



COURSE SYLLABUS

COURSE TITLE:	BIOL 317 Fundamentals of Animal Physiology		
COURSE CODE:	82533	TERM:	Fall 2023
COURSE CREDITS:	3.0	DELIVERY:	In person
CLASS SECTION:	01	1st LECTURE :	6 Sep 2023
LECTURE LOCATION:	room165 Geol	LAB LOCATION:	room G74A Thorv
LECTURE TIME:	11:30 am to 12:20 pm MWF	LAB TIME:	Th 1:30-5:20 pm (1 st lab on Sept 14 2023
WEBSITE:	via Canvas (see PAWS)		

Course Description

Considers physical, chemical and functional aspects of animal cells and tissues. Specifically examines membrane transport mechanisms, bioelectricity and fundamental principles of muscle and nervous system physiology, evolution and plasticity. Cellular mechanisms underlying learning and memory are introduced.

Prerequisite(s): BIOL 224; CHEM 112; CHEM 115 or CHEM 250 (CHEM 115 recommended).

Note: PHYS 115 and 117 are recommended. Students with credit for BIOL 217 will not receive credit for this course.

Land Acknowledgement

As we gather here today, we 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 recognize that in the course of your studies you will spend time learning in other traditional territories and Métis homelands. We wish you safe, productive and respectful encounters in these places.

Learning Outcomes

By the completion of this course, students will:

1. Demonstrate an in-depth understanding of physiological principles and explain processes associated with cell membrane function
2. Apply the scientific method to quantify and interpret physiological data
3. Write clear and concise lab reports in the scientific style
4. Evaluate the scientific literature and integrate this into their writing and understanding of physiological processes
5. Demonstrate their oral presentation skills
6. Develop group working skills to discuss physiological findings with others in the course

Note: 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>

More information on University policies on course delivery, examinations and assessment of student learning can be found at: <http://policies.usask.ca/policies/academic-affairs/academic-courses.php>

Course Overview

BIOL 317 will build on the basic knowledge you gained in BIOL 224 about animal physiology. The course consists of 50 minutes of face-to-face lectures on the MWF schedule. Lectures will be complemented by weekly labs exercises. The experiments will provide a practical illustration of some of the major physiological mechanisms and are coordinated with lecture material as shown in the schedules below. Completion of the labs is a required course component. For these exercises, you will work in small groups (of about 3 students; groups assigned randomly) to collect and analyze sets of experimental data. You will hone your scientific writing and oral communication skills through the preparation of labs reports and a class presentation based on your experimental results. Each student will be responsible for completing five lab reports and giving one 10-minute oral presentation on results from one of the lab exercises. More information about the lab report format will be provided in the first lab period. Lab reports are to be completed individually, although it is expected that students will work in their groups to analyze the experimental data and prepare preliminary figures or table of their results. The deadlines for lab report submission will be strictly adhered to and a penalty will apply for late reports (see grade assessment sections below). The schedule for the oral presentations will be determined by a random draw in the first lab period.

Attendance Expectations

“Regular and punctual attendance in their classes is expected of all students (including lectures, seminars, laboratories, tutorials, etc.)”

– USask Academic Course Policy

“...class attendance a better predictor of college grades than any other known predictor of academic performance...”

- Credé et al (2010)

<https://doi-org.cyber.usask.ca/10.3102/0034654310362998>

All components of BIOL 317 matter. The laboratory component has specific provisions governing attendance (see descriptions below). Your instructors will also be undertaking a number of initiatives to promote attendance and active learning during the lectures; this may include recording attendance. Also, we do not plan to provide lecture recordings and our power point slides will be designed in such a way that you will need to take your own notes during lectures. We will also incorporate some in-lecture assignments based on readings from the textbook or other literature.

Instructors

Contact Information:

Dr Tracy Marchant	room 120.3 CSRB tracy.marchant@usask.ca	966-4420
Dr Jack Gray	room 120.2 CSRB jack.gray@usask.ca	966-7771
Ms Sheri Fisher (lab coordinator/instructor)	room G77.3 Thorvaldson sheri.fisher@usask.ca	966-4431

Your instructors are available for in-person meetings with you as needed. These can be arranged with an email, phone call or with a Canvas message.

