



## COURSE SYLLABUS

<b>COURSE TITLE:</b>	BIOL 302 Evolutionary Processes		
<b>COURSE CODE:</b>	CRN 22912	<b>TERM:</b>	Winter 2022 (Term 2)
<b>COURSE CREDITS:</b>	3.0	<b>DELIVERY:</b>	Lecture & Practicum (Lab); both on campus
<b>CLASS SECTION:</b>	01	<b>START DATE:</b>	10 January 2022
<b>LECTURE LOCATION:</b>	Thorvaldson 165	<b>LAB LOCATION:</b>	Arts 140
<b>CLASS TIME:</b>	11:30 am-12:20 pm M, W, F	<b>LAB TIME:</b>	T 1:30-4:20 or W 1:30-4:20
<b>WEBSITE:</b>	via Canvas		

### Calendar Description

A quantitative and conceptual overview of evolutionary mechanisms at different biological scales, including molecular/genetic, population and species levels.

**Prerequisites:** BIOL 120 and BIOL 121, BIOL 226 and 3 senior credit units in BIOL.

**Note:** Students with credit for BIOL 263 or BIOL 401 may not take this course for credit.

### Land Acknowledgement

As we engage in Remote Teaching and Learning, we would like to acknowledge that the Saskatoon campus of the University of Saskatchewan is 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. We also recognize that some students may be attending this course from other traditional Indigenous lands, and so we ask that you take a moment acknowledge the Indigenous relationships to the land you are joining us from.

### Return to In-Person Learning Context & Remote Contingency Plans

We acknowledge that we are operating in an ongoing pandemic, and that the last two years have been challenging for all. We ask that all participants (students and instructors) in the course continue to interact with empathy, care, and patience. The current situation is fluid and the most up-to-date details for BIOL 302 will be communicated via Canvas.

At the time of writing (January 3, 2022), this course (both lecture and lab components) is scheduled to commence in a remote format until January 24<sup>th</sup>, with a tentative plan to return to in-person on campus, pending safety conditions. Lectures will be a mix of live, synchronous components and some recorded,

asynchronous components. All live lecture sessions will be recorded and posted on Canvas afterwards for use by enrolled students only, which will typically become available a few hours after scheduled lecture time.

Anticipating a return to in-person learning, the laboratory will be delivered in-person, and the lectures will be delivered primarily in-person with some remote components (namely guest lectures). Lectures will be recorded using Panopto lecture-capturing. This is to facilitate both in-person learning, as well as allow for students who may need to be absent from class to continue learning.

**Should one of the instructors not be able to conduct class in-person**, remote learning tools may be deployed as necessary for continuity of course delivery.

**Should the university require a pivot again to remote learning**, the course will be conducted via Zoom. Labs will continue to be offered in live Zoom sessions, while lectures may use a mix of synchronous and asynchronous material. You can expect to meet during the scheduled lecture time at least once per week (typically Wednesdays). Live lectures will be recorded when possible, but students will still be encouraged to attend live sessions to fully engage in the course and interact with both instructor and peers.

## **Health and Safety Requirements**

The university has published health and safety requirements for participating in on-campus activities this term: <https://covid19.usask.ca/about/safety.php#ExpectationsandProtocols>. These guidelines include following vaccination measures as well as staying home if you are feeling sick. Masks are required to be worn at all times in class according to the university's On Campus Mask Use protocols <https://covid19.usask.ca/working-on-campus/ppes.php#OnCampusMaskUse>. Please be mindful of the campus community and work to protect each other, and be aware that some people are immunocompromised and/or have vulnerable individuals at home.

## **Instructor Information**

### **Contact Information**

**Ms. Andrea Wishart (Sessional Lecturer)**

Email: [andrea.wishart@usask.ca](mailto:andrea.wishart@usask.ca) \*Note\*: Please place "BIOL 302" in the subject line.

**Mr. Scott Halpin (Lab Instructor)**

Email: [scott.halpin@usask.ca](mailto:scott.halpin@usask.ca) \*Note\*: Please place "BIOL 302" in the subject line.

