

Department of Biology Course Outline

Fall 2024, SC/BIOL 4360 3.00 - Parasitology

Course Instructor: Spencer Mukai

How to address me: Dr. Mukai

Personal Pronouns: (he/him)

Email: smukai@yorku.ca

Note: If you have or question or would like to talk with me, you can send an email, visit me during student hours (see below), or approach me after class.

Phone: (416) 736-2100 ext. 88294

Student Hours: Tuesdays, 5:30-6:30PM

What are 'Student Hours'?

Student hours are dedicated times through the week for the course instructor and TAs to meet with YOU.

Pop in to introduce yourself, ask questions about the course, or discuss content from the course.

Note: If these times don't work for you, email me and we can arrange an alternate time to meet.

Course Format: This is an in-person course. All lectures, tests and exams will take place on campus. I will be recording audio (but not video) together with slides on Zoom and then posting them the next day after lecture.

Prerequisites: BIOL 2030 4.00

Course Outline Table of Contents:

Land Acknowledgement	p2
Course Learning Objectives	p2
Inclusive Teaching Statement	p3
Community Guidelines	p3
Learning Materials	p4
Course Assessment	p5
University Policies and Important Dates	p7
Course Schedule	p11

Office Location: 213 Lumbers Building

Class Times: Tuesdays 7-10 PM

Class Location: 106 Life Sciences Building

Tutorial Times: N/A

Laboratory Times: N/A


Laboratory Locations: N/A


Study Spaces on Campus:

<https://currentstudents.yorku.ca/study-spaces>

Course TA/Marker:

 Hear my name **Jhael Ortega** (she/her/hers)
jortega4@yorku.ca

 Hear my name **Teaching Assistant 2** (he/him/his)
(teaching.assistant.name2@yorku.ca)

 Hear my name **Teaching Assistant 3** (they/them)
(teaching.assistant.name3@yorku.ca)

Laboratory TAs: (N/A)

 Hear my name **Laboratory TA 1** (she/her)
(laboratory.assistant.name1@yorku.ca)

Land Acknowledgement

York University recognizes that many Indigenous Nations have longstanding relationships with the territories upon which York University campuses are located that precede the establishment of York University. York University acknowledges its presence on the traditional territory of many Indigenous Nations. The area known as Tkaronto has been care taken by the Anishinabek Nation, the Haudenosaunee Confederacy, and the Huron-Wendat. It is now home to many First Nation, Inuit, and Métis communities. We acknowledge the current treaty holders, the Mississaugas of the Credit First Nation. This territory is subject of the Dish with One Spoon Wampum Belt Covenant, an agreement to peaceably share and care for the Great Lakes region.

Welcome to BIOL 4360-Parasitology!

Parasitology is a fascinating field of study which integrates many of the disciplines you have or are currently studying as part of your undergraduate degree in Biology. You will first be introduced to various parasites of animals and humans by way of their interesting life cycles, structure-function relationships and adaptations to their specific hosts. By understanding how various parasites are transmitted between their hosts and the pathology caused by infections, you will be in a position to apply this knowledge to develop appropriate interventions to treat or prevent disease. This is a highly transferrable skill which is particularly useful in epidemiology and for medical studies, in general.

Course Calendar Description: Biology of animal parasites; developmental, structural and functional adaptations to the parasitic environments; immune and other responses of hosts; parasitic diseases. Three lecture hours per week. One term. Three credits

Course level learning objectives

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

1. Describe general principles and concepts of Parasitology
2. Understand the terminology used in Parasitology and to use parasite terminology with proper context
3. Be able to identify the major parasites of animals and humans and describe their life cycles
4. Develop an understanding of the physiological, morphological, and life cycle adaptations of a parasitic lifestyle
5. Know the life cycle stages and hosts of selected parasites, describe the diseases caused by animal parasites and understand the measures for diagnosis, treatment, prevention and control of each parasite

