

Department of Biology Course Outline

SC/BIOL 3120 3.00 Immunobiology
Fall 2018

Course Description

The biology and chemistry of the immune response. Structure and function of antibodies; antibody diversity; anatomy and development of the immune system; cellular interactions; immunological responses in disease. Production and use of monoclonal and polyclonal antibodies. Three lecture hours. One term. Three credits.

Prerequisites

SC/BIOL 2020 3.00, SC/BIOL 2021 3.00, SC/BIOL 2040 3.00, SC/BIOL 2070 3.00.

Course Instructors and Contact Information

Course Instructor: Dr. Tanya Da Sylva

Office: 210 Bethune

Office hours As posted on Moodle or by appointment

- Office hours are times when you can drop-in (no appointment necessary) and ask questions or discuss course matters.
- **Email:** bio3120@yorku.ca (note: it's bio **not** bioL)

Emails must include your name and student number and have a descriptive subject line. Expect an average response time of 3 business days. Email will not be checked on weekends or holidays.

Email is not a substitute for office hours. Some questions and/or concerns are better addressed in person and you will be asked to come to office hours or make an appointment with me.

Schedule

Tuesdays and Thursdays, 11:30am – 1pm from September 6th to December 4th
Note: Tuesday classes are in DB0001, and Thursday classes are in CLH K

Class is CANCELLED on Tuesday, September 11th.

Evaluation

The final grade for the course will be based on the following items weighted as indicated:

Weekly Activities (participation based; in class or on Moodle) _____	5%
SciComm Project (multiple components; see Moodle for assignment outline) _____	10%
Immunology & Me Assignment (Nov. 23 rd) _____	5%
Innate Immunity Activity (Oct. 4 th) _____	5%
Midterm 1 (class time Oct. 16 th) _____	15%*
Written Work for Midterm 2 (class time Nov. 13 th ; can hand in at midterm Nov. 15 th) _____	10%
Midterm 2 (class time Nov. 15 th) _____	15%*
Written Work for Final (class time Nov. 29 th or Dec. 4 th ; due by midnight Dec. 4 th) _____	10%
Cumulative Final Exam (TBA; date and time set by Registrar) _____	25%*

*If you do better on your final exam than either Midterm 1 or Midterm 2, 5% weight from the lowest scoring midterm will be transferred to your final exam.

Details on test/assignment expectations can be found on Moodle.

*Final course grades may be adjusted to conform to Program or Faculty grades distribution profiles

Important Dates

CLASS CANCELLED – class is cancelled on Tuesday, September 11th.

Classes Start: Wednesday, September 5th; our first class is Thursday, September 6th

Fall Reading Week (NO CLASS): October 6th – 12th

Drop Date: November 9th

Last Day of Classes: December 4th, 2018

Course Withdrawal Period: November 10th – December 4th (course appears on your transcript without a grade and with a “W” notation)

Exam Period: December 6th – 21st (inclusive)*

*** It is your responsibility as a student to ensure that you are available to sit for examinations during the entire exam period.**

NOTE: Important dates may change to verify and for additional important dates such as holidays, refer to the “Important Dates” section of the Registrar’s Website at <http://www.yorku.ca/yorkweb/cs.htm>

Resources

Required Textbook: *Kuby Immunology 8th Edition*. J. Owen, J. Punt and S. Stranford. W.H. Freeman and Company Publishers.

Please see the course FAQ for important information on textbook readings. Additional readings may be assigned or recommended during the course

Learning Outcomes

Upon successful completion of this course, students should be able to:

- Use current and historical research in immunology to support discussions and explanations of the immune response
- Discuss the role of, and relationships between, cells of the hematopoietic system in the immune response
- Explain the major components of the mammalian immune response; distinguishing between and describing the interactions of the innate and adaptive immune branches and the cellular and humoral branches of immunity.
- Describe and discuss unique features of the adaptive immune response including the generation of diversity, clonal selection, self-tolerance and memory responses.
- Explain the development, activation and effector responses of immune cells
- Relate knowledge of the development and mechanisms of the immune response to the understanding of disease processes, immune therapy and the use of immunological mechanisms and methods in experimental systems.

