UNIVERSITY OF SASKATCHEWAN

Department of Biology

COURSE SYLLABUS

COURSE TITLE:	BIOL 120 The Nature of Life
COURSE CODE: 26100	TERM: Winter 2016
COURSE CREDITS: 3.0	DELIVERY: Lecture & Practicum (Lab)
CLASS SECTION: 02	START DATE: Jan 6, 2016
CLASS LOCATION:	Room 105 Thorvaldson Bldg.
LAB LOCATION:	Room 202 and 218 Biology Bldg.
CLASS TIME: 10:30 to 11.20 am (M,W,F)	LAB TIME: 8.30 to 11.20 am (R) or 1.30 to 4.20 pm (M,T,W,R,F) 5.30 to 8.20 pm (M,T) 6.00 to 9.00 pm (W)
WEBSITE: via Blackboard	

This course is designed to introduce you to the vast and exciting field of biology, with a focus on events that are not normally visible to the naked eye. Covering topics in cell biology, genetics and evolution, Biology 120.3 is one of two foundation courses for biology majors and for students going into Natural Sciences (Program C). Biology 120.3 also counts towards the biology requirements of a number of programs in different colleges across campus. Biology 121.3 - The Diversity of Life - is the sister course to Biology 120.3, and focuses on biological diversity, evolution, adaptations of organisms to specific environments, and the factors influencing changes in biodiversity over time and space.

ANTICIPATED LEARNING OUTCOMES

By the end of BIOL 120.3 you should be able to describe, classify, and discuss aspects of cell theory, cell division, genetics, bioenergetics, and the molecular basis for variation and natural selection. The laboratory portion of the course will help link these topics together with hands-on exercises. After completing the lab section of the course, you should know how to use a microscope to visualize cells and tissues and how to solve basic genetics problems. Detailed learning objectives for each lecture topic will be posted in Blackboard Learn.

INSTRUCTOR CONTACT INFORMATION

Dr. Jorge Chedrese	Biology RM 323 jorge.chedrese@usask.ca	966-4446
Dr. Doug Smith	Biology RM 150 Biology dh.smith@usask.ca	966-4415
Gillian Murza Lab Coordinator	Biology Building RM 216 gillian.murza@usask.ca	966-4423

Office Hours: by appointment or after lecture

INSTRUCTIONAL RESOURCES: TEXTBOOK AND LAB MANUAL

The required textbook for Biology 120.3 is *Biology - Exploring the Diversity of Life (3rd Canadian Edition)* by Russell *et al.*, Nelson Education Ltd. The textbook will be referred to regularly during lectures both in terms of content and for the use of visual aids. It is also helpful for reviewing the material. You will not need to bring your textbook to class. The textbook material we will be covering is outlined on the last page of this outline and will be the core testable material for the course. Copies of the textbook will be available from the reserve desk in the Science Library, for short term, in library use. The lectures are intended to highlight and reinforce key concepts. Please see the *Learning Objectives Summary*, which will be posted on Blackboard with this outline for a more detailed description of the topics you will be responsible for on the midterm and final exams. All sections of the course will sit common midterm and final exams.

The Lab Manual for Biology 120.3 (2015-16 Edition) is required for the course, and must be brought to each lab session. It is available for purchase from the UofS Bookstore.

ONLINE RESOURCES

There are a number of online resources to help support your learning in Biol120. We highly recommend the use of these resources as a means to help increase your performance and success in this course.

Blackboard Learn (https://bblearn.usask.ca) is where you will be able to access lecture notes, learning objectives, and other resources from your instructor.

All students will have access to an online biology course in Open Learning Initiative (OLI). This online course will be accessed through Blackboard and provides additional readings, animations, and self-tests. **OLI is also where you will access your weekly online quizzes.**

Those students who purchase a copy of the textbook (including the electronic version) will have access to MindTap. MindTap is an online platform that provides access to a digital copy of the textbook, animations, and self-tests.

STRUCTURED STUDY SESSIONS (University Learning Centre)

Biol120 Structured Study Sessions are weekly *peer-led study sessions that run throughout the term. These regularly scheduled study sessions give you the opportunity to review and complete exercises on the course material, revisit more difficult concepts, and practice your exam-writing skills through mock exam sessions for the midterm and final exams.

All Biol120 students are welcome to attend structured study sessions. Pre-registration is not required and attendance is free. All that you need to do is show up to the session at the scheduled time and location and be open to learning! Watch your course Blackboard site for the schedule of sessions.

*Note: Structured Study Sessions are run by experienced students who've already completed Biol120, and achieved an excellent grade. Research has shown that students who attend Structured Study Sessions, on average, achieve higher grades than those who don't.

STUDENT ADVICE RECOMMENDER AGENT (SARA)
Each week through Blackboard you will receive tailored, personalized advice from SARA. This advice will guide you to additional University and online resources to help you succeed in this course.

