

ACKNOWLEDGEMENT

UBC's Point Grey Campus is located on the traditional, ancestral, and unceded territory of the xwməθkwəyəm (Musqueam) people. The land it is situated on has always been a place of learning for the Musqueam, who for millennia have passed on their culture, history, and traditions from one generation to the next on this site.

COURSE INFORMATION

Course Title	Course Code Number	Credit Value
Advanced Human Molecular Genetics	MEDG520	3

PREREQUISITES

UBC BIOL335 (76% minimum) or equivalent genetics classes (evaluated by course coordinator).

Non-MEDG students interested in taking MEDG 520 must obtain permission from the coordinator. Email the coordinator a list of all upper level genetics courses that you have taken, your full transcripts & grades, and your CV; include your UBC student number.

COREQUISITES

None.

CONTACTS

Course Instructor(s)	Contact Details	Office Location	Office Hours
Dr. Stefan Taubert (course coordinator)	taubert@cmmt.ubc.ca 604-875-3860	BC Children's Hospital, CMMT, 950 W 28 th Ave, Room 2024	All instructors will be available for approximately 30 minutes after class, or upon request by email
Dr. Matthew Lorincz	mlorincz@mail.ubc.ca 604-827-3965	Life Sciences Centre 2350 Health Sciences Mall Room 5-507	
Dr. Carles Vilariño-Güell	carles@can.ubc.ca 604-827-1343	Djavad Mowafaghian Centre for Brain Health 2215 Wesbrook Mall Room 5639	
Dr. Inanc Birol	ibirol@bcgsc.ca 604-707-5800	BC Cancer Agency, Genome Sciences Centre 570 W 7th Ave, #100	
Dr. Kelly McNagny	kelly@brc.ubc.ca 604-822-7824	Centre for Blood Research 2222 Health Sciences Mall	
Dr. Peter Lansdorp	plansdor@bccrc.ca 604-675-8135	Terry Fox Laboratory, BC Cancer Agency, 675 West 10 th Avenue	
Dr. Cornelius Boerkoel	nboerkoel@bcchr.ca 604-875-2157	BC Children's Hospital, 950 W 28 th Ave	

OTHER INSTRUCTIONAL STAFF

Teaching Assistant: Nikita Telkar; nikita.telkar@bcchr.ca

OVERVIEW

MEDG 520 (3 credits) is a core course for graduate 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 enrolled students are expected to have a strong background in the principles and fundamentals of genetics and genomics.

Please note that the concepts taught/learned in MEDG 520 are a key component of the comprehensive exam that MEDG students take prior to transferring to PhD studies and advancing to PhD candidacy. Approximately 50% of the comprehensive exam will be an examination of these concepts (see: <https://medfom-medgen.sites.olt.ubc.ca/files/2020/04/Guidelines-for-the-PhD-Comprehensive-Examination-Apr.-2020.pdf>).

STATEMENT REGARDING ONLINE LEARNING FOR INTERNATIONAL STUDENTS

During this pandemic, the shift to online learning has greatly altered teaching and studying at UBC, including changes to health and safety considerations. Keep in mind that some UBC courses might cover topics that are censored or considered illegal by non-Canadian governments. This may include, but is not limited to, human rights, representative government, defamation, obscenity, gender or sexuality, and historical or current geopolitical controversies. If you are a student living abroad, you will be subject to the laws of your local jurisdiction, and your local authorities might limit your access to course material or take punitive action against you. UBC is strongly committed to academic freedom, but has no control over foreign authorities (please visit <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,33,86,0> for an articulation of the values of the University conveyed in the Senate Statement on Academic Freedom). Thus, we recognize that students will have legitimate reason to exercise caution in studying certain subjects. If you have concerns regarding your personal situation, consider postponing taking a course with manifest risks, until you are back on campus or reach out to your academic advisor to find substitute courses. For further information and support, please visit: <http://academic.ubc.ca/support-resources/freedom-expression>.

COURSE STRUCTURE

The course consists of seven blocks covering topics in human molecular genetics and genomics with individual faculty instructors for each block (see schedule). Class format may vary between blocks. The course includes a mid-term mark based on presentations and a final written exam.

SCHEDULE OF TOPICS

The class meets Tuesdays and Thursdays in two sections: Section 1 from 8:30 am to 10:00 am, and Section 2 from 10:30 am to 12:00 pm. During the intro class, students are assigned either to Section 1 or Section 2. They then remain in their assigned section for all of MEDG 520. Please note that some students are pre-assigned to a section due to scheduling constraints.

Block	Instructor	Topic	Date(s)	Location
Intro #1	Stefan Taubert	Intro class (10:00-11:00am for all students)	Sept 8	n/a
Intro #2	Stefan Taubert	Grad School 101	Sept 10	n/a
1	Matthew Lorincz	Genes & Epigenetics	Sept 15, 17	n/a
2	Carles Vilariño-Güell	Genetic Variability and Gene Mapping	Sept 22, 24, 29	n/a
3	Stefan Taubert	Non-Mendelian inheritance	Oct 1, 6, 8	n/a
4	Inanc Birol	Genomics & Bioinformatics	Oct 13, 15, 20	n/a
	<i>Midterm break</i>		<i>Oct 22, 27</i>	
5	Neal Boerkoel	Clinical Genomics	Oct 29, Nov, 3, 5, 10	n/a
6	Peter Lansdorp	Genome Instability, Aging & Senescence	Nov 12, 17, 19	n/a
7	Kelly McNagny	Immunogenetics	Nov 24, 26, Dec 1, 3	n/a

Mid-term mark: Based on participation and concept presentations, a composite mark reflecting work from the first three blocks will be provided the week of October 27th

Final exam: Tue Dec 8th and/or Thu or 10th, details to be announced.

