

**COURSE SYLLABUS**

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| **COURSE TITLE:** | BIOL 302 Evolutionary Processes |
| **COURSE CODE:** | CRN 22912 | **TERM:** | Winter 2021 (Term 2) |
| **COURSE CREDITS:** | 3.0 | **DELIVERY:** | Remote Lecture & Remote Practicum (Lab) |
| **CLASS SECTION:****CLASS LOCATION:****CLASS TIME:****WEBSITE:**  | 01Remote Delivery via Canvas & WebEx9:30-10:20 am M, W, Fvia Canvas | **START DATE:****LAB LOCATION:****LAB TIME:** | 11 January 2021Online via Canvas & WebEx T 1:30-4:20 or W 1:30-4:20 |
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# 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.

# Remote Learning Context

This course is being offered for the first time entirely remotely, after being partially delivered remotely in Winter 2020. We have strived to make the best of this, noting that the remote teaching and learning context is new to most, including the instructors. We ask that all participants (students and instructors) in the course interact with empathy and care. The entire course has been redesigned for remote access, including the laboratories. If you have any questions about how to do something, please feel free to ask one of the instructors. The lectures will be pre-recorded and uploaded to Canvas, the content management system. There will also be weekly live sessions during scheduled class times to review concepts, address student questions, and engage in interactive content. The laboratory component has been reconfigured for you to complete it remotely.

The University put together information on tools and technologies to help students navigate the resources needed to be ready for this new delivery style and reduce stress. You can access these resources at: <https://students.usask.ca/study/remote-learning.php#Accessingcoursework> We would also like to direct you to the USask Netiquette webpage and encourage you to be mindful of your online activities: <https://teaching.usask.ca/remote-teaching/netiquette.php> If you are experiencing difficulty, please contact the instructors or lab coordinator as soon as possible

# 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 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.

**Instructor Information**

**Contact Information**

**Ms. Andrea Wishart (Sessional Lecturer)**
Teaching remotely this term
Email: andrea.wishart@usask.ca *\*Note\*: Please place “BIOL 302” in the subject line.*

**Mr. Scott Halpin (Lab Instructor)**
Teaching remotely this term
Email: 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 through MEETS Wednesdays from 1:00 pm – 2:30 pm. If you are unavailable at these times, please email.
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. Her research focuses on energy management strategies 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 38 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 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) 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 required 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

NB: 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 4th ed.*) and, *unless otherwise noted*, are expected to be done prior to the lecture topic they are listed with.

