

## COURSE SYLLABUS

COURSE TITLE:	BIOL 121 The Diversity of Life		
COURSE CODE:	22165	TERM:	T2 2019/2020
COURSE CREDITS:	3.0	DELIVERY:	Lecture & Practicum (Lab)
CLASS SECTION:	01	START DATE:	January 6 <sup>th</sup> 2020
CLASS LOCATION:	room 1150 HLTH Bldg	LAB LOCATION:	room 204 Biology Bldg
CLASS TIME:	12.30 to 1.20 pm (M,W,F)	LAB TIME:	8.30 to 11.20 am (T, Th) or 1.30 to 4.20 pm (M,T,W,Th,F) or 5.30 to 8.20 pm (M) or 6.00 to 8.50 pm (W)
WEBSITE:	via Blackboard		

### Land Acknowledgement

At the University of Saskatchewan, we acknowledge we are on Treaty Six Territory and the Homeland of the Métis. We pay our respect to the First Nation and Métis ancestors of this place and reaffirm our relationship with one another.

### Course Description

Our world has at least 15 million species, all of which have adapted to particular environments and lifestyles and use energy to grow and reproduce. We examine these processes in representative organisms from all the major groups, and discuss factors influencing changes in biodiversity over time and space.

### Instructor, Course Coordinator & Lab Coordinator

#### Contact Information:

Dr. Neil Chilton Instructor & Course Co-ordinator	office location: room 320.7 Collaborative Science Research Building phone: 306-966-4407 e-mail: neil.chilton@usask.ca
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Mr. Joel Yurach Lab Coordinator	office location room 216 Biology (WPT) Bldg phone: 306-966-4423 e-mail: joel.yurach@usask.ca
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## **Learning Outcomes**

By the completion of this course, students will be expected to:

1. have an understanding of biological principles (concepts), and that evolution is the unifying principle in biology
2. gain an appreciation for biology as an experimental science [hence, provide necessary background for advanced study of biology and other related disciplines], and realize that an understanding of biological principles requires knowledge of other fields of science (chemistry, physics, geology, geography, mathematics, biochemistry) and many disciplines within biology (e.g. evolution, ecology, genetics, physiology, structure and function, ethology, parasitology, molecular biology, etc.).
3. obtain knowledge of the diversity and complexity of life, which includes how organisms are adapted to their environment and the variation (e.g. morphological, genetic, physiological, behavioral) that exists among individuals of the same species and between individuals of related species
4. be able to think critically regarding scientific issues in our society and understand the importance of relationships between organisms and their environment, and how biodiversity is constantly changing over time

## **Course Overview**

This course is designed to introduce you to the vast and exciting field of biology, with a focus on biological diversity, evolution, adaptations of organisms to specific environments, and the evolutionary and ecological factors influencing changes in biodiversity over time and space.

## **Prerequisites**

Prerequisite(s): Biology 30 or BIOL 90 or BIOL 107 or BIOL 108.

Note: Students with credit for BIOL 110 will not receive credit for BIOL 121.

## **Required Resources** (item can be purchased at the Bookstore in Marquis Hall)

**Lab Manual:** Biology 121.3 Laboratory Manual (2019-2020 Edition)

There is no required textbook for this course.

## **Learning Charter**

The University of Saskatchewan Learning Charter is intended to define aspirations about the learning experience that the University aims to provide, and the roles to be played in realizing these aspirations by students, instructors and the institution. A copy of the Learning Charter can be found at: <https://teaching.usask.ca/about/policies/learning-charter.php>

