

MBG*1000
GENETICS AND SOCIETY
Winter 2016
Department of Molecular and Cellular Biology

No science is more central to contemporary life than genetics. Human health, reproduction and agriculture increasingly rely on an understanding of the hereditary mechanisms shared by all organisms. In **Genetics and Society**, we present the general principles of genetics, show how they operate in humans and other organisms and discuss their implications for individuals and society. Recent advances in the study of genetics and molecular biology have transformed our understanding of human heredity. Advances in genetics knowledge have the potential to solve many problems, but at the same time they present us with new dilemmas. As we consider the principles of this discipline we will also examine some of the ethical and social issues arising from genetic manipulation, reproduction intervention and biotechnology.

COURSE PERSONNEL

Instructor: Dr. George van der Merwe, SSC 2243, x54298, gvanderm@uoguelph.ca. I respond best to e-mail communication.

My office hours can vary week to week but they will always be posted on CourseLink.

Teaching Assistants:

The teaching assistants, Sanna Abassi, Olivia Grafinger and Abdalla Mohamed, are graduate students in the Department of Molecular and Cellular Biology. Because of their heavy academic schedules, we ask that you do not contact them outside of tutorials. Direct your questions directly to Dr. van der Merwe.

COURSE FORMAT

Lectures: Monday, Wednesday and Friday; 11:30 am – 12:20 pm in RICH 2520.

A provisional schedule of lecture topics is attached. Material given in the lectures is the responsibility of the student. Students are expected to attend all lectures and all tutorials. If you miss a lecture or tutorial, you should get the notes from another student in the course. 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 MBG*1000 Winter 2016 students and may not be reproduced or transmitted to others without the written consent of the instructor.

TEXTBOOKS

There is no required textbook for this course. Lecture notes, supporting reading materials and the assignments will be posted on CourseLink.

COURSE EVALUATION

Form of Assessment

Weighting (% final grade)

Midterm 1 (in class on Wednesday, February 10 th)	20%
Midterm 2 (in class on Wednesday, March 16 th)	20%
Tutorial Assignments (best 5 of 6; 5% each)	25%
Final Examination (Tuesday, April 12 th 11:30-13:30)	35%

Students who miss a midterm because of medical or compassionate reasons must provide Dr. van der Merwe (SSC 2243) with appropriate written documentation (from medical services or their program counsellor) **before the last day of classes**. If acceptable documentation is received the weighting of the missed midterm will be added to the final exam. For example, if a student misses the second midterm and provides appropriate documentation, the student's final exam will be worth 55%. In the absence of acceptable documentation the student will receive zero for the assessment.

If a student misses 2 or more of the 6 tutorial assignments, the value of the missed assignment(s) will be transferred to the final exam provided acceptable documentation (from medical services or their program counsellor) has been received. For example, if a student submits only 4 of 6 assignments, then 5% will be transferred to the final exam. **Again, acceptable documentation must be received before the last day of classes**. In the absence of acceptable documentation the student will receive zero for the missed assignment(s).

TENTATIVE WEEKLY SCHEDULE OF LECTURES AND TUTORIALS

(Please check WebAdvisor for any last minute tutorial room changes)

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
11:30-12:20	Lecture RICH 2520		Lecture RICH 2520		Lecture RICH 2520
12:30-1:20	Tutorial for Section 01: GRHM 2310 Tutorial for Section 02: MINS 103				
2:30-3:20	Tutorial for Section 03: GRHM 2310				

Note: **Tutorials begin on Monday, January 25th, 2016**

Genetics and molecular biology are different from many areas in the biological sciences because of the emphasis on analysis and problem solving. The tutorials in MBG*1000 are designed to improve problem-solving skills and reinforce concepts and terminology introduced in lectures. Assignment and review questions will provide the framework for the tutorial sessions and these questions will be posted on CourseLink. **You are responsible for ALL material covered in tutorials.** There are 10 tutorial sessions and 6 tutorial assignments. See the schedule on the next page for assignment topics and due dates. To find the information needed to complete the tutorial assignments, you will need to consult your lecture notes, biology/genetics books found in the library and/or internet material. There are **two grades** associated with the tutorial assignments. The **first grade** is associated with the completion of all of the assignment questions. The **second grade** is associated with the grading of a particular question from each of the 6 assignments. For more information on the tutorial assignments, assignment deadlines and the marking rubrics, please go to the course site on CourseLink and read the tutorial assignment guidelines.

Semester Schedule

MBG*1000 Winter 2016 Tutorial Schedule with TENTATIVE topics

Week	Assignment	Topic	Assignment Due Dates
January 18th	No assignment	Meet your TA. General information about tutorials.	
January 25 th	1	Assignment 1: Central dogma and mutations	In your regularly scheduled tutorial on January 25 th
February 1 st	2	Assignment 2: Autosomal recessive disorders	In your regularly scheduled tutorial on February 1 st
Week of February 15th	No tutorials - Winter Break		
February 29 th	3	Assignment 3: X-linked disorders	In your regularly scheduled tutorial on February 29 th
March 7 th	4	Assignment 4: Chromosomes & Mitosis	In your regularly scheduled tutorial on March 7 th
March 21 st	5	Assignment 5: Meiosis & Reproduction	In your regularly scheduled tutorial on March 21 st
March 28 th	6	Assignment 6: Cancer	In your regularly scheduled tutorial on March 28 th

