. Be thinking the whole time about TRAITS and DATA. Could each species share traits with humans and not with each other???? WHY – remember to use your own data and NOT some BOOK DATA – if you see them sleeping then say they sleep all the time then explain why you think they are doing so. Don't talk about the wild because they aren't in the wild. Lastly, avoid being WISHY WASHY, no professor wants to read how you were 'transformed by this experience' or that it was 'really interesting'. These statements do not make it a science paper.

#### Paper Format and Structure (10 points)

Your fieldnotes from the zoo should be handed in *as-is*. You do not need to re-type them or tidy them up. I am interested in seeing the different methodologies that each of you develop to deal with this assignment. These notes should be attached to your final paper as appendices (at the end). *Your final paper should be written in formal academic style, with a clear **introduction** stating the thesis and purpose of the paper, a **body** broken down into the four sections outlined above in Part II, and a strong **conclusion** summarizing your thesis and the results of your observations. If you have not written a formal paper before or have questions about formatting, grammar, etc., I encourage you to submit a rough draft of your paper to me at least one week in advance of the due date so that I can review it and return it to you with comments and suggestions. YOU WILL BE GRADED ON YOUR SPELLING, GRAMMAR AND PAPER ORGANIZATION. PAPERS SUBMITTED WITHOUT AN INTRODUCTION OR CONCLUSION WILL AUTOMATICALLY LOSE 10 POINTS. LATE PAPERS WILL BE DEDUCTED 10 POINTS PER WEEK LATE.*

**\*\*To receive full credit for this project, you must include a ticket stub from the zoo you visited and the original copies of your fieldnotes\*\*** This assignment is worth 100 points towards your final class grade.

3.

**N16.** Use of tools, data collection techniques, models and theories of science most prevalent in relevant research laboratories;

**Matching course objective(s):**

From Anth 1: 6.C Written Project

4. Short anthropology field project involving the comparative study of primate physiology and

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behavior at the zoo.

**From Anth1L:**

**Outcomes 2C and 2D**

- assemble or organize specimens and/or models used in physical anthropology (skeletal, dental, genetic, geological).
- employ basic forensic field methods for analyzing and interpreting human remains.

**Lab Content**

- Scientific Method Exercises

- a. Field Study using Method
- b. Microscope training

**4B** • Students conducting laboratory research will gain proficiency in the following areas.

1. instrumentation such as microscopes and centrifuges.
2. the appropriate handling of human remains.
3. crime scene investigation techniques.
4. data gathering and analysis using current statistical and mapping programs.
5. graphing and interpretation of data using scientific methodology.

**N17.** Data may be from large data sets derived directly from the material world, but may not rely exclusively on student manipulation or analysis of data created by a teacher to simulate direct interaction with the material world;

**Matching course objective(s):**

**Anth1L**

**4B** • Students conducting laboratory research will gain proficiency in the following areas.

1. instrumentation such as microscopes and centrifuges.
2. the appropriate handling of human remains.
3. crime scene investigation techniques.
4. data gathering and analysis using current statistical and mapping programs.
5. graphing and interpretation of data using scientific methodology.

**N18.** Analysis and interpretation of data;

**Matching course objective(s):**

**From Anth1L 2D:** employ basic forensic field methods for analyzing and interpreting human remains.

**N19.** Formulation and testing of hypotheses;

**Matching course objective(s):**

**From Anth1L 2F:** evaluate and debate social, cultural, environmental, or other influences on hominid adaptation and survival over time.



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N20. Communicating effectively through oral and/or written work;

Matching course objective(s):

Anth1 and 1L: Skill demonstrations or problem solving

1. Class performances
2. Field work: See paper assignment here:

#### ***Primate Observation***

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You will be required to observe two *different* primate species for a two-hour period (you will record each primate for one hour). You may perform your observations at any zoo you would like – the closest zoos are the San Francisco Zoo and the Oakland Zoo, however you may be able to visit Happy Hollow in San Jose (information on each of these zoos is located on the back of this sheet). Choose any two primate species: the S.F. and Oakland Zoos have the widest array of primates, including chimpanzees and Gorillas. I would recommend choosing two very different species for your observations. **I also strongly recommend contacting the zoo ahead of time and finding out when they feed the primates and/or when the primates tend to be most active –this will decrease your chances of sitting in front of a primate enclosure watching your subjects sleep for an hour!**

#### **Part I: The Observation & Field notes (20 points)**

Visit a zoo and *systematically* record and describe the behavior of two different primate species. You should keep detailed fieldnotes for this part of the assignment. Observe each primate species for *at least* one hour and describe what the animals do along with the exact time each behavior occurs. If there is more than one individual in the enclosure, you should choose one animal and specifically track that individual's behavior. Make a note of all behaviors you observe, including the individual's range of movement within the enclosure, the nature of any interactions with other individuals, reactions to any external stimuli like loud noises or the antics of other zoo visitors, food procurement behavior, etc. In particular, you should watch for actions related to the following categories of behavior:

