

2014 Winter Biology 2171: Genetics Course Outline

Instructor: Dr. Wensheng Qin

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Lecture

Location: ATAC 1001

Time: Monday & Wednesday: 10-11: 30 am

Duration: 2014/01/06 - 2014/04/02

Credits: 0.50

TA: Yagya Paudel

Email: ypaudel@lakeheadu.ca

Tel: 766-7141 (Lab/Office: CB 3037)

Office Hours: CB4016, Monday, 11:30 am to 12:30 pm, or by appointment

Textbook: Genetics from genes to genomes, 4th Edition, by Leland Hartwell, Leroy Hood, Michael Goldberg, Anne Reynolds, Lee Silver (Required)

Schedule (January 6: Monday semester starts, April 4, 2014: Friday, semester ends)

January 6: Introduction and Chapter 1 Genetics: The study of biological information

January 8: Chapter 2: Mendel's principles of heredity

January 13: Chapter 2: Mendel's principles of heredity

January 15: Chapter 3: Extensions to Mendel's Laws

January 20: Chapter 3: Extensions to Mendel's Laws

January 22: Chapter 4: The Chromosome Theory of Inheritance

January 27: Chapter 4: The Chromosome Theory of Inheritance

January 29: Chapter 5: Linkage, Recombination, and the Mapping of Genes on Chromosomes

February 3: Chapter 5: Linkage, Recombination, and the Mapping of Genes on Chromosomes

February 5: Chapter 6: DNA: Structure, Replication, and Recombination

February 10: Chapter 6: DNA: Structure, Replication, and Recombination

February 12: Mid-term Exam One (Chapters 1-3) [25%] 75 minutes

February 17: Family Day, no class

February 19: February Break, Reading Week (February 18-21), no class

February 24: Chapter 7: Anatomy and Function of a Gene: Dissection Through Mutation

February 26: Chapter 7: Anatomy and Function of a Gene: Dissection Through Mutation

March 3: Chapter 7: Gene Expression: The Flow of Information from DNA to RNA to Protein

March 5: Chapter 8: Gene Expression: The Flow of Information from DNA to RNA to Protein

March 10: Chapter 10: Genomes and Proteomes

March 12: Chapter 10: Genomes and Proteomes

March 17: Mid-term Exam Two (Chapters 4-5) [25%] 75 minutes

March 19: Chapter 15: Gene Regulation in Prokaryotes

March 24: Chapter 15: Gene Regulation in Prokaryotes

March 26: Chapter 16: Gene Regulation in Eukaryotes

March 31: Chapter 16: Gene Regulation in Eukaryotes

April 2: Last class: General Review & Questions

Additional Requirements: (1) Preview the textbook and think about the questions in the chapter(s) before the applicable class. (2) Review the textbook and try to answer the questions in the chapter(s) after the class. (3) Read the entire lectured chapters.

Grading Scheme (Powerpoint slides do not cover all the information for exams, so intensive reading and understanding of the whole lectured chapters are necessary).

1. Mid-term Exam One (Chapters 1-3) [25%]. Exam may include (1) Fill in the blank questions, (2) Essay questions, (3) Multiple choice questions, (4) True/False questions, etc. TA will help administer and mark the exam. Duration is 75 minutes.
2. Mid-term Exam Two (Chapters 4-5) [25%]. Exam may include (1) Fill in the blank questions, (2) Essay questions, (3) Multiple choice questions, (4) True/False questions, etc. TA will help administer and mark the exam. Duration is 75 minutes.
3. Final exam (Chapter 6-8; 10 & 15-16 seven chapters) [50%]. Exam may include (1) Fill in the blank questions, (2) Essay questions, (3) Multiple choice questions, (4) True/False questions, etc. Duration is 3 hours.

Bonus points: Certain amount of bonus points will be awarded by pop quizzes or class attendance or assignments to adjust class average marks. Each bonus point can value more or less than 1%, depending on the class average marks from exams. Note: In case of absences: (1) class attendance bonus will only be given to the students who provide a doctor's note dated before the missed class or with a solid reason emailed to both the instructor wqin@lakeheadu.ca and TA ypaudel@lakeheadu.ca before the missed class, (2) writing the missed pop quiz will only be permitted to the students provide a doctor's note dated before the missed class or with a solid reason emailed to both the instructor and TA before the missed class.