## Course Schedule

WEEK day	Major Lecture topics	Lab Topic (see lab manual for details)
1 Jan 6-10	Course Introduction	NO LAB
2 Jan 13-17	Living & Non-living Entities; Introduction to Biodiversity	LAB 1 - Introduction & Prokaryotes
3 Jan 20-24	Introduction to Biodiversity; Classification of organisms	LAB 2 - Protists
4 Jan 27-31	Intraspecific & interspecific variation; Microevolution & Macroevolution	LAB 3 - Fungi
5 Feb 3-7	Intraspecific & interspecific variation; Microevolution & Macroevolution  <b>Midterm [lecture] exam</b>	NO LAB
6 Feb 10-14	Intraspecific & interspecific variation; Microevolution & Macroevolution	LAB 4 - Green algae, mosses, ferns & club mosses
7 Feb 17-21	<b>Midterm Break</b>	<b>Midterm Break</b>
8 Feb 24-28	Changes in Biodiversity through time	LAB 5 - Conifers & angiosperms
9 Mar 2-6	Changes in Biodiversity through time	LAB 6 - Sponges, Cnidarians, Flatworms & nematodes
10 Mar 9-13	Biodiversity today	LAB 7 - Annelids, Mollusks & Arthropods
11 Mar 16-20	Interactions between organisms and effects on biodiversity	LAB 8 - Echinoderms & Chordates
12 Mar 23-27	Interactions between organisms and effects on biodiversity	Review Lab
13 Mar 30-Apr 3	Human influences on biodiversity	<b>Final Lab exam</b>
14 Apr 1-5	Review Lecture	NO LAB

**Last day to withdraw from course without academic penalty is Sunday March 15<sup>th</sup> 2020.**

**Laboratory class information:**

1. Labs begin in the week of JANUARY 13<sup>th</sup>. **Make sure you have registered for a lab on-line.** Students are expected to attend and be on time for all scheduled labs, review labs and final lab exams. The lab schedule is provided on the previous page of this document.
2. **The current edition of the Biology 121.3 lab manual is required for all labs** (this item can be purchased at the Bookstore in Marquis Hall). For your labs you will also need a 3-ring binder; a 2H, 3H or 4H drawing pencil, white (unlined) drawing paper, a calculator, an eraser, a metric ruler and a dissection kit (all available from the Tuck Shop or Centre Shop or North 40 shop on campus).
3. Any other questions regarding the lab should be directed to the laboratory staff in Room 216. See page 2 of the lab manual for contact telephone numbers.

**Grading and Assessment Scheme**

Grading component	%	Important dates
Midterm exam	15	February 5 <sup>th</sup>
Final exam	45	Consult University Final Exam Schedule
Lab Assignments & quizzes	20	During laboratory classes
Lab exam	20	March 30 <sup>th</sup> - April 3 <sup>rd</sup> (in lab class)
Total	100	

**Midterm Exam:**

**Value:** 15% of final course grade

**Date:** **This midterm lecture exam will be held outside of class time on the evening of Wednesday, February 5<sup>th</sup>.** This exam will be scheduled at 5:30 pm, at a location that will be announced in class. **Alternate writing times will be scheduled for the midterm exam, specifically for students with scheduling conflicts for the February 5<sup>th</sup> due to requirements in other courses.** Students with a legitimate reason for requiring an alternative writing time for the midterm exam must **make a request (by email) to Dr. Chilton before January 22<sup>nd</sup>** (i.e. 2 weeks before the exam on February 5<sup>th</sup>).

**Length:** 50 minutes

**Format:** 40 multiple-choice questions; machine marked

**Description:** Based on lecture material prior to February 5<sup>h</sup>. Calculators and all other electronic devices are not allowed.

**Final Exam:**

- Value:** 45% of final course grade  
**Date:** Consult Final Exam Schedule  
**Length:** 3 hours  
**Format:** 100 multiple-choice questions; machine marked  
**Description:** The exam is comprehensive in that it will cover all lecture material. However, material delivered after the midterm exam will be emphasized. Calculators and all other electronic devices are not allowed.

**Laboratory Assignments & Quizzes:**

- Value:** 20% of final course grade  
**Date:** see Laboratory Schedule  
**Format:** Quizzes (written); spot tests; flower project  
**Description:** The quizzes will be 15-20 minutes in duration and test material from the previous two or three lab exercises. The questions will generally require a short written answer. Spot tests involve images shown in PowerPoint and short questions about the specimen shown. No phones, laptops, tablets or other material allowed. Additional information about the lab quizzes can be found in your lab manual, and will be given in the weeks prior to the assignment.

**Laboratory Exam:**

- Value:** 20% of final course grade  
**Date:** During the week of March 30<sup>th</sup> (during the lab session)  
**Length:** 1.5 hours  
**Format:** This will be a mixture of spot test, short written answers and practical questions (slide prep, etc.)  
**Description:** The exam is comprehensive in that it will cover all laboratory classes. Calculators and all other electronic devices are not allowed.

