

Human Variation Syllabus Lecture and Reading Schedule

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Week	Topic	Reading
1	Introduction	M1, R1-10
	Changing Perceptions of Human Differences	
2	History of human taxonomy, race, and racism	M2, R11-15
	01/17/08 Film: Bad Blood	M3
3	The Biological Basis for Human Diversity	M4, R16-20
	The New Genetics	R21-23
	Natural Selection and Human Variation	R24-27
4	Sexual Selection	M5, R28-33
	Population Genetics	M6, R34-40
	<i>First Written Assignment Due: Thursday Jan. 31</i>	
5	Cultural Selection	M7, M8
	Eugenics and Genetic Engineering	M9, R41-50
6	Review	
	<i>Midterm Exam Thursday Feb. 14</i>	
7	Human Responses to Environmental Variation	M10, R51-53
	Phenotypic Plasticity	R54-62
	<i>Second Written Assignment Due: Thursday Feb. 21</i>	
8	Genetic Adaptations to Local Environments?	M11
	Explanations of Skin Color and Body Form Variation	M12, R63-66
9	03/06/08 Film: Is Criminal Behavior Genetic?	M13, R67-73
	The Significance of Sex Differences	
	Human Variability and Behavior	R74-83
	<i>Third Written Assignment Due: Thursday Mar.6</i>	
10	The IQ Question	
	Review	
	<i>Final: Wednesday March 19 from 4-7pm</i>	

Key to Reading: M= Chapters in Marks, R= papers in reader

Grading:

Midterm 100 Points
 Final 200 Points
 Written Assignments 50 Points each

You may write an optional extra credit assignment (see your reader for instructions)

Texts:

Human Biodiversity: Genes, Race, and History, Jonathan Marks
 A105 Reader available at The Alternative, 955 Embarcadero Del Mar, Isla Vista, Phone: 968-1055

Written Assignments

First Written Assignment: Due in class: *Thursday January 31*

(Select *one* of the following)

Option 1

Describe a hereditary disease. In doing so, answer all of the following questions:

- 1) What evidence is there concerning the mode of inheritance of the disease (dominant, recessive, x-linked)?
- 2) What evidence is there for the molecular basis for the disease?
- 3) What effects does the disease have on the people who have it?
- 4) What is known about the physiological basis for these effects?
- 5) How do conditions in the afflicted person's environmental influences the course disease?
- 6) Can you imagine an environment in which the gene for the disease would be beneficial instead of harmful?
- 7) Does the disease afflict the members of some social or ethnic groups more frequently than others?
- 8) If so, what are some possible explanations for this?
- 9) How might genetic counseling or genetic engineering help reduce the frequency of the disease?
- 10) What ethical or social issues might this raise?

Option 2

Select a trait that is thought to be heritable based on information you obtain from members of your (or someone else's) family.

- 1) Clearly define the trait you are investigating.
- 2) What evidence has been published in published sources concerning the genetic basis for the trait?
- 3) Draw a pedigree using the data you collected from your (or someone else's) family using the conventional symbols used in pedigree construction (see your reader for examples).
- 4) Based on the pattern of inheritance you find in the family you studied, discuss the type of inheritance (dominant, recessive, x-linked) that might be involved.
- 5) If the pattern of inheritance does not conform exactly to that expected for these modes of inheritance, what are some possible reasons for this lack of conformity to the theoretical expectation?

Second Written Assignment: Due in class: *Thursday February 21*

(Select *one* of the following)

Option 1

The purpose of this assignment is to explore how people classify other people. Collect a series of 10 pictures of people who vary in skin color, facial features, hairstyle, dress, etc, from magazines or newspapers. Show these pictures to at least 10 people from different walks of life. Ask each person to categorize each picture according to race and probable occupation. Describe your results. What did this exercise teach you about how people classify other people? (Please include photographs!)

Option 2

Describe an incident in your life in which you were a minority or discriminated against because of physical appearance, race, or ethnic background. How? When? Why? Where? How did you feel? What effect did your experience have on the way you treat people of different ethnic or racial backgrounds?