Lecture Topics

1. Introduction- principles and general concepts; terminology used in Parasitology
2. Insights gleaned from parasite diversity
3. Pathology due to parasite infections & intestinal physiology
4. Parasitic Protozoa
5. Parasitic Platyhelminthes
6. Parasitic Nematoda

Inclusive teaching statement:

In all of my courses, I am committed to fostering an environment for learning that is inclusive for everyone, regardless of background, identity, age or ability. It is my hope that our class will support diversity of experience, thought, and perspective. I will strive to create an inclusive learning environment and would appreciate your feedback so that I can incorporate feasible suggestions to continually improve this course.

Community Guidelines

The following values are fundamental to academic integrity and are adapted from the International Center for Academic Integrity*. In our course, we will seek to behave with these values in mind.

	As students, we will...	As a teacher, I will...
Honesty	<ul style="list-style-type: none"> • Honestly demonstrate our knowledge and abilities on assignments and exams • Communicate openly without using deception, including citing appropriate sources 	<ul style="list-style-type: none"> • Provide honest feedback on your demonstration of knowledge and abilities on assignments and exams • Communicate openly and honestly about the expectations and standards of the course via the syllabus, and with respect to assignments and exams
Responsibility	<ul style="list-style-type: none"> • Complete assignments on time and in full preparation for class • Show up to class on time, and be mentally/physically present • Participate fully and contribute to team learning and activities 	<ul style="list-style-type: none"> • Provide timely feedback on your assignments and exams • Show up to class on time, and be mentally and physically present • Create relevant assessments and class activities
Respect	<ul style="list-style-type: none"> • Speak openly with one another, while respecting diverse viewpoints and perspectives • Provide sufficient space for others to voice their ideas 	<ul style="list-style-type: none"> • Respect your perspectives even while we challenge you to think more deeply and critically • Help facilitate respectful exchange of ideas

	As students, we will...	As a teacher, I will...
Fairness	<ul style="list-style-type: none"> Contribute fully and equally to collaborative work, so that we are not freeloading off others Not seek unfair advantage over fellow students in the course 	<ul style="list-style-type: none"> Create fair assignments and exams, and grade them in a fair, and timely manner Treat all students equitably
Trust	<ul style="list-style-type: none"> Not engage in personal affairs while on class time Be open and transparent about what we are doing in class Not distribute course materials to others without authorization 	<ul style="list-style-type: none"> Be available to all students when we say we will be Follow through on our promises Not modify the expectations or standards without communicating with everyone in the course
Courage	<ul style="list-style-type: none"> Say or do something when we see actions that undermine any of the above values Accept a lower or failing grade or other consequences of upholding and protecting the above values 	<ul style="list-style-type: none"> Say or do something when we see actions that undermine any of the above values Accept the consequences (e.g., lower teaching evaluations) of upholding and protecting the above values

² This class statement of values is adapted from Tricia Bertram Gallant, Ph.D.






Learning Materials

Textbook: Loker, E.S. and Hofkin, B.V. (2015). *Parasitology-A Conceptual Approach*, New York: Taylor & Francis (Garland Science)

Lab Manual: N/A

Website (eClass): <https://moodle.info.yorku.ca/>

Technology Checklist:

				
An internet-enabled computer to access eClass and materials	Zoom software installed on computer	Access to reliable internet	Webcam	Microphone

Note: If you don't have access to a computer, webcam, microphone, consider [borrowing a laptop from York U](#), [financial aid from York](#), and [single workspaces available for student use on campus at the library.](https://www.library.yorku.ca/web/ask-services/printing-and-computing/computing/public-computers-labs/)

Assessment in this Course

Research about learning strongly suggests that the most important factor in learning is doing the work of reading, writing, recalling, practicing, synthesizing, and analyzing. Learning happens best when people actively engage material on a consistent basis, and that is why we have high standards in this course. We are confident that, with appropriate effort, you **all** can meet those standards.

