

MOLECULAR EPIDEMIOLOGY

201376 – BIOL 439 - A01
January 6 – April 3, 2020

COURSE OUTLINE

LECTURER: JOHN S. TAYLOR

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Lectures: Room: Cornett B143 TWF: 9:30 am - 10:20 am

COURSE DESCRIPTION. This course provides an introduction to the basic principles and applications of molecular epidemiology. We focus on the identification of genes that play a role in disease in humans (e.g., using linkage and association studies, exome and genome sequencing) and the implications of such discoveries for diagnosis, screening, and treatment. Cystic fibrosis, cancer, HIV progression, and the human HapMap are among the subjects covered. A key component of the course is the completion and presentation of semester-long group projects.

EVALUATION

1. ASSIGNMENTS: (45 pts)

- a) Reading assignment: Pre-implantation genetic diagnosis (5)
- b) Reading assignment: Genetic polymorphisms and breast cancer (5)
- c) HapMap assignment: Selecting tagging SNPs (10)
- d) Research Report (15) and Presentation (10)

2. MID-TERM EXAM: (30 pts)

3. FINAL EXAM: (25 pts)

Grading scheme: A+ (90%-100%), A (85-89.9%), A- (80-84.9%), B+ (77-79.9%), B (73-76.9%), B- (70-72.9%), C+ (65-69.9%), C (60-64.9%), D (50-59.9%), F (<50%), N (Failure to complete one or more of the following: Research Report, Mid-term exam, Final exam)

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