**University of Saskatchewan Grading System**

Students in BIOL 121 are reminded that the University has established a grading system to be used in all of its courses. Information on literal descriptors for grading at the University of Saskatchewan (reproduced below) can be found at:  
<http://students.usask.ca/academics/grading/grading-system.php>

For information regarding appeals of final grades or other academic matters, please visit the Student Conduct and Appeals section of the University Secretary's webpages:  
<https://secretariat.usask.ca/student-conduct-appeals/appeals-in-academic-matters.php>

## **Scheduling of Exams**

Students must bring their current University of Saskatchewan student card to all exams and be prepared to present it for verification purposes. Entry into certain campus buildings where exams may be held, also requires a valid student card.

It is forbidden for students to utilize in any way during an exam, any electronic device (e.g., cell phone, dictionary, palm pilot, translator, etc.). This includes calculators because these are not required for any exam.

Midterm and final examinations, and the lab exam, must be written on the date scheduled. Final examinations may be scheduled at any time during the examination period in April 2019; students should therefore avoid making prior travel, employment, or other commitments for this period.

In the event that a student is absent from the **midterm exam** through no fault of his/her own due to a medical emergency, death in the family, or other valid reasons, documentation must be provided explaining the absence, to assist in the determination of whether permission will be granted for the student to write a deferred mid-term exam. Students absent for the Mid-Term Lecture Exam **must advise Dr. Chilton in person or by telephone (not by email) and initiate arrangements for writing a Deferred Mid-Term Exam, within 3 working days of the missed exam**, in order to avoid being assigned a grade of zero for the exam.

If a student is absent from the **final exam** through no fault of his or her own for medical or any other valid reason, **he/she must apply to the Dean's Office of the College in which he/she is registered for an opportunity to write a Deferred Final Exam, within 3 working days of the missed exam**. Documentation must also be provided to explain the absence from the final exam. Deferred exams may utilize a different format than the regular exam, at the sole discretion of the instructors.

Consult page 2 of the 2019-2020 Lab Manual for the procedure to follow for a missed Lab Exam.

Students are encouraged to review all examination policies and procedures:  
<http://students.usask.ca/academics/exams.php>

## **Course Website & Supplementary Resources**

These will be available as appropriate through the course Blackboard. The only document that you are required to download and read is the course syllabus. **Please note that instructor's Powerpoint slides or lecture notes may be provided to you as a courtesy**. You are not required to download or print these slides/notes. While he will endeavor to have the lecture Powerpoint slides/notes posted sometime in advance of the lectures; however, he will not guarantee this. The instructor will provide you with additional information about his downloads.

## **Top Hat Audience Response System**

Prof. Chilton will be using Top Hat ([www.tophat.com](http://www.tophat.com)), an online student response system, during lectures. You will be able to submit answers to questions asked in lectures using Apple or Android smartphones and tablets, laptops, or through text message. Top Hat has been licensed centrally by ICT at the University of Saskatchewan, so there is **no subscription cost** for students to use Top Hat at the U of S.

You can register for a Top Hat account at the U of S by following the instructions on:  
<https://support.tophat.com/s/article/University-of-Saskatchewan-Single-Sign-On-Account-Setup>

**Our Course Join Code is 227993**

Note: Statistics and results from Top Hat may be anonymously used for research purposes, for more information please contact the course coordinator.

Should you require assistance with Top Hat at any time, due to the fact that they require specific user information to troubleshoot these issues, please contact their Support Team directly by way of email ([support@tophat.com](mailto:support@tophat.com)), the in app support button, or by calling **1-888-663-5491**. More Top Hat help information is available from their support website at:  
<https://success.tophat.com/s/contactsupport>

## **Copyright**

Course materials are provided to you based on your registration in a class, and anything created by your professors and instructors is their intellectual property, unless materials are designated as open education resources. This includes exams, PowerPoint/PDF slides and other course notes. Additionally, other copyright-protected materials created by textbook publishers and authors may be provided to you based on license terms and educational exceptions in the Canadian Copyright Act (see <http://laws-lois.justice.gc.ca/eng/acts/C-42/index.html>).

