



**HUMAN GENETICS
MBG*3050
COURSE OUTLINE, WINTER 2017**

Instructor:

Dr. Nina Jones, SCIE 3461
Department of Molecular and Cellular Biology
Tel: x53643, Email: jonesmcb@uoguelph.ca
Office hours by appointment

Lectures:

Monday, Wednesday and Friday, 11:30-12:20 pm, ANNU 156

Prerequisite:

MCB*2050

Course Description:

This course is designed to provide students with advanced study into biological inheritance in humans. Topics include the genetic basis of individual differences, human origins, developmental genetics, cancer genetics and aging. We will also discuss research strategies for identifying and studying genes responsible for diverse functions and traits, as well as approaches to treating human disease, personalized medicine and the application and consequences of modern genetic technologies in our society.

Course Format:

This course will consist of a series of lectures and in-class presentations by student groups, as well as a complementary laboratory. Lectures will be presented using PowerPoint and will be posted on Courselink prior to the lecture. It is highly recommended that students print the lecture outlines and bring them with you to class. Active participation in class is encouraged, so please feel free to ask and answer questions. Several guest lecturers focused on career development in the field of human genetics will be presented during class time. Student presentations will be based on assigned topics and will be ~12 minutes in length, with ~3 minutes for questions. Students will be asked to prepare a summary with key terms and points, as well as questions that can be used for the final exam. Students will sign up in groups for a specific topic during class time in the first week of the semester. Detailed instructions for the presentation will be posted in a separate document on Courselink.

Laboratory:

There will be five laboratories, each with a quiz (worth 5% total) and two lab reports (worth 25% total). The lab schedule and all details are outlined in the lab manual, which can be purchased from Jan. 9-11, 2017 in SSC 2302, from 9:30am-noon and 1-3:30pm. All laboratory sessions take place in SCIE 4101. Please check your section assignment for Tuesday/Wednesday attendance.

Laboratory Instructor:

Marissa Dahari (mdahari@uoguelph.ca)

Laboratory TAs:

Sonia Evagelou, Jessica White

Course Evaluation and Exam Dates:

Assessment	Weight (% final grade)	Date/Location
Midterm Exam	20%	Friday February 17 th , in class
In-class Presentation	10%	see schedule on Courselink, in class
Lab Reports/Quizzes	30%	see schedule in lab manual
Final Exam	40%	Saturday April 22 nd , 8:30-10:30am, location TBA

Labs/Exams/Group Presentations:

Any student who claims medical, psychological or compassionate grounds as a reason for missing an evaluation (lab, group presentation, midterm or final) MUST obtain appropriate certification as outlined in the Undergraduate Calendar. Once the documentation is approved by the Department Chair, a student with appropriate certification will be granted an exemption. There is no make-up midterm scheduled for MBG*3050. If you are unable to write the midterm as scheduled and can provide acceptable documentation to support this, the weighting of the final exam will be adjusted to 60% of your total mark. If you do not write the midterm and do not provide documentation, a mark of zero will be assigned and you will thus lose 20% of your final mark (equivalent to the weighting of the midterm).

Policy On Academic Integrity:

The University of Guelph takes a serious view of academic misconduct, and it is your responsibility as a student to be aware of and to abide by the University's policy, which is published in the Undergraduate Calendar.

Electronic recording of classes is expressly forbidden without prior consent of the instructor. When recordings are permitted they are solely for the use of the authorized student and may not be reproduced or transmitted to others without the express consent of the instructor.

Reading Materials:

***please note that there is no required textbook for this course**

1. Suggested Textbook:

Tom Strachan and Andrew P. Read, 2011. *Human Molecular Genetics* (4th edition). (HMG4) Garland Publishing.

New and second-hand copies of the 4th edition are available in the UofG Bookstore. Copies of the 3rd and 4th editions are available on 2-hour reserve at McLaughlin Library.

2. Supplemental Textbooks (on 2-hour reserve):

- Nussbaum, McInnes, Huntington, 2007. *Genetics in Medicine*. Saunders Elsevier.
- Scott Gilbert, 2010. *Developmental Biology* (9th edition). Sinauer Associates.
- Ian Young, 2005. *Medical Genetics*. Oxford University Press.

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Lecture and presentation schedule:

Week 1: LAB ONE (01, 03)

Jan 9 (M): Lecture
Jan 11 (W): Lecture
Jan 13 (F): Lecture

Week 2: LAB ONE (02, 04)

Jan 16 (M): Lecture
Jan 18 (W): Lecture
Jan 20 (F): Lecture

Week 3: LAB TWO (01, 03)

Jan 23 (M): Lecture
Jan 25 (W): ***Presentations***
Jan 27 (F): Lecture

Week 4: LAB TWO (02, 04)

Jan 30 (M): Lecture
Feb 1 (W): ***Presentations***
Feb 3 (F): Lecture

Week 5: LAB THREE (01, 03)

Feb 6 (M): Lecture
Feb 8 (W): ***Presentations***
Feb 10 (F): Lecture

Week 6: LAB THREE (02, 04)

Feb 13 (M): Lecture
Feb 15 (W): Lecture
Feb 17 (F): Midterm exam

Reading week

Week 7: LAB FOUR (01, 03)

Feb 27 (M): No class
Mar 1 (W): Lecture
Mar 3 (F): Lecture

Week 8: LAB FOUR (02, 04)

Mar 6 (M): Lecture
Mar 8 (W): ***Presentations***
Mar 10 (F): Lecture

Week 9: LAB FIVE (01, 03)

Mar 13 (M): Lecture
Mar 15 (W): ***Presentations***
Mar 17 (F): Lecture

Week 10: LAB FIVE (02, 04)

Mar 20 (M): Lecture
Mar 22 (W): ***Presentations***
Mar 24 (F): Lecture

Week 11:

Mar 27 (M): Lecture
Mar 29 (W): ***Presentations***
Mar 31 (F): Lecture

Week 12:

Apr 3 (M): Lecture
Apr 5 (W): Lecture
Apr 7 (F): Lecture

Final Exam: Apr. 22, 8:30-10:30am,
location TBA