5. food acquisition and sharing practices
6. mating strategies (i.e. monogamy, polygamy, etc.)
7. social organization (i.e. large vs. small groups)
8. intelligence

You will receive 10 points for each primate observed. *You will be required to turn in your field notes with your final paper, so be sure to take careful notes during your observations and keep them afterwards!!!* Be creative with your observations – if you want to take pictures or draw maps, diagrams, etc., these may also be handed in with your final paper.

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### Part II: The Report (70 points)

After making your observations at the zoo, read back through your notes: do any behavioral patterns emerge? Did some behaviors occur over and over? What behaviors seem to be most common and what sort of functions are they associated with (i.e. food acquisition, competition for mates, alliance building, etc.)?

#### **Section 1: Introduction (10 points)**

For Section 1 of the body of your paper, Describe very clearly what this paper will be doing, state the nature of your research question or hypothesis, and finally, state what the research results were.

#### **Section 2: Primate Descriptions (5 points)**

Write up brief descriptions of the primates you observed at the zoo, based on your fieldnotes. Be sure to describe any interesting behaviors observed and your general impressions of the primates. This section should also include the specific location of your primate observations (Zoo name and location), the date and time of your observations, the common name of the Primates you observed (i.e. chimpanzee, lemur, etc.), and the scientific name of the species (Genus & species name). Use your own observations to describe the primates. DO NOT USE ONLINE SOURCE DESCRIPTIONS HERE.

#### **Section 3: Primate Comparison (20 points)**

Compare and contrast the behaviors of the two primates you observed. How do the behaviors of the primates differ from one another? How are they similar? In terms of evolution and natural selection, why might these differences and similarities exist? For each behavior or physical trait – you MUST interpret WHY they are the same or different. In particular, try to address the four categories of behavior outlined above in Part I (food acquisition and sharing, mating strategies, social organization, intelligence). Try to determine if they share or don't share ANCESTRAL TRAITS and if they do or don't WHY.

#### **Section 4: The Effects of Captivity (10 points)**

For Section 3 of the body of your paper, reflect on the effects that being in captivity and on display in a zoo might have on the behaviors of the primates you observed. How "natural" do you think the behaviors you observed are? Would the primates act differently if observed in the wild? If so, can you explain why?

#### **Section 5: Insights into Human Behavior (20 points)**

Finally, for Section 4 of the body of your paper, consider what kind of insights the primate behaviors you observed might give us into human behavior, either ancient or modern. Can you identify similar patterns of behavior in humans? If so, do you think that these patterns may come about for similar reasons as in the Primates, or for different reasons? What, ultimately, can studying Primates really tell us about humans, based especially on your work as a Primatologist? Again the main idea here is to determine whether you see any ANCESTRAL TRAITS, which are

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To conclude you must consider the phylogenic relationship of the species and explain WHY in terms of your DATA they seem to be similar or different from each other and from *Homo sapiens*. Be thinking the whole time about TRAITS and DATA. Could each species share traits with humans and not with each other???? WHY – remember to use your own data and NOT some BOOK DATA – if you see them sleeping then say they sleep all the time then explain why you think they are doing so. Don't talk about the wild because they aren't in the wild. Lastly, avoid being WISHY WASHY, no professor wants to read how you were 'transformed by this experience' or that it was 'really interesting'. These statements do not make it a science paper.

Paper Format and Structure (10 points)

Your fieldnotes from the zoo should be handed in *as-is*. You do not need to re-type them or tidy them up. I am interested in seeing the different methodologies that each of you develop to deal with this assignment. These notes should be attached to your final paper as appendices (at the end). *Your final paper should be written in formal academic style, with a clear **introduction** stating the thesis and purpose of the paper, a **body** broken down into the four sections outlined above in Part II, and a strong **conclusion** summarizing your thesis and the results of your observations. If you have not written a formal paper before or have questions about formatting, grammar, etc., I encourage you to submit a rough draft of your paper to me at least one week in advance of the due date so that I can review it and return it to you with comments and suggestions. YOU WILL BE GRADED ON YOUR SPELLING, GRAMMAR AND PAPER ORGANIZATION. PAPERS SUBMITTED WITHOUT AN INTRODUCTION OR CONCLUSION WILL AUTOMATICALLY LOSE 10 POINTS. LATE PAPERS WILL BE DEDUCTED 10 POINTS PER WEEK LATE.*

**\*\*To receive full credit for this project, you must include a ticket stub from the zoo you visited and the original copies of your fieldnotes\*\*** This assignment is worth 100 points towards your final class grade.