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Course Content

We will learn about many cell types, molecules, signalling pathways, biological processes, regulatory networks, and other components of the immune system. We will focus on the mammalian immune response but will touch upon non-mammalian immune systems and the evolution of immunity. You will be exposed to a lot of 'new' information. One of the best ways to learn all this new information is to focus on the connections between the different parts of the immune system and keep returning to the 'big picture' concepts. Class is an opportunity for me to help you do this.

In class I will provide you with the information and tools that will help you navigate the complexities of the immune response. To do this **I need you to come to class prepared** which includes completing the textbook readings before class and being prepared to answer questions or complete activities given in class.

Pre-class readings are meant to prepare you to actively participate in class; **you are not expected to understand the material from the textbook alone**. A Reading Schedule will be posted to Moodle. **If you are spending more than one hour on each reading before class please speak to me**. You should also be revisiting the readings after class.

Please don't hesitate to ask questions in class, in office hours or on our Moodle forum. There are no silly questions. The immune system is complicated, even professional immunologists are only experts in a small subset of the field. This is your first course in immunology; you're supposed to have questions!

Experiential Education and E-Learning

Experiential education: You will gain hands-on skill development in teamwork and scientific communication. You will go through some case studies and apply course concepts to real world issues. Throughout the term you will be asked to reflect on your learning and connect course concepts to your own experiences.

Other Information

Information on 2-stage Testing:

- Numerous educators have used 2-stage tests as a way to turn the assessment process into a learning experience. 2-stage tests involve writing tests both as an individual and in a group. When your group disagrees on an answer you get to discuss the subject right away perhaps correcting your own misconceptions before you leave the exam room. **We will use 2-stage testing for our final exam.**
- You will arrive for your test and write the 1st stage - individual test; this will be like a traditional test. You will hand in your scantron and test booklet when you are done but remain seated until the end of the 1st stage. Once everyone's tests have been collected you will assemble into groups of four.
- In your groups you will be given another test booklet and scantrons to begin the 2nd stage (group test) - this test will be similar to the one you just completed by yourself. You will now have additional time to complete the test again in groups. You will not be allowed to write the group test by yourself or in groups of less or more than 4 people (unless unavoidable due to class numbers).
- Your mark will be calculated as follows - 85% individual score plus 15% group score. However if your individual score is higher than your group score you will simply have your individual score (100%).
- Students who normally write with Alternate Exams have been able to join the class for the 2nd stage (group). However, if you have any concerns about the testing format or joining the main room please let me know and we can discuss alternative accommodation.

Additional Information:

- You will be responsible for material presented in class and associated textbook sections. The textbook is your resource and will help you understand this material. It contains many of the visuals presented in the lectures. Pay careful attention to the Figures and to the questions and guidelines for study at the end of each chapter.
- Audio recording (ONLY audio) of the lecture is permitted. Recordings can only be shared with students enrolled in the course and section the recording was made of. Therefore recordings CANNOT be uploaded to public websites or otherwise shared publicly. Students in violation of these policies may have legal action taken against them.
- The midterms will consist predominantly of multiple choice but may include short answer, fill-in, matching, calculating and drawing type questions.
- Your comprehensive final will be given in a 2.5 to 3-hour block during the exam period and will have the same type of questions as the midterms and may have essay questions. **It is your responsibility as a student to ensure that you are available to sit for examinations during the entire exam period.** Under no circumstances will makeup exams (midterm or final) be provided because of conflict with vacation plans.
- All assignment/test grades will be posted to Moodle when available. **Do not email asking when grades will be posted** or for your grade; these emails will not receive a response.
- It is your responsibility to earn your grade. Individually adjusting a student's grade without academic merit is unethical. All requests for grade "bumping" will be ignored.

