

Spring 2008
BIOLOGY 1AA3

BIODIVERSITY, EVOLUTION, & ECOLOGY

PROFESSOR:

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COURSE DESCRIPTION:

Fundamental evolutionary and ecological concepts with particular reference to the diversity of life.

PREREQUISITES:

Grade 12 Biology U and registration in one of Science I, Arts & Science I, Kinesiology I, Mathematics and Statistics I, Medical Radiation Sciences I, Chemical Engineering and Bioengineering, Electrical and Biomedical Engineering, any programme above Level I; or a grade of at least 80% in Grade 12 Biology U; and credit or registration in SCIENCE 1A00.

Registration in or completion of CHEM 1A03, 1AA3 is strongly recommended as both courses are prerequisites for many Level II, III and IV Biology courses. Students in non-Science programs should consider registering in Biology 1K03 and Science 2K03 which do not have laboratories. Last offered in 2007-2008.

BIOLOGY 1AA3 COURSE GOALS & OBJECTIVES

The Biology 1AA3 course is 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 1AA3, students will be able to:

1. Effectively discuss the fundamental concepts and underlying processes related to biodiversity, evolution, and ecology.
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 1AA3 LECTURES:

Lectures will be held on Monday and Wednesday mornings [9:00 am - 12:00 (noon)] in the TSH (Togo Salmon Hall) B105.

The 1AA3 lectures will be a synthesis of several sources (the textbook, primary scientific literature, such as journal articles and current research). Lecture Outlines, Lists of Overheads, Study Questions, and Supplementary Resources will be posted on the Biology 1AA3 WebCT/Blackboard site.

The Biology 1AA3 WebCT/Blackboard Lecture Outlines are not detailed lecture notes. Students are expected to attend all lectures and supplement the posted Biology 1AA3 Blackboard 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 textbook. These topics will be discussed exclusively during lectures. The use of new material will demonstrate how the concepts covered in Biology 1AA3 lead directly to recent work and to applied research.

No part of the lecture presentations or in-class discussions may be reproduced, in any form or by any means, without permission in writing by the professor. No visual media (overheads, Powerpoint, MP3 media) may be reproduced or communicated by any means. Usage of cameras or video / camera-capable cell phones are not permitted to be used during lectures.

BIOLOGY 1AA3 TUTORIALS:

The lab component of the course is being replaced by 5 (five) mandatory tutorials. These tutorials will be held on Tuesdays 9:00 am – 12 noon in the in Burke Science Building (BSB) 2nd floor, Rooms 213, 214, 217, 218. Completion of the course requires attendance at the tutorials.

Tutorials start on Tuesday, May 12th, 2008. Detailed schedules will be announced in lectures and posted in the Biology 1AA3 WebCT/Blackboard site.

REQUIRED BIOLOGY 1AA3 TEXTBOOK:

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

REQUIRED WRITING GUIDE:

A Short Guide to Writing About Biology (5th or 6th Edition) by J. A. Pechenik (bundled with the textbook).

OPTIONAL TEXTBOOK STUDY GUIDE:

The Study Guide by Warren Burggren for Scott Freeman's Biological Science (2nd Ed) textbook is considered an optional resource.

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

TENTATIVE BIOLOGY 1AA3 LECTURE SCHEDULE

DATE: ASSIGNED TEXTBOOK CHAPTERS

BIOLOGICAL SCIENCE, 2nd Edition

Volume 2 – Evolution, Diversity, and Ecology by Scott Freeman

| | | |
|-----------------------------|--|--|
| Mon., May 5 th | <u>Chapter 23</u> <u>Chapter 24</u> | Evolution by Natural Selection Evolutionary Processes |
| Wed., May 7 th | <u>Chapter 25</u> <u>Chapter 26</u> | Speciation Phylogenies and the History of Life |
| Mon., May 12 th | <u>Chapter 51</u> | Behaviour |
| Wed., May 14 th | <u>Chapter 51</u> | Behaviour (<i>continued</i>) |
| Mon., May 19 th | NO LECTURE, VICTORIA DAY HOLIDAY | |
| Wed., May 21 st | <u>Chapter 50</u> <u>Chapter 54</u> | Introduction to Ecology Ecosystems |
| | MIDTERM TEST REVIEW SESSION | |
| Mon., May 26 th | MIDTERM TEST (worth 30%, covers Chapters 23, 24, 25, 26, 51, 50 lectures, WebCT/Blackboard postings, in-class discussions, and supplementary information). | |
| | <u>Chapter 52</u> | Population Ecology |
| Wed., May 28 th | <u>Chapter 52</u> | Population Ecology (<i>continued</i>) |
| Mon., June 2 nd | <u>Chapter 53</u> | Community Ecology |
| Wed., June 4 th | <u>Chapter 53</u> | Community Ecology (<i>continued</i>) |
| Mon., June 9 th | <u>Chapter 55</u> | Biodiversity and Conservation |
| Wed., June 11 th | <u>Chapter 55</u> | Biodiversity and Conservation (<i>continued</i>) |
| Mon., June 16 th | FINAL EXAM REVIEW SESSION | |
| Wed., June 18 th | FINAL EXAM (worth 40%, covers all assigned textbook chapters 23, 24, 25, 26, 51, 50, 54, 52, 53, 55 lectures, in-class discussions, WebCT/ Blackboard postings, & supplementary resources) | |

Due to the time constraints of the summer academic term, selected topics from each textbook chapter will be presented in lectures. Details will be posted on the Biology 1AA3 WebCT/Blackboard site.

HOW TO LOG INTO THE BIOLOGY 1AA3 WebCT/BLACKBOARD SITE:

1. Start your web browser and go to: <http://www.ltrc.mcmaster.ca/webct/index.shtml>
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@muss.cis.mcmaster.ca, then your WebCT/Blackboard 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 1AA3 *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>

BIOLOGY 1AA3 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 through SOLAR 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 1AA3, the student takes full responsibility to ensure that the assignment be dropped into the correct box by the deadline, which is 12:30 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 late assignment should be submitted to the Instructional Assistants 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 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 Assistants.

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 assistants.

5. Only use of the McMaster University approved calculator (*Casio fx 991*) is allowed during evaluations (the Tests and the Final Exam).
6. Any term mark corrections must be made before the Biology 1AA3 Final Exam is written.
7. 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 1AA3 WebCT/Blackboard site 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.

8. 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.

BIOLOGY 1AA3 TEST AND FINAL EXAMINATION FORMAT:

Biology 1AA3 Test and the Final Exam may include multiple choice, figures, graphs, and written factual, conceptual, and application style questions.

GRADING: Final 1AA3 grades will be determined by the following evaluations:

| | <u>DATE</u> | <u>VALUE</u> |
|---------------------|---|---------------------|
| MIDTERM TEST | Monday, May 26 th (in class) | 30% |
| TUTORIALS | Throughout the spring term | 30% |
| FINAL EXAM | Wednesday, June 18 th (in class) | 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.

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

McMASTER UNIVERSITY GRADING SCHEME:

Grades obtained from Biology 1AA3 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.

MISSED FINAL EXAM:

Students who miss the Biology 1AA3 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:

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 1AA3, there will be multiple versions of tests & final exams. In addition, marked student course work will be randomly scanned and photocopied.