

SYLLABUS

BIOL 1000 BIOLOGY: FOUNDATIONS OF LIFE

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Welcome to Biology: The Foundations of Life. I hope you enjoy this course, which offers you, the student, a taste of the incredible processes that occur at the cellular level. When you complete this course, you will have an understanding that each one of us is made of billions and billions of cells all of which can be traced back to the original zygote formed from a single sperm and a single egg. You will also learn about evolution and how, through small changes, we now have the vast diversity of life forms on Earth. I hope you find this course both interesting and challenging. Keep in mind that when you are having any difficulty you can always call or e-mail your instructor.

COURSE DESCRIPTION

The *Undergraduate Calendar* of The University of Manitoba describes BIOL 1000, The Foundations of Life, as follows: A course in unifying principles of biology including cell biology, bioenergetics, cell division, genetics and evolution. May not be used for credit in a Major or Honours program in the biological sciences. Not to be held with BIOL 1020 (or 071.102), BIOL 1021, BIOL 1030 (or 071.103), BIOL 1031 (or the former 071.125), BIOL 2010 (or 071.201) or 071.123.

This is a course in general biology primarily intended to give you an understanding of cellular process. Topics to be covered include how cells divide and reproduce, how cells use and acquire energy from the environment, and the remarkable way that cells and all biological organisms pass information from one generation to the next. We will also look at the evolutionary principles that have made all of these cellular processes possible. There is no lab component to this course. If you enjoy this course and would like to further explore biology, in particular biological diversity, you may be interested in BIOL 1010 Biological Diversity and Interactions. Information on Biology courses at the University of Manitoba can found on the Biology web site. http://www.umanitoba.ca/faculties/science/biological_sciences/

PREREQUISITE

Any grade 12 or 40S Mathematics course (50%), or equivalent.

COURSE OBJECTIVES

Upon completion of this course you should be able to explain (using appropriate terminology) the following:

1. The organization of life, from biomolecules to cells.
2. The complexity of the living cell and the basic biochemical processes of life.
3. The processes of mitosis and meiosis.
4. The inheritance of genes from one generation to the next and their affect on phenotype.
5. The process of microevolution and its relationship with macroevolution.
6. Basic biological concepts including evolution, cell systems, genetic technologies, and other related issues.

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COURSE MATERIALS

Textbooks

The following required materials are available for purchase from the [University of Manitoba Bookstore](#). Please order your materials immediately, if you have not already done so. See your [Distance and Online Education Student Handbook](#) for instructions on how to order your materials.

Note: Students are required to obtain the textbook.

Textbook:

J.B. Reece, M. Taylor, E. Simon, J. Dickey and K. G-E. Scott (2014). Campbell Biology: Concepts and Connections, Canadian Edition. Pearson, Toronto.

- **Important:** Dr. Campbell has written many textbooks on Biology with numerous editions some of which are used in other University of Manitoba courses. Please ensure you have the correct textbooks before starting the course.
- Texts purchased from the [University of Manitoba Bookstore](#) should include a MasteringBiology Student Access Code Card. The access code is required to access the online materials on the textbook companion website MasteringBiology.com.
- This textbook is also available in an electronic format at the [myPEARSONstore](#). You do **NOT** need to buy the text in more than one version.
- There may be some savings purchasing access to the online materials and the etext together.

Required textbook companion website:

www.MasteringBiology.com.

- An access code is required to access these online materials
- *Note:* If you do not have an access code it can be purchased online using a major credit card.

REGISTERING FOR THE TEXTBOOK COMPANION WEBSITE:

1. Make sure your computer meets the system requirements (see your MC Student Access Kit and http://www.masteringhelp.com/system_requirements.htm). Although MB can be used with Internet Explorer or Safari, using Firefox seems to generate fewer problems.
 2. Go to www.masteringbiology.com
 3. If you are a first-time user, click on "New Students" and follow the instructions. If you have used MB before, simply login to the system using your previous Login Name and Password.
 4. To enroll in your course, enter your 7-digit University of Manitoba student number as your "Student ID" and enter the correct "Course ID" below:
 - MBBIOLOGY1000F15 or W16 (for BIOL 1000) or MBBIOLOGY1010F15 or W16 (for BIOL 1010)
- **You will not be able to register until the first day of class****
5. If you experience technical difficulties with the MasteringBiology online assignment system contact MasteringBiology at this URL: www.masteringbiology.com/site/support/faq-students.html.

Make sure to have your MasteringBiology Student Access Kit or your login name/password handy.

Got Technical Questions?

Visit <http://247pearsoned.custhelp.com> - technical support is available 24/7.