3.

**N21.** A minimum of one collaborative activity;

**Matching course objective(s):**

**Anth1L 6E: Group project scientific research and presentations**

**N22.** A minimum of one laboratory unit or the equivalent of 33 hours of laboratory instruction per quarter.

**Matching course objective(s):**

**Students are required to attend Anth1L 3hours/week.**

**Depth Map: Additionally, include any of the following:**

**N23.** Keep accurate and complete experimental records;

**Matching course objective(s):**

**Anth1 6C: Short anthropology field project involving the comparative study of primate physiology and behavior at the zoo. See paper assignment here:**

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***Primate Observation***

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10. mating strategies (i.e. monogamy, polygamy, etc.)
11. social organization (i.e. large vs. small groups)
12. intelligence

You will receive 10 points for each primate observed. *You will be required to turn in your field notes with your final paper, so be sure to take careful notes during your observations and keep them afterwards!!!* Be creative with your observations – if you want to take pictures or draw maps, diagrams, etc., these may also be handed in with your final paper.

**Part II: The Report (70 points)**

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### **Section 1: Introduction (10 points)**

For Section 1 of the body of your paper, Describe very clearly what this paper will be doing, state the nature of your research question or hypothesis, and finally, state what the research results were.

### **Section 2: Primate Descriptions (5 points)**

Write up brief descriptions of the primates you observed at the zoo, based on your fieldnotes. Be sure to describe any interesting behaviors observed and your general impressions of the primates. This section should also include the specific location of your primate observations (Zoo name and location), the date and time of your observations, the common name of the Primates you observed (i.e. chimpanzee, lemur, etc.), and the scientific name of the species (Genus & species name). Use **your own** observations to describe the primates. **DO NOT USE ONLINE SOURCE DESCRIPTIONS HERE.**

### **Section 3: Primate Comparison (20 points)**

Compare and contrast the behaviors of the two primates you observed. How do the behaviors of the primates differ from one another? How are they similar? In terms of evolution and natural selection, **why might these differences and similarities exist?** For each behavior or physical trait – you **MUST** interpret **WHY** they are the same or different. In particular, try to address the four categories of behavior outlined above in Part I (food acquisition and sharing, mating strategies, social organization, intelligence). Try to determine if they share or don't share **ANCESTRAL TRAITS** and if they do or don't **WHY**.

### **Section 4: The Effects of Captivity (10 points)**

For Section 3 of the body of your paper, reflect on the effects that being in captivity and on display in a zoo might have on the behaviors of the primates you observed. How "natural" do you think the behaviors you observed are? Would the primates act differently if observed in the wild? If so, can you explain why?

### **Section 5: Insights into Human Behavior (20 points)**

Finally, for Section 4 of the body of your paper, consider what kind of insights the primate behaviors you observed might give us into human behavior, either ancient or modern. Can you identify similar patterns of behavior in humans? If so, do you think that these patterns may come about for similar reasons as in the Primates, or for different reasons? What, ultimately, can studying Primates really tell us about humans, based especially on your work as a Primatologist? Again the main idea here is to determine whether you see any **ANCESTRAL TRAITS**, which are physical or behavioral.

### **Section 6: Conclusion (5 points)**

To conclude you must consider the phylogenic relationship of the species and explain **WHY** in terms of your **DATA** they seem to be similar or different from each other and from *Homo sapiens*. Be thinking the whole time about **TRAITS** and **DATA**. Could each species share traits with humans and not with each other???? **WHY** – remember to use your own data and **NOT**

## General Education Review Request

### AREA III - NATURAL SCIENCES

some BOOK DATA – if you see them sleeping then say they sleep all the time then explain why you think they are doing so. Don't talk about the wild because they aren't in the wild. Lastly, avoid being WISHY WASHY, no professor wants to read how you were 'transformed by this experience' or that it was 'really interesting'. These statements do not make it a science paper.

#### Paper Format and Structure (10 points)

Your fieldnotes from the zoo should be handed in *as-is*. You do not need to re-type them or tidy them up. I am interested in seeing the different methodologies that each of you develop to deal with this assignment. These notes should be attached to your final paper as appendices (at the end). *Your final paper should be written in formal academic style, with a clear **introduction** stating the thesis and purpose of the paper, a **body** broken down into the four sections outlined above in Part II, and a strong **conclusion** summarizing your thesis and the results of your observations. If you have not written a formal paper before or have questions about formatting, grammar, etc., I encourage you to submit a rough draft of your paper to me at least one week in advance of the due date so that I can review it and return it to you with comments and suggestions. YOU WILL BE GRADED ON YOUR SPELLING, GRAMMAR AND PAPER ORGANIZATION. PAPERS SUBMITTED WITHOUT AN INTRODUCTION OR CONCLUSION WILL AUTOMATICALLY LOSE 10 POINTS. LATE PAPERS WILL BE DEDUCTED 10 POINTS PER WEEK LATE.*

**\*\*To receive full credit for this project, you must include a ticket stub from the zoo you visited and the original copies of your fieldnotes\*\*** This assignment is worth 100 points towards your final class grade.

