



UNIVERSITY OF CALGARY
FACULTY OF SCIENCE
DEPARTMENT OF BIOLOGICAL SCIENCES
COURSE OUTLINE

1. **Course: CMMB 431 – BACTERIAL PATHOGENS**

Lecture Sections:	L01	MWF	10:00-10:50	SB 144	WINTER 2016
Instructor(s):	Dr. D. Storey Dr. J. Harrison	BI 286A BI 429B	220-5274 220-7627	storey@ucalgary.ca jjharris@ucalgary.ca	

D2L Web Site: **CMMB 431 L01 (Winter 2016) - Bacterial Pathogens**
Biological Sciences Department BI 186; (403) 220-3140; biosci@ucalgary.ca

2. **PREREQUISITE(S):** CMMB 343
See section 3.5.C in the Faculty of Science section of the online Calendar
(<http://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:

Midterm Exams	30% (2 X 15%)	In class,	Feb 8 & March 16
Student Group Presentation	20%		
Term Paper	20%		
Final Exam	30%		

(There will be a cumulative final exam scheduled by the Registrar's office.)

“Each piece of work (term paper, Student Group Presentation, midterm exams or final examination) submitted by the student will be assigned a percentage score. The student’s average percentage 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.”

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.3](#) of the University Calendar

5. **Scheduled out-of-class activities:** Dates and times of approved class activities held outside of class hours. 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:** TEXT: N/A

7. **Examination Policy:** No electronic or written aids (e.g.calculators, cell phones, tablets, computers, PDAs, notes, textbooks) will be allowed during writing of any exams. Students should also read the Calendar, Section G, on Examinations.

8. **Writing across the curriculum statement:** e.g. “In this course, the quality of the student’s writing in laboratory reports will be a factor in the evaluation of those reports.” See also [Section E.2](#) of the University Calendar.

9. **Human studies statement:** indicating whether students in the course may be expected to participate as subjects or researchers. See also [Section E.5](#) of the University Calendar.

STUDIES IN THE BIOLOGICAL SCIENCES INVOLVE THE USE OF LIVING AND DEAD ORGANISMS. Students are expected to be familiar with <http://www.ucalgary.ca/pubs/calendar/current/sc-5-1.html> of the on-line calendar.

See also <http://www.ucalgary.ca/pubs/calendar/current/e-5.html>.

10. OTHER IMPORTANT INFORMATION FOR STUDENTS:

- (a) **Misconduct:** 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 <http://www.ucalgary.ca/secretariat/privacy>.
- (f) **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>
- (g) **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.
- (h) **U.S.R.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 _____

UNIVERSITY OF CALGARY
DEPARTMENT OF BIOLOGICAL SCIENCES
COURSE OUTLINE
BACTERIAL PATHOGENS
CMMB 431

TERM: Winter 2016 SECTION NO: L01

PREREQUISITE: Cellular, Molecular and Microbial Biology 343

A student may not register in a course unless they have a grade of at least C- in each prerequisite course.

COURSE COORDINATOR: Dr. D. Storey

LECTURER(S): Dr. D. Storey BI 286A 220-5274 storey@ucalgary.ca
Dr. J. Harrison BI 429B 220-7627 jjharris@ucalgary.ca

LECTURES: MWF 10:00 – 10:50 SB 144

TEXT: Required: N/A

A. Composition of Final Grade

Midterm Exam 1 Feb 8	15%	In-Class
Midterm Exam 2 March 16	15%	In-Class
Student Participation	20%	
Term Paper	20%	
Final Exam	30%	

B. Final Exam

There will be a Cumulative Final Examination scheduled by the Registrar's Office.

C. Components of course for which a passing grade is essential

An aggregate grade of 50% is required on the two midterms and the final.

Letter grade conversion scheme

A+ = 92%	B+ = 77%	C+ = 66%	D+ = 55%
A = 85%	B = 73%	C = 62%	D = 50%
A- = 80%	B- = 70%	C- = 60%	F < 50%

Tentative 2016 course schedule CMMB 431 Bacterial Pathogens May change due to availability of guest lecturers.		
Jan 11	What are bacterial pathogens, pathogenesis and infections?	Storey
13	The normal human Microbiome and infection	Storey
15	How do bacterial pathogens attack their Hosts?	Storey
18	How does the Host fight off infection? The innate immune response	Storey
20	How does the Host fight off infection? The adaptive immune response	Storey
22	How do we prevent infections? Vaccinations and Sanitation	Harrison
25	How do we treat bacterial infections? Antibiotics	Harrison
27	Opportunistic Pathogens: <i>Pseudomonas/Burkholderia</i>	Harrison
29	Research Seminar Biofilms <i>Pseudomonas aeruginosa</i>	Harrison
Feb 1	Cystic Fibrosis lung infection Research Seminar	Parkins
3	<i>Streptococcus</i> and the enterococci (VRE) Set up groups and term paper	Storey
5	Research Seminar staphylococcus research	Zhang
8	Midterm exam (in class)	
10	Anaerobic Pathogens: <i>Clostridia</i>	Armstrong
12	Food or Water borne pathogens: Cholera Research	Tao Dong
Feb 14-20 Reading WEEK		
Feb 22	<i>Salmonella</i>	Storey
24	<i>Listeria</i>	Storey
26	<i>E.coli</i> Research Seminar	Devinney
Feb 29	<i>Hemophilus</i>	Storey
Mar 2	<i>Neisseria</i>	Storey
4	The role of iron in pathogenesis: Research Seminar	Schryvers/Fegan
7	Sexually Transmitted Disease: Syphilis	Read
9	Research lecture on <i>Borrelia</i>	Chaconas
11	Arthropod borne infections: <i>Yersinia</i>	Harrison
14	Obligate intracellular parasites: <i>Chlamydia/Rickettsia</i>	Devinney
16	Midterm exam (in class)	
18	Lung Bacterial Pathogens: The Respiratory Microbiota and species competition	Storey
21	<i>Legionella</i>	Storey
23	Diphtheria	Storey
25	Good Friday	
Mar 28	<i>Mycobacterium Tuberculosis</i>	Harrison
Mar 30	<i>Bordetella</i>	Harrison
April 1	Student Participation	Storey/Harrison
April 4,6,8	Student Participation	Storey/Harrison
April 11, 13	Student Participation	Storey/Harrison