

BIOL 1020 FALL 2009

BIOLOGY 1: PRINCIPLES AND THEMES COURSE SYLLABUS

INSTRUCTORS	<u>DAY SECTIONS (VIDEOS)</u>	<u>EVENING SECTION (IN PERSON)</u>	
	DR. JOY STACEY 514 Machray Hall Phone: 474-6380 Email: stacey2@cc.umanitoba.ca	MRS. KAREN SEREDA 512 Machray Hall Phone: 474-9130 Email: seredaky@cc.umanitoba.ca	
	DR. LANE C. GRAHAM 115 St. Paul's College Phone: 474-6021 Email: lcgrahm@cc.umanitoba.ca		
		MR. MICHAEL SHAW LAB COORDINATOR & INSTRUCTOR 208 Buller Bldg. Phone: 474-9732 Email: mshaw@cc.umanitoba.ca	
COURSE OBJECTIVE	The objective of this course is to give students a broad and comprehensive background in modern biology and thus to prepare them for entry into biology-oriented programs in the Faculty of Science and in other Faculties and Schools.		
COURSE DESCRIPTION	A laboratory-based course in unifying principles of biology including cell biology, bioenergetics, cell division, genetics and evolution. This course is intended for major and honours students in the biological sciences.		
COURSE WEBSITE	http://umanitoba.ca/science/biological_sciences/BIOL1020/		
LECTURE SLOTS AND LOCATIONS	<i>Section</i>	<i>Location</i>	<i>Time and Day</i>
	A01	201 Armes	8:30 AM (MWF)
	A02	205 Armes	8:30 AM (MWF)
	A03	204 Armes	9:30 AM (MWF)
	A04	205 Armes	9:30 AM (MWF)
	A05	208 Armes	10:30 AM (MWF)
	A06	205 Armes	10:30 AM (MWF)
	A07	204 Armes	11:30 PM (MWF)
	A08	208 Armes	12:30 PM (MWF)
	A09	205 Armes	12:30 PM (MWF)
	A10	100 St. Paul's	1:30 PM (MWF)
	A11	201 Armes	1:30 PM (MWF)
	A12	205 Armes	2:30 PM (MWF)
	A13	201 Armes	3:30 PM (MWF)
	A14	118 St. John's	3:30 pm (MWF)
	A15	208 Armes	7:00 PM (Tues)

**LABORATORY
SLOTS &
LOCATIONS**

	Mon.	Tues.	Wed.	Thurs.	Fri.
8:30 AM - 11:00 AM		B07-12	B19-24	B31-36	B43-48
11:30 AM – 2:30 PM		B66	B67	B68	B69
11:30 AM – 2:30 PM		B70	B71	B72	B73
2:30 PM - 5:00 PM	B01-06	B13-18	B25-30	B37-42	B49-54
7:00 PM - 9:30 PM			B61-65	B55-60	

Your first lab session will take place during the week of September 21-25. To find your lab seat follow these instructions:

1. Be sure you know your lab section number (B01 – B73)
2. Use the chart above to find your lab day and time.

e.g. **B37-42 is THURS. @ 2:30 - 5:00 PM**

At the scheduled time, go to the assigned room on the main floor of the Buller Bldg (211A, 211B, 212A, 212B or 216 Buller--The room number is on your registration printout). Your assigned seat will be posted on the assigned room door. Your teaching assistant will introduce him/herself to you and commence the first lab session.

***LABS BEGIN DURING THE WEEK OF SEPT. 21-25.
THERE ARE NO LABS UNTIL THEN!!***

**TEXTBOOK
&
LABORATORY
MANUAL**

Required text: Campbell and Reece, Biology (8th edition).
The Benjamin/Cummings Publishing Company Inc.
Note: The 7th edition of this book may be used instead

Laboratory Manual: BIOL 1020 Manual -Available at the U. of M. Bookstore

VIDEO TAPES

All of the day sections are taught by video. The video format is used to ensure a uniform presentation to all students in a very large class. Instructors can put more effort into lecture production when they don't have to repeat the same lecture to numerous sections. This gives them the time to visit the labs to chat with students informally and answer questions about the course. It also gives students greater access to the lectures and greater flexibility in viewing them. If a lecture is missed, or if you wish to watch a re-rerun it can be viewed individually in library.

A major problem with the video format is the lack of immediate student feedback or questions. You will have to jot down your questions and ask them later, either in the Instructor's office, or when you next see him/her in the laboratory.