When possible, we also try to reduce unintentional bias in grading by, for example, grading assignments one question at a time (grading all of question 1 before grading any of question 2), grading anonymously, and using rubrics. These also help improve consistency in marking.

Grade Breakdown

COMPONENT	GRADE VALUE
WEEKLY QUIZZES	10%
ID TEST 1 (Oct. 8)	10%
ID TEST 2 (Dec.3)	10%
ASSIGNMENT DUE NOV. 15, & THREE REVIEWS DUE NOV. 22	15%
MIDTERM (OCT. 22)	25%
FINAL EXAM	30%
COURSE TOTAL	100%

Weekly Quizzes

There are 10 weekly quizzes total in the course. The quizzes will consist of 5 multiple choice questions to be completed in eClass. Quizzes will be posted after each evening's lecture and you have 1 week to complete it. The **top 8 quizzes** will be used to tabulate your total quiz mark in the course. This means that if you miss a quiz, there is no need to worry, as only the top 8 quizzes will be used for your total quiz mark. There will be no-make-ups for missed quizzes.

Parasite Identification Tests: ID test 1- Oct. 8 (7-8 PM); ID Test 2- Dec. 3 (7-8 PM)

You will have **TWO** Parasite ID Tests during the term. The first ID test will be based on the posted material about **PROTOZOA** and the **TREMATODA (PLATYHELMINTHES)**, and the second ID Test will be based on the **CESTODA (PLATYHEMINTHES) & NEMATODA**. The ID tests will be delivered in person in LSB 105.

The Parasite ID tests will be in the format of a “bell-ringer”. Images of parasites will be projected onto the classroom screen and you will have to correctly identify selected parasites which I have compiled for you in the “Study Material for Parasite ID Tests” folder on eClass. You are expected to know all aspects of the parasite’s life cycle (e.g. specific hosts, mode of transmission, pathology and diseases resulting from infection, treatments for diseases and interventions to halt transmission). In addition, you will be expected to identify specific morphologic structures associated with each parasite and know their functions. **NOTE: It is of the utmost importance that you are able to correctly identify each of the “unknown” parasites on sight since subsequent questions that follow will be based on that particular parasite.** I will provide some practice questions during lecture so that you become familiar with the test format and what to expect.

- **Missed Parasite ID Test policy:** If you miss Parasite ID Test 1 and/or Parasite ID Test 2 due to an unpredicted reason, you do not need to bring physician’s documentation. Please email me (smukai@yorku.ca) as soon as possible. The weight of the missed ID Test will be automatically assigned towards the Final Exam. There will be NO MAKE-UP ID Tests.

Peer-Assessed Graphical Research Summary Assignment-due November 15 at 11:59 PM

The instructions for the Peer-Assessed Graphical Research Summary are posted on eClass. Please read the instructions carefully and follow the guidelines on how to format and write the content for the one-page research summary. If you do not submit your graphical research summary assignment, you will receive a **ZERO** for this evaluation. There will be no extensions offered for this assignment since eClass begins to randomly distribute three summaries to each student immediately after the assignment submission phase has closed. Therefore, all summaries must be submitted **BEFORE 11:59 PM on Friday November 15, 2024**. Following your one-page submission, you will have 1 week to grade three anonymous peer submissions which were randomly assigned to you via eClass. You must assess/grade all three submissions and submit your evaluations via eClass **BEFORE 11:59 PM Friday November 22, 2024** to be awarded full marks for the assessment phase of the assignment. The weight of this assignment WILL NOT BE TRANSFERRED TO THE FINAL EXAM. This policy applies to everyone in the course.

Midterm Exam (in-class)- October 22 (7-9 PM)

The Midterm will be in-person. **It is designed to take ~ 90 minutes**, but you will have 120-minutes during class period to complete it. The Midterm will consist of multiple-choice questions, fill-in-the-blanks and short-answer questions. I will post a point breakdown for each section of the Midterm a few days before the exam date.