The UBC 2020W term runs from Tuesday, September 8th to Thursday, December 3rd.

Exams period starts Monday, December 7th and ends on Tuesday, December 22nd.

LEARNING OUTCOMES

The objectives of this course are to:

1. Learn key concepts in human genetics and genomics.
2. Critically and effectively read original research papers.
3. Learn how to independently research and present scientific topics using published literature.

LEARNING ACTIVITIES

This course is conducted in a student-led discussion format, in which the students learn to teach themselves with guidance from instructors. The course employs interactive student-led discussion of key research concepts and paper(s) assigned prior to each class. The first class in each block may include an introductory lecture covering the relevant topic.

LEARNING MATERIALS

Reading material as well as assignments for students will be assigned by the TA for each class on UBC's interactive learning interface, Canvas (<https://canvas.ubc.ca>).

ASSESSMENTS OF LEARNING

The course will be graded based on:

- Class participation (30%)
- Student presentations of assigned concepts (30%)
- A final exam (40%)

UNIVERSITY POLICIES

UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated and nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions.

Details of the policies and how to access support are available on [the UBC Senate website](#).

LEARNING ANALYTICS

Learning analytics includes the collection and analysis of data about learners to improve teaching and learning. In this course, it is planned to:

- View overall course progress
- Acquire personalized feedback via a mandatory questionnaire at the conclusion of the course

LEARNING RESOURCES

Source material required to cover content in this course will be shared on Canvas and/or available through PubMed or the UBC library.

COPYRIGHT

All materials of this course (course handouts, lecture slides, assessments, course readings, etc.) are the intellectual property of the course instructors or licensed to be used in this course by the copyright owner. Redistribution of these materials by any means without permission of the copyright holder(s) constitutes a breach of copyright and may lead to academic discipline.

Recording of this class by students is not permitted.

LOCATION OF CLASSES

Due to the COVID-19 pandemic, MEDG 520 will not be held in a physical classroom. Instead, this class will be delivered via **Collaborate Ultra** (part of Canvas).

The course coordinator will hold a Collaborate Ultra practice session on Thursday Sept. 3rd 10-11:30am PST. Students are strongly encouraged to access the virtual classroom then (see below) to familiarize themselves with the application and ask questions. If you are unavailable then but would like to test Collaborate Ultra, please email the course coordinator.

IMPORTANT: You will need access to a computer with audio and video, stable Wi-Fi, and a reasonably quiet setting to use Collaborate Ultra. If you anticipate challenges with any of these requirements, please contact the course coordinator.

For all scheduled MEDG 520 sessions, you will be able to directly access the MEDG 520 class room on Collaborate Ultra by clicking on the link below.

IMPORTANT: Do not share this link with anyone.

<https://ca.bbcollab.com/guest/0e58288cee3b4bb0a69d0d6867ef4b81>

You will have to grant access to microphone and camera to enter the classroom.

Alternatively, access and use Collaborate Ultra as follows:

1. Log into Canvas (<https://canvas.ubc.ca>) with your Campus-Wide Login (CWL)
2. On "Dashboard", click MEDG 520 001 2020W
3. On the vertical menu list, click "Collaborate Ultra"
4. Click "MEDG 520 001 2020W Advanced Human Molecular Genetics - Course Room"
5. Click "Join course room"; then allow Collaborate Ultra to access your microphone and video (button at bottom) to launch the online course room
6. Course room features (see image below):
 - a. Middle bottom: user, audio, video, hand raise buttons; use the latter in class if you have a question/comment
 - b. Top left, black: "Session menu", where you can leave the session
 - c. Bottom right, purple: "Collaborate Panel". Click, then you see 4 sub-panels:
 - i. Chat, where you may ask questions; however, the chat will not be saved
 - ii. Attendees
 - iii. Share Content (note, some of these will be not, or not always, be visible/accessible to students)
 1. "Share Blank Whiteboard" (self-explanatory)
 2. "Share Application/Screen" (circled purple). If you launch a PowerPoint in presentation mode and "Share Application/Screen", everyone will see your presentation
 3. Share camera (self-explanatory, probably not needed)

4. "Share files": we will use this tool to share presentations and papers; the instructor will show their and students presentations (emailed to them by 9pm the night before) as well as paper pdfs via this tool. Anyone can use the highlight tools to annotate, as needed
5. Polling (self-explanatory)
6. Breakout Groups (self-explanatory)
- iv. Settings (adjust as needed)
7. Click the link below to access an excellent pdf with lots of useful information:
<https://keep-teaching.ubc.ca/files/2020/03/collaborate-ultra-student-guide.pdf>

For further information on online course delivery at UBC, see:

<https://covid19.ubc.ca/information-for-students/#what-is-ubcs-approach-for-fall-2020>

<https://keep-learning.ubc.ca>

Students with disabilities are encouraged to reach out to the [Centre for Accessibility](#). Please email the course coordinator if you need further information.