Although the Coordinator does check the lecture rooms for problems, the lectures are largely unsupervised. **You must be quiet in class so that all students can benefit from the lecture.** Students found to be disruptive will be warned once and then ejected from the room. Once ejected, a student will not be allowed to continue in the course without a letter from the Dean or Director of his/hers Faculty of School.

ATTENDANCE **LECTURES:** Punctual attendance is expected. Attend only in the section to which you have been assigned.

LABORATORIES: Attendance at laboratories is mandatory. Attendance will be taken by the laboratory TA during each laboratory 2 hours into the class time. Students must be in attendance for a minimum of 2 hours. Students who miss more than 2 out of 8 labs, without a documented reason, during the regular session shall receive a grade of F for BIOL 1020 Biology 1.

**STUDENT
EVALUATION**

The final grade in BIOL 1020 will be based on three multiple choice examinations as follows:

1. **Mid Term Examination I**
 30 Multiple Choice Questions
 - 4 based on Laboratories 1 - 2
 -26 based on Lectures 1 - 10
 Scheduled by the Department (**October 19, 2009 - 6:00-7:30 pm**)
 Portion of course grade ----- 15 %

2. **Mid Term Examination II**
 40 Multiple Choice Questions
 -10 based on Laboratories 3- 5
 -30 based on Lectures 11 - 23
 Scheduled by the Department (**November 16, 2009 – 6:00 to 8:00 pm**)
 Portion of course grade ----- 25 %

3. **Final Examination**
 100 Multiple Choice Questions
 -30 based on Laboratories 1 - 8
 -70 based on Lectures 1 - 36
 Scheduled by the Registrar’s Office in the December Examination
 period.
 Portion of course grade ----- 60 %

**GRADING
SCHEME**

Day and evening section exams may be very similar, but they are distinct and written in separate locations. If you are a day section student (video lectures) be sure that you write the day section exam. If you are an evening section student (in person lectures) be sure you write the evening section exam. Calculators are not allowed during examinations!

Grades are assigned at the end of the year by converting your cumulative percentage mark into a letter grade, using the following table:

90 +	-	A ⁺
80 - 89	-	A
76 - 79	-	B ⁺
70 - 75	-	B
60 - 69	-	C ⁺
50 - 59	-	C
46 - 49	-	D
0 - 45	-	F

Very slight modifications of this scheme are sometimes made depending on the overall class grade distribution.

LABORATORY MARKS	Each exam has a laboratory section which contributes to the total exam mark but which will also be tabulated separately. <i>You must achieve a "D" standard in the lab (20 correct out of 44 lab questions for the year) to pass the course. If you score 19 or less out of the 44 lab marks you will receive a grade of F, regardless of your marks for the lecture questions.</i>	
EXAM IRREGULARITIES	If you are caught in a dishonest act during the course of an examination you will be reported to University authorities. Penalties may be imposed at the discretion of the relevant authorities.	
POSTING OF ANSWERS AND MARKS	The day after each of the three exams in the course, the answers will be posted in the first floor hallway of the Buller Bldg. As soon as the tests are marked, your mark will appear next to your student number at the same location. Take note of both your total mark and your lab mark and let us know (at 208 Buller bldg) immediately if you think there has been a marking error.	
LIBRARY TAPES	Several copies of each video lecture will be made available in the Sciences and Technology Library (Machray Hall) immediately after each lecture has been shown in the lecture sections. Please view missed lectures as soon as possible as the tapes are in high demand closer to exam time.	
QUESTION PERIOD	In addition to normal office hours and laboratory visits you can meet with the Biology instructors during question period. There are three question periods throughout the term, one immediately prior to each exam, in which you can discuss questions of an academic nature with your Biology instructors.	
	Fall term session will be held in 208 Armes (4:30 - 6:30 pm) on the following dates:	
	Dr. Joy Stacey-- Thursday, October 15, 2009	
	Dr. Joy Stacey and Dr. L. Graham -- Thursday, November 12, 2009	
	Dr. L. Graham— Thursday, December 3, 2009	
HOW TO GET HELP	<p>Administrative help:</p> <p>To:</p> <ul style="list-style-type: none"> -change section -registration or exam problems -report problems in lecture hall -etc. 	<p>Academic help:</p> <ul style="list-style-type: none"> -Consult your textbook for explanations. -Go to your instructor's office to get help. (You might want to e-mail or phone first to make sure the instructor is available). -Try to form study groups with friends or your laboratory partners -Remember that the T.A. is always there for you too!
	Go to Room 208 Buller Bldg. or Room 121 Machray Hall	
	Phone: 474-9732 or 474-9245 .	

