The Genetic Basis of Behavior  
Biological Bases of Behavior 207  
Spring Semester, 2014: Monday 2:00-5:00 PM  
Location: Nursing 216

This course will present a comprehensive overview of the field of Behavioral Genetics, including basic principles as well as a sampling of current research.

Course Director:  
Arlen Price 898-0214, arlen@exchange.upenn.edu  
Office Hours: Before or after class and by arrangement

Text: None required. Background reading: Robert Plomin et al., Behavioral Genetics, Sixth Edition, 2012 (or any earlier edition if available). Other background papers will be posted during the course.

Special Research Topics and Guest Lectures in Course:  
Wade Berrettini, Addictions  
Maja Bucan, Bipolar Disorder/Schizophrenia  
Joel Mainland, Olfaction  
Arlen Price, Obesity  
Danielle Reed, Taste Perception  
Teresa Reyes, Epigenetics  
Amita Sehgal, Circadian Rhythms

Class Time: Monday 2:00-5:00 PM, First class meets on WEDNESDAY 1/15/2014  
Syllabus:

January  
15 Introduction and History  
15 Mendelian/Transmission Genetics  
27 Heritability: Family, twin and adoption models

February  
3 Heritability: Estimation and limitations  
10 Exam 1: ‘Classical’ Behavioral Genetics  
10 Basic Molecular Genetics, Major gene mutations and genetic syndromes  
17 The Genomics Era  
17 Gene Identification through Linkage  
24 Genes Linked to Behavior  
24 Genetic associations from disequilibrium

March  
3 Gene/Behavior Associations  
3 Exam 2: Behavioral Genomics  
10 Spring Break  
10 Spring Break
17 DNA collection for TAS2R38 (Taste) gene
17 Environment and Behavior
17 Non-Mendelian Inheritance: Epigenetics
24 Epigenetics and Behavior
31 Introduction to Special Topics in Behavioral Genetics
31 Exam 3: Complex Inheritance

April
7 Mainland: Olfaction
7 Reed: Taste Perception (Lecture and DNA results)
14 Berrettini: Addictions
14 Price: Obesity
21 Reyes: Epigenetics
21 Bucan: Bipolar Disorder and Schizophrenia
28 Sehgal: Circadian Rhythms
28 Review

Evaluation:
Exam 1: Classical Behavioral Genetics 20%
Exam 2: Behavioral Genomics 25%
Exam 3: Complex Inheritance 20%
Final Exam: (Mostly New Material but Comprehensive) 35%