### **Office Hours**

Office hours with Ms Wishart will be available by appointment, either immediately before or after class when in-person, or remotely via Zoom at other times of the day.

For questions regarding the lab component, please email Mr Halpin.

### **Instructor Profiles**

Ms Wishart (she/her) is completing her PhD in the Department of Biology and has previously taught BIOL 302 twice. Her research focuses on energy management strategies and life history evolution in

wild mammals. Her undergraduate training was in general biology, and she holds an MSc in molecular genetics.

Mr Halpin is the senior lab coordinator for ecology & evolution classes in the department and has over 35 years of experience in this field, as well as extensive environmental consulting experience.

## Course Overview

*“Nothing in biology makes sense except in the light of evolution”*

Theodosius Dobzhansky

In this course we will explore the above statement in great detail. Biological evolution is responsible for the entirety of biological diversity and serves as a unifying principle in biology. For example, all behaviours, physiological and morphological traits, and trophic interactions are a consequence of evolution. To truly understand these phenomena, as well as concepts such as evolved antibiotic resistance, artificial selection for improved dairy production and why we have sex (to name but a few) requires a proper understanding of evolutionary processes. In the first part of the course, we will examine evolutionary processes occurring within species (i.e., microevolution). You will learn the necessary ‘ingredients’ for evolutionary change and how an understanding of these requirements informs such topics as: trophy hunting, adaptation to climate change, agriculture and medicine. In the second part of the course, we will focus on evolutionary patterns and processes occurring above the species level (i.e., macroevolution). In particular, we will learn how to use phylogenetics to infer evolutionary relationships of both extinct and extant species. Throughout, we will bring together concepts from macro- and micro-evolution to address some of the ‘big questions’ in biology. For example: Why do individuals cooperate? How do new species arise? Why do we age? Concepts and themes will be presented verbally, mathematically and graphically. Students should be familiar and comfortable with all these media, but also understand that they merely serve as tools for conveying the concepts.

## Learning Outcomes

The goal of this course is to develop a conceptual understanding of evolutionary processes and in turn apply this understanding not only in your studies in biology but also in your everyday life. To be successful in BIOL 302, students will use their understanding of evolutionary concepts and relationships and apply them in problem-solving scenarios; therefore, this course requires students to move beyond rote memorization. Whether your chosen profession upon graduation is to be a professor in evolutionary biology, a public health professional (for example, coping with the rapid evolution of HIV or seeking to mitigate SARS-CoV-2 spread), or agriculturalist (interested in improving your crop yields), or when you find yourself making decisions around your health and wellbeing (e.g., deciding whether to purchase a standard vs. antibiotic household cleaner, decisions to get booster vaccinations) you should be able to incorporate evolutionary concepts to better inform your decisions. While this course is strongly rooted in the textbook, students will also access primary literature to explore recent advances in the field of evolutionary biology that illustrate the core principles learned in the course in both the lectures and lab sections. Students will sharpen their skills in reviewing primary sources and writing a research paper, with guidance and feedback throughout the process. Specifically, by the completion of this course, students will be expected to:

1. Describe and apply the critical implications of Darwin's contributions to our understanding of evolutionary biology. Students should be able to identify major factors that contributed to Darwin's development of ideas, including people, observations, and events.
2. Articulate the prerequisites for evolutionary change to occur, describe how each of these criteria may be measured in populations of organisms, and identify their presence/absence in given scenarios.
3. Use quantitative and population genetic theory to offer explanations for phenomena observed in biology, and when appropriate, apply these theories to predict outcomes. Practical application includes the calculation and interpretation of concepts including but not limited to: allele frequencies, selection coefficient, inbreeding coefficient, fixation index, etc.
4. Make evolutionary inferences using evolutionary relationships, patterns, and tools (including convergent evolution, divergent evolution, parallel evolution, parsimony, etc.) for a given set of traits among individuals or populations.
5. Name and offer a short description of the major evolutionary events in the history of life.
6. Be able to read and critically assess information related to biology, medicine, agriculture, livestock breeding, and sociology, and offer evolutionary interpretations or describe evolutionary implications by the problems presented.

