



SPRING 2017

BIOLOGY 1M03 - BIODIVERSITY, EVOLUTION, & HUMANITY

PROFESSOR

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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 registrations in ISCI 1A24.

BIOLOGY 1M03 COURSE GOALS & OBJECTIVES

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

- Effectively discuss the fundamental concepts and underlying processes related to biodiversity, evolution, and ecology.
- 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 LECTURES

Lectures will be held on **Tuesdays and Thursdays mornings 9:00am - 12:00 (noon)** in the Burke Sciences Bldg (BSB), Lecture Hall 147. The Biology 1M03 lectures will be a synthesis of several sources (the required course textbook, primary scientific literature, such as journal articles, current research, and guest speakers).

Lecture outlines and supplementary resources will be posted on the Biology 1M03 AVENUE website. Note that the Biology 1M03 Lecture Outlines are NOT detailed lecture notes. Students are expected to attend ALL lectures and supplement the posted Biology 1M03 Avenue postings with their own written "in-class" lecture notes.

IMPORTANT

Student In-Lecture Attendance & Participation in In-Lecture Activities are worth marks in the course's overall graded evaluation

The Midterm Test and the Final Exam will include some concepts and current experimental work, which are not discussed in the textbook. These topics will be discussed EXCLUSIVELY during lectures and in-lecture participation activities. It is extremely important that students attend ALL lectures.

The use of supplementary lecture resources will demonstrate how the concepts covered in Biology 1M03 lead directly to recent work and to applied research.

IMPORTANT

ACADEMIC PROPERTY STATEMENT

NO part of the BIOLOGY 1M03 lectures, in-class discussions, course information or resources may be reproduced, in any form or by any means, without permission in writing by the professor (L. Kajiura).

NO visual media, voice recordings, Powerpoint slides, MP3 media or lecture-related information may be reproduced or communicated by any means. Usage of cameras or video / camera-capable cellphones, smartphones or digital media are NOT PERMITTED to be used during lectures.

BIOLOGY 1M03 TUTORIALS (DRY LABS)

The dry lab component consists of 6 mandatory tutorials exercises, plus 1 PBL group project.

The tutorials will be held on **Thursdays 1:00 – 4:00pm**. Check your MOSAIC schedule for tutorial room locations. Completion of the course requires attendance at the tutorials. In-class tutorials start on **Thursday, May 11th**. Detailed schedules will be announced in lectures and posted in the Biology 1M03 Avenue website.

REQUIRED BIOLOGY 1M03 TEXTBOOKS

BIOLOGICAL SCIENCE, Canadian Customized Edition (**Volume 2**, Evolution, Diversity, and Ecology) by Scott Freeman, Mike Harrington, Joan Sharp.

HOW HUMANS EVOLVED (McMaster 7th Supplement Edition) by Robert Boyd and Joan B. Silk.

Both textbooks are available at The Campus Store (McMaster University Main Bookstore) in Gilmour Hall.

REQUIRED WRITING GUIDE:

A Short Guide to Writing About Biology (7th or 8th Edition) by J. A. Pechenik (bundled with the textbook) as APPENDIX C.

OPTIONAL TEXTBOOK STUDY GUIDE (HIGHLY RECOMMENDED)

The **Study Guide by Warren Burggren for Scott Freeman's Biological Science, McMaster Canadian Customized Edition (Volume 2, Evolution, Diversity, and Ecology) textbook** is considered an optional resource.

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

OPTIONAL iClickers

iClickers (Classroom Response Systems) are used in Biology 1M03 lectures. The iClicker questions will not be formally graded, however, they will serve to provide valuable feedback regarding learned concepts. iClickers are available for purchase at the McMaster University Bookstore, The Campus Store.

HOW TO LOG INTO THE BIOLOGY 1M03 AVENUE WEBSITE:

1. Start your web browser and go to: <http://avenue.mcmaster.ca>

2. **USER ID:** Type in the first part (in lower case letters) of your McMaster MUSS e-mail address.
For example: if your McMaster e-mail address is janedoe@mcmaster.ca,
then your Avenue 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 Avenue 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 professor and instructional assistant of this course

BIOLOGY 1M03 LECTURE SCHEDULE

DATE : ASSIGNED TEXTBOOK CHAPTERS (NOTE that students are also responsible for related supplementary information)

BIOLOGICAL SCIENCE, Canadian Ed. Vol. 2 (Evolution, Diversity, & Ecology)

