



DEPARTMENT OF BIOLOGICAL SCIENCES
COURSE OUTLINE

1. **Course: CMMB/MDSC 565 - ADVANCED TOPICS IN PATHOGENIC MICROBIOLOGY**

Lecture Section(s) L01 TR 12:30-13:45 ST 125 Fall 2015
Instructor(s): Dr. R. Devinney 220-4095 rdevinne@ucalgary.ca

Desire 2 Learn: CMMB565

Biological Sciences Department BI 186 403-220-3140 biosci@ucalgary.ca

2. **Prerequisites: CMMB 343 and 431**

See section 3.5.C in the Faculty of Science section of the online Calendar
www.ucalgary.ca/pubs/calendar/current/sc-3-5.html

3. **Grading:** The University policy on grading and related matters is described sections F.1 and F.2 of the online University Calendar. In determining the overall grade in the course the following weights will be used:

In-class assignments	40%
Class participation	10%
Final presentation	20%
Research Proposal	30% total
Letter of intent:	5%
Written proposal	25%

Each piece of work (In Class assignment, class participation, Final presentation, and Research Proposal) submitted by the student will be assigned a numeric score. The student's average numeric score for the various components listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade.

Late Assignments: Students who hand in assignments late will be penalized **10% per day** for handing in late. Assignments that are handed in 3 calendar days or more after the due date will be refused and the students assigned a score of zero for the assignment. *Students may hand in assignments late without penalty only under the following circumstances:*

The student has discussed the timelines with course instructor at least 2 days in advance of the due date and the course instructor has granted an extension. There is a valid health or family emergency such as is discussed under the University regulations for deferral of final examinations. Students may be required to provide the Course Coordinator with such documentation related to illness and/or emergency as is discussed and required in the University regulations pertaining to deferral of final examinations. This information can be found in the University Calendar.

4. **Missed Components of Term Work:** The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar in [Section 3.6](#). It is the student's responsibility to familiarize himself/herself with these regulations. See also [Section E.6](#) of the University Calendar

5. **Scheduled out-of-class activities:** N/A

REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY. If you have a clash with this out-of-class-time-activity, please inform your instructor as soon as possible so that alternative arrangements may be made for you.

6. **Course Materials: "Bacterial Pathogenesis: A Molecular Approach", 3rd Edition, Salyers, Wilson and Whitt.**

This book supplements the primary source material assigned by each instructor, and is available as an eBook at the U. Calgary Library. It is a recommended rather than required text.

7. **Examination Policy:** N/A.

8. **Approved Mandatory and Optional Course Supplemental Fees:** N/A

9. **Writing across the curriculum statement:** e.g. "In this course, the quality of the student's writing in in-class assignments and the final paper will factor in the evaluation of those reports. See also [Section E.2](#) of the University Calendar.

10. **Human studies statement:** N/A.

11. **OTHER IMPORTANT INFORMATION FOR STUDENTS:**

(a) **Academic Misconduct:** (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the University Calendar under [Section K](#). Student Misconduct to inform yourself of definitions, processes and penalties

(b) **Assembly Points:** In case of emergency during class time, be sure to FAMILIARIZE YOURSELF with the information on [assembly points](#).

(c) **Student Accommodations:** Students needing an Accommodation because of a Disability or medical condition should contact Student Accessibility Services in accordance with the Procedure for Accommodations for Students *with Disabilities available at* http://www.ucalgary.ca/policies/files/policies/procedure-for-accommodations-for-students-with-disabilities_0.pdf.

Students needing an Accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, preferably in writing, to the Associate Head of Biological Sciences, Dr. H. Addy by email addy@ucalgary.ca or phone 403 220-3140.

(d) **Safewalk:** Campus Security will escort individuals day or night (<http://www.ucalgary.ca/security/safewalk/>). Call 220-5333 for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.

(e) **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). As one consequence, students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information see also

(f) <http://www.ucalgary.ca/secretariat/privacy>.

(g) **Student Union Information:** VP Academic Phone: 403 220-3911 Email: suvpaca@ucalgary.ca
SU Faculty Rep. Phone: 403 220-3913 Email: science1@su.ucalgary.ca, science2@su.ucalgary.ca and science3@su.ucalgary.ca;
Student Ombuds Office: 403 220-6420 Email: ombuds@ucalgary.ca; <http://ucalgary.ca/provost/students/ombuds>

(h) **Internet and Electronic Device Information:** You can assume that in all classes that you attend, your cell phone should be turned off unless instructed otherwise. Also, communication with other individuals, via laptop computers, Blackberries or other devices connectable to the Internet is not allowed in class time unless specifically permitted by the instructor. If you violate this policy you may be asked to leave the classroom. Repeated abuse may result in a charge of misconduct.

