

A Course Guide To

BIOL*1020

INTRODUCTION TO BIOLOGY

Fall 2014

Dr. Andreas Heyland
TBA

College of Biological Science, IB
College of Biological Science, MCB

This course will introduce important concepts concerning the organization of life on our planet, from cells to ecosystems. The target student group for this course are students in an Arts Program or a non-biology Science Program. The dynamic and interactive nature of all living systems will be emphasized. This course will be valuable for students without 12U or OAC biology who are interested in environmental issues, medicine, advances in biotechnology and related topics.

RESOURCES

The **Desire2Learn (D2L) site** (access via “course link” at <http://www.uoguelph.ca/>) gives you lots of information about the course including abbreviated lecture notes, laboratory instructions, sample exam questions, access to the quizzes, and your marks.

The **recommended textbook** for BIOL*1020, Introduction to Biology is:

BIOLOGY, CONCEPTS AND CONNECTIONS

by Jane B. Reece, Martha R. Taylor, Eric J. Simon and Jean L. Dickey
Seventh Edition, 2012
The Benjamin/Cummings Publishing Company, Inc. Redwood City

This **textbook** can be purchased at The University Bookstore in the MacNaughton building (MACN) or the Co-op bookstore Basement Level Johnston Hall (New about \$158.00 + taxes; second hand cheaper).

The *study guide* (available at the University Bookstore) deals with much more than we discuss in class and is therefore *optional*; we will not reference to it.

The *Benjamin/Cummings Publishing Company* has set up a *website* with interactive tutorials, learning activities, questions and news articles. A 12-month subscription is included with the purchase of a new book. See www.campbellbiology.com for more details. Your use of this site is *optional*; we will not reference to it.

You are expected to attend lectures and laboratories and take notes. Abbreviated notes and laboratory instructions are available on the D2L website; these can be printed out and studied before you come to class. It will also help if you read the introduction plus module headings, and look over all illustrations of relevant portions of the textbook before lectures; and read relevant instructions before laboratories. Proper preparation will enhance your understanding and retention of the important concepts. Attendance at lectures and laboratories will reveal which aspects receive emphasis and/or what additional information you are expected to know. **Short newspaper articles** or other materials will occasionally be handed out. **From all of this YOU will have to deduce what the most important concepts are for this course.**

Please note: Electronic Recording of Classes by Students is expressly forbidden without prior consent of the instructor. When recordings are permitted they are solely for the use of the authorized student and may not be reproduced, or transmitted to others, without the express written consent of the instructor.

Additional resources can be found in the **library**.

* We strongly suggest that you take one of the *tours* that are offered to familiarize yourself with the library (sign-up sheets at information desk in the library).

* *“First”* is a collection of resources, services, and technologies for first-year students designed to help make the transition to university learning smooth and successful.

See <http://www.lib.uoguelph.ca/first/> to register for workshops, find out about Supported Learning Groups, and make individual appointments with staff or peer helpers.

Specially trained Peer Helpers and professional staff in **Learning and Writing Services** can help you achieve your academic goals. Get personalized assistance in appointments or drop-in sessions, attend workshops, or stop by for free Fastfacts handouts and resources. Visit them online at www.learningcommons.uoguelph.ca or call ext. 53632.

Computers to work on are available in the library, and in the CBS Computer Lab, SCI 1306.

Accessibility. The University of Guelph is committed to creating and maintaining a barrier-free University community and to eliminating discrimination against individuals with disabilities. The website www.uoguelph.ca/accessibility brings together the services, groups and committees at the University devoted to promoting accessibility and to ensuring that individuals have equitable access to services and facilities. The University welcomes feedback at this website.

GRADING SYSTEM

Your grade for the course will be determined from the total results of four quizzes, three mid-term examinations, eight laboratory reports, and one final examination according to the following schedule:

Quizzes (8x 1%)	8%	See below
Mid-term examination I	15%	
Mid-term examination II	15%	
Mid-term examination III	15%	
Final examination	15%	TBA
Tutorial assignments (8 x 4%)	32%	See below
TOTAL	100%	

Quizzes will be available via the D2L site, each quiz for 2 days only (see table below). The quizzes consist of multiple choice questions, similar to the ones given on the exams. They help you determine how well you understand the material.

Quiz 1	Quiz 5
Quiz 2	Quiz 6
Quiz 3	Quiz 7
Quiz 4	Quiz 8

All examinations will cover lecture AND laboratory materials, including handouts.