Tuesday, May 2rd	<u>Chapter 24</u> <u>Chapter 25</u>	Evolution by Natural Selection & Supplementary Information Evolutionary Processes & Supplementary Information
Thursday, May 4th	<u>Chapter 26</u> <u>Chapter 27</u>	Speciation & Supplementary Information Phylogenies and the History of Life & Supplementary Information
Tuesday, May 9th	<u>Chapter 51</u>	Behavioural Ecology & Supplementary Information
Thursday, May 11th	Selected topics from <u>Chps 9-12 from Boyd & Silk's HHESuppl Textbook</u>	
Tuesday, May 16th	Selected topics from <u>Chps 13-16 from Boyd & Silk's HHESuppl Textbook</u>	
Thursday, May 18th	<u>Chapter 50</u>	Introduction to Ecology & Supplementary Information
Tuesday, May 23rd	<u>Midterm Test Review Lecture</u> - to help students prepare for the Midterm Test <u>Planet 2550 Integrated Case Based Study Assignment</u> Students are to work in groups (max limit 3 students) on their Planet 2550 Integrated Case Based Study Assignments by answering Q's #2-5. Due date to be announced in lecture.	
Thursday, May 25th	<u>MIDTERM TEST</u> Midterm Test is worth 30%, covers Biological Science Chps 24, 25, 26, 27, 51, Boyd & Silk Chps 9-12, lectures, Avenue postings, in-class discussions, and supplementary information. The format of the Midterm Test is 30 multiple choices questions (worth 30 marks), and 15 marks worth of written answer questions, for a total of 45 marks. The test will be 90 minutes in length. After the Midterm Test, students are advised to continue to work in their groups in the lecture hall on their Planet 2550 Integrated Case Based Study Assignments reports.	
Tuesday, May 30th	<u>Chapter 52</u>	Population Ecology & Supplementary Information
Thursday, June 1st	<u>Chapter 53</u>	Community Ecology & Supplementary Information
Tuesday, June 6th	<u>Chapter 54</u>	Ecosystems & Supplementary Information
Thursday, June 8th	<u>Chapter 55</u>	Biodiversity & Conservation Biology, Guest Speakers, & Supplementary Information
Tuesday, June 13th	FINAL EXAM REVIEW SESSION	
Thursday, June 15th	<u>FINAL EXAM</u> (Final Exam is worth 40% and is cumulative, 2 hours in length, it covers lectures with a slight emphasis on the material covered after the Midterm Test, in-lecture discussions, activities, all assigned textbook chapters in Boyd & Silk and Biological Science, Avenue postings, and supplementary resources)	

BIOLOGY 1M03 POLICIES

1. It is the responsibility of the student to attend the lecture and tutorial sections 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 made through MOSAIC by the first tutorial. 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 during the Spring/Summer terms.
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, which is 1:00 pm in the afternoon on the day in which it is due.

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 BSB room 201/A. 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. Due to the compressed nature of the Spring/Summer term. It is not possible to do "make-up" tests. If a student misses a test for a valid reason, he or she must complete an MSAF form as noted below. All formal documentation from the MSAF system must be received by the Instructional Assistant.

With valid documentation, a missed test's percent worth will be added to the percent worth of the Final Exam.

Without valid documentation, a missed test will be given a mark of zero.

No discretionary approvals will be granted by the professors or instructional assistant.

Requests for Relief for Missed Academic Term Work

For absences from classes lasting up to 3 days:

Undergraduate students may report absences lasting up to 3 days by using the McMaster Student Absence Form (**MSAF**) on-line, self-reporting tool, in order to request relief for missed academic work. The submission of medical or other types of supporting documentation is normally not required. Students may use this tool to submit a maximum of one request for relief of missed academic work per term. It is the prerogative of the course instructor to determine the appropriate relief for missed term work in his/her course.

Immediately after using the online tool, students MUST contact Thelma Leech / Alastair Tracey regarding the nature of the relief. Failure to do so may negate the opportunity for relief.

For absences from classes lasting more than three days:

Students who are absent more than five days **MUST** report to their Faculty Office to discuss their situation and may be required to provide appropriate supporting documentation.

For the reporting of more than two requests for relief per term:

Students who wish to submit more than one request for relief of missed academic work per term **MUST** report to their Faculty Office to discuss their situation and may be required to provide appropriate supporting documentation.

The MSAF on-line, self-reporting tool cannot be used for the Midterm Test or for the Final Examination.

NOTE: it is the policy of Biology 1M03 that students who miss a test are NOT given access to the missed test questions and test answers. Test question answers (but not the questions) will be posted to Avenue for the convenience of students who wrote the tests.