Information on literal descriptors for grading at the University of Saskatchewan can be found at:

<http://students.usask.ca/academics/grading/grading-system.php>

Please note: There are different literal descriptors for undergraduate and graduate students.

More information on the Academic Courses Policy on course delivery, examinations and assessment of student learning can be found at:

<http://policies.usask.ca/policies/academic-affairs/academic-courses.php>

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>

## **Required Resources**

**Textbook:** *Evolution* – 4th edition, by Douglas J. Futuyma and Mark Kirkpatrick (2017, Sinauer).

- Hard copies of the textbook will be available through the bookstore.
- e-Textbook version of the textbook is available at the following link at a significantly reduced cost (6-month access will be sufficient for this course). The eTextbook also offers text-to-speech capabilities. <https://www.vitalsource.com/en-ca/products/evolution-douglas-j-futuyma-mark-v9781605357003?term=futuyma>

Both versions of the textbook give you access to online problem sets, quizzes, simulations, and other features that will be used throughout the course, in addition to the readings themselves.

### *Other Required Materials*

## Electronic Resources

Electronic resources and links to them will be posted in Canvas.

## Supplementary Resources

Supplementary resources and links to them will be posted in Canvas.

## Class Schedule

The lecture topics indicated on each date are tentative and this schedule should serve as a general guide only. Guest speakers, extended class discussions etc., may lead to adjustments to the schedule, but you can expect that we'll follow this general order. Readings refer to the textbook (*Evolution 4<sup>th</sup> ed.*) and, *unless otherwise noted*, are expected to be done prior to the lecture topic they are listed with.

A detailed, lab day specific, lab schedule will be posted on the lab day card in Canvas for each lab section at the start of the course.

Week	Date	Lecture Topic	Readings/Viewings	Labs
1	Jan 10 - M	1 – Fundamental Principles of Evolution	Ch. 1 Box 1A  <i>Before week 2:</i> Ch. 1 pp 1-9, 18-21 Ch 22 pp. 584-593	<i>No lab</i>
	Jan 12 - W	2- What is biological evolution and why should we care?	<i>See above</i>	
	Jan 14 - F	3 – History of Evolutionary Thinking I: Before Darwin	Ch. 1 pp 9-10	
2	Jan 17 - M	4 – History of Evolutionary Thinking II: Darwin and his Contemporaries	Ch. 1 pp. 10-13	Population Growth, Gene/Allele Frequencies, and Phenotypic Selection (basic review of concepts from 1 <sup>st</sup> and 2 <sup>nd</sup> classes related to evolution)  Assignment due in lab.
	Jan 19 - W	5 – Darwin's Theory and Contributions	Ch.1 pp. 13-15	
	Jan 21 - F	6 – Darwin's Missing Mechanism and the Modern Synthesis	Mini Refreshers review modules: Statistics and Genetics	
3	Jan 24 - M	7 – Variation I	Ch. 6 pp. 135-139 Ch. 4 pp 79-85	Introduction to Scientific Writing and Term Paper Outline
	Jan 26 - W	8 – Variation II	Ch. 6 pp. 156-160	
	Jan 28 - F	9 – The Role of Mutations	Ch. 4 pp. 88-96	