(i) At the University of Calgary, feedback provided by students through the Universal Student Ratings of Instruction (USRI) survey provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses (www.ucalgary.ca/usri). Your responses make a difference - please participate in USRI Surveys.

Department Approval _____ ORIGINAL SIGNED _____ Date _____

Department Approval
for NO Final Exam _____ ORIGINAL SIGNED _____ Date _____

Advanced topics in Microbial Pathogenesis: CMMB565

Tues/Thurs 12:30-13:45; ST 125

Sept 8 - Dec 8, 2015

Week	Date	Topic	Instructor
1	9-8-15	Course Intro, Microbiome in health and disease	DeVinney
1	9-10-15	Microbiome in health and disease	DeVinney
2	9-15-15	Microbiome in health and disease: prep for in class discussion	DeVinney
2	9-17-15	In class discussion	DeVinney
3	9-22-15	Bacterial secretion systems	Dong
3	9-24-15	Bacterial secretion systems	Dong
4	9-29-15	Bacterial secretion systems: prep assignment 1	Dong
4	10-1-15	In class assignment 1	Dong
5	10-6-15	Antibiotics and resistance	Liljebjelke
5	10-8-15	Antibiotics and resistance	Liljebjelke
6	10-13-15	Antibiotics and resistance: prep assignment 2	Liljebjelke
6	10-15-15	In class assignment 2	Liljebjelke
7	10-20-15	Invasion and intracellular survival	DeVinney
7	10-22-15	Invasion and intracellular survival	DeVinney
8	10-27-15	Invasion and intracellular survival: prep assignment 3	DeVinney
8	10-29-15	In class assignment 3	DeVinney
9	11-3-15	Bacterial toxins and adherence	Armstrong
9	11-5-15	Bacterial toxins and adherence: prep assignment 4	Armstrong
10	11-10-15	In class assignment 4	Armstrong
10	11-12-15	Reading day	
11	11-17-15	Immune evasion by microbial pathogens	DeVinney
11	11-19-15	Immune evasion by microbial pathogens	DeVinney
12	11-24-15	Immune evasion: prep for assignment 5	DeVinney

12	11-26-15	In class assignment 5	DeVinney
13	12-1-15	Student Presentations	All
13	12-3-15	Student Presentations	All
14	12-8-15	Student Presentations	All

Course Information: The focus of this course is on the virulence mechanisms used by pathogens to infect the host and cause disease. The course is divided into six-two week lecture blocks taught by five different faculty members. The course is very interactive, with a large student participation component. Students will be evaluated on the following components:

In Class Assignments: Students will participate in four of the five in-class assignments. These assignments are at the discretion of the instructor, and in the past have included discussions of current literature, problem solving sessions and panel discussions. In class assignments comprise 40% of the mark (10%/assignment), and include written (5%/assignment) and oral (5%/ assignment) components.

Class participation: Participation in class discussions is a required component of this course, and represents 10% of the mark. This includes discussions in the lecture blocks, in-class assignments, and student presentations.

Final project. The final project is comprised of two sections: a written proposal and an oral presentation (“professor for a day”). **This assignment must be focused on microbial pathogenesis.** Bacterial, viral and eukaryotic pathogens are fair game, and the area of choice does not need to have been discussed in class. Students will prepare a research proposal for the written portion, and present a short talk on their proposal during the final two class sessions. Information sheets about this assignment will be available on D2L, and the assignment will be discussed during the initial class session.

Research Proposal. The proposal will be a 6-page NSERC-style proposal, with a section critically reviewing the relevant literature, a hypothesis, and specific aims to describe the research strategy and methodologies proposed. A one page letter of intent for the research proposal, describing the proposal topic and briefly outlining research interests is due Oct 13, 2015 at 11:59 pm. The final proposal is due on Dec 9, 2015 at 11:59 pm.

“Professor for a day”. In this section, students will present a 20 min lecture to the class on the topic area chosen for their research proposal. The lecture should be at the level of a 400-500 series course. The presentation will be evaluated by the course instructors, and students will provide short, written answers to questions pertaining to each of the other student’s talks.

GRADING SCALE

A+ = 92
A = 86
A- = 80
B+ = 77
B = 74
B- = 70
C+ = 67
C = 64
C- = 60
D+ = 55
D = 50
F < 50