Instructor Profiles & Other Information: Drs Marchant and Gray are regular faculty members/professors in the Department of Biology. They hold advanced degrees (MSc, PhD) and teach and conduct research in the general area of animal physiology. Ms Fisher holds an advanced degree (MSc) and is responsible for coordinating all aspects of the laboratories for BIOL 317. Note that your lab group will also be assigned a laboratory demonstrator who will assist you during the lab periods and be responsible for grading your lab reports and presentation. The lab demonstrators work under Ms Fisher's supervision and are senior undergraduate or graduate students at the University.

Required Resources

Textbooks

You **will need** the following textbook for completion of your lecture notes, in lecture assignments and advance preparation for the lab exercises. We will be using the **eText version** of:

Hill, Wyse, Cavanaugh & Anderson. 2022. Animal Physiology 5 ed, Sinauer/Oxford.

Purchase an eText from the University of Saskatchewan Bookstore:

<https://bookstore.usask.ca/students.php#MyTextbooks>

The lab manual for BIOL 317 will be available to download through the course Canvas.

Electronic Resources

The laboratory portion of this course will require a working knowledge of computers and various computer programs, including MS Excel, Word and Powerpoint. Computers will be used to collect and analyze data and prepare reports in the laboratory. You will need to access your University computer account during the laboratory; make sure you know your university nsid and password and how to log on to your account. Further details are in the lab manual.

Downloads

All material will be available as appropriate through the course Canvas. You are required to download and read the course syllabus. Additional material for the lectures and the lab manual will be posted to Canvas. Each instructor will provide you with additional information about their downloads.

Overall Grading Scheme

Midterm Exam	20
Final Exam	40
Lab Reports (five)	30
Oral Presentation (one)	5
Contributions to Group & Course	5
Total	100%

Evaluation of Student Performance

Midterm Exam

- Value:** 20% of final course grade
Date: Oct 26 (to be written in the lab period)
Length: 90 minutes
Format: A Canvas exam (in-person) with a mix of multiple choice and other short answer questions and those requiring a longer written answer. Location will be in a computer lab (TBD).
Description: Will include all lecture material to the end of the Bioelectricity lectures and the Compound Nerve Action Potential lab. Calculators allowed. No phones, laptops, tablets, textbook, lecture notes or other materials allowed.

Final Exam

- Value:** 40% of final grade
Date: Consult the Final Exam Schedule when it is released.
Length: 3 hours
Format: A Canvas exam (in-person) with a mix of multiple choice and other short answer questions and those requiring a longer written answer. Location will be in a computer lab (TBD).
Description: The exam is comprehensive in that it will cover all lecture material. However, material delivered since the midterm exam will be emphasized. Calculators allowed. No phones, laptops, tablets, textbook, lecture notes or other materials allowed. Students should plan to be in Saskatoon during the final exam period (Dec 9 to 23) as the BIOL 317 final exam could be scheduled on any day during this period.

Laboratory Reports:

- Value:** 30% of final grade
Due Date: See Course Schedule for exact dates
Format: Each student must independently write a report for each of the five lab exercises. A pdf copy of the report must be submitted via Canvas according to the schedule shown below.
Description: Comprehensive information about the format and style to be used for these reports is contained in the lab manual and will be explained in detail during the orientation lab. Generally, each report will consist of several pages of writing plus a number of Figures and/or Tables depicting the results obtained in the lab exercise. Students are required to know and understand what constitutes plagiarism and the University's Regulations on Academic Student Misconduct (see below). Reports 1 & 2 will be worth 5% of your final grade; Report 3 worth 6%, Report 4 worth 8% and Report 5 worth 6%. Note that failure to turn-in a Group Data Sheet will result in a 25% deduction from that lab report mark for each student in the group.

Lab Presentation:

- Value:** 5% of final grade
Date: See Course Schedule for exact dates.
Format: 10 minute Powerpoint presentation
Description: Each student will be required to give one presentation detailing and explaining the results obtained during one of the lab exercises. Presentation topics are assigned randomly in the lab orientation period. Students who fail to attend both days of student presentations will receive a 2.5 mark deduction from their final course grade.

Contributions To Group Work and Course:

Value: 5% of final grade

Description: Students are expected to attend lectures and labs, complete all assignments, and to be well prepared for these meetings. You are also expected to actively contribute to the work being performed within your group. Your contribution to the work of your group will be assessed by the other members in your group and your TA. Although lab reports will be written individually, it is fully expected that students will collaborate within their group to help each other with the collection, analysis and presentation of data. A survey monkey “peer assessment” tool will be used to help assess your contributions to group work. This will count for 2.5% of your final course grade.