Third Written Assignment: Due in class: *Thursday March 6*
(Select *one* of the following)

Option 1

Imagine the following: Aliens from Outer Space announce to us that they have engineered lasting alterations into the human race. The changes are going to make our children, and our children's children, smaller, weaker and easier to control. But grassroots resistance is fierce, and soon biologists begin working round the clock to screen millions upon millions of human genomes in an effort to weed out anyone whose genes show signs of alien tinkering. You have recently been elected president of the world and, because of the seriousness of the threat, have been given complete control of the gene screening and weeding-out program. Based on what you have learned in this class, how would you go about organizing and implementing this project to save humankind? What ethical justifications will you give to the people of the World for the decisions you make? How will you answer invidious comparisons between your plans to save humankind and those of Nazi eugenicists?

Option 2

Based on what you have learned in class critique each of the following points that Roger Hughes makes in a article entitled “Dysgenics or Eugenics” found on the “Bible Believers” web page

The full text of the article can be found at:

<http://www.biblebelievers.org.au/dysgenic.htm>

- 1- Intelligence as measured by standardized intelligence tests has a positive correlation with academic and vocational success as well as social competence.
- 2- Differences in IQ scores between individuals and groups are largely, but not completely due to genetic inheritance.
- 3- There are dysgenic tendencies (i.e. the tendency of those with poor intelligence or character to produce disproportionately more progeny) in Western societies because people of lower intelligence have higher fertility levels than those of higher intelligence.
- 4- Dysgenic tendencies have been masked by the Flynn effect as better nutrition has so far more than countered the genetic deterioration in intelligence. Eventually the effects of better nutrition will reach the optimum level and phenotypic deterioration will become apparent.
- 5- There is a dysgenic tendency in relation to conscientiousness and this is reflected to some extent in higher crime rates.
- 6- Our tax and welfare systems contribute to dysgenics.

Instructions for Written Assignments

Late assignments will not be accepted. All assignments must be typed and printed on paper. Email submissions will not be accepted. There is no length requirement, but most will be 3-5 pages long. Make it as long as is necessary to accomplish the task at hand. All papers should be double spaced, one-inch margins. Written assignments will be

graded based on analytical content, originality, organization, and appropriate use of citations. Follow the bibliographic format of Marks (your textbook) for citations of printed material. See the discussion of how to cite internet sources on the next page. Papers submitted with grammatical and spelling errors will receive lower grades.

Avoiding Plagiarism and Citing Internet Sources

You would not want to be accused of stealing a car or a wallet, nor do your friends want theirs stolen. Similarly, you do not want to be accused of stealing someone's words or ideas, nor do writers want theirs stolen.

To use someone's words or ideas in your writing without letting your readers know where they came from is a form of theft called plagiarism. It is considered a serious academic offence and can get you in a lot of trouble with your professors. You can avoid plagiarizing if you are careful to do the following:

- Put the words of an author in quotation marks, record them accurately, and follow the quotation with a citation that indicates your source.
- And use quotation marks even when you borrow a phrase or a single, special word from another person.
- Write a summary or paraphrase in your own words and sentence patterns. Follow it with a citation. Just changing some words does not make a paraphrase; the ideas must be digested, understood, and written in your own words.
- In addition, it is wise to lead into your quotation or paraphrase by using the author's name. For example, you can write, "According to Deborah Tanner," followed by a quotation from Tanner or your paraphrase or summary of Tanner's ideas.

To avoid plagiarism, cite the source of anything that you borrow from CD's, the Internet, including material from Web pages, e-mail, and newsgroups. These materials are the words and ideas of people who deserve to be given credit.

Here are examples of how to cite CD's and internet sources:

Author/editor. (Year). Title (edition), [Type of medium]. Producer (optional). Available: Supplier/Database identifier or number [Access date].

Author/editor. (Year). Title (edition), [Type of medium]. Producer (optional). Available Protocol (if applicable): Site/Path/File [Access date].

Examples:

Oxford English dictionary computer file: On compact disc (2nd ed.), [CD-ROM]. (1992). Available: Oxford UP [1995, May 27].