***\*\*\* Lab schedule is TENTATIVE, pending software availability.***

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| --- | --- | --- | --- | --- |
| **Week** | **Date** | **Lecture Topic** | **Readings** | **Labs TENTATIVE)** |
| 1 | Jan 11 - M | 1 – Intro to Evolution: What is it and why should we care? | Within the first week: Ch. 1 pp 1-9, 18-21Ch 22 pp. 584-593 | Selection Simulation, Darwinian Snails  |
| Jan 13- W | 2 – **Live session**; Fundamental principles | Ch. 1 Box 1A |
| Jan 15- F | 3 – History of evolutionary thought I: Before Darwin  | Ch. 1pp 9-10 |
| 2 | Jan 18- M | 4 – History II: Darwin | Ch. 1 pp. 10-13 | Selection Simulation, Darwinian Snails: Designing and conducting an experiment**Darwinian Snails Report Introduction Due** |
| Jan 20- W | 5 – **Live Session;** Darwin’s Theory  | Ch.1, pp. 13-15 |
| Jan 22- F | 6 – The Modern Synthesis  | Ch. 1, pp. 15-18 |
| 3 | Jan 25- M | 7 – Variation I | Ch. 6 pp. 135-139Ch. 4 pp 82-91 | Selection Simulation, Darwinian Snails **Darwinian Snails Report Methods Due** |
| Jan 27- W | 8 – **Live Session**; Variation II | Ch. 6 pp. 156-160 |
| Jan 29 - F | 9 – Population Genetics & Mutations | Ch. 4 pp. 91-96 |
| 4 | Feb 1- M | 10 –Non-genetic Forms of Inheritance | Ch 6 pp. 155-156 (Phenotypic plasticity)Pp 96-98 | Introduction to Population genetics I\* |
| Feb 3-W | 11 – **Live Session***; Guest Lecture: Dr Jeff Lane (Topic: Disentangling non-genetic forms of inheritance* | Article: Lane et al 2019 *American Naturalist* |
| Feb 5-F | 12 – Hardy Weinberg I | *Review pp. 83-84* |
| 5 | Feb 8- M | 13 - Hardy Weinberg II | Ch. 7 pp. 165-176 | Introduction to Population Genetics II: Hardy-Weinberg Equilibrium\***Darwinian Snails Report Results Review**  |
| Feb 10-W | 14 – **Live Session**; Intro to Selection and Adaptation  | Ch. 3 pp. 55-57,  |
| Feb 12-F | 15 – Recognizing Adaptations  | Ch. 3 pp. 57-75 |
| 6 | Feb 15- M | *Mid-term break, no classes* | *No readings*  | *No Lab* |
| Feb 17-W | *Mid-term break, no classes* | *No readings* |
| Feb 19- F | *Mid-term break, no classes* | *No readings* |
|  | Feb 22- M | 16 – Selection I | Ch. 6 pp. 139-143 | Population Genetics Review**Darwinian Snails Full Report Due Friday Feb 26th** |
| 7 | Feb 24- W | 17 – **Live Session**; Selection II | Ch. 5 pp. 103-133 |
|  | Feb 26- F | 18 – Selection III | *No new readings* |
| 8 | Mar 1- M | 19 – Gene Flow  | Ch. 8 pp. 198-203 | Selection I\* |
| Mar 3- W | 20 – **Midterm Exam**  | *No readings* |
| Mar 5- F | 21 – Genetic Drift | Ch. 7. 177-183 |
| 9 | Mar 8- M | 22 – Measuring the response to selection  | Ch. 6 pp. 143-147; Article: Pigeon et al 2016 *Evolutionary Applications* | **LAB QUIZ I (written during Friday lecture slot)**Selection II: Polygenic Traits\* |
| Mar 10- W | 23 – **Live Session** – Genetic correlations | Ch. 4 pp. 85-88Ch. 6 pp. 151-155 |
| Mar 12- F | 24 – **LAB QUIZ 1 (Synchronous 9:30-10:05 am)** Evolutionary biogeography & Intro to Species Concepts | Ch. 9 pp. 213-219, Ch. 18 pp. 470-475 |
| 10 | Mar 15- M | 25 – Speciation II | Ch. 9 pp. 220-225 | *No Lab* |
| Mar 17- W | 26 – **Live Session**; *Guest Lecture with Dr S. Eryn MacFarlane Topic: Hybridization* | Ch. 9 pp. 233-234 (Hybrid speciation); pp. 235-242 |
| Mar 19- F | 27 – Life History Evolution | Ch. 11 pp. 275-281 |
| 11 | Mar 22- M | 28 – Sexual Reproduction I | Ch. 10 pp. 263-270 | **LAB QUIZ 2 (written during Friday lecture slot)** |
| Mar 24- W | 29 – **Live Session**; Sexual Reproduction II |  |
| Mar 26- F | 30 – **LAB QUIZ 2 (Synchronous 9:30-10:05 am)** Phylogenetics I | Ch. 2 pp. 27-38, Box 2B |
| 12 | Mar 29- M | 31 – Phylogenetics II | Ch. 16 pp. 402-416 | Phylogenies\* |
| Mar 31- W | 32 – **Live Session**; Intro to Macroevolution & The Fossil Record | Ch. 17 pp. 431-435 |
| April 2-F | 33 – Adaptive Radiation  | Ch. 2 pp. 50-51, Ch. 17 pp. 440-443 |
| 13 | April 5- M | *Easter Monday – no class*  |  | *No Lab* |
| April 7 -W | 34 – **Live Session;** Macroevolutionary Events | Ch. 20 pp. 516-525 |
| April 9 - F | 35 – Eco-Evolutionary Dynamics | *No new readings*  |
| 14 | April 12 - M | 36 – **Live Session** Wrap up & review | Article: Dobzhansky (1973) *The American Biology Teacher* | *No Lab* |
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| **FINAL EXAM** | TBA |  |  |  |

**\*Denotes labs with in-lab assignments**

## **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

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| --- | --- |
| Lecture Quizzes and Participation | 5% |
| Midterm Exam | 15% |
| Final Exam | 40% |
| Laboratory Quizzes & Assignments | 20% |
| Darwinian Snails Term Paper | 20% |
| **Total**  | **100%** |

**Lecture Quizzes and Participation**

**Value:** 5% of final grade

**Description:**  Sufficient completion of short in-class quizzes in recorded lectures, Canvas lecture quizzes, and participation in learning activities within weekly live sessions. Students that engage in such activities at least twice per week on average can expect to do very well in earning the 5%, and students who do so are likely to keep on track with course material and thus likely to be successful in lab quizzes and exams.

**Midterm Exam**

**Value:** 20% of final grade

**Date:**  February 26

**Length:** 60 minutes. In lecture section. Remote.

**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:** 35% 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:** 20% 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: Darwinian 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.

# 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.

# Attendance Expectations

Students are expected to attend all scheduled lab periods. The lab will be conducted synchronously using WebEx through MEETS during your scheduled lab period. Lab attendance will be taken and participation is required. Lecture attendance is not mandatory (but will enable students to complete participation and lecture quizzes). Full lecture attendance is likely to correlate directly with your final mark.

**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:**

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, issues with their internet connection) 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](https://openpress.usask.ca/authoring/chapter/creative-commons-licenses/). 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)](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**](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 COVIC-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#IXXIIAPPEALS>)

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.

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>

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, brining 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 [students.usask.ca](http://students.usask.ca/) or [updates.usask.ca](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**](https://students.usask.ca/remote-learning/help.php) **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