You are also expected to contribute to interactive exercises during lectures. This contribution will generally involve the analysis of specific material (such as a research article, textbook section, video or a short quiz) designed to supplement the lectures. Material will be assigned at approximately two-week intervals over the course of the lectures. Each assignment will then be discussed and incorporated into a lecture. Your performance in engaging with this material and contribution to the interactive exercises will count for an additional 2.5% of your course grade. The first interactive lecture assignment will be explained in detail during the September 6 lecture.

Completion of USask Academic Integrity Tutorial:

Value: 0% of final grade but failure to complete this will result in an automatic 50% reduction in the Contributions to Group Work & Course score.

Date: Due by September 14 before the start of the lab at 1:30 pm

Format: Online tutorial

Description: We want to ensure a learning and teaching environment with a high standard of academic integrity for BIOL 317. Scientists and other professionals are held to these high standards and it is appropriate that we ensure this in our courses. The University of Saskatchewan has developed some outstanding web-based resources to help students understand and practice academic integrity. This includes an opportunity to complete three modules dealing with various aspects of academic integrity. You will be sent a certificate on completion of each of the modules. As a BIOL 317 student, you are required to complete all three of these modules and upload all three certificates as a Canvas Assignment. It is acceptable if you have received these certificates as a requirement in other courses, as long as the tutorial was completed this academic year.

<https://libguides.usask.ca/AcademicIntegrityTutorial>

Lecture & Lab Schedule

Week Dates	Instructor Major Lecture Topics	Lab Activity	Reports, Presentations & Other Work Due
Week 1 Sept 6 to 8	<u>Dr. Marchant</u> Nature & purpose of this course Water as the Biological Solvent Textbook Readings*: Chapter 1	Sept 7: <i>no in-person lab activity is scheduled</i>	Nothing due

<p>Week 2 Sept 11 to 15</p>	<p><u>Dr. Marchant</u> Water as the Biological Solvent (important features of biological solutions & molecular exchange in solution)</p> <p>Textbook Readings*: Chapters 2 & 5</p>	<p>Sept 14: <i>Introduction & Writing Workshop</i></p>	<p>Academic Integrity Tutorial Certificates due before 1:30 pm. In-class Writing Assignment due at 5:20 pm (submit via Canvas)</p>
<p>Week 3 Sep 18 to 22</p>	<p><u>Dr. Marchant</u> Exchange of Materials Across Biomembranes (ion channels, carrier mediated transport; bulk transport, osmosis)</p> <p>Textbook Readings*: Chapters 2 & 5 (with some examples from Part V of textbook; literature readings on Canvas)</p>	<p>Sept 21 Lab: <i>Experiments on Molecular Exchange</i></p>	<p>Group Data Sheet due at 5:20 pm Sept 21 (submit via Canvas)</p>
<p>Week 4 Sep 25 to 28</p> <p><i>Sept 29 – National Day For Truth & Reconciliation – University closed</i></p>	<p><u>Dr. Marchant</u> Exchange of Materials conclusions</p> <p>Transmembrane Potentials (Gibbs-Donnan equilibrium; diffusion potentials; ionic basis of membrane charge; steady state & equilibrium potentials)</p> <p>Textbook Readings*: Chapters 5 & 12</p>	<p>Sept 28 Lab: <i>Experiments on Diffusion Potentials</i></p>	<p>1:30 pm Sept 28 Molecular Exchange Report Due (submit via Canvas)</p> <p>Group Data Sheet due at 5:20 pm Sept 28 (submit via Canvas)</p>
<p>Week 5 Oct 2 to 6</p>	<p><u>Dr. Marchant</u> Transmembrane Potentials conclusions</p> <p>Textbook Reading*: Chapters 12</p>	<p>Oct 5 Lab: <i>iWorx TA Roam Refresher & Practice</i></p>	<p>1:30 pm Oct 5 Diffusion Potentials Report Due (submit via Canvas)</p> <p>Group Data Sheet due at 5:20 pm Oct 5 (submit via Canvas)</p>
<p>Week 6 Oct 11 to 13</p> <p><i>Oct 9 Thanksgiving Holiday</i></p>	<p><u>Dr. Marchant</u> Bioelectricity (passive vs active electrical properties; action potentials; Hodgkin-Huxley cycle; action potential conduction)</p> <p>Textbook Reading*: Chapters 12</p>	<p>Oct 12 Lab: <i>Experiments on Compound Nerve Action Potential</i></p>	<p>Group Data Sheet due at 5:20 pm Oct 12 (submit via Canvas)</p>
<p>Week 7 Oct 16 to 20</p>	<p><u>Dr. Marchant</u> Bioelectricity (continued)</p> <p>Textbook Reading*: Chapters 12</p>	<p>Oct 19 Lab: optional <i>Compound Action Potential drop-in Q&A</i></p>	<p>4:30 pm Oct 20 Compound Action Potentials Report Due (submit via Canvas)</p>
<p>Week 8 Oct 23 to 27</p>	<p><u>Dr. Marchant</u> Bioelectricity (conclusions)</p> <p><u>Dr. Gray</u></p>	<p>Oct 26 Lab:</p>	<p>No work due – study for the midterm!</p>