Before you copy or distribute others' copyright-protected materials, please ensure that your use of the materials is covered under the University's Fair Dealing Copyright Guidelines available at <https://library.usask.ca/copyright/general-information/fair-dealing-guidelines.php>. For example, posting others' copyright-protected materials on the open web is not covered under the University's Fair Dealing Copyright Guidelines, and doing so requires permission from the copyright holder. For more information about copyright, please visit <https://library.usask.ca/copyright/index.php> where there is information for students available at <https://library.usask.ca/copyright/students/rights.php>, or contact the University's Copyright Coordinator at <mailto:copyright.coordinator@usask.ca> or 306-966-8817.

## **Recording Lectures**

Students are not allowed to record any aspect of this course, except with the permission of the instructor or as provided for by arrangements with AES. Any recording made under AES provisions is to only be used for the personal learning of the student who made the recording.

## **Student Feedback**

Marks from machine-graded exams are usually available within one week. The multiple-choice questions will not be posted after the exam. Students will be encouraged to meet with the instructor to review their performance anytime during the course by appointment.

## **Attendance Expectations for Laboratory Classes**

Students are expected to attend all scheduled lab periods. Students are advised to consult the lab manual for further information about BIOL 121 procedures to follow when they are too ill to attend the lab period (and/or lab exam) or are facing extenuating personal circumstances.

## **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 read and be familiar with the Regulations on Academic Student Misconduct ([http://www.usask.ca/university\\_secretary/honesty/StudentAcademicMisconduct.pdf](http://www.usask.ca/university_secretary/honesty/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](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](http://www.usask.ca/university_secretary/pdf/dishonesty_info_sheet.pdf)

***Important Note:*** Additional information about student misconduct specific to BIOL 121 can be found in the laboratory manual. BIOL 121 students are required to read and understand the information about misconduct that is presented in the laboratory manual.

## **Examinations with Access and Equity Services (AES)**

Students who have disabilities (learning, medical, physical, or mental health) are strongly encouraged to register with Access and Equity Services (AES) if they have not already done so. Students who suspect they may have disabilities should contact AES for advice and referrals. In order to access AES programs and supports, students must follow AES policy and procedures. For more information, check <https://students.usask.ca/health/centres/access-equity-services.php> or contact AES at 306-966-7273 or [aes@usask.ca](mailto:aes@usask.ca).

Students registered with AES may request alternative arrangements for mid-term and final examinations. Students must arrange such accommodations through AES by the stated deadlines. Instructors shall provide the examinations for students who are being accommodated by the deadlines established by AES.



## **Student Supports**

### **Student Learning Services**

Student Learning Services (SLS) offers assistance to U of S undergraduate and graduate students. For information on specific services, please see the SLS web site <https://library.usask.ca/studentlearning/>.

### **Teaching, Learning and Student Experience**

The Teaching, Learning and Student Experience Unit (TLSE) focuses on providing developmental and support services and programs to students and the university community. For more information, see <https://teaching.usask.ca/about/people/vice-provost-teaching-learning-and-student-experience.php>.

### **Financial Support**

Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact Student Central (<https://students.usask.ca/student-central.php>).

### **Aboriginal Students Centre**

The Aboriginal Students Centre (ASC) is dedicated to supporting Aboriginal student academic and personal success. The centre offers personal, social, cultural and some academic supports to Métis, First Nations, and Inuit students. The centre is also dedicated to intercultural education, bringing Aboriginal and non-Aboriginal students together to learn from, with and about one another in a respectful, inclusive and safe environment. Students are encouraged to visit the ASC's Facebook page (<https://www.facebook.com/aboriginalstudentscentre/>) to learn more.

### **International Student and Study Abroad Centre**

The International Student and Study Abroad Centre (ISSAC) supports student success in their international education experiences at the U of S and abroad. ISSAC is here to assist all international undergraduate, graduate, exchange and English as a Second Language students and their families in their transition to the U of S and Saskatoon. ISSAC offers advising and support on all matters that affect international students and their families and on all matters related to studying abroad. Please visit [students.usask.ca](https://students.usask.ca) for more information.

### **College Supports**

Students in Arts & Science are encouraged to contact the Undergraduate Student Office and/or the Trish Monture Centre for Success with any questions on how to choose a major; understand program requirements; choose courses; develop strategies to improve grades; understand university policies and procedures; overcome personal barriers; initiate pre-career inquiries; and identify career planning resources. Contact information is available at: <http://artsandscience.usask.ca/undergraduate/advising/>