#### N24. Perform quantitative and qualitative measurements;

##### Matching course objective(s):

Anth1 6C: Short anthropology field project involving the comparative study of primate physiology and behavior at the zoo.

Anth1L: 4.B.5 Graphing and interpretation of data using scientific methodology

#### N25. Interpret experimental results and draw reasonable conclusions;

##### Matching course objective(s):

Anth1 6C: Short anthropology field project involving the comparative study of primate physiology and behavior at the zoo.

Anth1L: 4.B.5 Graphing and interpretation of data using scientific methodology

#### N26. Analyze data statistically and assess the reliability of results;

##### Matching course objective(s):

Anth1 6C: Short anthropology field project involving the comparative study of primate physiology and behavior at the zoo.

Anth1L: 4.B.5 Graphing and interpretation of data using scientific methodology

#### N27. Critically evaluate the design of an experiment;

##### Matching course objective(s):

Anth1 6C: Short anthropology field project involving the comparative study of primate physiology and behavior at the zoo.

Anth1L: 4.B.5 Graphing and interpretation of data using scientific methodology

**General Education Review Request**  
**AREA III - NATURAL SCIENCES**

**N28.** Design experiments to test hypotheses;

**Matching course objective(s):**

**Anth1 6C:** Short anthropology field project involving the comparative study of primate physiology and behavior at the zoo.

**Anth1L: 4.B.5** Graphing and interpretation of data using scientific methodology

**N29.** Work effectively in small groups and teams.

**Matching course objective(s):**

**Anth1 6C:** Short anthropology field project involving the comparative study of primate physiology and behavior at the zoo.

**Anth1L: 4.B.5** Graphing and interpretation of data using scientific methodology

**Anth1L 6E:** Group project scientific research and presentations

**Breadth Mapping: please indicate all that apply (if applicable)**

**B1.** Communication (analytical reading, writing, speaking, and listening skills including evaluation, synthesis, and research)

**Matching course objective(s):**

**Anth1 6C:** Short anthropology field project involving the comparative study of primate physiology and behavior at the zoo.

**Anth1L: 4.B.5** Graphing and interpretation of data using scientific methodology

**Anth1L 6E:** Group project scientific research and presentations

**B2.** Computation (application of mathematical concepts, and/or using principles of data collection and analysis to solve problems).

**Matching course objective(s):**

**Anth1L: 4.B.5** Graphing and interpretation of data using scientific methodology

**B3.** Clearly and precisely express their ideas in a logical and organized manner using the discipline-appropriate language

**Matching course objective(s):**

**Anth1 6C:** Short anthropology field project involving the comparative study of primate physiology and behavior at the zoo.

**Anth1L: 4.B.5** Graphing and interpretation of data using scientific methodology

**Anth1L 6E:** Group project scientific research and presentations

**B4.** Community and global consciousness and responsibility (consideration of one's role in society at the local, regional, national, and global level in the context of cultural constructs and historical and contemporary events and issues).

**Matching course objective(s):**

**B5.** Information competency (ability to identify an information need, to find, evaluate and use information to meet that need in a legal and ethical way) and digital literacy (to teach and assess basic computer concepts and skills so that people can use computer technology in everyday life to develop new social and economic opportunities for themselves, their families, and their communities).

**Matching course objective(s):**

**General Education Review Request  
AREA III - NATURAL SCIENCES**

Requesting Faculty: Samuel Connell, Anthropology\_\_\_\_\_ Date: May 3, 2010\_\_\_\_\_

Division Curr Rep: Samuel Connell, Anthropology\_\_\_\_\_ Date: May 3, 2010\_\_\_\_\_

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**REVIEW COMMITTEE USE ONLY:**

Review Committee Members:

Comments:

Approved:\_\_\_\_\_ Denied:\_\_\_\_\_ CCC Co-Chair Signature:\_\_\_\_\_ Date:\_\_\_\_\_



# Foothill College

## Submission Course Outlines

For Faculty and Staff use only

### Business and Social Sciences

**ANTH 1**      **INTRODUCTION TO PHYSICAL ANTHROPOLOGY**      **Summer 2011**  
**Four hours lecture.**      **4 Units**