Course Policies

Grading and Policies for Missed Tests and Assignments

Grading: The grading scheme for the course conforms to the 9-point grading system used in undergraduate programs at York (for a full description see the York University Undergraduate Calendar – <http://calendars.registrar.yorku.ca/2014-2015/academic/grades/index.htm>)

Missed Midterm/Exam – General Policies: Students must have an **urgent reason** for missing a course test, such as illness, compassionate grounds, etc., Supporting documentation (e.g., attending physician's statement) may be required.

- **It is YOUR responsibility to get to class on time.** Plan to be on campus early on test days; transit and/or traffic issues happen but you cannot be given extra time to write. Plan to be at exams early.
- **Bad weather will not postpone a test unless York officially closes campus.**
- Valid and appropriately detailed documentation supporting the events preventing your attendance may be required.
- **NOT all situations will be accommodated**, meaning that a zero will be assigned on the missed test.

Midterms: You MUST fill in the missed test form on Moodle **within five business days** of missing the test (the sooner the better). The form will explain any documentation necessary.

- **One make-up will be scheduled for each midterm.** Only one make up date will be scheduled for each midterm. If you have a valid reason for missing both the original midterm and the make up midterm then the weight of the missed test(s) will be transferred to your final exam. Make up tests may occur anytime before the end of the last class (i.e., the make up for midterm 1 may happen *after* midterm 2) and may not be the same format as the original test. Further extensions or accommodation will require you to submit a petition to the Faculty.

Final Exam: *It is your responsibility as a student to ensure that you are available to sit for examinations during the entire exam period.*

- If you miss the final exam for a valid reason **you must request deferred standing.**
- See myacademicrecord.students.yorku.ca/deferred-standing for additional information. Both the *deferred standing agreement* and *attending physician's statement* can be found at this website.
- To request deferred standing **you must complete and submit a Deferred Standing Agreement Form along with supporting documentation** to the Undergraduate Biology Office (102 Life Sciences Building) within 5 business days of the missed exam.
- **Requests submitted after this time will be denied and you must formally petition**
- Doctor's notes are NOT sufficient for missed final exams; **you MUST have your doctor fill out the Attending Physician's Statement** (please make sure you are using the current version of the Attending Physician's statement form – no other versions will be accepted).
- If I approve the deferred standing request the date/time of the deferred exam is at my discretion. Deferred exams take priority over work for other courses. **If you miss the deferred exam you will have to formally petition for further accommodation.**
- If I deny the deferred standing request you must submit a petition. Denied petitions will result in a zero on the final exam. See myacademicrecord.students.yorku.ca/academic-petitions for information regarding academic petitions.
- Religious accommodations must be arranged at least 3 weeks prior to the exam (see general course policies below for guidelines).

Written Work for Midterm 2/Final Exam:

A class period before Midterm 2 (Nov. 15th) and before the Final Exam (Nov. 29th or Dec. 4th) will be dedicated to working on your written responses. **It will be possible to complete these written responses completely during class time if you choose to do so.** However, the assignment **will be available for at least a week beforehand** and can be completed on your

own. In class you will have a chance to work with others (though you must ultimately submit your own response), and ask questions.

- Your completed work will be due on the day of the second Midterm (for the Midterm 2 Written Work; Nov. 15th) and on the last day of classes (for the Final Exam Written Work; Dec. 4th). Written work can be submitted through Moodle or as a hardcopy in class.
- Answering these questions (doing this written work) will help you prepare for Midterm 2 and the Final. They should be considered a component of these tests. Therefore **extensions, in general will not be granted.** Individuals with extenuating circumstances can contact me via bio3120@yorku.ca.

Incomplete/Late Course Work Policies:

Extensions on *Weekly Activities* will not be granted.

