

**Elementary Genetics BIOL 206**  
**Winter Semester 2018**  
**Biology Department**  
**Concordia University, Montreal, Canada**

**Credits:** 3 credits

**Lectures:** Tuesday and Thursday, 8:45- 10:00 am

**Location:** FG C080 SGW (downtown campus)

**Instructor:** Aida Abu-Baker

**Office:** SP 375.35

**Office phone:** (514) 848-2424, x 3395

**Office hours:** Wed. 10:00 am-12:00 pm

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**Teaching assistant:** Medigeshi

**Email address:** sachiin.mh@gmail.com

### **Course Description**

The course will provide students with a basic foundation in human genetics. Fundamental principles of classical, molecular and population genetics will be covered with a strong focus on their application to human inheritance and the genetic basis of human diseases. The course will also focus on the application of molecular genetics in medicine and biotechnology. The relevance of genetics in law, ethics and society will be highlighted. The course will focus on three themes: 1) Genetic Transmission, 2) Molecular Genetics & Mutation, 3) Biotechnology and Genomics.

### **Course Objectives**

1. To provide a solid understanding of basic genetics concepts and principles.
2. To develop appreciation of scientific methods of modern genetics as it applies to humans.
3. To improve students' critical thinking skills on the impact of genetics in our society.

### **Detailed course outline**

		<b>Book's chapter</b>
<b>Week 1</b>	Introduction to Genetics Cell and Cell Division	Chapter 1 Chapter 2
<b>Week 2</b>	Transmission of Genes from Generation to Generation	Chapter 3
<b>Week 3</b>	Pedigree Analysis in Human Genetics The Inheritance of Complex Traits	Chapter 4 Chapter 5
<b>Week 4</b>	The Inheritance of Complex Traits	Chapter 5

	Chromosome Aberrations	Chapter 6
<b>Week 5</b>	Sex Determination The Structure of DNA	Chapter 7 Chapter 8
<b>Week 6</b>	DNA Replication Gene Expression and Regulation	Chapter 8 Chapter 9
<b>Week 7</b>	<b>MIDTERM EXAM Feb.27<sup>th</sup></b> Gene Expression and Regulation	Chapter 9
<b>Week 8</b>	From Proteins to Phenotypes Mutation and Epigenetics	Chapter 10 Chapter 11
<b>Week 9</b>	Mutation and Epigenetics Genes and Cancer	Chapter 11 Chapter 12
<b>Week 10</b>	Biotechnology and Society	Chapter 14
<b>Week 11</b>	Genomics	Chapter 15
<b>Week 12</b>	Genetics of Behavior  Population Genetics	Chapter 18  Chapter 19
<b>Week 13</b>	Population Genetics Revision Lecture	Chapter 19

### **Textbook**

**Cummings - Human Heredity: Principles and Issues 11<sup>th</sup> ed**  
ISBN 9781305703186

### **All lectures will be available on Moodle BIOL206**

It is **recommended** that students attend all classes, and read the assigned materials regularly. Students are highly encouraged to participate in all learning activities involved in this class.

Please feel free to **ask me any question** during the class lectures, office hours or by email.

### **Grading:**

**Assignment 1 (10%).** You need to submit your assignment 1 by **Thursday Feb.8<sup>th</sup>** (hard copy) at the class.

**Assignment 2 (10%).** You need to submit your assignment 2 by **Thursday March 29<sup>th</sup>** (hard copy) at the class.

*Each assignment will be posted on Course's Moodle 10 days before the submission's deadline.*

**Midterm will be on Tuesday Feb.27<sup>th</sup> (30%)**

**Final (50%). Note that the final exam is cumulative.**

**No makeup or supplemental exams will be available.** Please contact me immediately if you have a medical emergency. You will need to provide a medical note from your doctor.