				Assignment due date <b>TBA</b>
4	Jan 31 - M	10 – Non-Genetic Forms of Inheritance I	Ch 6 pp. 155-156 <i>(Phenotypic plasticity)</i> Ch. 4 pp 96-98	Snails 1  Participation marks  Introduction: Electronic Submission due Jan 31 11:59 PM
	Feb 2 - W	11 – Non-Genetic Forms of Inheritance II	Article: Lane et al 2019 <i>American Naturalist</i>	
	Feb 4 - F	12 – Population Genetics & Intro to Hardy-Weinberg	Ch. 7 pp. 165-176	
5	Feb 7 - M	13 – Hardy-Weinberg II	Ch. 7. 177-183	Phenotypic Evolution (Polygenic Inheritance)  Assignment Due in lab
	Feb 9 - W	14 – Hardy-Weinberg III	Ch. 5 pp. 103-108	
	Feb 11 - F	15 – Intro to Selection	Ch. 3 pp. 55-57	
6	Feb 14 - M	16 – Recognizing Adaptations	Ch. 3 pp. 57-63, 75	Hardy-Weinberg Equilibrium and Genetic Drift  Assignment Due in lab
	Feb 16 - W	17 – Selection I	Ch. 6 pp. 139-143	
	<b>Feb 18</b> - F	<b>18 – Midterm Exam</b>	<i>No new readings</i>	
7	Feb 21 - M	<i>Reading week – no class</i>	<i>No new readings</i>	<i>No lab</i>
	Feb 23 - W	<i>Reading week – no class</i>	<i>No new readings</i>	
	Feb 25 - F	<i>Reading week – no class</i>	<i>No new readings</i>	
8	Feb 28 - M	19 – Selection III	<i>No new readings</i>	Snails 2, Study Design  Assignment: Methods Section  Due Mar 4 11:59 PM (Electronic Submission)
	Mar 2 - W	20 – Selection II	Ch. 5 pp. 103-133	
	Mar 4 - F	21 – Measuring the Response to Selection	Ch. 6 pp. 143-147; Article: Pigeon et al 2016 <i>Evolutionary Applications</i>	
9	Mar 7 - M	22 – Genetic Correlations	Ch. 4 pp. 85-88 Ch. 6 pp. 151-155	Selection 1, Zygotic Selection Models

	Mar 9 - W	23 – <i>Guest Lecture: Dr. T. Ryan Gregory</i> <i>Topic: Evolution of SARS-CoV-2</i>	<i>No new readings</i>	Assignment due in lab
	Mar 11 - F	24 – Gene Flow	Ch. 8 pp. 198-203	
10	Mar 14 - M	25 – Species Concepts	Ch. 9 pp. 213-219	Selection 2, Zygotic Selection Models
	Mar 16 - W	26 – <i>Guest Lecture: Dr. S. Eryn McFarlane</i> <i>Topic: Hybridization</i>	Ch. 9 pp. 233-234 (Hybrid speciation); pp. 235-242	Assignment due in lab.
	Mar 18 - F	27 – Biogeography and Hybridization	Ch. 18 pp. 470-475	QUIZ 1 (Phenotypic Selection, Hardy-Weinberg Equilibrium, Polygenic Inheritance and Genetic Drift)
11	Mar 21 - M	28 – Life History Evolution	Ch. 11 pp. 275-281	Snails 3, Data Presentation
	Mar 23 - W	29 – Evolution of Sex	Ch. 10 pp. 263-270	
	Mar 25 - F	30 – Phylogenetics I	Ch. 2 pp. 27-38, Box 2B	
12	Mar 28 - M	31 – Phylogenetics II	Ch. 16 pp. 402-416	Phylogenetics of Common Fruits
	Mar 30 - W	32 – The Fossil Record and Macroevolutionary Events	Ch. 17 pp. 431-435 Ch. 20 pp. 516-525	Assignment due in lab
	Apr 1 - F	33 – Adaptive Radiation	Ch. 2 pp. 50-51, Ch. 17 pp. 440-443	
13	Apr 4 - M	25 – Coevolution	<i>No new readings</i>	Snails Research Term paper due in lab.
	Apr 6 - W	34 – Eco-Evolutionary Dynamics	<i>No new readings</i>	
	Apr 8 - F	36 – Wrap up: Nothing in biology makes sense...except in light of evolution	Article: Dobzhansky (1973) <i>The American Biology Teacher</i>	QUIZ 2 (Selection and Phylogenetics)

### Midterm and Final Examination Scheduling

Midterm and final examinations must be written on the date scheduled.

