

PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE
MASTER SYLLABUS

BIOLOGICAL ANTHROPOLOGY
ANT 2100

Class Hours: 3.0

Credit Hours: 3.0

Laboratory Hours: 0.0

Date Revised: Spring
01

Catalog Course Description:

Introduction to human biological variation as the result of evolutionary processes. Examples based upon contemporary, historic, and prehistoric populations are used to introduce anthropological methods for the analysis of variation using living persons, genetic material, and skeletal remains.

Entry Level Standards:

Previous exposure to Mendelian genetics; ability to understand and work with equations.

Prerequisite:

ANT 1100 or consent of instructor

Textbook(s) and Other Reference Materials Basic to the Course:

The Human Species, Third Edition by John Relethford. Mayfield Publishing, 1997.
(fourth edition to be released July 1999)

Relevant reserve readings will be placed at the library for review material not covered in the text. Students will be responsible for reviewing the appropriate materials for each lecture.

I. Week/Unit/Topic Basis:

Week	Topic
1	Introduction, biological anthropology
2	Human genetics I
3	Human genetics II
4	The four forces of evolution
5	Microevolution and population genetics (Hardy-Weinberg Equilibrium)
6	Macroevolution and speciation
7	Case studies in human microevolution
8	Human growth
9	Approaches to human variation, "race," and genetic distance

- 10 Skeletal biology
- 11 Human adaptations
- 12 Health and disease
- 13 Demography
- 14 Forensic anthropology exercise (Group project)
- 15 Group presentation, review
- 16 Final Exam

II. Course Objectives*:

- A. Understand the contemporary human species as the result of unique evolutionary processes. I.5., III.2.
- B. Learn that the sociological/cultural concept of “ race” is not a biological classification. III.2.
- C. Understand the dynamic nature of human populations as the result of genetic drift, flow, natural selection and mutation. I.5.; III.2.
- D. Comprehend the utility of population history studies for medical and epidemiological research. III1., III2.
- E. Increase his/her ability to synthesize information about the human species and relate it to contemporary issues and concerns in health care, cultural and social interaction, and political problems such as ethnic cleansing. II.2.
- F. Gain exposure to basic quantitative and analytical methods of population genetics, demography, and skeletal biology. VI.1.
- G. Understand basic genetic concepts. I.5.
- H. Increase his/her ability to reason and think critically. III.2.
- I. Practice articulating ideas, opinions, and critiques of issues presented in the classroom. I.5., II.2.
- J. Work with classmates on a mock “ forensic case” that requires application of anthropological methods and teamwork to provide a description of age, “ race,” sex, and manner of death for the individual. Oral reports will be presented to the class. I.5., III.2.

*Roman numerals after course objectives reference goals of the university parallel program.

III. Instructional Processes*:

Students will:

- 1. Research and write a report on some relevant topic within the study of human variation using traditional sources and the Internet. Each will present a short report to the class to be critiqued by his/her peers. *Communication Outcome, Technological Literacy Outcome, Information Literacy Outcome*

2. Work with basic equations used in population genetics, demography, and skeletal biology, drawing conclusions from data. *Numerical Literacy Outcome*
3. Develop an understanding of the “ race” concept as a socio-cultural reality, rather than a biological one; assess the social and political consequences of this misunderstanding in contemporary society and throughout history. This will include writing a short (2-3-page) report that details the biological race concept's lack of scientific validity. *Communication Outcome, Cultural Diversity and Social Adaptation Outcome, Transitional Strategy*
4. Read and critique scientific explanations of population variability, evolutionary process, and methods of analysis. *Communication Outcome, Problem Solving and Decision Making Outcome*
5. Work with a team of classmates to analyze a mock “ forensic case” for presentation to the class. *Problem Solving and Decision Making Outcome, Active Learning Strategy, Transitional Strategy*
6. Illustrate comprehension of class material on 4 in-class exams. These will include an essay component that requires students to present a logical argument supporting a particular viewpoint or explaining a scientific concept. *Communication Outcome*

*Strategies and outcomes listed after instructional processes reference Pellissippi State’ s goals for strengthening general education knowledge and skills, connecting coursework to experiences beyond the classroom, and encouraging students to take active and responsible roles in the educational process.

IV. Expectations for Student Performance*:

Upon successful completion of this course, the student should be able to:

1. Discuss the process of mitosis, meiosis, and genetic inheritance. A, C, G
2. Understand the outcome of micro- and macroevolution. A, C, F, G
3. Explain the concepts of natural selection and evolution as they relate to the human species. A, C, D, E, G, H
4. Understand that human populations exhibit variant susceptibility to disease because of their unique histories and exposure to forces of natural selection. A,C, E, G
5. Generate conclusions based upon their own analysis of numerical data. F, H, I
6. Use appropriate reference materials and the Internet for research. D, E, H, I
7. Compile an informational report with proper citations. C, E, F, I
8. Read scientific documents analytically. F, H, I
9. Effectively communicate scientific concepts to peers in a clear, concise oral presentation. I, J
10. Discuss the difference between the social and biological concepts of "race." A, B
11. Explain why the biological concept of "race" is not scientifically valid. A, B
12. Discuss how studies of human variation and genetic distance are carried out. E, F
13. Discuss morphological differences between males and females as exhibited in the human

skeleton. F, E, J

14. Discuss age-related changes in the human skeleton. D, E, F, J

*Letters after performance expectations reference the course objectives listed above.

V. Evaluation:

A. Testing Procedures: 400 points

Exams (4): 100 points each

B. Laboratory Expectations:

N/A

C. Field Work: 340 points

Homework assignments: 100 points: collect 10 of 15

"Race" concept report: 50 points: 2-3 pages maximum

Research paper: 100 points: 5-7 pages maximum

Research presentation: 50 points: Grades determined by averaging scores awarded by student's peers

"Forensic case": 40 points

D. Other Evaluation Methods:

N/A

E. Grading Scale:

90-100 %	(662-740)	A
80-89 %	(588-661)	B
70-79 %	(514-587)	C
60-69 %	(440-513)	D
59 % - below	(512 - below)	F

VI. Policies:

A. Attendance/Academic Dishonesty Policies:

All PSTCC policies regarding tardiness, absenteeism, and academic dishonesty will be strictly followed and applied. Pellissippi State Technical Community College expects students to attend all scheduled instructional activities. As a minimum, students in all courses must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course.

B. Professional Behavior:

An atmosphere of professionalism will be maintained during all discussion of human similarity and differences; inflammatory or inappropriate language will not be tolerated.