### **Important Notes**

**This is a large class but you are not a small part of it! To make our time together as valuable as possible, we both have to work hard at it.** The following basic principles may give us some guidelines (Code of Rights and Responsibilities, Concordia University):

- Every student has the right to learn as well as the responsibility not to deprive others of their right to learn.

- Every student is accountable for his or her own actions.

Please respect the focus of students and professor and **arrive on time.**

**Disruption** (e.g. talking, making loud or distracting noises, leaving the classroom without authorization) **will not be tolerated in this class.** The disruptive student(s) will be asked to leave the classroom immediately.

**Your cell phone and laptop computers should be turned off in class time.**

Please respect the focus of students and professor and **arrive on time.**

No food is allowed in class.

### **Code of Rights and Responsibilities**

[http://web2.concordia.ca/Legal\\_Counsel/policies/english/BD/BD-4.html](http://web2.concordia.ca/Legal_Counsel/policies/english/BD/BD-4.html)

**It is not acceptable to do the following:**

- Copy from ANYWHERE without saying from where it came.
- Omit quotation marks for direct quotations.
- Let another student copy your work and then submit it as his/her own.
- Hand in the same assignment in more than one class without permission.
- Have unauthorized material in an exam, such as cheat sheets, or crib notes.

**YOU DON'T HAVE TO BE CAUGHT USING THEM - JUST HAVING**

**THEM WILL GET YOU INTO TROUBLE!**

- Copy from someone else's exam.

- Communicate with another student during an exam by talking or using some form of signals.
- Add or remove pages from an examination booklet or take the booklet out of an exam room.
- Get hold of or steal an exam or assignment answers or questions.
- Write a test or exam for someone else or have someone write it for you.
- Hand in false documents such as medical notes, transcript or record.
- Falsify data or research results.

**Source: The Academic Integrity Website**

**<http://provost.concordia.ca/academicintegrity/misconduct/>**

The most common offense under the Academic Code of Conduct is plagiarism which the Code defines as "the presentation of the work of another person as one's own or without proper acknowledgement" (Article 16 a). This could be material copied word for word from books, journals, internet sites, professor's course notes, etc. It could be material that is paraphrased but closely resembles the original source. It could be the work of a fellow student, for example, an answer on a quiz, data for a lab report, a paper or assignment completed by another student. It might be a paper purchased through one of the many available sources. Plagiarism does not refer to words alone - it can also refer to copying images, graphs, tables, and ideas. "Presentation" is not limited to written work. It also includes oral presentations, computer assignments and artistic works. If you translate the work of another person into French or English and do not cite the source, this is also plagiarism. If you cite your own work without the correct citation, this too is plagiarism.

**In Simple Words:**

NOT COPY, PARAPHRASE OR TRANSLATE ANYTHING FROM  
 ANYWHERE WITHOUT SAYING FROM WHERE YOU GOT IT! DON'T  
 FORGET TO USE QUOTATION MARKS!

This information is an adaptation of the material produced by the Code Administrator of the Faculty of Arts and Science at Concordia University

Source: The Academic Integrity Website:

<http://provost.concordia.ca/academicintegrity/plagiarism/>

### **List of Student Services**

<http://www.concordia.ca/info/currentstudents/studentsservices/>

- Concordia Counselling and Development: <http://cdev.concordia.ca/> (offers career psychological services, student learning services, etc.)

- The Concordia Library Citation and Style Guides:

<http://library.concordia.ca/help/howto/citations.html>

- Advocacy and Support Services <http://supportservices.concordia.ca/>

- Student Transition Centre <http://stc.concordia.ca/>

- New Student Program <http://newstudent.concordia.ca/>

- Access Centre for Students with Disabilities

<http://supportservices.concordia.ca/disabilities/>

- Student Success Centre <http://studentsuccess.concordia.ca/>

- The Academic Integrity Website <http://provost.concordia.ca/academicintegrity/>

- Financial Aid & Awards <http://web2.concordia.ca/financialaid/>

- Health Services <http://www-health.concordia.ca/>