HUMAN GENETICS
MBG*3050
COURSE OUTLINE, WINTER 2016

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 present 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 four 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. 11-13, 2016 in SSC 2302, from 10am-noon and 1-3pm. 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:
Rachael McNeilly (rmcneill@uoguelph.ca), Alex Weiss (weissa@uoguelph.ca)

Course Evaluation and Exam Dates:

Assessment	Weight (% final grade)	Date/Location
Midterm Exam	20%	Friday February 12th, in class
In-class Presentation	10%	see schedule on Courselink, in class
Lab Reports/Quizzes	30%	see schedule in lab manual
Final Exam	40%	Thursday April 21st, 2:30-4:30pm, 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.

3. Suggested Review Textbook (on 2-hour reserve):
   D. Peter Snustad and Michael J. Simmons, 2011. *Principles of Genetics* (6th edition). John Wiley and Sons, Inc.

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Lecture and presentation schedule:

Week 1:
Jan 11 (M): Lecture
Jan 13 (W): Lecture
Jan 15 (F): Lecture

Week 2: LAB ONE (01, 03)
Jan 18 (M): Lecture
Jan 20 (W): Lecture
Jan 22 (F): Lecture

Week 3: LAB ONE (02, 04)
Jan 25 (M): Lecture
Jan 27 (W): ***Presentations***
Jan 29 (F): Lecture

Week 4: LAB TWO (01, 03)
Feb 1 (M): Lecture
Feb 3 (W): ***Presentations***
Feb 5 (F): Lecture

Week 5: LAB TWO (02, 04)
Feb 8 (M): Lecture
Feb 10 (W): Lecture
Feb 12 (F): Midterm exam

Reading week

Week 6: LAB THREE (01, 03)
Feb 22 (M): Lecture
Feb 24 (W): Lecture
Feb 26 (F): Lecture

Week 7: LAB THREE (02, 04)
Feb 29 (M): Lecture
Mar 2 (W): ***Presentations***
Mar 4 (F): Lecture

Week 8: LAB FOUR (01, 03)
Mar 7 (M): Lecture
Mar 9 (W): ***Presentations***
Mar 11 (F): Lecture

Week 9: LAB FOUR (02, 04)
Mar 14 (M): Lecture
Mar 16 (W): ***Presentations***
Mar 18 (F): Lecture

Week 10:
Mar 21 (M): Lecture
Mar 23 (W): ***Presentations***
Mar 25 (F): No class (Good Friday)

Week 11:
Mar 28 (M): Lecture
Mar 30 (W): Lecture
Apr 1 (F): Lecture

Week 12:
Apr 4 (M): Lecture
Apr 6 (W): Lecture
Apr 8 (F): Lecture

Final Exam: Apr. 21, 2:30-4:30pm
location TBA