

STAT1000 Basic Statistical Analysis 1

Emily McKinnon

updated Dec 2022

Territory Acknowledgement and Inclusion Philosophy

We will be learning together in this course on the traditional lands of the Anishinaabeg, Cree, Oji-Cree, Dakota, and Dene peoples. This land is the homeland of the Métis Nation, and in Treaty 1 territory.

In the spirit of Truth and Reconciliation, I welcome all Indigenous and non-Indigenous students into our circle of learning, and respect the diversity, unique skills, and life experience that students of all Nations bring to this classroom.

Each student brings their unique identity to this classroom, just as I bring my own stories and identity (see my detailed biography below). I am committed to a respectful learning environment that is flexible, anti-oppressive, and inclusive. I am open to feedback on any aspects of the course! We are all here to learn together.

Course Details

Course Code	STAT1000
Lecture Section	G07 CRN:57723
Tutorial Section	B25 CRN:59163
Term	Winter 2023
Lecture Time	MWF 10:30 a.m. - 11:20 a.m.
Lecture Location	315 Buller
Tutorial Time	Monday 2:30 p.m. - 3:20 p.m.
Tutorial Location	Please check Aurora for location
Term Dates	January, 2023 to April, 2023

Instructor



Dr. Emily A. McKinnon

Email: Emily.McKinnon@umanitoba.ca

Office: 246 Migizii Agamik

Contacting me: emily.mckinnon@umanitoba.ca I may take a bit longer to reply on the weekend but I will get back to you by Monday morning at the latest.

Meeting with me: : If you have a quick question, or need to let me know that you will miss class, you can message me on Teams or send an email. If you want to chat in more depth about course material, assessments, etc., it's probably best that we meet in person or via Zoom! Send me an email and we can arrange a time to meet that fits both our schedules and is either virtual or in-person.

About me: I am originally from a small town called LaSalle, near Windsor, Ontario. My ancestors are mostly Scottish (my mother was born in Dundee, Scotland and emigrated to Canada when she was 9 years old). My father's family comes from Nova Scotia (east coast of Canada), and has Scottish, Irish, French, German, Acadian, and Mi'kmaw ancestry.

My Mum taught high school English, and my Dad was Human Rights Officer and later worked for the Ministry of Labour, so I grew up learning a lot about teaching and social justice. I have a younger brother and sister. My brother keeps me in touch with my young millennial side; he lives in Toronto, works for the auto industry, and plays in a punk band. My sister is a Justice of the Peace and bail clerk in the Calgary courthouse, and in another life must have been a stand-up comedian.

When I started university, I originally intended to go to medical school but realized that I liked bird watching a lot more than writing the MCAT. I did an undergraduate honours degree in biology at Queen's University in Kingston, Ontario. I then earned a Masters of Science in Forestry and Environmental Management from the University of New Brunswick (Fredericton), and a PhD in Biology from York University (Toronto). I spent about 15 years being a 'bird biologist', travelling a lot and studying birds. I started working as a research affiliate at the University of Manitoba in 2014, when my spouse, Dr. Kevin Fraser, got a job here. He is a bird biologist and associate professor and teaches Animal Behaviour and Biology of Birds. We have two kids, aged 10 and 7. They are the best science experiments ever!

The first university course I taught was Animal Behaviour, in 2009 at the University of New Brunswick. Since, I have taught at UM and at U. Winnipeg, and full time for the Access program since 2018.

I am a proud bird nerd and love sharing all science with my students. I love being outside in nature, also museums, science podcasts and documentaries. Is there a science TikTok? Someone show me!

Course Overview & Learning Objectives

It is the desire of the Department of Statistics to present this course in a manner that emphasizes and illustrates the statistical analysis arising from "real-world" applications. Whenever possible, we will attempt to bring real-life examples and data into the classroom.

Upon completion of this course students can proceed in many directions: to further intensive study of statistics, to one or more additional courses in statistics, to the use of statistical methods in other fields of study, or to being a consumer of statistical information in daily life. It is our objective to serve all of these diverse directions.

The course is designed to include basic topics deemed crucial for problem formulation and understanding of the foundations of statistical thinking and reasoning. The concepts of statistical analysis will be stressed. The course will place an emphasis on the development of critical thinking skills.

Calendar Description

STAT1000 - Basic Statistical Analysis 1

(Lab required) This course is not recommended for students in certain programs (see the description of STAT 1150). An introduction to the basic principles of statistics and procedures used for data analysis. Topics to be covered include: gathering data, displaying and summarizing data, examining relationships between

variables, sampling distributions, estimation and significance tests, inference for means. May not be held with STAT 1001, STAT 1150, STAT 2220. Prerequisite: Any grade 12 or 40S Mathematics, or equivalent.