5. Only use of the McMaster University approved calculator (*Casio fx 991*) is allowed during evaluations (the Tests and the Final Exam). Scan sheets must be completed in HB pencil. Written Answers must be completed in blue or blue ink pen. Use of correction fluid or correction tape is not permitted on tests or exams.
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 AVENUE 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 Re-grade Drop Box located beside the tutorial drop boxes located on the 2nd floor of BSB outside of BSB 201/A.
7. Test 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.
8. Sometimes a student may encounter a technical difficulty with the quizzes. If a student needs help, the student must come and see the Instructional Assistant in person in BSB 201A before his/her quiz deadline. If the Instructional Assistant does not know about the student's technical difficulty until after the due date has passed, there is nothing that can be done. The student will only be able to inform the Instructional Assistant of technical difficulties during his office hours (which do not include weekends or evenings), so please plan to complete the quizzes well in advance of the due dates.
9. Any term mark corrections must be made before the Biology 1M03 Final Exam is written.
10. As a student enrolled in this course you have been granted permission to access an online learning management system, Avenue to Learn. Avenue to Learn course pages are considered an extension of the classroom and usage is provided as a privilege subject to the same code of conduct expected in a lecture hall (see relevant section of the student code of conduct below). This privilege allows participation in course discussion forums and access to supplementary course materials. Please be advised that all areas of Avenue to Learn, including discussion forums, are owned and operated by McMaster University. Any content or communications deemed inappropriate by the course instructor (or designated individual) may be removed at his/her discretion. Per the University Technology Services Code of Conduct, all members of the McMaster community are obligated to use computing resources in ways that are responsible, ethical and professional. Avenue to Learn Terms of Use are available at <http://avenue.mcmaster.ca>.

Student Code of Conduct - Appendix D

Major Offences include, but are not limited to: (h) engaging in disruptive behaviour. Disruptive behaviour is behaviour in class or out of class which involves substantial disorder and/or disrupts the operation of the University

(j) engaging in verbal or non-verbal behaviour or communication toward an individual or group which is considered to be intimidating, harassing and/or discriminatory

BIOLOGY 1M03 MIDTERM TEST AND FINAL EXAMINATION FORMAT:

The Biology 1M03 Midterm Test will consist of 30 multiple choice questions worth 30 marks and 15 marks worth of written answers for a total of 45 marks completed in 90 minutes. For multiple choice questions, each question is worth 1 mark, no partial marks will be awarded.

The Biology 1M03 Final Exam will consist of 80 multiple choice questions completed in 2 hours. The 1M03 Final Exam is cumulative and will evaluate course information covered during the entire academic term.

For the Biology 1M03 Midterm Test and the Final Exam, the questions may evaluate factual, conceptual, and application knowledge.

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

	<u>DATE</u>	<u>VALUE</u>
LECTURE ATTENDANCE & IN-LECTURE PARTICIPATION ACTIVITIES		2%
MIDTERM TEST	Thursday, May 25th (in the lecture hall)	30%
TUTORIALS		16%
Online Avenue and/or written assignments for each tutorial (totalling 4% each) as specified for each tutorial.		
PBL PROJECT		10%
Annotated Bibliography	0.5%	
PBL Draft report	0.5%	
PBL Final Report	4%	
PBL Oral or Poster Presentation	4%	
Peer Review	1%	
PLANET 2550 INTEGRATED CASE BASED STUDY ASSIGNMENT		2%
FINAL EXAM	Thursday, June 15th (in lecture hall)	40%

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. However, marks will NOT be bell-curved at any point in the term.

The Professor and the Instructional Assistants reserve the right to change or revise information contained in this course outline. The professor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, students will be given reasonable notice with an explanation and an opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course website daily during the term and to note any changes. Marks will be calculated according to the above grading scheme in order to be consistent with previous years. The Biology Department does not approve of altering marks arbitrarily at a student's request.

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+
85-89%	A
80-84%	A-
77-79%	B+
73-76%	B
70-72%	B-
67-69%	C+
63-66%	C
60-62%	C-
57-59%	D+
53-56%	D
50-52%	D-
0-49%	F

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 Student Success Centre in Gilmour Hall 110.

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.

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 notation 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 include 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.

To deter acts of academic dishonesty in Biology 1M03, there will be multiple versions of the Midterm Test & Final Exam. In addition, marked student course work will be randomly scanned and photocopied to deter acts of academic dishonesty.

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