- *Weekly Activities* can be submitted in class or through Moodle. They are marked based on participation. All missed submissions will receive a zero grade; no late submissions will be accepted. However the way your *Weekly Activities* grade is calculated **allows you to miss some of the weekly activities without penalty.** Please see the *Weekly Activities* outline on Moodle for more information.

In general, **extensions for any component of the *Innate Immunity Activity, SciComm Project or Immuno & Me* assignment will not be granted.** Submissions of most components will be online and you are encouraged to plan ahead; do not leave completion to the last minute! Individuals with extenuating circumstances can contact me via bio3120@yorku.ca.

- All late submissions, without permitted extensions, will be penalized as noted in the assignment outline.

University Policies

Academic Honesty and Integrity

York students are required to maintain the highest standards of academic honesty and they are subject to the Senate Policy on Academic Honesty (<http://secretariat-policies.info.yorku.ca/policies/academic-honesty-senate-policy-on/>). The Policy affirms the responsibility of faculty members to foster acceptable standards of academic conduct and of the student to abide by such standards.

There is also an academic integrity website with comprehensive information about academic honesty and how to find resources at York to help improve students' research and writing skills, and cope with University life. Students are expected to review the materials on the Academic Integrity website at - <http://www.yorku.ca/academicintegrity/>

Access/Disability

York University is committed to principles of respect, inclusion and equality of all persons with disabilities across campus. The University provides services for students with disabilities (including physical, medical, learning and psychiatric disabilities) needing accommodation related to teaching and evaluation methods/materials. These services are made available to students in all Faculties and programs at York University.

Students in need of these services are asked to register with disability services as early as possible to ensure that appropriate academic accommodation can be provided with advance notice. You are encouraged to schedule a time early in the term to meet with each professor to discuss your accommodation needs. Please note that registering with disabilities services and discussing your needs with your professors is necessary to avoid any impediment to receiving the necessary academic accommodations to meet your needs.

Additional information is available at the following websites:

Counselling & Disability Services - <http://cds.info.yorku.ca/>

Counselling & Disability Services at Glendon - <http://www.glendon.yorku.ca/counselling/personal.html>

York Accessibility Hub - <http://accessibilityhub.info.yorku.ca/>

Ethics Review Process

York students are subject to the York University *Policy for the Ethics Review Process for Research*

Involving Human Participants. In particular, students proposing to undertake research involving human participants (e.g., interviewing the director of a company or government agency, having students complete a questionnaire, etc.) are required to submit an *Application for Ethical Approval of Research Involving Human Participants* at least one month before you plan to begin the research. If you are in doubt as to whether this requirement applies to you, contact your Course Director immediately.

Religious Observance Accommodation

York University is committed to respecting the religious beliefs and practices of all members of the community, and making accommodations for observances of special significance to adherents. Should any of the dates specified in this syllabus for an in-class test or examination pose such a conflict for you, contact the Course Director within the first three weeks of class. Similarly, should an assignment to be completed in a lab, practicum placement, workshop, etc., scheduled later in the term pose such a conflict, contact the Course director immediately. Please note that to arrange an alternative date or time for an examination scheduled in the formal examination periods (December and April/May), students must complete an Examination Accommodation Form, which can be obtained from Student Client Services, Student Services Centre or online at

http://www.registrar.yorku.ca/pdf/exam_accommodation.pdf (PDF)

Student Conduct in Academic Situations

Students and instructors are expected to maintain a professional relationship characterized by courtesy and mutual respect. Moreover, it is the responsibility of the instructor to maintain an appropriate academic atmosphere in the classroom and other academic settings, and the responsibility of the student to cooperate in that endeavour. Further, the instructor is the best person to decide, in the first instance, whether such an atmosphere is present in the class. The policy and procedures governing disruptive and/or harassing behaviour by students in academic situations is available at - <http://secretariat-policies.info.yorku.ca/policies/disruptive-and-or-harassing-behaviour-in-academic-situations-senate-policy/>