STUDENT REVIEW AND COURSE PREPARATION (PURPLE PAGES)
There is prerequisite material that will not be directly covered in lectures. This material is expected knowledge from high school courses. Students should review this information ahead of time because it is important for the understanding of many basic biological topics we will cover.

In Russell *et al.* you will find this section in the middle of the book denoted by the purple colouring (pgs. F2-F56). This section contains basic information about the chemical and physical foundations of Biology, as well as a review of the macromolecules that make up living things (proteins, nucleic acids, carbohydrates and lipids). Knowledge of some of this information will be needed to understand course content and answer questions on the lab quizzes, midterm and final exams.

EVALUATION
Lecture Examinations: Students must bring their current University of Saskatchewan student card to all exams and be prepared to present it for verification purposes. It is forbidden for students to utilize any type of electronic device during an exam (e.g., cell phone, dictionary, translator, etc.) (see Academic Honesty section below).

There will be one Midterm Lecture Exam to be held outside of class time on the evening of Thursday February 25th 2016 – 5:30-6:30 pm at a location to be announced. In the event that you miss this exam due to a medical emergency or another exceptional circumstance, you must advise your instructor within THREE WORKING DAYS of the missed exam. If you do not advise your instructor within three working days, or do not have an acceptable excuse, a grade of zero will be assigned.

The Final Lecture Exam will be arranged by the Registrar's Office. The exam period is April 9 to 30, 2016. Accommodations will not be made for students making travel arrangements during this time frame. If a student is absent for a legitimate reason he/she may apply for a Deferred Final Exam within THREE WORKING DAYS of the missed exam to the Dean's Office of the College in which the student is registered.

Weekly Online Quizzes: There will be 10 weekly online quizzes that are accessed on OLI through the Blackboard Course Tools link in PAWS. Quizzes will be about 10 questions in length and will be available for you to complete between Monday and Sunday of each week. You will be allowed to attempt each quiz up to two times. The average score achieved will be recorded. These 10 quizzes will account for 10% of your final grade. Late quiz attempts cannot be accommodated due to software limitations.

Laboratory Examinations: There will be two Laboratory Exams. Lab Final 1 will be in the week of Feb. 1st -Feb. 5th, 2015. Lab Final 2 will be in the week of Mar. 28th-April 1st, 2016. Consult the 2015-16 Lab Manual for the procedure to follow for a missed Lab or Lab Exam.

There are other regular assignments and quizzes required for successful completion of the laboratory component of the course, and these are outlined in the Lab Manual.

GRADES

The final grade is calculated as follows:

Lecture Mid-term Exam	12.5%
Lecture Final Exam	37.5%
Weekly online quizzes (OLI)	10%
Lab Assignments and Quizzes	15%
Lab Final 1	10%
Lab Final 2	15%
TOTAL	100%

IMPORTANT ACADEMIC DATES

Mon Jan 25th Last day withdraw from Winter Term 2 classes with 75% tuition credit
Mon Feb 1st Last day to withdraw from Winter Term 2 classes with 50% tuition credit
Tue March 15th Last day to withdraw from Winter Term 2 classes

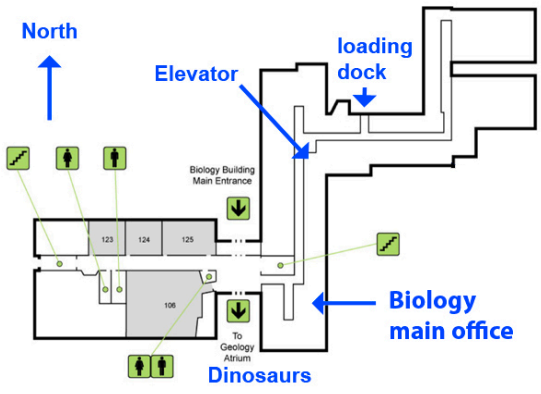
LABORATORIES

Labs begin in the week of January 11th, 2016. PAWS registration will give you a time and day of the week for your lab section, but room assignments are made by the Biol. 120 lab coordinator Gillian Murza. Lab room assignments will be posted on Blackboard Learn immediately before your first scheduled lab (check this list when you arrive for the lab to determine in which room you have been placed). Hard copies of the lists will be posted on the bulletin board outside Biology Rm. 202, on the second floor of the Biology Building. Students are expected to attend, and be prepared for, all scheduled labs, lab reviews and final lab exams. A general lab schedule is provided in this hand-out.

The 2015-2016 edition of the Lab Manual for Biology 120.3 is required for all labs. Please make sure that you have read the lab instructions and are prepared for the assigned exercises before going to each of your scheduled lab sessions. Any other questions regarding the lab should be directed to the laboratory instructional staff in Rm. 216 of the Biology Building.