Pritzker, T. J. (No date). An Early fragment from central Nepal [Online]. Available: <http://www.ingress.com/~astanart/pritzker/pritzker.html> [1995, June 8].

* Write "No date" when the electronic publication date is not available.

* When citing information retrieved on the World Wide Web, it is not necessary to repeat the protocol (HTTP) after "Available" since that is stated in the URL.

More information on citing internet sources can be found at:

<http://www.uvm.edu/~xli/reference/apa.html>

Extra Credit Opportunities

You can earn up to 10 points added to your exam scores by completing the following Extra Credit Assignments

Option 1

Construct a pedigree of your family or the family of a friend. You must use standard pedigree notations and symbols (see page 83-85 of your reader). Select a trait or disorder found in this family (a normal trait is fine), describe the phenotype, search Online Mendelian Inheritance in Man (<http://www.ncbi.nlm.nih.gov/Omim/>) for references and explain how your family/pedigree supports the pattern of inheritance in the literature and how other patterns of inheritance can be ruled out. Analysis of a trait not found in the literature (this would be unusual) should include an explanation of the most probable mode of inheritance and how other patterns can be ruled out or would be less probable. The title should include the name of the trait and should be at the top of the pedigree and the accompanying analysis paper.

When analyzing a single-family pedigree, remember that the generalizations made about inheritance patterns may not apply. The pedigree should be drawn with standard symbols and a legend should explain their use. Legends must be understandable by anyone. Generations and individuals should be appropriately labeled and referred to in your discussion. If you do not know a person's phenotype you must use a "?" in their symbol, because a blank symbol means they definitely do not have the trait studied. If a person does not have children use the appropriate symbol. If the trait is not usually present at birth and has a later age of onset, you must indicate the ages on the pedigree of those not affected. Spouses can be left out if they are not of interest.

The pedigree is best drawn by hand but if you prefer, you may use your computer. Describe the trait in some detail, use drawings or illustrations to make it clear. Define what "affected" and "unaffected" means in your pedigree. Indicate genotype when appropriate

Option 2

Select a current newspaper, magazine, or journal article that is relevant to one of the topics discussed in this class. If you have any questions regarding the appropriateness of your article, please feel free to ask.

Write a short (2-3 paragraph) summary of the main points made in the article that includes a statement of its relevance to the class.

Write a short (2-3 paragraph) critique of the article from the perspective of this class.

Some Things to consider:

- 1) Is the article consistent with or does it contradict things you have learned in this class?
- 2) Do you see any problems with the scientific basis for the conclusions drawn in the paper?
- 3) What types of assumptions are made about biological differences between groups of people (races, ethnic groups, etc.)?

Your completed extra credit assignment **must be typed**, double spaced with standard margins, 2 pages long (stapled in the upper left hand corner, **no plastic covers please**) and should include the following items:

- 1) your name
- 2) a copy of the article/pedigree
- 3) if you are reviewing an article include the complete reference for the article. If you are constructing a pedigree reference any sources you used as in the examples listed below. Use the following reference format:

Author (Year) Title of article. Name of magazine, Volume # (or date of publication, if volume is not listed):page numbers.

Newspaper

Wade, Nicholas (1999) Number of human genes is put at 140,000, a significant gain. (National Pages) New York Times (Thu, Sept 23, 1999): A17(N), A19(L).

Journal

Manderscheid, EJ and Rogers AR (1996) Genetic admixture in the Late Pleistocene. American Journal of Physical Anthropology 100:1-5.

How much credit will you get?

This depends on the quality of the paper you write. Ten points is the maximum for each assignment. Points will be awarded as follows: (remember, no points if the paper is not typed, pedigrees can be drawn): 0-2 points for following the above instructions. For article reviews: 0-4 points for the summary, 0-4 points for the critique. For pedigrees: 0-4 points of description of the trait and discussion of the scientific evidence concerning its inheritance, 0-4 points for pedigree diagram.

No extra credit papers will be accepted after the last day of lecture: 20 Points Maximum.