- **Missed Midterm Exam policy:** If you miss the Midterm Exam due to an unpredicted reason, you do not need to bring physician’s documentation. Please email me (smukai@yorku.ca) as soon as possible. The weight of Midterm will be automatically assigned towards the Final Exam. There will be NO MAKE-UP MIDTERM.

Final Exam (during Fall examination period, Dec. 5-20)

The Final Exam is cumulative and will take place during the Final Exam period (Dec. 7-Dec. 21, 2023) and will be scheduled by the Registrar's Office. Do not book vacations or time off until the official examination period is over.

- **Missed Final Exam policy:** If you miss the Final Exam due to an unpredicted reason, you must email me at smukai@yorku.ca within two (2 days) of the Final Exam and complete and send me a signed [Deferred Standing Agreement \(DSA\)](#) form.

Regrading/Reappraisal Procedures

If you believe that a written answer on a test was marked incorrectly, you must submit a written rationale for remarking within 1 week of the evaluation being made available to you. Remarking can result in the mark being raised, confirmed or lowered. In order to be fair and consistent with the entire class, individual grades are not negotiable. I cannot provide "extra credit" assignments. Marks for assignments and tests will not be "rounded". For all re-grading requests, please submit your request via email to me (smukai@yorku.ca). In your request, please include your (1) Your Name and Student Number, and (2) A summary of the request (e.g., the total was miscounted). I will strive to review all re-grading requests within 2 weeks.

University Policies

Important Dates

Drop Deadline: Friday November 8, 2024 (last day to drop without course on transcript)

Course Withdrawal Deadline: November 9-Dec. 3, 2024 (course still appears on transcript with 'W')

Grading Scheme

In accordance with the York University Undergraduate Calendar Regulations, the letter grades assigned in undergraduate courses at York conform to the descriptions and grade ranges shown here: <https://calendars.students.yorku.ca/2023-2024/grades-and-grading-schemes>

Academic Honesty and Integrity

Academic misconduct undermines the values of honesty, trust, respect, fairness, and responsibility that we expect in this class. York University provides supports such as academic integrity workshops to ensure that all students understand the norms and standards of academic integrity that we expect you to uphold.

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. Please review and familiarize yourself with the policy.

There is also an academic integrity website with comprehensive information about academic honesty and how to find resources at York to help improve your research and writing skills, and cope with University life. Students are expected to review the materials on the Academic Integrity website:

Examples of actions that do not adhere to York's Academic Integrity Policy include:

- Plagiarism (passing off someone else's work as your own)
- Accessing unauthorized sites for assignments or tests
- Unauthorized collaboration on assignment and exams
- Uploading work to third party repository sites (e.g., Course Hero, One Class, etc.)
- Scanning, sharing, uploading, or publishing exams, tests, or scholarly work

For more information on what academic integrity is and why it is important see:

<https://spark.library.yorku.ca/academic-integrity-what-is-academic-integrity/>. Information on the process of investigations into breaches of academic honesty:

<https://spark.library.yorku.ca/academic-integrity-breach-of-policy-on-academic-honesty/>

Important Note from the FSc Committee on Examinations & Academic Standards (CEAS):

Numerous students in Faculty of Science courses have been charged with academic misconduct when materials they uploaded to third party repository sites (e.g., Course Hero, One Class, etc.) were taken and used by unknown students in later offerings of the course. Whenever a student submits work obtained through an external site (e.g., Course Hero, Chegg), the **submitting student will be charged with plagiarism** and the **uploading student will be charged with aiding and abetting**. To avoid this risk, students are urged not to upload their work to these sites.

Assistance for Students (Academic and Well-Being)

Academic Advising*: <https://www.yorku.ca/science/academic-advising/> * Departments also offer program-specific advising. Check with your Department's Undergraduate Office.

