BIOA11H
Introduction to the Biology of Humans

Course Description: An exploration of how molecules and cells come together to build and regulate human organ systems. The course provides a foundation for understanding genetic principles and human disease, and applications of biology to societal needs. *This course is intended for students that did not take Grade 12 (high school) biology but who would like to register in BIOA01 & BIOA02 in the future in order to pursue a major in Biological Sciences at UTSC.*

Course Objectives: Upon completion of the course, students will be able to:

- Describe the function and general properties of several type of cells, tissues and organ systems in humans.
- Explain the biological principles of inheritance and apply this knowledge to interpret the inheritance of traits (including inheritance of human diseases).
- Interpret and apply the scientific method.
- Search, read and interpret scientific articles (and the data presented therein), and begin to critically evaluate scientific evidence.
- Search and cite appropriate, peer-reviewed scholarly articles in written and oral assignments.
- Succinctly convey logical thinking supported by scientific evidence in an oral presentation.
- Work effectively within a team.

Lectures: Fridays, 1-3pm in room SW319
Tutorials: Mondays 9-10am (room BV260) OR 10-11am (room BV260)
You will only attend tutorials bi-weekly.
TUT 1: 9-10am on Mondays in Weeks 1, 3, 5, 7, 9 &11. (room BV260)
TUT 2: 9-10am on Mondays in Weeks 2, 4, 6, 8, 10 & 12. (room BV260)
TUT 3: 10-11am on Mondays in Weeks 1, 3, 5, 7, 9 &11. (room BV260)
TUT 4: 10-11am on Mondays in Weeks 2, 4, 6, 8, 10 & 12. (room BV260)

Instructor: Dr. Aarthi Ashok

- Email: aashok@utsc.utoronto.ca (please only send emails from your UofT email account)
- Office hours: Mondays, noon-1pm in SW521D. Note that on occasion it may be necessary to reschedule or cancel weekly office hours. Please check the course's Quercus site regularly for notifications.

TA: Mouly Rahman

- Email: mouly.rahman@mail.utoronto.ca
- The TA does not hold weekly office hours, but will respond to questions over email regarding the assignment or tutorials in the course.

Textbook: Custom textbook (Updated First Custom Edition) for BIOA11 is available at the bookstore (compilation of Belk & Maier, Biology: Science for Life with Physiology, 5th edition, Pearson education). This will also provide you with access to the online textbook resources via Mastering Biology.

Course Quercus page: The main source of information for BIOA11 is the Quercus course page. You can access this page by clicking the Quercus link under Quick Links on the UTSC homepage. Use your UTORid and password to log in when prompted. You will then be able to access the BIOA11 Quercus page for Fall 2018. This site will contain lecture slide outlines (**Note:** you will be required to take your own detailed notes in class), course syllabus and schedule and important announcements, including dates and location of exams for the course. Please check this site often in order to remain up to date with course information, resources and announcements.

Course Assessments:

1. Tutorial attendance and active participation: 11%

Please note that group work and written assignments will be part of mandatory tutorial work and will be an important part of your learning in this course. It will be fun too! The TA will assign groups.

2. In-class worksheets: 4%

A subset of the lectures will require you to work in ad hoc groups to complete written worksheets, which will be collected for evaluation. These worksheets are intended to make your learning more active in the course and to allow you to frequently test your understanding. Note that 2 worksheets will be chosen at random for each student and assessed for this grade; that is, not every one of the worksheets you turn in will be graded, but you won't know which ones will end up being graded.

3. Assignment: 10%

Details of this assignment will be discussed in Tutorial 1 on Sep 10 or Sep 17, 2018 (depending on your tutorial section). You will work as a group to evaluate the science behind claims made in an advertisement. The TA will be the main point of contact for this assignment.

Marks breakdown:

- Presentation: 5%
- Printed out slides and annotated bibliography: 4%
- Workload assessment: 1%

Please note that your assignment submission via Quercus will be checked by Turnitin for originality. The TA will not accept any electronic files that are not submitted electronically via Quercus for Turnitin verification on the due date for this assignment. By submitting their documents via Turnitin, students allow their documents to be included as source documents in the Turitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on

the Turnitin.com web site: http://www.utoronto.ca/ota/turnitin/ConditionsofUse.html. Turnitin.com is most effective when it is used by all students; however, if and when students object to its use on principle, the course will offer a reasonable offline alternative, at the discretion of the course instructors and the TA.

4. Reflections: 5%

Type 1 reflections = 1%
Type 2 reflections = 2%
Type 3 reflection (cumulative reflection) = 2%

5. Midterm exam: 30%

6. Final exam: 40%

The format, location and date of this exam are yet to be determined and will be announced on the Quercus course site. The exam will occur during the final exam period at UTSC in December 2018.

