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:

- Have a foundational understanding of cells, tissues and organ systems in humans
- Understand the biological principles of inheritance and those underlying human disease
- Become familiar with the process of science
- Be able to interpret scientific data and begin to critically evaluate scientific evidence

Lectures: Fridays, 1-3pm in room SW319
Tutorials: Mondays 9-10am (room SW319) OR 10-11am (room SW319)

Instructor: Dr. Aarthi Ashok

- Email: aashok@utsc.utoronto.ca (please only send emails from your UofT email account; typically expect responses within 48 hours, but NOT on weekends)
- Office hours: Mondays, 11am-noon in SW521D. Note that on occasion it may be necessary to reschedule or cancel weekly office hours. Please check blackboard 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.
- Contact the TA for all questions 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 blackboard page: Go to http://portal.utoronto.ca/ and login with your UTORid and password to access the BIOA11H course site for FaLL 2017. 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 the information and resources provided for this course.

Course Evaluation:

1. Tutorial attendance and active participation: 16%

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 2 on Sep 18, 2017. 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 you will be required to submit your assignment to turnitin. Information on how to submit your assignment via Turnitin will be provided on blackboard. The TA will not accept any electronic files that are not submitted to Turnitin on the due date stated in this document. By submitting posters via Turnitin, students allow their posters 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 project-specific TA.

4. Midterm exam: 30%

5. Final exam: 40%

The format, location and date of this exam are yet to be determined and will be announced on the blackboard course site. The exam will occur during the final exam period at UTSC in December 2017.

Special Notes:

- If you miss the midterm exam due to a medical illness, you will need to provide the TA with a UTSC medical certificate (http://www.utsc.utoronto.ca/registrar/sites/utsc.utoronto.ca.registrar/files/resource-files/UTSCmedicalcertificate.pdf) within 3 days of a missed 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 missed classes or tutorials.
- 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.

Course Schedule:

Module 1: Cell la Vie (4 weeks)

- September 8th, Lec 1: The scientific method; course learning goals (Chapter 1)
- Sep 15th, Lec 2: Chemistry within cells (Chapter 2)
- Sep 22nd, Lec 3: DNA → RNA → Protein; How cells work (Chapter 3)
- Sep 29th, 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 6th, Lec 5 & Oct 20th, Lec 6: Cell division, Chromosomes, Genes and inheritance (Chapters 5 &6)
- Oct 27th, Lec 7*: Mendelian genetics and complex patterns of inheritance (Chapter 7)
- Nov 3rd, Lec 8: Single gene disorders, gene expression and human cloning (Chapter 8)

Relevant book chapters: 5, 6, 7 & 8
*Note: No class on Oct 13th because of reading week

Module 3: The Body Odyssey (4 weeks)

- Nov 10th, Lec 9: *How'd you get here?* Reproductive system: from gametes to birth (Chapter 9)
- Nov 17th, Lec 10: *How are you wired?* Nervous system and brain function (Chapter 10)
- Nov 24th, Lec 11: *Do you have the guts?* Digestive and urinary systems, nutrition, & microbiomes (Chapter 11)
- Dec 1st, Lec 12: *Can you put up a fight?* Immunity and disease (Chapter 12)

Relevant book chapters: 9, 10,11 & 12

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.