Examinations will consist of multiple choice questions, short answer questions which require concise answers, short essays and labelling of diagrams. Examples will be given during lectures, made accessible via the course D2L site and/or discussed at the Q&A periods. Midterms take place in the lecture room. **Location** for the final exam will be announced in the lecture. Midterm examination results will be posted on D2L as soon as possible. Midterm examinations will be returned to you as soon as they are available and the acceptable answers will be posted in SCI 3315. Any problems with examinations or questions arising from them must be discussed with Drs Heyland and Bioleau **within one week of posting.**

Individually prepared laboratory reports are to be completed before departure from the scheduled laboratory sessions. Late reports will not be accepted. Marked reports will be returned the week after, at which time complete answer keys will be posted in the lab.

Illness and other authorized absences. If you are absent during quiz or laboratory periods, or any midterm, for legitimate medical or other authorized reasons, please make sure you contact us. Provide supporting documentation as soon as you are able.

INSTRUCTORS

There are several course instructors, Boileau and Lee for the 1st half (Sept. 7th - Oct. 19th), Heyland and Lacroix for the 2nd half (Oct. 22nd – Nov. 28th), and a teaching assistant for the whole course:

TBA

Office: SCI 3482	Email: boileau@uoguelph.ca
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TBA

Office: SCI 3518, ext. 53329	Email: bllee@uoguelph.ca
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Dr. Andreas Heyland will lecture next. He received his B.Sc. from the University of Zurich in Switzerland, M.Sc. from the University of Paris and the University of Zurich and PhD from the University of Florida (USA). He joined the faculty at the University of Guelph in 2008. His research focuses on Evolutionary Developmental Biology with emphasis on invertebrate development and endocrine function. Dr Heyland has taught undergraduate and graduate courses in Biology, Zoology, Physiology, Development Biology and Evolution.

Office: SCI 1468 ext. 56459	Email: aheyland@uoguelph.ca
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Carole Ann Lacroix will lead the second set of laboratories. She has worked at the University of Guelph since 1975. Carole Ann completed her M.Sc. in invasive plant biology, using *Lythrum salicaria* (purple loosestrife) as a model to calculate the growth rate of populations using matrix algebra. Her jobs have included Greenhouse Manager of the Botany Greenhouse and Curator of the Herbarium, where her expertise in plant identification is utilized. Carole Ann is past president of the Field Botanists of Ontario and the Waterloo/Wellington Wildflower Club.

Office: SCI 2507, ext. 56444	Email: botcal@uoguelph.ca
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A teaching assistant will be assisting with the laboratories during the whole semester. He/she is a graduate student at the University of Guelph. Exactly who this is will be known at the start of the semester.

TBA	Email:
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WE ARE HERE TO HELP YOU UNDERSTAND BIOLOGY AND HOPEFULLY BECOME ENTHUSIASTIC ABOUT IT, PLEASE DO NOT HESITATE TO ASK US QUESTIONS!!

Best is to contact us directly after a lecture or during tutorials. You can also e-mail us to schedule an appointment.

You will be asked to complete **Course/Instruction and Teaching Assistant Evaluation forms** using **D2L**. The evaluation surveys and comments will be given to the instructors after final grades have been submitted.

WHERE AND WHEN

Lectures

Lectures will be held in MACN 113.

Mondays	9:30 - 10:20 a.m.
Wednesdays	9:30 - 10:20 a.m.
Fridays	9:30 - 10:20 a.m.

Lectures start on **Friday, September 7, and conclude on November 28.**

Feel free to ask any questions during lectures, immediately after a lecture or, if that is not possible, contact us by e-mail to schedule an appointment.

Laboratories

The laboratories will be held **on Wednesdays, mostly in SCIE 3315**

The laboratories will start September 12/13. **Please attend the laboratory section assigned to you** by the registrar. See us immediately if you are not scheduled into a laboratory section.

Note that the Question and Answer periods can be used to ask questions about the material in general and in preparation for an exam.

Section 01	Section 02	Section 03
Wednesdays 10:30 - 12:20	Wednesdays 2:30 - 4:30	Thursdays, 2:30 - 4:30

The first tutorials on XXX will start at the **Information Kiosk of the Arboretum** (on Arboretum Road off East Ring Road, see the Information Guide and Map handed out to you in class). Be there on time!

