

BCMB489 A01: FUNGAL AND PARASITIC PATHOGENESIS **COURSE OUTLINE FALL 2022**

INSTRUCTOR

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INCLUSIVITY

The classroom will be a place where everyone will be treated with respect, and I welcome individuals of all ages, backgrounds, beliefs, ethnicities, genders, gender identities, gender expression, national origins, religious affiliations, sexual orientations, ability-and other visible and non-visible differences. All members of this class are expected to contribute to a respectful, welcoming, and inclusive environment for every other member of the class.

TERRITORIAL ACKNOWLEDGEMENT

We acknowledge and respect the lək̓ʷəŋən peoples on whose traditional territory the university stands and the Songhees, Esquimalt and WSÁNEĆ peoples whose historical relationships with the land continue to this day.

STUDENT CODE OF CONDUCT

<https://www.uvic.ca/services/advising/advice-support/academic-units/student-code-of-conduct/index.php>

COURSE TIME/LOCATION

Tuesday, Wednesday, Friday, 11:30-12:20; Engineering Computer Science 130

OFFICE HOURS

Tuesday, 1:30-2:30 via ZOOM link (see Brightspace for link)

COURSE OBJECTIVES

The aim of the course is to provide an overview of medically important fungi, parasites and the diseases they generate in humans. Students will gain a comprehensive understanding of the global impact, pathophysiology, host responses, recent therapeutic strategies, and experimental approaches associated with the most common fungal pathogens and select parasites of humans. Fungi belonging to the *Cryptococcus*, *Aspergillus* and *Candida* genera will be discussed, as well as parasites including malaria-inducing *Plasmodium* spp. and helminths such as *Ascaris*, for example. Students will develop their skills in data interpretation, experimental design, and scientific communication through discussing manuscripts and participating in a group oral presentation.

COURSE FORMAT

•Lectures:

- In-class, face-to-face delivery (unless otherwise specified due to circumstances associated with the current pandemic).
- Class sessions will be recorded and posted on Brightspace to allow students who are not able to attend to watch later.
- Lectures are based on reviews and primary literature. Not all material will be written down in the lecture notes; students are responsible for synthesizing all material covered in the lecture presentations.

•Assignments:

- Of the manuscripts covered in the course, three will be accompanied by a set of questions for evaluation.
- Students must individually complete and submit their answers before the start of class that covers the paper.

• **Group Presentations:**

- Students will be placed into groups by the instructor and must select and present a paper on a topic that will expand on course content.
- Some class time will be designated for group work (all or part of select Friday classes).
- Students are encouraged to also meet outside of class time if needed, which can be arranged via Zoom if preferred.
- The group project evaluation includes a general group mark, as well as an individual assessment. Information on the presentation content, format, group function and evaluation will be presented in class and provided in a separate document.

• **Participation:**

- Grade based on contributions to class discussions, attendance at group presentations.

COURSE CONTENT*

I. Introduction	-Course overview, structure -Introduction to Fungi: General -Introduction of parasites: General
II. Fungal Pathogens: General	-Overview of fungal pathogens of humans; types of infections, impact, epidemiology, examples of common pathogens, detection
III. <i>Cryptococcus</i>	-Disease features, pathophysiology of organism, host response -Paper Assignment 1
IV. <i>Aspergillus</i>	-Disease features, biology of organism, pathogenic mechanisms, host response
V. <i>Candida</i>	-Biology of organisms, pathogenic mechanisms, host response -Paper Assignment 2
VI. Treatments, Resistance	-Current treatments, resistance mechanisms, new therapeutic approaches
VII. Protozoa and helminth parasites	-General Overview
VIII. <i>Ascaris</i>	-Disease features, biology of organism, pathogenic mechanisms, host response, treatments
IX. <i>Plasmodium</i>	-Disease features, biology of organism, pathogenic mechanisms, host response, treatments -Paper Assignment 3
X. Student presentations	-Select topics expanding on course content

ASSESSMENT OF STUDENT PERFORMANCE

(1) Techniques to be used:

- Assignment of a numerical mark to the oral presentation, and to multiple-choice, short answer and longer answer questions on assignments and exams.

- Exams are based on material covered in lectures (powerpoint presentations, papers, discussions).

- Exams are “open-book” and will be completed online via Brightspace, but students are expected to study as if they were writing in class in order to complete the exams within the designated time frame. Students are obligated to sign an academic code of conduct before each exam, and write the exam on their own, without the assistance of others.

(2) Evaluation and weighting:

Component	Date	Contribution
Exam I	Oct.4	20%
Exam II	Nov. 1	20%
Exam III	Final Exam period	22.5%
Assignments (x 3)	Sept. 20 Oct. 18 Nov. 16	18%
Group Presentation	Nov. 29, 30, Dec. 2	17.5%
Participation		2.0%

(3) Grading Scheme:

A ⁺	90 -100	B ⁺	77 - 79	C ⁺	65 - 69	F	< 50
A	85 - 89	B	73 - 76	C	60 - 64	N*	< 50
A ⁻	80 - 84	B ⁻	70 - 72	D	50 - 59		

* N grades

•Students who have completed the following elements will be considered to have completed the course and will be assigned a final grade: all 3 exams, at least 2 assignments, and the Group presentation.