	<p>Intercellular Communication (neurotransmitter release; synaptic & neuromuscular transmission; chemically-sensitive ion channels)</p> <p><u>Textbook Reading*</u>: Chapter 13</p>	<p>Lecture Midterm Exam during lab period</p>	
<p>Week 9 Oct 30 to Nov 3</p>	<p>Dr. Gray Intercellular Communication (conclusions)</p> <p>Muscle Physiology (muscle types; contractile units; sliding filament theory; excitation-contraction coupling smooth vs. striated muscle)</p> <p><u>Textbook Reading*</u>: Chapter 13 & 20</p>	<p>Nov 2 Lab: <i>Experiments on Skeletal Muscle Physiology week 1</i></p>	<p>Group Data Sheet #4 due at 5:20 pm Nov 2 (submit via Canvas)</p>
<p>Nov 6 to 10</p>	<p>No Lectures or Labs Fall Term Break Week</p>		
<p>Week 10 Nov 13 to 17</p>	<p>Dr. Gray Muscle Physiology (conclusions)</p> <p><u>Textbook Reading*</u>: Chapter 20</p>	<p><i>Nov 16 Lab: Skeletal Muscle Physiology week 2</i></p>	<p>No work due</p>
<p>Week 12 Nov 20 to 24</p>	<p>Dr. Gray Signal Transduction Across Membranes (general mechanisms; mechanoreceptors; photoreceptors; visual and infrared spectra; phonoreceptors; middle ear receptors; lateral line receptors)</p> <p><u>Textbook Reading*</u>: Chapter 14</p>	<p><i>Nov 23 Lab: Sensory Receptors</i></p>	<p>1:30 pm Nov 23 Skeletal Muscle Physiology Report Due (submit via Canvas)</p> <p>Group Data Sheet #5 due at 5:20 pm (submit via Canvas)</p>
<p>Week 13 Nov 27 to Dec 1</p>	<p>Dr. Gray Nervous Integration & Regulation (basic concepts; animal models of memory & learning; evolution of the nervous system; vertebrate brain structure & function; autonomic nervous system)</p> <p><u>Textbook Readings*</u>: Chapters 13 & 15</p>	<p><i>Nov 30 Lab: Student Presentations</i></p>	<p>1:30 pm Nov 30 Sensory Receptors Report Due</p> <p>Presentations on Lab 1 through 3 (if assigned).</p>
<p>Week 14 Dec 4 to Dec 8</p>	<p>Dr. Gray Nervous Integration & Regulation (continued)</p> <p><u>Textbook Readings*</u>: Chapter 15</p> <p>Course wrap-up</p>	<p><i>Dec 7 Lab Student Presentations</i></p>	<p>Presentation on Lab 4 & 5 (if assigned).</p>
	<p>Final Exam during regular exam period (Dec 9 to 23)</p>		

* Additional readings will be listed in Canvas as appropriate.

Submitting Assignments/Feedback to Students

Each student must independently write a report for each of the lab exercises. These will be submitted electronically via Canvas. The lab reports will be graded by the teaching assistants who will also watch for plagiarism. Reports will be graded and returned on a schedule such that students will have timely feedback about their work. Grades will be assigned based on the quality of the data presentation, grammar, spelling, scientific writing and other aspects of the report. Additional information about the format of the reports is contained in the lab manual; students must read this carefully. The oral presentation will be evaluated by Ms Fisher, your TA and the faculty. A rubric and weighting scheme for assessing the presentation will be posted on Canvas. Presenters will be provided with written feedback about their performance. Marks from the midterm exam will be available within 7 to 10 days after the exam.