Final examinations may be scheduled at any time during the examination period (April 14 – April 30); students should therefore avoid making prior travel, employment, or other commitments for this period. If a student is unable to write an exam through no fault of their own for medical or other valid reasons, documentation must be provided and an opportunity to write the missed exam may be given. Students are encouraged to review all examination policies and procedures at <http://students.usask.ca/academics/exams.php>.

## **Grading Scheme**

Lecture Quizzes	<u>10%</u>
Midterm Exam	<u>20%</u>
Final Exam	<u>25%</u>
Laboratory Quizzes & Assignments	<u>25%</u>
Term Paper	<u>20%</u>
<b>Total</b>	<b><u>100%</u></b>



## Lecture Quizzes

**Value:** 10% of final grade

**Description:** Sufficient completion of post-lecture quizzes (posted in Canvas). Quizzes can be retaken multiple times, but the first attempt must be before the quiz deadline to count. Lecture quizzes are short (typically 2-4 questions, often multiple choice/matching/fill-in-the-blank) and may cover material from lecture or the textbook.

## Midterm Exam

**Value:** 20% of final grade

**Date:** February 18

**Length:** 60 minutes. In lecture time slot.

**Description:** Multiple choice and short answer questions, including calculation problems. Calculators allowed. If you miss the midterm due to unforeseen, valid circumstances, you must contact Ms Wishart as soon as possible (within 3 days after the midterm date). Beyond this time, marks will be deducted at 10% per day.

## Final Exam

**Value:** 25% of final grade

**Date:** See University of Saskatchewan online schedule.

**Length:** 3 hours

**Type:** Comprehensive. Scheduled.

**Description:** The exam is comprehensive. It will cover all lecture material, lab material, and required readings, with an emphasis placed on material delivered since the midterm exam. Calculators are allowed. Procedures for missed final exams are available at <https://students.usask.ca/academics/exams.php>

## Assignments: Laboratory Quizzes & Assignments

**Value:** 25% of final grade

**Due Date:** See Course Schedule (above)

**Description:** Multiple choice, short and long answer questions about the experiments and background of the laboratory experiments. Late assignments will be penalized (-5% per day). Information on quizzes will be provided in the laboratory sections by Mr. Halpin.

## Assignment: Snails Term Paper

**Value:** 20% of final grade

**Due Date:** Multiple; See Course Schedule (above)

**Description:** Full written lab report based on simulations done within the lab section. This assignment is designed to be submitted in stages such that students are expected to build on and incorporate feedback into the final submission. Late assignments will be penalized (-5% per day). Further information will be provided in the laboratory sections by Mr. Halpin.

## **Attendance Expectations**

Students are expected to attend all scheduled lab periods. Lecture attendance in-person is not mandatory, but it is strongly recommended that students either attend lecture in-person or remotely when scheduled as such (e.g., guest lecture slots), or ensure lecture recordings are viewed in a timely manner (i.e., prior to the next scheduled lecture). Full lecture completion is likely to correlate directly with your final mark and will enable completion of lecture quizzes.

## **Submitting Assignments and Completing Exams**

Students are expected to submit assignments on or before their required due dates. Exams must be completed by the individual without collaboration with other students. Exams are not to be shared or posted on any forum for any reason.

## **Criteria That Must Be Met to Pass**

Please refer to the University of Saskatchewan Grading System (for undergraduate courses) above for criteria that must be met to pass. There are no other additional criteria that must be met to pass.

## **Student Feedback**

The Department of Biology or the instructors may survey students regarding the course. This is generally done through an in-class assessment near the end of term. Student feedback for BIOL 302 may be used by instructors to improve future offerings of this course.

## **Recording of the Course**

### **Use of video and recording of the course:**

Lecture captures and video conference sessions in this course, including your participation, will be recorded and made available only to students in the course for viewing via Canvas after each session. This is done, in part, to ensure that students unable to join the session (due to, for example, symptoms of illness) can view the session at a later time. This will also provide you the opportunity to review any material discussed. Please remember that course recordings belong to your instructor, the University, and/or others (like a guest lecturer) depending on the circumstance of each session, and are protected by copyright. Do not download, copy, or share recordings without the explicit permission of the instructor. For questions about recording and use of sessions in which you have participated, including any concerns related to your privacy, please contact your instructor. More information on class recordings can be found in the Academic Courses Policy <https://policies.usask.ca/policies/academic-affairs/academic-courses.php#5ClassRecordings> .