**Total Contact Hours: 48**      *(Total of All Lecture, Lecture/Lab, Lab, and TBA hours X 12)*

**Lecture Hours: 4**      **Lab Hours:**      **Lecture/Lab:**      **TBA Hours:**      **Homework Hours: 8**

**Note:** If Lab hours are specified, the *item 10. Lab Content* field must be completed.

#### Repeatability -

**Statement:**      Not Repeatable.

#### Status -

**Course Status:** Active      **Grading:** Letter  
**Degree Status:** Applicable      **Credit Status:** Credit  
**Degree or Certificate Requirement:** AA Degree, Foothill GE  
**GE Status:** Natural Sciences (w/laboratory), Social & Behavioral Sciences

#### Articulation Office Information -

**C.I.D. Notation:** CAN ANTH 2

**Transferability:** Both      **Validation:** 07/01/2006; 12/13/10

#### Division Dean Information -

**Seat Count:** 50      **Load Factor:** .1000      **FOAP Code:** 141810

#### Instruction Office Information -

**FSA Code:**

**Distance Learning:** no

**Stand Alone Designation:** no

#### 1. Description -

Survey and investigation of the basic processes of evolution and their application to the development of modern humans. Impact of natural selection and genetics on development of new species. Evolutionary processes behind the physical and behavioral development of primates. History of the human lineage by reconstructing the fossil record, using investigations by paleoanthropologists, geologists, biologists, and archaeologists. Relationship between contemporary biology and behavior, facilitating an understanding of the effect of them upon future humankind.

## **2. Course Objectives -**

The student will be able to:

- A. Explain biological evolution by discussing the field of anthropology, the scientific method, and the history behind evolutionary theory.
- B. Compare Darwinian theory of biological evolution and Mendelian inheritance, including basic genetics, taxonomy, and speciation.
- C. Explain the field of primatology by identifying various non-human primates and describing their physical and behavioral characteristics, including a focus on behavioral ecology and social structures.
- D. Assess current models for human origins by defining ancestral hominids and explaining important elements of paleoanthropology, including dating methods, experimental archaeology, specific fossil evidence, and general patterns of changing morphology and behavior.
- E. Link behavior and biology today by discussing human variation, modern race concepts, basic population genetics, examples of biocultural evolution, and potential future evolutionary trends.

## **3. Special Facilities and/or Equipment -**

When taught as an online distance learning section, students and faculty need ongoing and continuous Internet and Email access.

## **4. Course Content (Body of knowledge) -**

- A. Background to biological evolution.
  - 1. Major subfields of anthropology.
    - a. Biological or Physical Anthropology
    - b. Archaeology
    - c. Cultural Anthropology
    - d. Linguistics
  - 2. Major research areas within physical/biological anthropology.
    - a. Primatology
    - b. Paleoanthropology
    - c. Sociobiology
    - d. Forensics
  - 3. Anthropological perspective.
  - 4. Scientific method and its application to physical anthropology.
  - 5. Historical advances in the natural sciences, resulting in part from the age of discovery and exploration.
    - a. Advances in Geology (Lyell)
    - b. Advances in Biological Classification (Linnaeus)
    - c. Advances in Population studies (Malthus)
    - d. European ethnocentric and racist world views, particularly the notions of fixity of species and a general sense of stasis.
- B. Darwin's theory of biological evolution and Mendelian inheritance, including basic genetics, taxonomy, and speciation.
  - 1. Historical development of the Darwinian theory of natural selection.
    - a. Contributions of 18th and 19th century scientists to evolutionary theory (Lamarck, Wallace, Erasmus Darwin)
    - b. Process by which Darwin used these earlier ideas to formulate his three postulates of natural selection.
  - 2. Theory of natural selection
    - a. Variation in species and how natural selection acts on this variation through differential reproductive success to alter species.
    - b. Galapagos finches and recent studies by Rosemary and Peter Grant.
    - c. Shortcomings of Darwin's explanation of evolution in reference to 19th century genetics and theories of inheritance (blending).
  - 3. Basic principles of Mendelian inheritance.
    - a. Mendel's pea experiments.