Come to SCI 3315 for all other tutorials. Be on time since we go somewhere else from there for some of the tutorials.

You are expected to attend all laboratories. They are an important part of the course in which basic biological concepts taught in the lectures are integrated with the concept of a whole ecosystem. You will be engaged in discussions of how biology and science, in general, are an important part of your everyday life. You will not be able to complete the assignments without attending. You can also be tested on material from the tutorials in the quizzes and the exams.

Quizzes

The quizzes will be held on Friday to Saturday, on the dates indicated on the Table presented earlier.

You can do a quiz anytime during those days, from any computer, if you log into the D2L site of the course via <http://courselink.uoguelph.ca/>. You have 3 hours to complete each quiz, from the time you log on.

LABS/TUTORIALS

TBA

* According to section assigned to you.

ACADEMIC RESPONSIBILITIES

Your success as a student depends above all on your own response to the opportunities and responsibilities that the university environment provides.

As a student you have several academic responsibilities (see

<http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c01/index.shtml>)

Academic misconduct is a serious offence and students who violate the University rules will face a severe penalty. We strongly advise you to read the appropriate Undergraduate Calendar pages (see <http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>) for a full description of the types of offences, the penalties and procedures.

Students should be aware of what constitutes plagiarism when writing the laboratory reports, but this is only one of a number of offences, including: academic dishonesty, misrepresentation of personal performance, and damages or theft of academic materials.

If you have any questions concerning the rules as they apply to BIOL*1020 please ask Drs Heyland and Boileau

LECTURES

Date/lecture #	Topic	Chapters in 7 th edition *
Sept. 5 1	Introduction	1
Sept. 8 2	Biosphere and Ecosystems	34
Sept. 10 3	Population Dynamics	36
Sept. 12 4	Communities and Ecosystems	37 QUIZ 1 (Sept 14/15)
Sept. 15 5	Conservation Biology	37 & 38
Sept. 17 6	Atoms and Molecules; The Properties of Water	2 & 3
Sept. 19 7	Intro to Organic Compounds; Carbohydrates and Lipids	2 & 3 QUIZ 2 (Sept 21/22)
Sept. 22 8	Proteins and Nucleic Acids	3
Sept. 24 9	A Tour of the Cell	4 Q&A
Sept. 26	MIDTERM I	
Sept. 29 10	The Working Cell	5
Oct. 1 11	How Cells Harvest Chemical Energy	6
Oct. 3 12	Photosynthesis: Using light to make Food	7 QUIZ 3 (Oct 5/6)
Oct 6 13	The Cellular Basis of Reproduction and Inheritance	8
Oct. 8 14	Patterns of Inheritance	9 QUIZ 4 (Oct 12/13)
Oct. 10 15	Molecular Biology of the Gene	9
Oct. 13	HOLIDAY - Thanksgiving	
Oct. 15 16	How Genes are Controlled	10 & 11 Q&A
Oct. 17	MIDTERM II	
Oct. 20 17	How Populations Evolve I	13
Oct. 22 18	The Origin of Species	14
Oct. 24 19	Tracing Evolutionary History	15 QUIZ 5 (Oct 26/27)
Oct. 27 20	Microbial Life Diversity	16
Oct. 29 21	Plants & Fungi Diversity	17
Oct. 31 22	Plant Structure, Growth and Reproduction	31 QUIZ 6 (Nov 2/3)
Nov. 3 23	Plant Nutrition and Transport	32
Nov. 5 24	Plant Hormones	33 Q&A
Nov. 7	MIDTERM III	
Nov. 10 24	The Evolution and Diversity of Animals	18 & 19
Nov. 12 26	Structure and Function of Animal Tissue	20
Nov. 14 27	The Immune System	24 QUIZ 7 (Nov 16/17)
Nov. 17 28	Body Temperature and Water Balance	25
Nov. 19 29	Hormones and the Endocrine System	26
Nov. 21 30	Reproduction and Embryonic Development	27 QUIZ 8 (Nov 26/27)
Nov. 24 31	Nervous System	28
Nov. 26 32	How Animals Move	30 Review

* Chapters from the book Campbell Biology, Concepts and Connections **expected to be presented** at the lectures. Not all content from each chapter will be covered, look at the abbreviated notes posted on the D2L website for details. **Note that additional material is present in the 7th edition compared to the 6th edition.**