



Welcome to
ANTH101
Introduction to Biological
Anthropology



ANTH101-04 (16625), ANTH 101-53 (16007),
ANTH 101-54 (16648), ANTH 101-55 (19902)

Course website on Titanium

Instructor: Dr. Eric Schniter

Email: eschniter@fullerton.edu

Twitter: [@Fall2018BioAnth](https://twitter.com/Fall2018BioAnth)

Office: LH-647

Office hours: Tuesdays & Thursdays 11:30 AM – 12:30 PM. Feel free to drop in or call by phone without appointment, or correspond over email.

Lecture plan:

- Reminders
- Week 4 Lecture: finish
 - Hardy-Weinberg Equilibrium
 - Levels of selection; Kin Selection & Hamilton's Rule
- Week 5 Lecture: Part 1: (ch.5)
 - Introduction to human variation
 - Race Activity - Sorting People
 - Watch video: *Race -Power of an Illusion- Pt. 1 & 2*
- Lecture Part 2: (ch.5)

Reminders:

- Now that Quiz 1 is closed, answers are available on Titanium for review.
- First lab report due by **Midnight Sunday September 30th**
 - Related topics: natural selection & adaptation (traits & selection pressures),
 - Need to successfully complete the Darwin Survival Game 3 times and write about your experiences
 - At least 500 words (your own words, not quoted) with image of your artwork inserted into document
 - Submit a single file on Titanium as word .doc or .docx
 - Clear directions & grading rubric
- First exam is Tuesday October 2nd (in class) covering chapters Intro., 1, 2, 3, 4, 5 and lecture/video.
 - All multiple choice (mixed format) including visual identification tasks.
 - Closed book/note, Scantron (green, # 882) & pencils
 - Recommended review strategy:
 - Review chapters & look over **key terms** and **figures** in the **text**
 - Review **lecture slides** (on Titanium)
 - Watch recommended **clips & movies**

Hardy-Weinberg Equilibrium

In F_0 allele frequencies (p, q) can take any value, so long as $p + q = 1$

In F_1 generation $(p + q) \times (p + q) = (p + q)^2$

Random mating will not change allele frequencies.

$$(p + q)^2 = p^2 + 2pq + q^2 = 1$$

If no evolutionary forces at work, **genotypic frequencies should remain constant after one generation.**

If the genotypic frequencies are changing (not in equilibrium), then there is evidence of evolution.

Disequilibrium

Natural selection gradually adapts a population to the habitat.

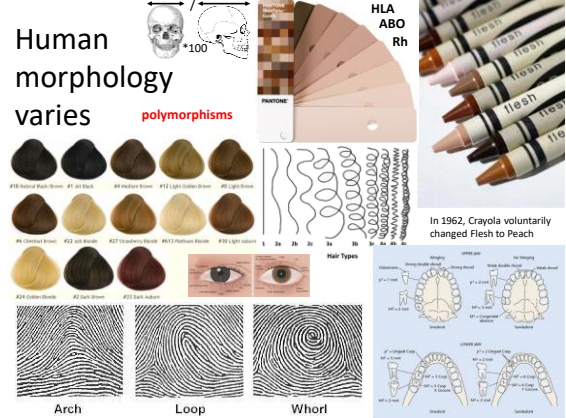
At equilibrium, stabilizing selection maintains the status quo.

If the environment changes, natural selection must catch up. But until it does, the population will show phenotypes frequencies that are out of equilibrium with what continued selection will produce.



Levels of Selection

- **Group selection**: intuitively appealing at first, but **problem of mutant invasion by freeriders**
 - G.C. Williams (1966)
- Individual selection
- **Inclusive Fitness** (fitness of the gene)
 - Selection based on genes in individual and/or other kin
 - **Kin selection**: preference for (closer) genetically related others
 - Coefficient of relatedness (r)
 - **Hamilton's rule**: $(rb > c)$
 - Formula for when to provide another help (**altruism**):
 - when the benefit of altruism to the recipient
 - devalued by the degree of kinship
 - is greater than
 - the cost of providing that benefit for the altruist



What is race?

What do we each think of when we say the word "race"?
Populations? Ethnic groups? Phenotypes?

What identifies us scientifically as being of a specific race?

What if you were told that you were actually a different race or had racial characteristics that matched another group than your own?



'Black' NAACP leader outed as white



Sorting Race Activity

1. Write down on a sheet of paper the "race" (or races) that you most closely associate with or identify with when asked.

- The U.S. federal government currently recognizes six major racial and ethnic categories:
 - American Indian or Alaska Native
 - Asian
 - Black or African American
 - Hispanic or Latino
 - White
 - Native Hawaiian or Other Pacific Islander
- Other races or response options are sometimes named in addition to the ones above, such as:
 - Indian (subcontinent)
 - New Guinean / Australian
 - Jewish
 - Other:
 - None

Race Sorting Activity

- Go to http://www.pbs.org/race/002_SortingPeople/002_00-home.htm
- Click "Begin sorting" and a pop-up window will give an opportunity to sort photos of different people according to your best guess as to what race(s) they belong to (from 5/6 categories below).
- The U.S. federal government currently recognizes six major racial and ethnic categories:
 - American Indian or Alaska Native
 - Asian
 - Black or African American
 - Hispanic or Latino
 - White
 - Native-Hawaiian or Other-Pacific-Islander

Watch: *Race -Power of an Illusion-*

clip 1 (5:13)

<https://youtu.be/Y8MS6zublaQ?list=PLt6nX4f8WjdWgeomQQ3oLzVH5EoahlcQB>

and clip 2 (6:10)

<https://youtu.be/GyuKJAG11Cw?list=PLt6nX4f8WjdWgeomQQ3oLzVH5EoahlcQB>

After having completed the sorting race activity and watched the "*Race -Power of an Illusion*" clips tweet a comment, question, or response to others on the topic @Fall2018BioAnth with hashtag #week5 and #race

- Remember, please be kind and respectful with tweets. The idea is that we are creating a forum for communication that is enjoyable and helpful. Be careful with your choice of language when referring to ethnic groups and races (only use politically correct /appropriate language) – though many names and labels are commonly used there are many that are also offensive.
- Please be especially considerate of potentially offensive topics (even if not to you) and consider avoiding discussion of ethnic or racial stereotypes, as mention of them could easily offend – especially in a communication-challenged venue like Twitter where wording is sparse and misinterpretations can occur.
- Let's try to keep discussion centered around ideas and facts, just as we have been doing so far. Thank you for your participation!