Special Notes:

- If you miss the midterm exam due to a medical illness, you will need to provide the department of Biological Science's course coordinator, Jennifer Campbell, with a UTSC medical certificate (http://www.utsc.utoronto.ca/registrar/sites/utsc.utoronto.ca.registrar/files/resource-files/UTSCmedicalcertificate.pdf) within 48 hours of a missed exam. Ms. Campbell's office is located in SW421D and can be reached via email: jacampbell@utsc.utoronto.ca
- A single makeup midterm exam may be offered to students who provide significant evidence of extenuating circumstances/illness. Note that the structure of the makeup midterm will differ significantly from the normal midterm for the course and will likely be an oral exam or a written essay style exam.
- Note that if you miss the final exam due to a medical illness, you would need to submit a petition via the registrar's office and provide them with documentation. The course instructor is not responsible for the scheduling of missed final exams.
- There is no makeup opportunity for a missed lecture or tutorial.
- If you are ill during the term, and this illness influences your ability to attend a tutorial or lecture (lecture 10 will be held in tutorial times), you can submit a Self-Declaration of Student Illness form, indicating the days in which you were ill. This form is meant to take the place of the more typical medical form, and is available on the department's website www.utsc.utoronto.ca/biosci. Please note the following aspects related to this Self-Declaration of Student Illness form:
    - Similar to the submission of a medical form, YOU ARE RESPONSIBLE for contacting the course coordinator (Jennifer Campbell; see contact information above) to make arrangements for an accommodation for your absence.

- You may use the Self-Declaration of Student Illness form ONLY for tutorial absences, and cannot be used for any missed term test or final exam in this course (or any other course).
- You may use the Self-Declaration of Student Illness form up to three times in this course. If you require an additional accommodation for a term assignment you must then use the standard Verification of Student Illness form.
- You must submit the Self-Declaration form within 3 days of a missed tutorial.
- Please note that submitting a false Self-Declaration of Student Illness form constitutes academic misconduct, and could lead to serious sanctions under the Code of Behaviour on Academic Matters.
- In-class worksheets do not qualify for student self-declarations. Given that there are several worksheets over the course of 12 lectures and only any 2 will be graded for each student, there is no reason to submit any type of illness verification or report, if you miss an in-class worksheet. However, please note that these worksheets aid your understanding of course material and students who complete all worksheets in class, do significantly better on the higher stakes assessments (term test and final exam).

Course Schedule:

Module 1: Cell la Vie (4 weeks)

- September 7th, Lec 1: The scientific method; course learning goals (Chapter 1)
- Sep 14th, Lec 2: Chemistry within cells (Chapter 2)
- Sep 21st, Lec 3: DNA → RNA → Protein; How cells work (Chapter 3)
- Sep 28th, Lec 4: Build a human: Cells into tissues and tissues into organs and organs into organ systems (Chapter 4)

Relevant book chapters: 1, 2, 3 & 4

Module 2: Got DNA? (4 weeks)

- Oct 5th, Lec 5 & Oct 19th, Lec 6: Cell division, Chromosomes, Genes and inheritance (Chapters 5 &6)
- Oct 26th, Lec 7*****: Mendelian genetics and complex patterns of inheritance (Chapter 7)
- Nov 2nd, Lec 8: Single gene disorders, gene expression and human cloning (Chapter 8)

Relevant book chapters: 5, 6, 7 & 8
*****Note: No class on **Oct 12th** because of reading week

Module 3: The Body Odyssey (4 weeks)

- Nov 9th, Lec 9: *How'd you get here?* Reproductive system: from gametes to birth (Chapter 9)
- **Nov 12th** **, Lec 10: *How are you wired?* Nervous system and brain function (Chapter 10)
- Nov 23rd, Lec 11: *Do you have the guts?* Digestive and urinary systems, nutrition, & microbiomes (Chapter 11)
- Nov 30th, Lec 12: *Can you put up a fight?* Immunity and disease (Chapter 12)

Relevant book chapters: 9, 10,11 & 12

**Note: Lec 10 will be held during the tutorial time slots on Oct 12th and the tutorials for this week will be held during the lecture times on Oct 19th.

Student Conduct: This course will require you to work as part of student group. The TA will assign groups for tutorials and *ad hoc* groups will be formed during lecture sessions for discussion-based activities. Hence, peer-based learning is an important part of your learning in this course. It is important to conduct yourself in a friendly and professional manner at all times, including in correspondence that is sent to peers or the teaching team. The time in lecture and tutorial is dedicated to your learning and development as a UTSC student and you are asked to take charge of your own learning. This includes participating fully in discussion-based activities in the class, doing the assigned course readings and engaging fully in the group work assigned in tutorials. Please note that distracting or disruptive behaviours in the classroom disrespect those around you and do not align with the University's Code of Student Conduct: http://www.governingcouncil.utoronto.ca/Assets/Governing+Council+Digital+Assets/Policies/PDF/ppjul012002.pdf

Academic Integrity: Please consult: http://www.utoronto.ca/academicintegrity/resourcesfor students.html. [From The Centre for Teaching and Learning, UTSC]: Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensure that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, the University treats cases of cheating and plagiarism very seriously. The University of Toronto's *Code of Behaviour on Academic Matters* (http://www.governingcouncil.utoronto.ca/policies/behaveac.htm) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences. Potential offences include, but are not limited to: On tests and exams: using or possessing unauthorized aids, looking at someone else's answers during an exam or test or misrepresenting your identity. In academic work: falsifying institutional documents or grades or falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes. All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters. There are other offences covered under the Code, but these are the most common. *Please respect these rules and the values that they protect.*

Accessibility Needs: [From The Centre for Teaching and Learning, UTSC]: Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the Access*Ability* Services Office as soon as possible. I will work with you and Access*Ability* Services to ensure you can achieve your learning goals in this course. Enquiries are confidential. The UTSC Access*Ability* Services staff (located in SW302) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations (416) 287-7560 or ability@utsc.utoronto.ca.