

Fall 2009

BIOLOGY 1M03
BIODIVERSITY, EVOLUTION, & HUMANITY

COURSE CO-ORDINATOR:

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COURSE DESCRIPTION:

This course covers fundamental evolutionary and ecological concepts with particular reference to biodiversity and human evolution. We examine the dynamics of species diversity and explore the evolution and impact of humans. Emphasis is placed on evolution, ecology, behaviour, and conservation as related to the gain and loss of biodiversity. The PBL (problem-based learning) tutorial (dry lab) activities reinforce the lecture topics and develop skills facilitating the interpretation of scientific observations. The course is a prerequisite for many programs and most relevant to those focusing on evolution and ecology.

PREREQUISITES: Grade 12 Biology U or Biology 1P03 (Introductory Biology).

ANTIREQUISITES: Biology 1AA3 (Biodiversity, Evolution, and Ecology)
Biology 1M03 is not open to students with credit or registration in ISCI 1A24.

COREQUISITE: Science 1A00

Students enrolled in Biology 1M03 must also register in Science 1A00 when completing their registration. This safety course is being offered as an online on ELM, details will be announced. Contact <http://www.workingatmcmaster.ca/eohss/>, if you are unable to access this course.

BIOLOGY 1M03 LECTURES - GOALS & OBJECTIVES

Biology 1M03 lectures are designed for students who intend to specialize in Science programs and is required for many higher level courses in the Faculty of Science. Upon completion of Biology 1M03, students will be able to:

1. Effectively discuss the fundamental concepts and underlying processes related to evolution, behaviour, ecology, and the conservation of biodiversity.
2. Work independently and in collaboration with others to compile, analyze, interpret, and present scientific data using oral, written, and internet formats necessary for biological sciences.

The primary goal of the course is to prepare students academically for subsequent, specialized Biology courses and to ensure that students acquire skills essential for upper-level biology courses and biology-related fields of study.

BIOLOGY 1M03 LECTURE SECTIONS & FORMAT

Refer to the **2009-10 Fall/Winter Session Undergraduate Course Timetable**.

The Biology 1M03 lectures will be a synthesis of several sources (the required textbooks, primary scientific literature, such as journal articles and current research). Lecture Outlines, Study Questions, and Supplementary Resources will be posted on the Biology 1M03 ELM site.

The Biology 1M03 ELM Lecture Outlines are not detailed lecture notes. Students are expected to attend all lectures and supplement the posted Biology 1M03 ELM postings with their own written "in-class" lecture notes.

Tests and the Final Exam will include some concepts and current experimental work, which are not discussed in your textbooks. These topics will be discussed exclusively during lectures. The use of new material will demonstrate how the concepts covered in Biology 1M03 lead directly to recent work and to applied research.

ACADEMIC PROPERTY STATEMENT

No part of the Biology 1M03 lecture presentations or in-class discussions may be reproduced, in any form or by any means, without formal permission in writing by the Biology 1M03 Professors (J. Dushoff, J. Kolasa).

No visual media (voice recordings, overheads, photos, Powerpoint, MP3 media) may be reproduced or communicated by any means. Usage of voice recorders, cameras or video / camera-capable cell phones are not permitted to be used during lectures.

BIOLOGY 1M03 TUTORIALS

Refer to the **2009-10 Fall/Winter Session Undergraduate Course Timetable**.

The **7 tutorial periods and PBL project** of the course will consist of **mandatory tutorial-type activities**. Completion of the course requires attendance and participation in the tutorials (which includes pre-tutorial, in-tutorial, and post-tutorial assignments) as well as completion of the PBL project.

Detailed schedules and Tutorial Information will be announced in lectures and posted in the Biology 1M03 ELM site.

REQUIRED BIOLOGY 1M03 TEXTBOOKS

BIOLOGICAL SCIENCE, 3rd Edition (**Volume 2, Evolution, Diversity, and Ecology**) by Scott Freeman.

Note: Students are advised to purchase the recent 3rd Edition of the textbook. Do not purchase an old edition, since it will lack the updated concepts and figures. An old textbook will put a student at a disadvantage.

HOW HUMANS EVOLVED (Supplement Edition) by Robert Boyd and Joan B. Silk.

Textbooks are available at Titles (McMaster's University's Main Bookstore).

OPTIONAL WRITING GUIDE

A Short Guide to Writing About Biology (6th Edition) by J. A. Pechenik (bundled with the textbook). This is an excellent reference book, which is useful for completing the PBL project reports.

iClickers

Classroom response systems are utilized in the lectures. Students may purchase an iClicker at McMaster's Main Bookstore.

OPTIONAL TEXTBOOK STUDY GUIDE

Study Guide for Scott Freeman's Biological Science (3rd Ed) textbook is considered a valuable resource.