TENTATIVE LECTURE TOPIC OUTLINE

LECTURES	DATE	LECTURE TOPIC	TUTORIALS
1	Mon Jan 11	Introduction	No tutorial
2	Wed Jan 13	General introduction The Central Dogma from Genes to Proteins	
3	Fri Jan 15		
4	Mon Jan 18		Tutorial: Meet your TA
5	Wed Jan 20	Mutations	
6	Fri Jan 22		
7	Mon Jan 25	Origin of Phenotype: autosomal recessive traits and their pedigrees PKU, Sickle cell anaemia and albinism	Tutorial: Assignment 1 Central Dogma & Mutations
8	Wed Jan 27		
9	Fri Jan 29		
10	Mon Feb 1		Tutorial: Assignment 2 Autosomal recessive inheritance
11	Wed Feb 3	Origin of Phenotype: autosomal dominant traits and their pedigrees Marfan Disease and fainting goats	
12	Fri Feb 5		
13	Mon Feb 8		Tutorial: Assignment 2 return & help session
14	Wed Feb 10	Midterm 1: In Class	
15	Fri Feb 12		
	Feb 15 - 19	No Classes - Winter Break	
16	Mon Feb 22	Origin of Phenotype: X-linked traits and their pedigrees	No Tutorial
17	Wed Feb 24		
18	Fri Feb 26		

LECTURES	DATE	LECTURE TOPIC	TUTORIALS
19	Mon Feb 29	Chromosomes, the cell cycle and mitosis	Tutorial: Assignment 3 X-linked inheritance
20	Wed Mar 2		
21	Fri Mar 4		
22	Mon Mar 7	Meiosis, reproduction and prenatal testing	Tutorial Assignment 4 Chromosomes & Mitosis
23	Wed Mar 9		
24	Fri Mar 11		
25	Mon Mar 14		Tutorial: Assignment 4 return & help session
26	Wed Mar 16	Midterm 2 in class	
27	Fri Mar 18		
28	Mon Mar 21	Cancer	Tutorial: Assignment 5 Meiosis & reproduction
29	Wed Mar 23		
30	Fri Mar 25 – NO CLASS		
31	Mon Mar 28		Tutorial: Assignment 6 Cancer
32	Wed Mar 30		
33	Fri Apr 1	Biotechnology	
34	Mon April 4		Tutorial: Assignment 6 return
35	Wed Apr 6		
36	Fri Apr 8		
	Wed Apr 12	Final Exam: 11:30-13:30	Room TBA

ADDITIONAL INFORMATION

CourseLink

The CourseLink site is an important learning tool in this course. CourseLink should be consulted frequently for general course information, tutorial assignments, special announcements and exam information.

Exam Procedure

Leave your phone in your knapsack---if it is in your knapsack, make sure it is turned off. Phones that ring during exams will be put outside of the examination room. Always bring photoID to exams.

COURSE AND UNIVERSITY POLICIES

When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor in writing with your name, id#, and e-mail contact indicated. Also, be prepared to provide supporting documentation. See the undergraduate calendar for information on regulations and procedures for Academic Consideration: [Undergraduate Calendar- Academic Consideration](#)

Accessibility

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact Student Accessibility Services (formerly the Centre for Students with Disabilities) as soon as possible.

For more information, contact [Student Accessibility Services](#) at 519-824-4120 ext. 56208 or email csd@uoguelph.ca.

Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community – faculty, staff, and students – to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it.

Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy is detailed in the Undergraduate Calendar: [Undergraduate Calendar - Academic Misconduct](#)

E-mail Communication

As per university regulations, all students are required to check their <mail.uoguelph.ca> e-mail account regularly: e-mail is the official route of communication between the University and its students. E-mails from other accounts will NOT be answered. **Also please note, email questions that can be easily answered by looking at the MBG*1000 course outline information or material posted on MBG*1000 CourseLink site, will not be answered.**

Drop Date

The last date to drop one-semester courses, without academic penalty, is the **40th class day - Friday March 11th, 2016**. To confirm the actual date please see the schedule of dates in the Undergraduate Calendar. For regulations and procedures for Dropping Courses, see the Undergraduate Calendar: [Undergraduate Calendar - Dropping Courses](#)

Copies of out-of-class assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

Recording lectures/presentations

Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

Campus Resources

The Academic Calendar is the source of information about the University of Guelph's procedures, policies and regulations which apply to undergraduate, graduate and diploma programs: [Academic Calendars](#)

If you are concerned about any aspect of your academic program:

Make an appointment with a program counsellor in your degree program. [B.Sc. Academic Advising](#) or [Program Counsellors](#)

If you are struggling to succeed academically:

There are numerous academic resources offered by the Learning Commons including, Supported Learning Groups for a variety of courses, workshops related to time management, taking multiple choice exams, and general study skills. You can also set up individualized appointments with a learning specialist. [The Learning Commons](#)

If you are struggling with personal or health issues:

Counselling services offers individualized appointments to help students work through personal struggles that may be impacting their academic performance. [Counselling Services](#)

Student Health Services is located on campus and is available to provide medical attention.

[Student Health Services](#)

For support related to stress and anxiety, besides Health Services and Counselling Services, Kathy Somers runs training workshops and one-on-one sessions related to stress management and high performance situations. [Stress Management and High Performance Clinic](#)

If you have a documented disability or think you may have a disability:

[Student Accessibility Services](#) (SAS) formerly Centre for Students with Disabilities can provide services and support for students with a documented learning or physical disability. They can also provide information about how to be tested for a learning disability.