- b. Concepts of dominant, recessive, and codominant alleles.
  - c. Principles of segregation and independent assortment.
  - d. Using the Punnett Square.
- 4. Cellular structure and genetic structure of DNA and RNA.
  - a. Basic cell types and organelles including mitochondria and ribosomes.
  - b. Nature of chromosomes and the concept of a gene.
  - c. Compare and contrast mitosis with meiosis.
  - d. Meiosis and the evolutionary process.
  - e. New frontiers of genetic research.
- 5. Mechanisms that produce genetic variation in populations.
  - a. Mutation
  - b. Genetic drift
  - c. Gene flow
- 6. Concepts of population genetics using hemoglobin and malaria examples.
- 7. Concepts of taxonomy
- 8. Homology and analogy.
- 9. Concepts of genus and species
- 10. Speciation, including the roles of geographic isolation and natural selection.
- 11. Geologic time scale
- 12. Major living mammalian groups.
- 13. Contrast gradualism with punctuated equilibrium (S.J. Gould).
- C. The field of primatology.
  - 1. Ancestral mammalian traits and the evolutionary trends that define the order Primates.
  - 2. Primate taxonomic classification, emphasizing the major taxa: suborder, superfamily, family, genus and species.
  - 3. Distinguishing features of prosimians, monkeys, apes, and humans.
  - 4. Describe hominoid morphological traits and social structures.
  - 5. Primate field studies.
  - 6. Primate behavioral ecology
  - 7. Types of primate social interactions including grooming, dominance, and affiliative and aggressive behaviors.
  - 8. Territoriality and resource acquisition.
  - 9. Primate learned social behaviors and reproductive fitness.
  - 10. Reproductive strategies (r-selected versus k-selected).
  - 11. Kin selection and Hamilton's Rule.
  - 12. Sexual selection.
  - 13. Importance of the mother-infant bond in contributing to the normal social and psychological development of primate infants.
  - 14. Primate communication and the evolution of language.
  - 15. Nonhuman species' culture and tool use.
  - 16. Between-group aggression in chimpanzees.
  - 17. Female sexual selection in Baboons.
  - 18. Bonobo sexual relationships.
- D. Human origins and the important elements of paleoanthropology.
  - 1. Define hominid, integrating the concept of biocultural evolution.
  - 2. Paleoanthropology and the reconstruction of human biocultural evolution.
  - 3. Data gathered from Olduvai Gorge and the example of how it is employed by paleoanthropology.
  - 4. Various dating methods.
  - 5. Experimental archaeology to interpret early hunting and tool use.
  - 6. Different hypotheses for hominid origins.
  - 7. Fossil evidence for primate origins.
  - 8. Fossil evidence for anthropoid origins.
  - 9. Fossil evidence for the origins and dispersal of the hominoids.
  - 10. Major skeletal adaptations for full-time bipedalism.
  - 11. Plio-Pleistocene hominids in chronological order.
  - 12. Major early hominid fossil sites in Africa.
  - 13. Classifying hominid species.
  - 14. Dispersal of *H. erectus* out of Africa.

15. Fossil discoveries from Europe.
  16. Early pre-modern Homo sapiens.
  17. Evidence that Neandertals evolved in Europe.
  18. Culture of Neandertals, including technology, settlement patterns, subsistence behaviors, and symbolic behaviors.
  19. List the cultural contrasts between Neandertals and Upper Paleolithic humans.
  20. Anatomically modern Homo sapiens.
  21. Skeletal differences between anatomically modern H. sapiens and pre-modern H. sapiens.
  22. Geographic distribution of H. sapiens and the Out of Africa model.
  23. Climatic, technological, and subsistence changes in the Upper Paleolithic.
- E. Behavior and biology today.
1. Historical views of human variation
  2. Contrast modern race concepts and racist beliefs.
  3. Adaptive aspects of human genotypic and phenotypic variation.
  4. Population genetics and the study of human diversity.
  5. Hardy-Weinberg equilibrium formula.
  6. Examples of human biocultural evolution.
  7. Adaptive advantages of skin color related to levels of UV radiation and the incidence of rickets.
  8. Human responses to heat, cold, and high altitude.
  9. Bergmann's and Allen's rules.
  10. Interactions between natural selection and human infectious diseases.
  11. Nutritional effects on growth and development.
  12. Human senescence.
  13. The future of the Earth and the human species in light of the threat of overpopulation.

#### **5. Repeatability - Moved to header area.**

#### **6. Methods of Evaluation -**

- A. Homework
  1. Short answer and problem solving exercises emphasizing class discussion of results.
- B. Map Quizzes
  1. Two map quizzes emphasizing geographic locations discussed in the class and text.
- C. Written Project
  1. Short anthropology field project involving the comparative study of primate physiology and behavior at the zoo.
- D. Midterm Exam
  1. Multiple choice
  2. Identification and short essay
- E. Final Exam
  1. Multiple choice
  2. Identification and short essay

#### **7. Representative Text(s) -**

Jurmain, Robert, Lynn Kilgore, and Wenda Travathan. Essentials of Physical Anthropology. Seventh Edition. Belmont, CA:Wadsworth, 2009.  
 Park, Michael Allan. Biological Anthropology. 5th Edition. Boston: McGraw-Hill, 2007  
 Kappelman, John. Virtual Laboratories for Physical Anthropology CD-ROM. 4th Edition. Belmont, CA: Wadsworth Thompson, 2007.

