Concordia University

BIODIVERSITY AND ECOLOGY (BIOL 226/4)

Course Outline: January 2017

SCHEDULE: Lectures: Tuesday & Thursday, 08.45-10.00, Loyola SP-S110

INSTRUCTOR:
Dr. Robert Weladji
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Office hours: see me after class or by appointment, or drop by Tuesday between 1030 and 1200

TEACHING ASSISTANT:
Caitlin Finlay, SP-301.16
Office Hours: XXXXXX or email me for an appointment. Email: Caitlin.finlay5@gmail.com (Include BIOL 226 in the subject line).

COURSE DESCRIPTION

BIOL 226 is a lecture course that introduces students to the evolution, biodiversity, and ecology of organisms. The first part of the course deals with an introduction to evolutionary theory, and includes natural selection, the mechanisms of evolution and the origin of species and history of life on Earth. The second part begins with phylogeny, and deals mostly with the diversity of life, from prokaryotes, through simple eukaryotes to multi-cellular organisms. In the last part of the course, I will describe the fundamentals of ecology. Lecture topics include the ecology of organisms, populations, communities and ecosystems.

Prerequisite: CEGEP Biology 301 or 101-NYA or BIOL 201

REQUIRED MATERIALS

- **Text book**: Reece, Urry et al. 2014. Campbell Biology, Canadian Edition. Benjamin Cummings, San Francisco, CA
- **iClicker**: can be purchased new or used from the bookstore

BOOK ON RESERVE

Reece et al. 2011. Campbell Biology, 9th edition, will work
One copy of Reece et al. 2011 is available for 3 hours loan.

LECTURES

I expect students to read the assigned chapter, complete the Definitions, Explanations or Lists, and answer the Assigned Questions, and at least think about the Review Exercises for that chapter before coming to class. This material will form the backbone of your notes for the course. I suggest you bring the answers to class so that any information covered in class can be added to your notes. Because students will have already read the chapter, I do not feel obliged to cover the entire chapter in the lecture period. Instead, I will use the lecture to concentrate on important topics, tell you stuff that isn't in the book, do problems, answer questions, etc.

CLICKERS:

I will be using clickers this year to increase student involvement in the course. The clicker will be used mainly to answer review questions based on the assigned readings or the material covered during the last class; as well as discussion questions aimed to provoke students to think about issues. The clickers questions will count towards class participation, but some of the review questions will count towards the Clicker Review Grade.

How to register your iClicker?

1. Log in to the MyConcordia Portal at http://www.myconcordia.ca.
2. In the MyConcordia menu, select "Student Services".
3. Select "iClicker Registration".
4. Enter your iClicker ID (the # on the back of the iClicker remote) & click "Enter".
5. Next, register your clicker online at: http://www1.iclicker.com/register-an-iclicker
6. This should be done before **Feb 7** (20% penalty from the clicker grade for late registration)

ASSIGNED QUESTIONS

Students will submit their answers to the Assigned Questions **ONLINE** via moodle by **11.30 PM the night before the day they are due**; I suggest you hand in a copy (cut and paste from a word file) and keep the originals as part of your notes. A ***sub-sample*** of answers will be graded by the T.A. and returned via moodle (usually the following week). Students are expected to complete the Definitions and Review Exercises but are not required to hand these in. I encourage students to talk to each other when thinking about the questions; however, each student must submit in his/her own work. Copying from other students or from last year's assignments defeats the purpose of the assigned questions and is plagiarism (see Section 17.10.3 of the Undergraduate Calendar). Late submissions (i.e. after due date and time) will not be accepted. It is also academic misconduct to use another student's clicker. (http://www.concordia.ca/academics/undergraduate/calendar/current/17-10.html).

WHAT ARE YOU RESPONSIBLE FOR?

In decreasing order of importance: (1) what we cover in class, (2) your answers to Definitions, Assigned Questions and Review Exercises, and (3) any assigned readings

EVALUATION

Class participation: A factor of 1.25 will be applied with a maximum of 5 - i.e. 5/5 if clicking ≥80% classes (No exception because you were sick or forgot your clicker, etc)	5%
Clicker review questions. Your best 80% answers will count (i.e. 5/5 for 80% correct answer; a factor of 1.25 will also be applied)	5%
Answers to Assigned Questions (the best 8 of 11)	10%
Test I (Jan 31) – chapters 22-25	15%
Test II (Mar 9) – chapters 26-34	25%
Final Exam (about 50% will be based on material covered after test II)	40%
TOTAL	100%

GRADING SCHEME

A+>90, A=85-89.9, A-=80-84.9, B+=77-79.9, B=74-76.9, B-=70-73.9, C+=67-69.9, C=64-66.9, C-=60-63.9, D+=57-59.9, D=54-56.9, D-=50-53.9, F<50

NOTES

- Late submission of assignments will not be accepted.
- Assigned questions: only your best 8 (out of 11) will count, so don't worry about it if you are ill, but do them on your own
- Clicker review questions: only your best 80% will count.
- There will be **no make-up tests**. Your final exam will count for more if you are **ill or have some legitimate reasons** for not writing the test. Email me before the test and bring your **valid proof** (medical note, obituaries, etc.) by the next class; and I will increase the value of your final exam to compensate for the missing test.

TENTATIVE SCHEDULE OF LECTURES AND ASSIGNMENTS

DATE		ACTIVITY	READING
Jan 10	L1	Course Description	Ch 1 (not covered in class)
Jan 12	L2	Evolution by Natural Selection **Answers to Chapter 22**	Ch 22
Jan 17	L3	Evolution of Populations **Answers to Chapters 23 & 24**	Ch 23
Jan 19	L4	Origin of Species	Ch 24
Jan 24	L5	History of Life on Earth **Answers to Chapters 25 & 26**	Ch 25
Jan 26	L6	Phylogeny and the Tree of Life	Ch 26
Jan 31		**Test I (Chapters 22-25)**	
Feb 2	L7	Prokaryotes **Answers to Chapter 27** **Clicker registration due**	Ch 25 (P 551: O_2 revolution) Ch 27
Feb 7	L8	Prokaryotes cont'd	
Feb 9	L9	Protists **Answers to Chapter 28**	Ch 25 (P 552-553: First Eukaryotes) Ch 28
Feb 14	L10	Plants **Answers to Chapter 29 & 30**	Ch 25 (P 554: Colonization of land) Ch 29
Feb 16	L11	Plants cont'd	Ch 30
Feb 21 & 23		MIDTERM BREAK	
Feb 28	L12	Fungi **Answers to Chapters 31 & 32**	Ch 31
Mar 2	L13	Introduction to Animals Diversity	Ch 25 (P 553: Cambrian explosion) Ch 32

Mar 7	L14	Vertebrates	Ch 34
Mar 9	**Test II (Chapters 26-34)**		
Mar 14	L15	Introduction to Ecology and the Biosphere **Answers to Chapter 52**	Ch 52
Mar 16	L16	Intr. to Ecology and the Biosphere – cont'd	Ch 52
Mar 21	L17	Population Ecology **Answers to Chapter 53**	Ch 53
Mar 23	L18	Population Ecology cont'd	
Mar 28	L19	Community Ecology **Answers to Chapter 54**	Ch 54
Mar 30	L20	Community Ecology cont'd	
Apr 4	L21	Ecosystems & Restoration Ecology **Answers to Chapter 55**	Ch 55
Apr 6	L22	Ecosystems & Restoration Ecology cont'd	Ch 55
Apr 11	L23	Conservation Biology & Global Change	Ch 56
Apr 13	L24	Conservation Biology & Global Change cont'd	