FACULTY:

Day Sections (video lectures) will be divided among Faculty as follows:

Lecture 0	In person Introduction by Faculty
Lectures 1 - 17	Dr. Joy Stacey, Department of Biological Sciences
Lectures 18 -36	Dr. L. Graham, Department of Biological Sciences
Labs 1 - 8	Mr. M. Shaw, Department of Biological Sciences

Evening Section (in person lectures):

Lectures	Mrs. Karen Sereda
Labs 1 - 8	Mr. M. Shaw, Department of Biological Sciences

TIMETABLE

	M	T	W	Th	F	Lecture No.	Laboratories
						M W F	
September	7	8	9	10	11	-- --, 0	No Laboratory
	14	15	16	17	18	1 2, 3	No Laboratory
	21	22	23	24	25	4, 5, 6	1. An Introduction to the Laboratory
October	28	29	30	1	2	7, 8, 9	2. Biological Molecules
	5	6	7	8	9	10 11, 12	3. Cells
	12	13	14	15	16	--, 13, 14	No Laboratory
	19e	20	21	22	23	15, 16, 17	4. Cellular Energetics 1
	26	27	28	29	30	18, 19, 20	5. Cell Energetics II
November	2	3	4	5	6	21, 22, 23	6. Mitosis & Meiosis
	9	10	11	12	13	24, --, 25	No Laboratory
	16e	17	18	19	20	26, 27, 28	No Laboratory
	23	24	25	26	27	29, 30, 31	7. Genetics
Nov/Dec	30	1	2	3	4	32, 33, 34	8. Population Genetics
	7	8	9	10	11	35, 36	No Laboratory

LECTURE OUTLINE

Dr. Joy Stacey: 1 to 17

Dr. Stacey's lecture outline

Please note that the textbook covers some material in more detail than will be covered in lecture. You are responsible for lecture material. Some figures from the text have been modified for use in lecture and may not appear as in the textbook. A more complete lecture outline will be posted on the ANGEL learning website at <http://angel.cc.umanitoba.ca>

Subject	Campbell and Reece 8 th edition references	Figures
A. Introduction to biology (1 lecture)	1.1-1.3	1.3, 1.4-1.10, 1.12, 1.14-16, 1.20, 1.25, 1.26
B. Essential chemistry for biology (3 lectures)	2.1-2.4, 3.1-3.3, 4.1-4.3	2.3-2.5, 2.8-2.16, 2.18, 3.2-3.11, 4.4-4.10
C. Biological macromolecules (3 lectures): proteins, carbohydrates, lipids, nucleic acids	5.1-5.5	5.2-5.16, 5.18, 5.21-5.24, 5.26-5.27
D. Cells structure and function (4 lectures): eukaryotic and prokaryotic cells, organelles, endosymbiotic theory, membrane structure and function	4.1, 6.1-6.7, 7.1-7.4, 25.1, 25.3	5.28, 4.2, 6.2-6.27, 25.9, 6.28, 6.30-6.32, 7.2-7.15
E. Metabolism (6 lectures): basic principles, cellular respiration, photosynthesis	8.1-8.5, 9.1-9.6, 10.1-10.4	8.2-8.3, 8.5-8.12, 8.14-8.15, 8.17-20, 8.22, 9.2, 9.5, 9.6, 9.8, 9.9-9.12, 9.14, 9.16-9.21, 10.3-10.7, 10.9-10.21

