

BIOL 511/BIOL 481 Structural Genomics Fall 2019

Lectures: Wed & Fri 14:45-16:00 Room: CC425

Instructor: Dr. Malcolm Whiteway
 GE230.11
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Prerequisite (Grad students): BIOL 367 (Molecular Biology) or permission of the Diploma Program

Prerequisite (Undergrad): BIOL367, at least 60 credits in Biology majors AND permission of the instructor.

Course description: This course provides an overview of genome analysis including: cloning systems; sequencing strategies; approaches to mapping genomes; methods of detecting genes; genome sequence assembly; gene annotation; gene ontology; genome evolution and genome manipulation. It covers the theory and design of the different approaches, and the analysis of genomic data. It also deals with metagenomic analysis, population genomics, and the applications of genomics.

Evaluation:

Instructor		% of final grade
Malcolm Whiteway	Class participation/homework	15%
	midterm	20%
	Reading assignments	20%
	Oral presentation	15%
	Final exam	30%

Tentative schedule (subject to change)

	Date	Assignment	Topic	
1	Sep 4		Course overview	
2	Sep 6		Overview of genome structure	Yeast genome 1
3	Sep 11			Yeast genome 2
4	Sep 13			Yeast genome 3
5	Sep 18		Organizing the human genome	Genome project overview, Mapping, Library construction
6	Sep 20			
7	Sep 25			
8	Sept 27		Getting the human genome	Sequencing strategies and techniques
9	Oct 2			
10	Oct 4			
11	Oct 9		Analyzing the human genome	Annotation
12	Oct 11			
13	Oct 16	Midterm exam		
14	Oct 18		Selfish DNA 1	
15	Oct 23		Selfish DNA 2	
16	Oct 25		Functional RNAs 1	
17	Oct 30		Functional RNAs 2	
18	Nov 1	Readings	applications	Cancer 1
19	Nov 6			Cancer 2
20	Nov 8	Readings	diversity	Neanderthal 1
21	Nov 13			Neanderthal 2
22	Nov 15		Genome manipulation	CRISPR/Cas9 etc
23	Nov 20		Microbiome	
24	Nov 22		students	Class presentations
25	Nov 27		students	Class presentations
26	Nov 29		students	Class presentations

Avoiding plagiarism

Since the course work requires written works (presentation slides and assignment), I need to remind of you of good citation practice. Throughout the text, you should be clear on what part

has been cited from which articles. Please visit the Academic Integrity Website prepared by Provost office. <http://provost.concordia.ca/academicintegrity/index.php>. Also, Concordia University Library has a good referencing guide <http://library.concordia.ca/research/subjects/biology/>. Watch self tutorial on how to acknowledge information sources (prepared by Concordia librarian Ms. Danielle Dennie): http://library.concordia.ca/research/subjects/biology/plagiarism/plagiarism_video.htm

The following statements are taken from The Academic Integrity Website (<http://provost.concordia.ca/academicintegrity/plagiarism/>).

“Plagiarism:

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."

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. Finally, if you translate the work of another person into French or English and do not cite the source, this is also plagiarism.

In Simple Words:

DO NOT COPY, PARAPHRASE OR TRANSLATE ANYTHING FROM ANYWHERE WITHOUT SAYING FROM WHERE YOU OBTAINED IT!"

If you are not sure how to paraphrase without plagiarizing, please refer to this example given by the Academic Integrity information site created by the Office of Provost: <http://provost.concordia.ca/academicintegrity/index.php>. Examples are shown near the end of the web page.

LIST OF SERVICES

- **Concordia Counselling and Development:** <http://cdev.concordia.ca/> (offers career services, psychological services, student learning services, etc.)
- **The Concordia Library Citation and Style Guides:** <http://library.concordia.ca/help/howto/citations.html>
- **The Concordia Library Biology Research Guide:** <http://library.concordia.ca/research/subjects/biology/>
- **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/>