•Failure to complete one or more of these elements will result in a grade of “N” regardless of the cumulative percentage on other elements of the course. An N is a failing grade, and it factors into a student’s GPA as 0. The maximum percentage that can accompany an N on a student’s transcript is 49. Students are responsible for ensuring that they are properly registered in the course, and are expected to have met all pre/co-requisites for the course.

DEPARTMENT INFORMATION AND POLICIES

1. The Department of Biochemistry and Microbiology upholds and enforces the University’s policies on academic integrity. These policies are described in the current University Calendar. All students are advised to read this section.
2. Cell phones, computers, and other electronic devices must be turned off at all times during live class sessions unless being used for the purpose of connecting and engaging with the class.
3. No recordings of live lectures are permitted without permission of the instructor. However, many courses will be recorded by the instructor for accessibility for students unable to attend. If you do not wish to be recorded, contact your instructor to determine if alternative arrangements can be made. Attendance and engagement in the classroom is an integral part of the learning process and cannot be substituted with recordings. It is at the instructor’s sole discretion whether they provide a recording or give permission to students to record a lecture. There is no obligation to do so nor is there any expectations about the quality of the recordings. Nor should students assume a lecture will be recorded as instructors may withdraw access to recordings or permission to record. It is the responsibility of students who miss lectures to catch up in the material through extra readings, and obtaining notes from fellow students. Students who miss several lectures due to illness should contact their instructors to discuss options.
4. Students and instructors are expected to assess their health daily and avoid campus if they are ill.
5. Course materials, such as notes, problem sheets, quizzes, examinations, example sheets, or review sheets, may not be redistributed without the explicit written permission of the instructor.

6. Students are expected to be available for all exams. Instructors may grant deferrals for midterm examinations for illness, accident, or family affliction. Although students do not require documentation, students must contact their instructor and BCMB office (biocmicr@uvic.ca) with the reason for their absence within 48 hours after the midterm exam. The Department will keep a record of the absences. It is the responsibility of the student to ensure all required components are complete, and to arrange deferred exams/assignments with the instructor, which normally should occur within one week of the original exam date.
7. The Department of Biochemistry and Microbiology considers it a breach of academic integrity for a student taking a deferred examination to discuss the exam with classmates. Similarly, students who reveal the contents of an examination to students taking an examination are considered to be in violation of the University of Victoria policy on academic integrity (see current University Calendar). Students must abide by UVic academic regulations and observe standards of scholarly integrity (no plagiarism or cheating). Online exams must be taken individually and not with a friend, classmate, or group, nor can you access notes, course materials, the internet, or other resources without the permission of the instructor. You are prohibited from sharing any information about the exam with others. Use of unauthorized electronic devices and accessing the internet and class material during exams is prohibited unless permission is granted by the instructor. Instructors may use Browser Lockdown Software to block access during classes and exams.
8. **Deferral of a final exam** must be requested with an Academic Concession form and submitted directly to Undergraduate Records. Deferred final exams for fall term courses will be arranged by the instructor. Deferred final exams for spring term courses will be arranged through Undergraduate Records and must be written before the end of the summer term as stipulated in the University Calendar.
9. Requests for review/remark of a midterm exam must be made within one week of the exam being returned.
10. The instructor reserves the right to use plagiarism detection software or other platforms to assess the integrity of student work.
11. Supplemental exams, assignments won't be offered to students wishing to upgrade their final mark.
12. Anonymous participation in online classes is not permitted without permission of the instructor.

Important note about COVID-related stress: The current pandemic is placing added stressors- financial, mental, and physical- on everyone. Your wellbeing is of foremost importance. If you are experiencing difficulties coping, the University has resources to help. Please reach out to Counselling Services, the Centre for Academic Communication, or Learning Assistance Program for assistance.

Centre for Accessible Learning: 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, approach the Centre for Accessible Learning (CAL) as soon as possible in order to assess your specific needs. <https://www.uvic.ca/services/cal/index.php>

Course Experience Survey (CES): We value your feedback on this course. Towards the end of term you may complete a confidential course experience survey (CES) regarding your learning experience. The survey is vital to providing feedback to us regarding the course and our teaching, as well as to help the department improve the overall program for students in the future. When it is time for you to complete the survey, you will receive an email inviting you to do so. If you do not receive an email invitation, you can go directly to your [CES dashboard](#). You will need to use your UVic NetLink ID to access the survey, which can be done on your laptop, tablet or mobile device. We will remind you nearer the time but please be thinking about this important activity.