The Study Guide is **highly recommended**, since it contains summaries and practice questions related to the Biological Science textbook information.

ASSIGNED TEXTBOOK CHAPTERS

For Dr. Dushoff's Lectures (September 10th - October 20th)

Biological Science, 3rd Edition (Vol. 2 – Evolution, Diversity, & Ecology by Scott Freeman)

Chapter 1 Biology and the Tree of Life
Chapter 24 Evolution by Natural Selection
Chapter 25 Evolutionary Processes
Chapter 26 Speciation
Chapter 27 Phylogenies and the History of Life
Chapter 51 Behaviour

How Humans Evolved (by Robert Boyd & Joan B. Silk)
Chapters 10-17, specific readings to be announced in lectures.

For Dr. Kolasa's Lectures (October 22nd – December 4th)

Biological Science, 3rd Edition (Vol. 2 – Evolution, Diversity, & Ecology by Scott Freeman)

Chapter 50	Introduction to Ecology
Chapter 52	Population Ecology
Chapter 53	Community Ecology
Chapter 54	Ecosystems
Chapter 55	Biodiversity and Conservation

HOW TO LOG INTO THE BIOLOGY 1M03 ELM WEBSITE

1. Start your web browser and go to: <http://elm.mcmaster.ca>
2. **USER ID:** Type in the first part (in lower case letters) of your McMaster MUSS e-mail address (your MAC ID).

 For example: if your McMaster e-mail address is janedoe@muss.cis.mcmaster.ca,
 then your ELM User ID is janedoe.
3. **PASSWORD:** Type in your McMaster Modem / Printing / CIS Lab Access /Proxy Services password.
4. Then click on the Login button.

You will need Adobe Acrobat Reader (this is freeware) to read the Biology 1M03 *pdf* files.

Most computers have Adobe Acrobat Reader installed as standard software.

If your computer does not have it, you may download it from the Adobe website:

<http://www.adobe.com/products/acrobat/readstep2.html>

Note: In this course, we will be using ELM for some assessments. Students should be aware that when they access the electronic components of this course, private information, including first and last names, user names for the McMaster University e-mail accounts, and program affiliations may become apparent to others participating in the course. Continuation in this course will be deemed as consent to this disclosure. If you have any questions or concerns about such disclosure please discuss them with the course professors and instructional assistant.

BIOLOGY 1M03 POLICIES

1. It is the responsibility of the student to attend the lecture and tutorial section to which he or she has been assigned. If a lecture or a tutorial is missed, students are responsible for the covered material. Permanent changes from the assigned sections may be through SOLAR by the first lab. After that time, no further section changes are possible.
2. It is the responsibility of the student to attend all tutorials as scheduled. There are no "make-up" tutorials.
3. By using the Drop Box system in place for Biology 1M03, the student takes full responsibility to ensure that the assignment be dropped into the correct box by the deadline. If an assignment is late or submitted to the wrong box, students will receive a 10% per day penalty that will accrue until the assignment is located. Drop boxes are located outside Burke Science Building (BSB) Room 201. A late assignment should be submitted to the Instructional Assistant during office hours to acquire a date / time stamp in to avoid larger late penalties.
4. If a student knows in advance that a test will be missed, the student may be given permission to write during the Morning (Alternative Test). This permission is sought from the office of the Associate Dean of their respective faculty.

It is not possible to do "make-up" tests after the regularly scheduled and alternative morning tests have been written. If a student misses a test for a valid reason, he or she must see their Associate Dean of their respective

Faculty to be exempted from a missed test. The Associate Dean's office will require documentation. All formal documentation from the Associate Dean's Office must be received by the Instructional Assistant.

With valid documentation/approval, a missed test's or dry lab (tutorial) percent worth will be added to the percent worth of the Final Exam.

Without valid documentation/approval, a missed test or dry lab (tutorial) will be given a mark of zero.

NOTE: Only "APPROVED" missed work notes will be accepted by the Professors or Instructional Assistants.

BIOLOGY 1M03 POLICIES (continued...)