Centre for Human Rights, Equity, and Inclusion: <https://rights.info.yorku.ca>

Centre for Indigenous Students Services: <https://aboriginal.info.yorku.ca/>

Food Access, Funding, & Supports/Resources: <https://students.yorku.ca/food>

Good2Talk 24-hour Ontario Student Helpline: 1-866-925-5454 /Text: GOOD2TALKON to 686868

Keep.meSAFE: <https://myssp.app/keepmesafe/ca/home>

Learning Commons (general academic learning supports including library research, time management, study skills, career planning, etc.): <https://learningcommons.yorku.ca/>

Peer Assisted Study Sessions (PASS): <https://www.yorku.ca/colleges/bethune/get-help/pass/>

Peer Tutoring: <https://www.yorku.ca/colleges/bethune/get-help/peer-tutoring/>

Sexual Violence Response and Support: <https://thecentre.yorku.ca>

Student Counselling, Health & Well-being: <https://counselling.students.yorku.ca/>

Support Services for International Students: <https://yorkinternational.yorku.ca/international-student-support/>

Writing Services: <https://www.yorku.ca/colleges/bethune/get-help/writing/>

York University Student Services: <https://family.yorku.ca/student-services/#SCD>

York University Student Well-being Resources: <https://www.yorku.ca/well-being/resources/students/>

Accessibility

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

If you are in need of these services, please register with accessibility 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 accessibility 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:

Student Accessibility Services: <https://accessibility.students.yorku.ca>

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

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. To arrange an alternative date or time for an examination scheduled in the formal examination periods (December and April/May), students must complete and submit an accommodation request form at least 3 weeks *before the exam period begins*.

<https://secure.students.yorku.ca/pdf/religious-accommodation-agreement-final-examinations.pdf>

Student and Instructor 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-andor-harassing-behaviour-in-academic-situations-senate-policy/>.

Academic accommodation refers to educational practices, systems and support mechanisms designed to accommodate diversity and difference. The purpose of accommodation is to enable students to perform the essential requirements of their academic programs. At no time does academic accommodation undermine or compromise the learning objectives that are established by the academic authorities of the University.

University rules regarding registration, withdrawal, appealing marks, and most anything else you might need to know can be found on the university's website, here:

<https://calendars.students.yorku.ca/policies-and-regulations>

Course Overview

Chapter	Monday	Tuesday	Wednesday	Thursday	Friday
September					
Introduction	9	10 <i>First Day of Class</i>	11	12	13
Intro, Parasite diversity, Protozoa	16	17 <i>Quiz 1 due 11:59pm</i>	18	19	20
Intestinal physiology & pathology	23	24 <i>Quiz 2 due 11:59pm</i>	25	26	27
Entamoeba, Plasmodium	30				
October					
Plasmodium		1 <i>Quiz 3 due 11:59pm</i>	2	3	4
No Classes	7	8 <i>Quiz 4 due 11:59pm ID Test 1 (7-8 PM)</i>	9	10	11
Toxoplasma, Leishmania	14 Reading Week	15 Reading Week	16 Reading Week	17 Reading Week	18 Reading Week
Trypanosoma, Acanthocephala	21	22 <i>Quiz 5 due 11:59pm Midterm (7-9 PM)</i>	23	24	25
	28	29 <i>Quiz 6 due 11:59pm</i>	30	31	
November					
					1
Platyhelminthes-Trematodes & Cestodes	4	5 <i>Quiz 7 due 11:59pm</i>	6	7	8 DROP DEADLINE

Platyhelminthes-Cestodes	11	12 <i>Quiz 8 due 11:59pm</i>	13	14	15 <i>Assignment submission (before 11:59 PM)</i>
Nematoda	18	19 <i>Quiz 9 due 11:59pm</i>	20	21	22 <i>Peer assessment (3 reviews due before 11:59 PM)</i>
Nematoda	25	26 <i>Quiz 10 due 11:59pm</i>	27	28	29
December					
Nematoda & course wrap-up	2	3 <i>Last Day of Class</i> Parasite ID Test 2	4	5	6