

GENETICS 310-PRINCIPLES OF HEREDITY

INSTRUCTOR: Clint Magill

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OBJECTIVE: To appreciate and be able to convey to others the many ways that genetics impacts our daily lives.

TEXT: Human Genetics by Ricki Lewis (5-7th) edition

Ancillary: Lecture notes can be accessed via the internet using a common browser at:

<http://www.tamu.edu/classes/plan/magill/gene310/> Study guides and PDF versions of old tests are also linked to this site. Tests are available with and without answers.

GRADES: Your grade will be determined by your performance on 3 in-class exams, a comprehensive final, and an outside paper on a relevant topic of your choice, all weighted equally and all curved to the scale of 90, 80, 70, 60 scale for A, B, C and D grades. The lowest of the five scores will be dropped in calculating the final average. Make-up exams will be permitted for [excused absences](#). An incomplete will be given only to students with a passing average who have an excused absence for examinations missed.

GENE 310 is [ADA](#) and Aggie [Honor Code](#) compliant.

Week/Date	Topics	Text pages or chapters (7th ed)
1/Sept 1 & 3	Origins of Genetics, Mendel, Pedigrees	Ch 1, Ch 4
2/Sept 8 & 10	Mitosis, Meiosis, Gametogenesis, Probability	Chs 2 3 & 4; study guide
3/Sept 15 & 17	Gene interactions, Lethals, Pleiotrophy, Epistasis Multiple Alleles, Immunogenetics & Blood Groups	Ch 5, pp 94-100 Ch 17
4/Sept 22 & 24	Quantitative Traits, Twin Studies, IQ	Ch 7
Tuesday, September 29 EXAM I		
5/Oct 1	Genes and Enzymes-Pathways, DNA	Notes and Ch 9
6/ Oct 6 & 8	Transcription, Translation and the Code	Ch 10
7/ Oct 13 & 15	Regulating Gene Activity, Mutagens	Ch 11, Notes, & WEB Ch 12, pp 220 on
8/ Oct 20 & 22	Effects of Mutation-Sickle cell, Species Comparisons	pp 215-220 & 310-322 Ch 16
9/ Oct 27	Genetic Engineering, Gene Cloning	Ch 19 & Ch 22
Thursday, October 29 EXAM 2 (Q drop deadline Nov. 6)		
10/ Nov 3 & 5	Genes and Cancer, Viruses, Chromosomes; Genes on the X Chromosome	Ch 18, pp239-241 Ch 6
11/Nov 10 & 12	Sex Determination-Abnormalities Cytoplasmic Inheritance Gene Mapping - Crossing Over	Ch 13, pp253-245 Ch 2 & pp100-102 pp 103-106
12/ Nov 17 & 19	Abnormal Chromosome Numbers, Structural Chromosomal Aberrations Prenatal Detection	Ch 13, pp 246-253 pp 249-263 pp244-249
13/ Nov 24	PCR, DNA Fingerprinting	pp180-181, 174
November 26 & 27 Have a good Thanksgiving-Beat Texas! Be Safe!		
14/Dec. 1	Populations; Hardy-Weinberg equilibrium, Selection, Inbreeding	Ch. 14 Ch. 15
Thursday, December 3 EXAM 3		
15/ Dec 8	Cloning animals, Transgenics and Gene Therapy Pharmacogenetics & Behavior Genetics	Chs 20 & 21 Ch 8

Wednesday, December 10, 1 to 3 pm

Final Exam