5. Only use of the McMaster University approved calculator (*Casio fx 991*) is allowed during evaluations (the Tests and the Final Exam).
6. Any marked term work (assignments, test, etc.) may be submitted for re-grading within 5 business days of the work being returned to the student. The work must be accompanied by a re-grade request form printed from the Biology 1M03 ELM website and the reason for the regrade request must be completely justified on the form. Regrade requests made for frivolous reasons will be denied. Regrade forms and course work should be submitted to the Instructional Assistant's office in BSB 201A.
7. Any term mark corrections must be made before the Biology 1M03 Final Exam is written. Contact the Instructional Assistant regarding tests/assignments grades corrections.
8. Because this course has compulsory tutorial activities, it is the responsibility of the university to ensure that the students have the appropriate academic skills necessary to succeed in upper level biology courses. If a student does not complete the majority of the mandatory tutorial activities, the university reserves the right to withhold a student's grade until they have completed the required activities during a future semester. A passing grade in the tutorial component is required to pass Biology 1M03. This policy applies even if the student has notes from their Associate Dean of Studies office excusing him or her from the missed activities, tests, or assignments.
9. Tests and assignments must be completed and submitted individually, unless other instructions to work in groups is specifically defined. All reports and assignments which are submitted must be unique. It is considered academic dishonesty to submit work that is not originally yours or that has been previously submitted. All cases of academic dishonesty will be dealt with through the office of Academic Integrity at McMaster University.
10. The professors, instructional assistant, and university reserve the right to modify elements of the course during the term. The university may change dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster e-mail and course websites regularly (at least every other day) during the term and to note changes.

GRADING Final 1M03 grades will be determined by the following evaluations:

	<u>DATES</u>	<u>VALUE</u>
TEST #1	October 2 nd	15%
TEST #2	November 20 th	15%
TUTORIALS		17%

PBL PROJECT		10%
PARTICIPATION		3%
FINAL EXAM	T.B.A.	40%

Biology 1M03 final marks for the course are based on a total assessment of each student's record.

It is a student's responsibility to make sure that his/her marks are complete and correct. Grade adjustment techniques may be used.

The Professor and the Instructional Assistant reserve the right to change or revise information contained in this course outline.

BIOLOGY 1M03 TEST AND FINAL EXAMINATION FORMAT

The Biology 1M03 Tests may include multiple choice, figures, graphs, and written factual, conceptual, and application style questions.

The Biology 1M03 Final Exam will consist of multiple choice questions only. The 1M03 Final Exam is cumulative and will evaluate the information covered during the entire academic term (excluding tutorial material).

McMASTER UNIVERSITY GRADING SCHEME

Grades obtained for Biology 1M03 will be converted according to the following scheme, which is the one in general use at McMaster University.

90-100%	A+	12
85-89%	A	11
80-84%	A-	10
77-79%	B+	9
73-76%	B	8
70-72%	B-	7
67-69%	C+	6
63-66%	C	5
60-62%	C-	4
57-59%	D+	3
53-56%	D	2
50-52%	D-	1
0-49%	F	0

STUDY SKILLS

The academic transition from high school to university is often very challenging for many students. For students who wish to improve their academic skills, study habits, time management, or for students who require specialized services [learning challenged students and ESL (English as a second language students)], assistance is available at the Centre for Student Development located in the lower level (basement) of the McMaster University Student Centre in UB 107.

ACADEMIC DISHONESTY

All students in Biology 1M03 are expected to display honesty and utilize ethical behaviour in all aspects of their academic learning. Academic dishonesty is to knowingly act or fail to act in a manner which results or could potentially result in consequences, including a grade of zero on a test or assignment, loss of course credit with a notations that reads "Grade F, assigned for academic dishonesty", and/or suspension or expulsion from McMaster University.

Students are responsible for understanding what constitutes academic dishonesty. Refer to <http://www.mcmaster.ca/academicintegrity> for further clarification.

The following descriptions some of the forms of academic dishonesty:

1. Plagiarism (the submission of work that is not a student's own or for which other credit has been obtained)
2. Improper collaboration in group work.
3. Copying or using unauthorized aids during tests and examinations.

In order to uphold the integrity of the Department of Biology at McMaster University, please consult the Statement on Academic Ethics and the Senate Resolutions on Academic Dishonesty stipulated in the Senate Policy Statements, presented at registration in the Senate Office, and also accessible on the web, <http://www.mcmaster.ca/univsec/policy/AcademicIntegrity.pdf>

Any student who infringes one of these resolutions will be treated according to published policy.

A copy of the Biology Department Statement on Academic Dishonesty is posted in the tutorial rooms.

To deter acts of academic dishonesty in Biology 1M03, there will be multiple versions of tests & final exams. In addition, marked student course work will be randomly scanned and photocopied.

THE BIOLOGY ACHIEVEMENT AWARD

The Department of Biology recognizes the importance of superior undergraduate academic performance in Biology 1M03 among our students. Biology Academic Achievement Awards are conferred to students, who obtain the highest standings in Biology 1M03. Approximately, 10 awards, each consisting of a book prize and a certificate, are given per year for the course. No applications are necessary as the awards are based solely on course grades.

MISSED FINAL EXAM

Students who miss the Biology 1M03 Final Exam for a valid reason may apply to the Associate Dean of their respective faculty for permission to write a Deferred Final Exam to be written during the Deferred Final Exam period. The student must submit a completed McMaster University Medical Certificate and the completed application for the deferred Final Exam to the Office of the Associate Dean within one week of the Final Examination period.

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