### **Required video use:**

You may choose to have your video on during video conferencing sessions, but it is not required for planned course activities.

## **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 and cannot be shared without written permission. If materials are designated as open education resources (with a creative commons license) you can share

and/or use in alignment with the [CC license](#). 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.

## **Integrity in a Remote Learning Context**

Although the face of teaching and learning has changed due to COVID-19, the rules and principles governing academic integrity remain the same. If you ever have questions about what may or may not be permitted, ask your instructor. Students have found it especially important to clarify rules related to exams administered remotely and to follow these carefully and completely.

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 (<https://secretariat.usask.ca/student-conduct-appeals/academic-misconduct.php>) as well as the Standard of Student Conduct in Non-Academic Matters and Procedures for Resolution of Complaints and Appeals (<https://secretariat.usask.ca/student-conduct-appeals/academic-misconduct.php#IXXIIPPEALS>)

For more information on what academic integrity means for students see the Academic Integrity section of the University Library Website at: <https://library.usask.ca/academic-integrity#AboutAcademicIntegrity>

You are encouraged to complete the Academic Integrity Tutorial to understand the fundamental values of academic integrity and how to be a responsible scholar and member of the USask community - <https://library.usask.ca/academic-integrity.php#AcademicIntegrityTutorial>

## **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 at any time. Those students who are registered with AES

with mental health disabilities and who anticipate that they may have responses to certain course materials or topics, should discuss course content with their instructors prior to course add / drop dates. In order to access AES programs and supports, students must follow AES policy and procedures. For more information or advice, visit <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.

For information on AES services and remote learning please visit <https://updates.usask.ca/info/current/accessibility.php#AccessandEquityServices>

## **Student Supports**

### **Academic Help for Students**

The University Library offers a range of learning and academic support to assist USask undergrad and graduate students. For information on specific services, please see the Learning page on the Library web site <https://library.usask.ca/support/learning.php>.

Remote learning support information <https://students.usask.ca/remote-learning/index.php>

Class and study tips <https://students.usask.ca/remote-learning/class-and-study-tips.php>

Remote learning tutorial [https://libguides.usask.ca/remote\\_learning](https://libguides.usask.ca/remote_learning)

Study skills materials for online learning <https://libguides.usask.ca/studyskills>

A guide on netiquette, principles to guide respectful online learning interactions <https://teaching.usask.ca/remote-teaching/netiquette.php>

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

Teaching, Learning and Student Experience (TLSE) provides developmental and support services and programs to students and the university community. For more information, see the students' web site <http://students.usask.ca>.

### **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 and facilitates international education experiences at USask and abroad. ISSAC is here to assist all international undergraduate, graduate, exchange and English as a Second Language students in their transition to the University of Saskatchewan and to life in Canada. ISSAC offers advising and support on matters that affect international students and their families and on matters related to studying abroad as University of Saskatchewan students. Please visit <https://students.usask.ca/> or <https://updates.usask.ca> for more information.

## **Recommended Technology for Remote Learning**

Students are reminded of the importance of having the appropriate technology for remote learning. The list of recommendations can be found at <https://students.usask.ca/remote-learning/tech-requirements.php>.

Remember, there are **many supports available** to help you thrive in the remote learning context.

## **Integrity Defined (from the Office of the University Secretary)**

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### **Acknowledgements**

Prepared (Sept 5, 2018) by Dr. Jeffrey Lane, BIOL 302 Instructor

Revised (November 2019) by Andrea Wishart, BIOL 302 Instructor

Revised (December 2020) By Andrea Wishart, BIOL 302 Instructor

Revised (December 2021) By Andrea Wishart, BIOL 302 Instructor