**LECTURE OUTLINE & TEXTBOOK REFERENCES FOR
Biology 7th and 8th Editions**

Dr. Lane Graham Lectures: 18 to 36

Lectures	Topics	Textbook References
18	The Cell Cycle 1	Chap. 12 (7 th) Chap. 12 Figs 12.2a,b & c; 12.11; 12.4; 12.5; & 12.6 (8 th)
19	The Cell Cycle 2	Chap. 12 (7 th) Chap.12 Figs. 12.7; 12.8; 12.9 a & b; 12.10; 12.5; 12.14; and 12.7 a & b (8 th)
20	Meiosis & Sexual Reproduction 1	Chap. 13 (7 th) Chap. 13 Figs. 13.2; 13.3; 13.7; 13.8 (8 th)
21	Meiosis & Sexual Reproduction 2	Chap. 13 (7 th) Chap. 13. Figs 13.5; 13.6 a,b,c; 28.10; 13.11; 13.12 (8 th)
22	Genetics 1	Chap. 14, 15 (7 th) Chap. 14 Figs. 14.2; 14.3; 14.5; 14.6 (8 th)
23	Genetics 2	Chap. 14, 15 (7 th) Chap.14 Figs. 14.1; 14.8; 14.15; 14.10 (8 th)
24	Genetics 3	Chap. 14, 15 (7 th) Chap. 14 Figs. 14.11; 14.12; 14.13 (8 th)
25	Genetics 4	Chap. 14, 15 (7 th) Chap.15 Figs. 15.12; 15.6; 15.13 (8 th)
26	Molecular Genetics 1	Chap. 16-19 (7 th) Chap. 16 Figs. 16.2; 16.6; 16.1; 16.7; 16.5; 16.8 (8 th)
27	Molecular Genetics 2	Chap. 16-19 (7 th) Chap. 16. Figs. 16.9 a,b,c; 16.10 a,b,c; 16.12 a,b; 16.13; 16.14; 16.15; 16.16; 16.17 (8 th)
28	Molecular Genetics 3	Chap. 16-19 (7 th) Chap. 16 Figs. 16.18; 16.19; 16.20 (8 th) Chap.17 Figs. 17.3 a,b; 5.27 a,b,c; 17.4; 17.5; 17.7 (8 th)
29	Molecular Genetics 4	Chap. 16-19 (7 th) Chap. 17 Figs. 17.8; 17.9; 17.10; 17.14 a,b; 17.16 a,b,c (8 th)

30	Molecular Genetics 5	Chap. 16-19 (7 th) Chap. 17 Figs. 17.17; 17.18; 17.19; 17.20; 17.25; 15.14; 18.6; (8 th)
31	Molecular Genetics 6	Chap. 16-19 (7 th) Chap 18 pp 351-362, 373-376 (8 th) Figs. 18.2; 18.3 a,b; 18.4 a,b; 16.21; 18.7 a,b; 18.20; 18.22 (8 th)
32	Evolution 1	Chap. 22-24 (7 th) Chap. 25 pp 514-523 Figs. 25.1; 25.14 (8 th) Chap. 22 Figs. 22.2; 22.8 (8 th)
33	Evolution 2	Chap. 22-24 (7 th) Chap. 23 Figs. 23.5 (8 th)
34	Evolution 3	Chap. 22-24 (7 th) Chap. 23 Fig. 23.17 (8 th) Chap. 1 Fig. 1.22 (8 th) Chap. 24 Fig. 24.2 (8 th)
35	Evolution 4	Chap. 22-24 (7 th) Chap. 24 Fig. 24.4; 24.9 (8 th) Chap. 26 Fig. 26.7 (8 th) Chap. 34 Fig. 34.34 (8 th) Chap. 40 Fig. 40.2 (8 th)
36	Introduction to Biodiversity	Chap. 25, 26 (7 th) Chap. 26 pp 536-545, 551-553 (8 th) Figs. 26.3; 26.22; 26.4; 26.13 (8 th) Chap. 22 Fig. 22.17 Chap. 32 Figs. 32.10; 31.11

Faculty of Science Statement on Academic Dishonesty

The Faculty of Science and The University of Manitoba regard acts of academic dishonesty in quizzes, tests, examinations, laboratory reports or assignments as serious offences and may assess a variety of penalties depending on the nature of the offence.

Acts of academic dishonesty include, but are not limited to bringing unauthorized materials into a test or exam, copying from another student, plagiarism, and examination impersonation.

Note: cell phones, pagers or electronic translators are explicitly listed as unauthorized materials, and must not be present during tests or examinations.

Penalties that may apply, as provided for under the University of Manitoba's Student Discipline By-Law, range from a grade of zero for the assignment or examination, failure in the course, to expulsion from the University. The Student Discipline By-Law may be accessed at:

http://umanitoba.ca/admin/governance/policies/section_1200/1202.shtml

Suggested penalties assessed by the Faculty of Science for acts of academic dishonesty are available on the Faculty of Science web-page: <http://umanitoba.ca/faculties/science/>

All Faculty members (and their teaching assistants) have been instructed to be vigilant and report all incidents of academic dishonesty to the Head of the Department.

REGISTRATION RESTRICTIONS

PLEASE ENSURE THAT YOU THE STUDENT ARE ENTITLED TO BE REGISTERED IN THIS COURSE:

THIS MEANS THAT YOU THE STUDENT HAVE:

-the appropriate prerequisites, as noted by the calendar description, or have permission from the instructor to waive these prerequisites

-not previously taken, or are concurrently registered in this course and another that has been identified as “not to be held with”

The registration system may have allowed the student to register but it is up to the student to ensure that they have met all the requirements.

Consequences may be the student being withdrawn from the course part way through the term, or the course not used in the degree program. There will be no fee adjustment. This is not appealable.