Mission:
Genetics has a major impact on many aspects of human health. The mission of this course is to teach the principles of human genetics and thereby inspire students to pursue a variety of possible careers in the field of human genetics either in a clinical environment, in health sciences or elsewhere.

Course Content:
This course will teach you what the field of Human Genetics entails with a focus on medical genetics, a specialty of medicine that involves the diagnosis of hereditary disorders. You will be taught about the basics of human genetics (lectures), learn about the path of obtaining a clinical diagnosis (work group), gain basic experience with commonly used online databases for investigation of genes, variants and clinical phenotypes (bioinformatics assessment), learn about job opportunities in the Human Genetics field (interview and oral presentation), and summarize and reflect on a pre-selected high-impact Human Genetics paper (writing a 750-word perspective). Attendance at all sessions is compulsory unless otherwise indicated by the instructor.

Course format:

Week 1
Date: Oct. 29 3.00 PM – 4.00 PM (Change in start date)
Location: 346 MSB
Course introduction
Lecture 1: History of human genetics and structure of the human genome (1 hour)

Week 2
Date: Nov 3: 9.30 AM – 11.30 AM
Location: 346 MSB
Lecture 2: Genetic disorders: from gene to disease I (1 hour)
Lecture 3: Genetic disorders: from gene to disease II (1 hour)

Week 2
Date: Nov 5: 9:30 AM – 11.30 AM
Location: 346 MSB
Workgroup on genetic counseling in Intellectual Disability (2 hours)
Course materials: bring notes on lectures 1-3

Week 3
Date: Nov 10: 9.30 AM – 12.30 AM
Location: 346 MSB
Lecture 4: Bioinformatics I (1 hour)
Lecture 5: Bioinformatics II (1 hour)
Bioinformatics Assessment (1 hour)
Course materials: bring laptop

Week 4
Date: Nov 17: 9.30 AM – 11:30 AM
Location: 346 MSB
Presentations of careers in Human Genetics (2 hours)
Introduction into writing a personal perspective. Critically reflect on a pre-selected high-impact Human Genetics paper and writing a perspective of 750 words.
Course materials: bring USB stick with presentation

Week 5
Date: Dec 8: 9.30 AM – 11.30 AM
Location: 346 MSB
Course evaluation (10-15 min)
Bioinformatics Assessment (2 hours)
Course materials: bring laptop and notes on lectures 4-5

Week 6 – Dec 15:
Hand in individual Perspectives.
Hand in individual Bioinformatics Assessments.

Tasks:

Oral Presentation on a Genetics career:
Students are expected to carefully prepare a 15-30 minute interview with a Genetics professional by evaluating which questions they will ask about their training, careers/mile stones and tasks. Careers will be chosen at your discretion from a list provided by the instructor. Students will record minutes of the interview. An oral presentation of 10 minutes will then be prepared to be presented for the group. This should include: 1) information about what a typical work day looks like; 2) job highlights and challenges; 3) training requirements; 4) training references and most relevant training information. The presentation will be graded by all students (50%) and faculty (50%).

Bioinformatic Assessment:
The goal of this assignment is to actively learn how to use a variety of databases that are commonly used in the human genetics field for basic investigation of genes, variants and clinical phenotypes. Although students may interact when encountering difficulties, it is expected that students answer questions individually. A personal report formulated in one’s own words should be handed in.

Perspective:
A perspective is a personal commentary on a paper. It summarizes major findings of a paper and expresses a personal view on the topic. Students are expected to each individually write a 750-word perspective on a paper chosen by faculty.

Course Evaluation:
1. Oral Presentation based on an interview with a genetics professional (30%).
2. Individual Bioinformatic Assessment (30%)
3. Individual 750-word Perspective on a pre-selected high-impact publication (30%)
4. Student participation during the course (10%)

Notify the instructor if you are unable to attend any class. It may require appropriate documentation. Failure to attend class may result in deduction of grade points. Class attendance will not alone be satisfactory to gain full participation marks.

Penalties will be deducted for late assignments.

Course Policies:
The statement: “Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site: http://www.uwo.ca/univsec/handbook/appeals/scholastic_discipline_grad.pdf

Plagiarism: Students must write their essays and assignments in their own words. Whenever students take an idea or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major academic offence (see Scholastic Offence Policy in the Western Academic Calendar).

All required papers may be subject to submission for textual similarity review to the commercial plagiarism-detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (http://www.turnitin.com).
As part of a successful graduate student experience at Western, we encourage students to make their health and wellness a priority. Western provides several on campus health-related services to help you achieve optimum health and engage in healthy living while pursuing your graduate degree. For example, to support physical activity, all students, as part of their registration, receive membership in Western's Campus Recreation Centre. Numerous cultural events are offered throughout the year. Please check out the Faculty of Music web page http://www.music.uwo.ca/ and our own McIntosh Gallery http://www.mcintoshgallery.ca/. Information regarding health- and wellness-related services available to students may be found at http://www.health.uwo.ca/

Students seeking help regarding mental health concerns are advised to speak to someone they feel comfortable confiding in, such as their faculty supervisor, their program director (graduate chair), or other relevant administrators in their unit. Campus mental health resources may be found at http://www.health.uwo.ca/mental_health/resources.html

To help you learn more about mental health, Western has developed an interactive mental health learning module, found here: http://www.health.uwo.ca/mental_health/module.html. This module is 30 minutes in length and provides participants with a basic understanding of mental health issues and of available campus and community resources. Topics include stress, anxiety, depression, suicide and eating disorders. After successful completion of the module, participants receive a certificate confirming their participation.

Helpful Resources @ Western for Graduate Students

Writing Support Centre http://www.sdc.uwo.ca/writing/  SDC’s Learning Skills Services, Rm 4100 WSS, www.sdc.uwo.ca/learning
LS counsellors are ready to help you improve your learning skills. We offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.

The Student Success Centre: http://success.uwo.ca/