#### **8. Disciplines -**

Anthropology

#### **9. Method of Instruction -**

Lecture, Discussion, Cooperative learning exercises, Oral presentations, Electronic discussions/chat, Independent study, Laboratory, Demonstration.

#### 10. Lab Content -

Not applicable.

#### 11. Honors Description - No longer used. Integrated into main description section.

#### 12. Examples of Required Reading and Writing and Outside of Class Assignments -

- A. Two map quizzes covering geography important to class.
- B. Final paper with focus on scientific investigation of primates.
- C. Six homework assignments for critical thinking.
- D. All chapters in the textbooks are assigned.
- E. Exams

#### 13. Need/Justification -

This course is designed to meet the AA degree requirements in anthropology and CSU-GE and IGETC requirements in physical and biological sciences.

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**Course status:** *Active*

**Development status:** Staging

**Owner-Editor:** [connellsamuel@foothill.edu](mailto:connellsamuel@foothill.edu)

**Edit History:** User: Administrator - ID: nunezcori@foothill.edu - Modified: 2011-01-06 15:08:56  
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User: Administrator - ID: nunezcori@foothill.edu - Modified: 2010-11-08 12:55:42  
User: Curriculum Rep ID: ziegenhornbill@foothill.edu Modified: 2010-05-04 13:38:20  
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User: Editor/Owner ID: connellsamuel@foothill.edu Modified: 2010-01-26 12:55:26  
User: Dean - ID: mummertjohn@fhda.edu - Modified: 2009-12-11 10:29:32  
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User: Editor/Owner ID: connellsamuel@foothill.edu Modified: 2009-12-08 09:43:15  
User: Dean - ID: mummertjohn@fhda.edu - Modified: 2009-12-07 12:42:50  
User: Editor/Owner ID: connellsamuel@foothill.edu Modified: 2009-11-19 15:58:33

**Comments:** connellsamuel@foothill.edu wrote: title V update  
mummertjohn@fhda.edu wrote: The effective date is Summer 2010  
connellsamuel@foothill.edu wrote: I have placed an entire assignment in Section 12 because I believe that this is the easiest and most complete way to fulfill the requirement.

# Foothill College

## Submission Course Outlines

For Faculty and Staff use only

### Business and Social Sciences

**ANTH 1L**      **PHYSICAL ANTHROPOLOGY LABORATORY**      **Summer 2011**  
One hour lecture-laboratory, two hours laboratory.      **1 Unit**

**Total Contact Hours:** 36      (Total of All Lecture, Lecture/Lab, Lab, and TBA hours X 12)

**Lecture Hours:**      **Lab Hours:** 2      **Lecture/Lab:** 1      **TBA Hours:**      **Homework Hours:** 2  
**Note:** If Lab hours are specified, the *item 10. Lab Content* field must be completed.

#### Repeatability -

**Statement:** Not Repeatable.

#### Status -

**Course Status:** Active      **Grading:** Letter  
**Degree Status:** Applicable      **Credit Status:** Credit  
**Degree or Certificate Requirement:** AA Degree, AS Degree, Foothill GE  
**GE Status:** Natural Sciences (w/laboratory)

#### Articulation Office Information -

**C.I.D. Notation:**  
**Transferability:** Both      **Validation:** 07/01/2007; 12/13/10

#### Division Dean Information -

**Seat Count:** 35      **Load Factor:** .049      **FOAP Code:** 141810

#### Instruction Office Information -

**FSA Code:**

**Distance Learning:** no

**Stand Alone Designation:** no

#### 1. Description -

Introductory laboratory course focusing on scientific methodology to explore/experiment with topics from Anthropology lecture sections. Topics include Mendelian genetics, population genetics, human variability, forensics, medical anthropology, epidemiology, hominid dietary patterns, non-human primates, primate dental and skeletal anatomy, fossil hominids, chronometric dating, environmental challenges to hominids, environmental impact of hominid behavior, general methodologies utilized in physical anthropological research, and the general study of hominids as bio-culturally adapting animals.

Corequisite: Completion of, or concurrent enrollment in ANTH 1.

## **2. Course Objectives -**

The student will be able to:

- A. distinguish scientific methodology from other methods of evaluation or thinking.
- B. explain a variety of primate and/or hominid evolutionary patterns over time.
- C. assemble or organize specimens and/or models used in physical anthropology (skeletal, dental, genetic, geological).
- D. employ basic forensic field methods for analyzing and interpreting human remains.
- E. research an anthropological topic and prepare the results for public and/or classroom presentation.
- F. evaluate and debate social, cultural, environmental, or other influences on hominid adaptation and survival over time.