STUDENTS WITH A DISABILITY

Students who have disabilities (learning, medical, physical, or mental health) are strongly encouraged to register with Disability Services for Students (DSS) if they have not already done so. Students who suspect they may have disabilities should contact DSS for advice and referrals. In order to access DSS programs and supports, students must follow DSS policy and procedures. For more information, check http://students.usask.ca/disability/, or contact DSS at 966-7273 or dss@usask.ca. Students registered with DSS may request alternative arrangements for mid-term and final examinations. Students must arrange such accommodations through DSS by the stated deadlines. Instructors shall provide the examinations for students who are being accommodated by the deadlines established by DSS.



Students requiring an elevator for access to the second floor in the Biology Building (teaching labs and some faculty offices) may use the elevator in the Museum of Natural Sciences. Alternatively, or if offices on the 3rd floor of the Biology Building need to be accessed, there is an elevator located at the north end of the research wing, opposite Room 130.

Integrity Defined (from the Office of the University Secretary)
The University of Saskatchewan is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Student Conduct & Appeals section of the University Secretary Website and avoid any behavior that could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University. All students should be familiar with the Regulations on Academic Student Misconduct http://www.usask.ca/secretariat/student-conduct appeals/StudentAcademicMisconduct.pdf as well as the Standard of Student Conduct in Non-Academic Matters and Procedures for Resolution of Complaints and Appeals (http://www.usask.ca/university_secretary/honesty/StudentNon-AcademicMisconduct2012.pdf). For more information on what academic integrity means for students see the Student Conduct & Appeals section of the University Secretary Website at: http://www.usask.ca/university_secretary/pdf/dishonesty_info_sheet.pdf

Chapters and sections in Russell et al: *Biology, exploring the diversity of life*

Please note: Materials in the following sections from Russell *et al.* constitute all of the testable material for the lecture exams. The lecture presentations are to highlight and synthesize essential concepts, and to provide opportunities for class discussion and interaction.

Chapter 2 – The Cell: an Overview – §2–2.5c
Chapter 3 – Defining Life and its Origin – §3–3.4c
Chapter 9 – Genetic Recombination – §9.3 a-c - Meiosis
Chapter 4 – Energy and Enzymes – §4–4.5d
Chapter 5 – Cell Membranes and Signaling – §5–5.6 b
Midterm lecture exam
Chapter 10 – Mendel, Genes, & Inheritance – §10–10.2
Chapter 11 – Genes, Chromosomes, & Human Genetics – §11–11.2
Chapter 12 – DNA Structure, Replication, & Organization – §12–12.3
Chapter 13 – Gene structure & expression – §13–13.4
Chapter 6 – Cellular respiration – §6–6.7 d
Chapter 7 – Photosynthesis – §7–7.4 c
Final lecture exam – comprehensive – covers all of the lecture material in the course

Lectures (M//W/F 10:30 am – Rm Thorv 105) and lab schedule for Biol 120.3 Section 02 – Jan-Apr. 2015

	Lecture topic	**Lab # & Topic**
Week 1 Jan 4-8	Introduction, Cell Biology Chedrese	No lab
Week 2 Jan 11-15	Cell Biology Chedrese	1. Introduction, Microscopy and Cells
Week 3 Jan 18-22	Cell Cycle, Meiosis Chedrese	2. Eukaryotic Cell Structure and Function
Week 4 Jan 25-29	Meiosis, Origin of life Chedrese	3. Osmosis and Cell Division

Week 5 Feb 1-5	Energy & Enzymes Chedrese		**Lab Final 1**
Week 6 Feb 8-12	Membrane Structure Chedrese		**NO LAB**
Week 7	Midterm Break		
Week 8 Feb 22	Membrane Transport Chedrese	4.	Sexual Life Cycles and Meiosis
Feb 25	**Midterm Lecture Exam** Not in class time – 5:30-6:30 pm. Location will be announced		
Feb 26	Mendelian Genetics Smith		
Week 9 Feb 29-Mar 4	Human genetics, DNA Structure and Replication Smith	5.	Introduction to Genetics
Week 10 Mar 7-11	DNA Structure and Replication, Gene Expression Smith	6.	Human Genetics and Gene Linkage
Week 11 Mar 14-18	Gene Expression Smith	7.	Biotechnology: Techniques & Applications
Week 12 Mar 21-25*	Cellular Respiration Smith		Review Lab
Week 13 Mar 28-Apr 1	Photosynthesis Smith		Lab Final 2
Week 14 April 4-7	Review Smith		No lab

(*Fri. Mar. 25th lab will be rescheduled due to Good Friday)

FINAL EXAMS start Apr 9. Date and Locations will be announced by the Registrar's Office.