Late Assignments/Missed Lab Deadlines

Lab reports submitted after the deadline will be penalized by a 10% reduction in the mark assigned to the report for each day that the report is late. Students who miss a deadline due to a protracted illness or extenuating personal circumstances are required to contact the lab coordinator (an email or phone call to Ms Fisher is adequate) on the day the assignment is due and discuss the reasons why the deadline is being missed. There are no exceptions to this policy; students who fail to proactively advise the lab coordinator that they will miss the deadline will be subject to the 10% per day penalty. Depending on the situation, additional documentation may be requested from the student. Deadline extensions will only be provided when the protracted illness or extenuating personal circumstance is verifiable. Ms Fisher may consult with faculty during this verification process. Similar procedures must be followed by a student if they are going to miss giving their scheduled lab presentation. Note that failure to turn-in a Group Data Sheet will result in a 25% deduction from that lab report mark for each student in the group (see above).

Lab Attendance

Students are expected to attend all scheduled lab periods. It is impossible to schedule make-up labs for this course. A student who does not attend a laboratory activity and does not have a valid excuse, will receive a grade of zero for any assignment associated that activity. Students who fail to attend both days of student presentations and who do not have a valid excuse based on illness or extenuating personal circumstances will receive a 2.5 mark deduction from their final course grade.

Ethical Use of Animals

Two of the lab exercises will utilize tissues from frogs that have been euthanized specifically for the BIOL 317 labs. The use of these animals has been approved through the University of Saskatchewan policies on animal care and use. The labs are an integral part of the course and active participation by students in the conduct of these experiments is necessary to meet course learning objectives. Students who feel that they would be unable to participate in the animal lab exercises should choose another course to satisfy their degree requirements. Advisors in the Department of Biology can assist in the selection of an alternate course.

Midterm and Final Examination Scheduling

Midterm and final examinations must be written on the date scheduled. Final course examinations may be scheduled at any time during the examination period (Dec 9 to 23); 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 his or her own for medical,

compassionate or other valid reasons, documentation must be provided and an opportunity to write the missed exam may be given. Students who miss the final exam must contact the College of Arts & Science and apply for a deferred final exam. Deferred exams may utilize a different format than the regular exam, at the sole discretion of the course instructors. Students are encouraged to review all University examination policies and procedures: :

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

Recording of the Course

Lecture recordings will not be available for this course. Students are not allowed to record any aspect of this course, except with the permission of the instructors or as provided for by arrangements with Access and Equity Services. Any recording made under these provisions are to only be used for the personal learning of the student who made the recording. 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>.

Copyright

Course materials are provided to you based on your registration in the class, and anything created by your professors and instructors is their intellectual property, unless materials are designated as open education resources. Copyright-protected material 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.

Student Feedback

The Department of Biology or the instructors may survey students regarding the course. This is generally done through an assessment near the end of term.

University of Saskatchewan Grading System

Students in BIOL 317 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>

Exceptional (90-100) A superior performance with consistent evidence of

- a comprehensive, incisive grasp of the subject matter;
- an ability to make insightful critical evaluation of the material given;
- an exceptional capacity for original, creative and/or logical thinking;
- an excellent ability to organize, to analyze, to synthesize, to integrate ideas, and to express thoughts fluently.

Excellent (80-90) An excellent performance with strong evidence of

- a comprehensive grasp of the subject matter;
- an ability to make sound critical evaluation of the material given;
- a very good capacity for original, creative and/or logical thinking;
- an excellent ability to organize, to analyze, to synthesize, to integrate ideas, and to express thoughts fluently.

Good (70-79) A good performance with evidence of

- a substantial knowledge of the subject matter;
- a good understanding of the relevant issues and a good familiarity with the relevant literature and techniques;
- some capacity for original, creative and/or logical thinking;
- a good ability to organize, to analyze and to examine the subject material in a critical and constructive manner.

Satisfactory (60-69) A generally satisfactory and intellectually adequate performance with evidence of

- an acceptable basic grasp of the subject material;
- a fair understanding of the relevant issues;
- a general familiarity with the relevant literature and techniques;
- an ability to develop solutions to moderately difficult problems related to the subject material;
- a moderate ability to examine the material in a critical and analytical manner.

Minimal Pass (50-59) A barely acceptable performance with evidence of

- a familiarity with the subject material;
- some evidence that analytical skills have been developed;
- some understanding of relevant issues;
- some familiarity with the relevant literature and techniques;
- attempts to solve moderately difficult problems related to the subject material and to examine the material in a critical and analytical manner which are only partially successful.