## **3. Special Facilities and/or Equipment -**

Anthropology Laboratory equipped with appropriate materials to instruct the lab sections. Internet connection required to conduct enhanced learning assignments.

## **4. Course Content (Body of knowledge) -**

Laboratory projects based on B-E of expanded description of course content for Physical Anthropology (ANTH1). Projects cover methods, techniques, and procedures used in biological/physical anthropology research. Emphasis on skill demonstrations and problem solving.

- A. Students will demonstrate knowledge in the following areas.
  - 1. Mendelian genetics
  - 2. population genetics
  - 3. human variability
  - 4. forensics
  - 5. medical anthropology
  - 6. epidemiology
  - 7. hominid dietary patterns
  - 8. non-human primates
  - 9. primate dental and skeletal anatomy
  - 10. fossil hominids
  - 11. chronometric dating
  - 12. environmental challenges to hominids
  - 13. environmental impact of hominid behavior
  - 14. general methodologies utilized in physical anthropological research
  - 15. the general study of hominids as bio-culturally adapting animals.
- B. Students conducting laboratory research will gain proficiency in the following areas.
  - 1. instrumentation such as microscopes and centrifuges.
  - 2. the appropriate handling of human remains.
  - 3. crime scene investigation techniques.
  - 4. data gathering and analysis using current statistical and mapping programs.
  - 5. graphing and interpretation of data using scientific methodology.

## **5. Repeatability - Moved to header area.**

## **6. Methods of Evaluation -**

- A. In class projects
- B. In class lab reports
- C. Quizzes
- D. Skill demonstrations or problem solving
  - 1. Class performances
  - 2. Field work

- 3. Performance exams
- E. Group project scientific research and presentations

**7. Representative Text(s) -**

France, Diane. Laboratory Manual and Workbook for Physical Anthropology. Sixth Edition. Belmont, CA: Wadsworth Publishing, 2007.

Walker, Suzanne. Exploring Physical Anthropology: A Lab Manual and Workbook. Englewood, Colorado: Morton Publishing Company, 2007.

Whitehead, Paul, William Sacco, and Susan Hochgraf. A Photographic Atlas for Physical Anthropology. Englewood, Colorado: Morton Publishing Company, 2005.

**8. Disciplines -**

Anthropology

**9. Method of Instruction -**

Lecture, Discussion, Cooperative learning exercises, Field work, Oral presentations, Independent study, Laboratory, Demonstration, Laboratory class.

**10. Lab Content -**

- A. Scientific Method Exercises
  - 1. Field Study using Method
  - 2. Microscope training
- B. Darwin's Natural Selection
  - 1. Examples from nature
  - 2. Cellular transformation
- C. Genetics
  - 1. Field study of phenotypic traits
- D. Biological Classifications
  - 1. Taxonomy
- E. Primate Osteology
  - 1. Lab training with primate skeletons
- F. Human Osteology
  - 1. Skeletal anatomy
- G. Primate Behavior
  - 1. Field project on human primates
- H. Early Primates and Hominids
  - 1. Fossil collection study
- I. The Genus Homo
  - 1. Anthropometrics
- J. Forensics & Variation (Metric/Non-Metric)
  - 1. Craniometric and osteometric studies
  - 2. Blood group work
  - 3. Finger prints
- K. Forensics & Skeletal Abnormalities
  - 1. Gun shot wounds
  - 2. Trephination
  - 3. Antemortem, Perimortem and Postmortem analysis
- L. Sociobiology and Human bio-cultural adaptations

**11. Honors Description -** No longer used. Integrated into main description section.

**12. Examples of Required Reading and Writing and Outside of Class Assignments -**



- A. Completion of exercises in the workbook
- B. Collection and analysis of laboratory data
- C. Practical exams
- D. Computational analysis

### 13. Need/Justification -

This course is designed to meet the AA degree requirements in anthropology and CSU-GE and IGETC requirements in anthropology.

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**Course status:** *Active*

**Development status:** Staging

**Owner-Editor:** [connellsamuel@foothill.edu](mailto:connellsamuel@foothill.edu)

**Edit History:** User: Administrator - ID: nunezcori@foothill.edu - Modified: 2011-01-19 11:27:49  
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**Comments:** connellsamuel@foothill.edu wrote: title v,  
 mummertjohn@fhda.edu wrote: The effective date is Summer 2010

**Last updated:** 2011-01-19 11:27:49

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## Submission Course Outlines

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FOOTHILL COLLEGE - 12345 EL MONTE ROAD, LOS ALTOS HILLS, CA 94022-4599 - [www.foothill.edu](http://www.foothill.edu)