

Course Syllabus
Introduction to Behavioral Genetics
Fall 2006 - PSYCH 3102-002
Muenzinger E431
2:00 - 3:15, Tues & Thurs

Instructor: Dr. Michael Stallings

Phone: 2-2826 (or 5-3668 during office hours)

Email: Michael.Stallings@Colorado.Edu

Office Hours: Tues & Thurs 1:00-2:00 D-0041D (Muenzinger) or by appt.

Teaching Assistant: Angela Friend

Office Hours: Mon 1:30-2:30 & Thurs 9:30-10:30 D-451D; Phone: 5-6595

Course Objectives:

- To understand the basic principles of genetics
- To understand how these principles can be used in the study of human behavior
- To evaluate the evidence that psychological characteristics are influenced by genetic inheritance
- To consider the implications of genetic knowledge in psychology

At the end of this course students should have a clearer understanding of the contribution that genetic influences make to individual differences in behavior. They will be in a better position to evaluate the scientific evidence for or against genetic or environmental influences. Achieving these objectives will give students an appreciation of the interrelationships of biological and cultural determinants of behavior.

Course Materials:

Primary textbook: Plomin, R., DeFries, J. C., McClearn, G. E. and P. McGuffin (2001). *Behavioral Genetics (4th Edition)*. New York: Worth Publishers.

Additional reading will be provided as handouts.

Assessment and Grading:

Your course grade will be based on a total of 500 points (modified curve):

2 Midterms (100 points each)

Final Exam (100 points)

Homework (approx. 10 assignments at 5 points each; total will be 50 points)

Group Project on Social/Ethical Issues in Genetics Research (50 points)

Term paper (100 points)

Approximate Exam Schedule: Dates for Fall 2006 semester

Midterm I	October 3
Midterm II	November 2
Final Exam	December 20 (Wednesday: 10:30am-1:00pm)

Exams will consist of approximately 50% multiple choice items and 50% short-answer essay questions and problems. Although each exam will focus on the immediately preceding segment of material, knowledge of principles and concepts is expected to accumulate during the semester.

Make-up Exam Policy:

Exams must be taken at the scheduled time, except under extraordinary circumstances. If you need to make-up an exam, be sure to coordinate this with me **PRIOR TO** the scheduled exam. If you can't call, have someone call for you. Transportation difficulties or problems with work schedules are not adequate justification for a make-up exam.

Homework:

Homework assignments (small problem sets) will be assigned periodically throughout the course. They will be **due 1 week following the assignment**. Because these assignments are meant to facilitate class discussion and learning of current course material, there will be **NO MAKE-UP** for missed homework assignments.

Term Paper:

All students will be required to write a 6-8 page term paper (min=6 pages; max=8 pages). This paper will involve a literature review describing the current state of existing evidence for genetic influences on a particular human behavior, syndrome, or disease. **Choose from the topics listed on the last page of this handout, or see me to pursue a topic not listed.** This project should encompass reading 10-15 published research papers on your topic of choice (minimum 10 references). The paper should be typed, double-spaced, with standard 1 in. margins and a 11-12pt font size. **You should make your paper topic choice no later than October 19th and submit your topic choice in writing to me. The term paper is due December 12th.**

Group Project:

The group project will involve the joint write-up of a 5-page paper addressing ethical issues in genetics research. Groups will consist of approximately 5 students and each student will be responsible for 1 page of the final write-up. Each student should incorporate 5 published references in their write-up. **Groups should be negotiated by September 19th** – after that date any remaining group assignments will be made by me. It will be up to you to organize your group. All group members receive the same grade on the group project. Details regarding the group assignment will be discussed in class. **The group project is due Oct 31.**

Important Information:

Disability: If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner so that your needs may be addressed. Contact: 303-492-8671, Willard 322, and www.Colorado.EDU/disabilityservices

