

MEDG 520: ADVANCES IN HUMAN MOLECULAR GENETICS

Course Coordinator: Dr. Anna Lehman alehman@cw.bc.ca (604) 875-2157

Instructors: Block leaders: Drs. Stefan Taubert, Matthew Lorincz, Inanc Birol, Anna Lehman, Millan Patel, Colin Ross, and Fabio Rossi. Guest Lecturer: Dr. Intan Schrader

Teaching Assistant: Jessica Pilsworth jpilsworth@bccrc.ca

Class website:

<https://courses.students.ubc.ca/cs/main?pname=subjarea&tname=subjareas&req=3&dept=MEDG&course=520>

Offered: 2017W Term 1

Pre-requisites: BIOL 335 (76% minimum) or equivalent genetics classes (evaluated by course coordinator). (Note: the UBC calendar states BIOL 334 which is outdated. The new prerequisite is BIOL 335.)

NON-MEDG STUDENTS interested in taking MEDG 520 must obtain permission. Email Dr. Lehman a list of all upper level genetics courses that you have taken and your grades; and include your UBC student number.

Overview: MEDG 520 (3 credits) is a core graduate course for students in Medical Genetics and covers advances in human molecular genetics and genomics. It is recommended that students complete MEDG 520 prior to MEDG 530, however, in certain circumstances (such as a January-start students) the courses may be taken in reverse order. All students enrolled are expected to have a strong background in the principles and fundamentals of genetics and genomics and have completed at least one undergraduate course in genetics.

The objectives of this course are to learn to critically and effectively read original research papers, to learn how to independently research scientific topics in the literature, and to learn key concepts in human genetics. In contrast to MEDG 530, this class is not conducted in the format of Problem-Based Learning, but is instead a student-led discussion format in which the students learn to teach themselves with guidance from instructors. The course will employ interactive student-led discussion of assigned sets of research and review paper(s) and key concepts. Each session will consist of one set of related papers (generally with 1-2 assigned for each class). The first class in each block may include an introductory lecture covering the relevant topic.

The course consists of several blocks covering important topics in human molecular genetics and genomics, as listed below, with specific faculty instructors for each block. The exact format may vary slightly between instructors. The course will be graded based on class participation (30%), a take-home mid-term exam (30%), and an oral final exam (40%).

Organization & Scheduling: The class meets in two sections, Tuesday and Thursday from 8:30 am to 10:00 am (Section 1) or 10:30 am to 12:00 pm (Section 2). Students will be assigned either to Section 1 or to Section 2 during the first (introductory) class, and then stay in their section for the rest of MEDG 520. Please note that some students have been pre-assigned to the early or late class.

Introductory Class: **10-11 am, Tuesday September 5th**
Dept. of Medical Genetics, Room C-240, C&W (see below)

MEDG 520: ADVANCES IN HUMAN MOLECULAR GENETICS

Location of all other classes:

Classes will take place in one of two locations, depending on the instructor (see schedule below):

1. Life Sciences Centre (**LSC**), Room 1410, 2350 Health Sciences Mall, UBC Campus
2. Room C240 (Medical Genetics conference room), Children's and Women's Hospital campus: Children's and Women's Health Centre of BC (**C&W**), 4500 Oak Street, Vancouver, BC

It is every student's individual responsibility to ensure that they get to all classes on time. If you are unfamiliar with a site, be sure to arrive early.

Schedule:

Block	Instructor	Topic	Date(s)	Location
Intro	Anna Lehman	Intro class (10:00-11:00am)	Sept 6	C&W C240
1	Stefan Taubert	Complex Diseases & Disease Models	Sept 7, 13, 14, 19	C&W C240
2	Matthew Lorincz	Genes & Epigenetics	Sept 21, 26, 28, Oct 3	LSC 1410
		<i>Day off for mid-term preparation</i>	Oct 5	
3	Inanc Birol	Genomics & Bioinformatics	Oct 10, 12, 17	LSC 1410
4	Fabio Rossi	Stem Cell Genetics	Oct 19, 24, 26, 31	LSC 1410
5	Millan Patel	Metagenomics	Nov 2 7	C&W C240
6	Anna Lehman	Personalized Genomics	Nov 9, 14, 16, 21	C&W C240
Guest	Intan Schrader	Cancer Genetics	Nov 23	C&W C240
7	Colin Ross	Pharmacogenomics	Nov 28, 30	C&W C240

MID-TERM: Handed out Sept 28th, due Oct 12th. No class on Oct 5th to give time for mid-term preparation.

FINAL EXAM: Dec 5th (LSC 1410) and Dec 7th (C&W – C240)