

# ANSC 442: QUANTITATIVE GENETICS

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ONLINE SYLLABUS: <http://www.personal.psu.edu/gfb1/442notes/>

also, available via ANGEL: <https://www.cms.psu.edu>

## 2008 Lecture Schedule:

1. Administrivia
  1. ANSC 442: Quantitative Genetics
  2. Course Information
  3. Course Projects
  4. How to submit homework assignments
2. Introduction (Jan 15 - 17)
  1. Deal or No Deal
  2. Domestication and Animal Welfare
  3. A Brief History of Quantitative Genetics
3. Genetics of a Population (Jan 22 - Jan 29)
  1. Phenotypic, genotypic and gene frequencies
  2. Hardy-Weingberg (the easy way)
  3. Changing gene frequencies
4. Genetics of Small Populations (Jan 31 – Feb 7)
  1. Basic generations
  2. Continuous variation
  3. Means
5. Variances (Feb 19 - 21)
  1. Environmental variance
  2. Estimating genetic components
6. Heritability (Feb 26)
7. Selection (Feb 28 -March 4)
  1. Selection responses
  2. Experimental results
  3. Information from relatives
8. Correlated Responses (March 6 – March 11)
9. Inbreeding and Crossbreeding (Mar 13 - Mar 27)
  1. Changes in mean value
  2. Diallel crosses (Linear model)
  3. Combining Ability
10. Problems of scale (April 1- April 3)
  1. What is "scale"?
  2. Threshold characters
11. Genes and Markers and Maps (oh my!) (April 8 - April 17)
  1. What is a Genome?
  2. Major genes and genetic markers
  3. QTL analysis
  4. Mapping
12. Student Presentations (April 22 – May 1)
13. Video 2005: Evolution