Failure <50 An unacceptable performance

Academic Integrity

The University of Saskatchewan is committed to the highest standards of academic integrity (<https://academic-integrity.usask.ca/>). Academic misconduct is a serious matter and can result in grade penalties, suspension, and expulsion. For help developing the skills for meeting academic integrity expectations, see: <https://academic-integrity.usask.ca/students.php>

Prepare for Integrity

- Biol 317 students are required 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://libguides.usask.ca/AcademicIntegrityTutorial>.
- Students can also access campus resources that support development of study skills, time and stress management, and ethical writing practices important for maintaining academic integrity and avoiding academic misconduct.

Responses to Misconduct

Students are expected to be familiar with the academic misconduct regulations:

<https://governance.usask.ca/student-conduct-appeals/academic-misconduct.php> - About

- Definitions appear in Section II of the academic misconduct regulations.
- The academic misconduct regulations apply regardless of type of assessment or presence of supervision during assessment completion.
- Students are advised to ask for clarification as to the specific expectations and rules for assessments in all of their courses.
- Students are urged to avoid any behaviour that could result in suspicions of cheating, plagiarism, misrepresentation of facts. Students should note that posting copyrighted course materials (e.g., notes, questions, assignments or exams) to third party websites or services or other forum or media without permission is an academic or non-academic misconduct offense.

Non-academic offenses are dealt with under the [Standard of Student Conduct in NonAcademic Matters and Regulations and Procedures for Resolution of Complaints and Appeals](#)

Artificial Intelligence Text Generators

Students are discouraged from thinking that they can use AI (e.g. ChatGPT) to generate their lab reports. Lab reports are based on unique data recorded during the lab exercises. AI tools cannot interpret the data you will record and will simply produce gibberish in your lab report. These mistakes will be obvious and will receive a negative score from your TAs. Working honestly and without short-cuts to interpret real data will give you a much better understanding of the physiological principle being studied. The efforts you make for these lab reports will also help you write the midterm and final exams as the laboratory material is expressly incorporated into these exams.

Access and Equity Services (AES) for Students

Access and Equity Services (AES) is available to provide support to students who require accommodations due to disability, family status, and religious observances.

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.

Students who require accommodations for pregnancy or substantial parental/family duties should contact AES to discuss their situations and potentially register with that office.

Students who require accommodations due to religious practices that prohibit the writing of exams on religious holidays should contact AES to self-declare and determine which accommodations are appropriate. In general, students who are unable to write an exam due to a religious conflict do not register with AES but instead submit an exam conflict form through their PAWS account to arrange accommodations.

Any student registered with AES, as well as those who require accommodations on religious grounds, may request alternative arrangements for mid-term and final examinations by submitting a request to AES by the stated deadlines. Instructors shall provide the examinations for students who are being accommodated by the deadlines established by AES.

For more information or advice, visit <https://students.usask.ca/health/centres/access-equity-services.php>, or contact AES at 306-966-7273 (Voice/TTY 1-306-966-7276) or email

aes@usask.ca.

Student Supports

Academic Help – University Library

Visit the [University Library](#) and [Learning Hub](#) to find supports for undergraduate and graduate students with first-year experience, study skills, learning strategies, research, writing, math and statistics. Students can attend [workshops](#), access [online resources and research guides](#), book [1-1 appointments](#) or hire a [subject tutor](#) through the [USask Tutoring Network](#)

Connect with library staff through the [AskUs](#) chat service or visit various [library locations](#) on campus.

Enrolled in an online course? Explore the [Online Learning Readiness Tutorial](#).

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' website <http://students.usask.ca>.

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:

[\(http://artsandscience.usask.ca/undergraduate/advising/\)](http://artsandscience.usask.ca/undergraduate/advising/)

Financial Support

Any student who faces unexpected 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>.

Gordon Oakes Red Bear Student Centre

The Gordon Oakes Red Bear Student Centre) is dedicated to supporting Indigenous 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 an intercultural gathering space that brings Indigenous and non-Indigenous students together to learn from, with and about one another in a respectful, inclusive, and safe environment. Visit

<https://students.usask.ca/indigenous/index.php> or students are encouraged to visit the ASC's website <https://students.usask.ca/indigenous/gorbosc.php>

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. Visit

<https://students.usask.ca/international/issac.php> for more information.