Religious Observances: Campus policy regarding religious observances requires that faculty make every effort to reasonably and fairly deal with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. If you anticipate any conflicts with the course requirements described in the syllabus due to religious observances, please bring those to my attention now so that alternative arrangements can be made. See full details at http://www.colorado.edu/policies/fac_relig.html

Classroom Behavior Policy: Students and faculty each have responsibility for maintaining an appropriate learning environment. Students who fail to adhere to such behavioral standards may be subject to discipline. Faculty have the professional responsibility to treat all students with understanding, dignity and respect, to guide classroom discussion and to set reasonable limits on the manner in which they and their students express opinions. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender variance, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. See policies at <http://www.colorado.edu/policies/classbehavior.html> and at http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code

Honor Code: All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council (honor@colorado.edu; 303-725-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Other information on the Honor Code can be found at <http://www.colorado.edu/policies/honor.html> and at <http://www.colorado.edu/academics/honorcode/>

Sexual Harassment: The University of Colorado at Boulder policy on Discrimination and Harassment (<http://www.colorado.edu/policies/discrimination.html>), the University of Colorado policy on Sexual Harassment and the University of Colorado policy on Amorous Relationships applies to all students, staff and faculty. Any student, staff or faculty member who believes s/he has been the subject of discrimination or harassment based upon race, color, national origin, sex, age, disability, religion, sexual orientation, or veteran status should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127 or the Office of Judicial Affairs at 303-492-5550. Information about the ODH and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at <http://www.colorado.edu/odh>

Course Schedule

DATE		SUBJECT	TEXT CHAPTER
August	29	Introduction to Course	1
	31	Historical Perspective	14
September	5	Mendel's Laws of Heredity I	2
	7	Mendel's Laws of Heredity II	2
	12	Beyond Mendel's Laws	3
	14	DNA: The Basis of Heredity I	4
	19	The Basis of Heredity II (Group Assignments Due)	4
	21	Human Genome Project	4
	26	Genetic Polymorphisms & Genetic Markers	4
	28	Review	
October	3	Midterm I	
	5	Introduction to Quantitative Genetics	Appendix (pp. 327-336)
	10	Experimental Animal Studies	5
	12	Adoption Studies	5
	17	The Colorado Adoption Project	5
	19	Twin Studies & Heritability I (Paper topic due)	5
	24	Heritability II	Appendix (pp. 342-350)
	26	Understanding Environmental Influences	15
	31	Review (Group Project Due)	
November	2	Midterm II	

	7	Identifying Genes: Gene Mapping I	6
	9	Gene Mapping II	7
	14	Cognitive Disabilities	8
	16	General & Specific Cognitive Abilities	9-10
	21/23	No Classes! Fall Break!	
	28	Psychopathology	11
	30	Personality & Personality Disorders	12
December	5	Health Psychology	13
	7	Substance Abuse	13
	12	Colorado Drug Research Center (IBG, PSYC, MCDB & UCHSC) (Term Paper Due)	
	14	Review (Last Day of Class)	
	20	Final Exam (Wednesday, 10:30am-1:00pm)	

Term Paper Topics

Aggression/antisocial behavior

Aging

Alcoholism

Alzheimer's disease

Anxiety Disorders

Asthma/Allergies

Attention Deficit-Hyperactivity Disorder (ADHD)

Autism

Bipolar affective disorder (manic-depressive disorder)

Chromosomal Abnormalities (e.g., Anglemans, Cri-du-chat, Prader-Willi, etc.)

Cystic Fibrosis

Depression

Dyslexia

Eating Disorders

Fragile X syndrome

General cognitive ability (IQ)

Huntington's disease

Language Development

Mate Selection

Mental Retardation

Musical Abilities

Muscular Dystrophy

Obesity

Parkinson's disease

Personality or Personality Disorders

Phenylketonuria

Schizophrenia

Sexual orientation

Sleep Disorders

Smoking behavior

Specific cognitive abilities (e.g., memory, processing speed, etc.)

Speech and language disorders (e.g., dyslexia)

Tourette's syndrome

Other: Approved by me by October 19th