REQUIRED HARDWARE AND SOFTWARE

You require the following items for your computer for this course:

Computer with speakers

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COURSE OVERVIEW

The course materials will follow the textbook very closely. The major topics addressed are as follows:

Unit 1 The Life of the Cell
Chapters 2–7

Unit 2 Genetics
Chapters 8–10 and 12

Unit 3 Evolution and Diversity
Chapters 13–15

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EVALUATION AND GRADING

DISTRIBUTION OF MARKS

Your final grade will be based on a series of five timed, online quizzes (10%), three assignments worth 15% each (45%) and a final exam (45%).

Evaluation	Percentage
5 Online Quizzes	10%
Assignment 1	15%
Assignment 2	15%
Assignment 3	15%
Final examination	45%
Total	100%

GRADING SCALE

Letter grade	Percentage range	Description
A+	90 – 100	Exceptional
A	80 – 89	Excellent
B+	76 – 79	Very good
B	70 – 75	Good
C+	65 – 69	Satisfactory
C	55 – 64	Adequate
D	50 – 54	Marginal
F	less than 50	Failure

Please note: All final grades are subject to departmental review.

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PLAGIARISM, CHEATING, AND EXAMINATION IMPERSONATION

You should acquaint yourself with the University's policy on plagiarism, cheating, and examination impersonation as detailed in the General Academic Regulations and Policy section of the *University of Manitoba Undergraduate Calendar*. Note: These policies are also located in your *Distance and Online Education Student Handbook* or you may refer to Student Affairs at <http://www.umanitoba.ca/student>.

Important Note

Students are encouraged to work with other students on the assignments. Working with another student or group of students is a great way to learn. Please be sure that when you hand in your assignment that it is **your** work. You must answer all questions in your own words! When assignments are too similar all students involved will receive a grade of 0 on that assignment.

You must submit a signed copy of the 'Honesty Declaration Individual Work' located in the course website.

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ASSIGNMENTS

ONLINE QUIZZES

Throughout the term there will be 5 bi-weekly, short online quizzes. These quizzes will be available from 12:01 AM to 11:59 PM (Winnipeg time) on the date indicated in the course schedule. Once you login and start the quiz you must complete it by 11:59 PM Winnipeg time. If you log out your quiz is over even if you have not answered all the questions. The dates for the 5 online quizzes are outlined in the course schedule.

ASSIGNMENTS

Each unit has an assignment that is to be completed and submitted for grading. The assignments will be marked on correctness and completeness and will be returned to you showing the mark earned. If you hand in an assignment early it will not be returned until after the due date has passed since other students may submit assignments up to the due date.

Note: Detailed instructions about the assignments are found in your course website.

ASSIGNMENT DUE DATES

Note: Consult your course schedule for the assignment due dates.

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EXAMINATION

The final exam will be conducted at the University of Manitoba, Fort Garry campus or at an alternate location off-campus. **All students must declare an exam location.** The Registrar's Office is responsible for scheduling the final exam. Once finalized, the exam date and time information will be posted on the University of Manitoba Exam site. The format will be the same as the practice final exam found in your course.

A WORD OF CAUTION ABOUT THE ASSIGNMENTS AND THE FINAL EXAMINATION

Some students find that they do very well on the assignments, but they do not do nearly as well on the final examination. While your grades on the assignments will give you some idea of how well you are mastering the material, they may not indicate how well you will do on the examination, because the examination is written under very different circumstances. Because the assignments are open book, they do not require the amount of memorization that a closed-book examination requires nor are they limited to a specific time period. Some students have told us that, based on the high marks they received on the assignments, they were overconfident and underestimated the time and effort needed to prepare for the final examination.

Please keep all this in mind as you prepare for the examination. Look at the sample exam and practice for the examination by setting a time limit and writing out some of the long answers while not having any books available. Pay careful attention to the description of the type of questions that will be on your final examination. Preparing for multiple choice questions involves a different type of studying than preparing for essay questions.

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CONTACTING YOUR INSTRUCTOR

For information on contacting your instructor as well as other important information from your instructor see the Instructor Letter in your course website.

DISTANCE AND ONLINE EDUCATION (DE) STUDENT RESOURCES

In your course website there are links for the following:

- Contact Distance and Online Education Staff
- Distance and Online Student Handbook
- Distance and Online Education Website

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ACKNOWLEDGEMENTS

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Dr. Scott has been an instructor at the University of Manitoba since 2006. He completed his Ph.D. dissertation entitled "*The Role of T-Cells in the Pathogenesis of Small Intestinal Injury and Malfunction in Giardiasis*" at the University of Calgary. He began his teaching career in Kelowna, BC, moved to Calgary, AB and settled in Winnipeg during which time he has taught courses ranging from Introductory Biology, Physiology, Anatomy, Developmental Biology, Parasitology and Immunology. Previous course contributors include Michael Shaw, M.Sc and Ross McQueen, Ph.D. from the Department of Biological Sciences in the Faculty of Science at the University of Manitoba.

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