Course Webpages

You will have two UM Learn sites for this course: one for the lecture and one for the tutorial.

If you are not familiar with UM Learn, please view the following tutorial: [click here](#). General information about the Department of Statistics can be found by [clicking here](#).

Evaluation

1. Tutorial Participation and Worksheets	8%
2. RStudio Assignments (based on tutorials)	7%
3. Homework Assignments (based on lecture material)	15%
4. Lecture Participation	5%
5. Quizzes	15%
6. Midterm Test	20 or 25*%
7. Final Examination	25 or 30*%

*Midterm and final together are worth 50%. Whichever is your better score will be weighted at the higher value.

1. Tutorial Participation and Worksheets 8%

There are 10 tutorials for this course; they will be held once a week, starting the second week of class. Tutorials will alternate between RStudio practice (with worksheets to hand in) and iClicker question sessions. There are no tutorials during winter break or the week of the midterm.

Please download and install R and RStudio on your laptop before your first tutorial, and the iClicker app on your phone. There will be a detailed installation and setup guide on your UM Learn tutorial page.

Your tutorial grade will come from completing worksheets on your computer using RStudio and for participating in iClicker questions. You will be submitting worksheets electronically at the end of the tutorial, by using a link which will be provided to you by email. These worksheets can be done in a group, and only one worksheet submission is required per group. Please note that attendance will be taken! You must be there even if your group partner is the one submitting the assignment. Worksheets will be marked on a pass/fail basis. If your group has made a reasonable effort on the worksheet, you will receive a grade of 1/1 for that tutorial.

Every other tutorial will be an iClicker practice question tutorial. That means you will need to download the iClicker app on your phone and come prepared to try out some questions. Your TA will post the question, you can solve it and submit your answer via the iClicker app. Then the TA will walk through the solution to the problem.

2. RStudio Assignments 7%

There will be four assignments in the course, completed using the RStudio software that you will learn to use in the tutorials. Your assignments will be submitted online (same process as the tutorial worksheets; you will be emailed a link for uploading). Your best three of four assignments will count towards the 7% grade (i.e., your lowest assignment mark will be dropped). See the course schedule for assignment due dates.

Some notes about the tutorial worksheets and assignments:

- You may speak to your classmates about worksheets and assignments, but you may not directly show your code/output to anyone.
- To be clear, you can help a classmate by directing them to a similar example in the notes or tutorial files, but you can not look directly at someone else's work or show them your work.
- Sharing your work or R code with someone, either directly or online (such as in a Telegram chat room) will be considered an act of academic dishonesty, as will copying someone else's work.
- The only exception to this rule is that you are permitted to work with other students and talk about the code for your worksheet **while you are in your actual tutorial**. However, each student must submit their own worksheet.
- If you need help with a worksheet or an assignment, please go to the Statistics Help Centre in Room 311 Machray Hall, where there are graduate students in Statistics available to help you. (See the schedule on the next page.)

3. Homework Assignments 15%

You will receive homework assignments for each of the 7 units in this course. Each will be marked out of 10 marks. They can be completed in a group or by yourself, but you must submit your own copy for marks. Your lowest homework grade will be dropped.

4. Lecture Participation 5%

Attendance at all classes is expected, and we will frequently do activities in class. If you attend 90% of classes, you will receive 5/5, 80% of classes, 4/5, 70% of classes, 3/5, 60% of classes 2/5, 50% of classes, 1/5, and less than 50% will score 0/5. If you have a reason for missing class and email me, I will consider it an excused absence. You may be required to do alternate activities or meet with me one-on-one to catch up and gain full participation marks. You can also earn 1% participation by meeting with an Access Program STAT1000 tutor at least once during the term.

5. Quizzes 15%

There will be four open-book, multiple-choice quizzes throughout the term, which will be written online, on your UM Learn lecture page. Open-book means you can use your notes or lecture slides as a reference; do not use websites or material not provided by the instructor. Quizzes will be open from **12:01 a.m. on Tuesday until 11:59 p.m. on Wednesday** on the dates below. **You can enter the quiz any time during these two days**, and once you begin, you will have **45 minutes** to write the quiz. Quizzes must be completed on your own with no communication with anyone in or not in the class. Do not discuss the quiz in any online chat rooms until the quiz period is over. Your best 3 out of 4 quizzes will count towards your final grade.

	Dates	Coverage
Quiz 1	January 31 & February 1	Unit 1
Quiz 2	February 14 & 15	Units 2 & 3
Quiz 3	March 21 & 22	Units 4 & 5
Quiz 4	April 4 & 5	Unit 6

6. Midterm Test 20 or 25%*

The midterm test will be held **Monday 6 March 2023 from 5:30 p.m. to 7:30 p.m.** Please note that this test is in the evening, and in person! If you are not able to write the test at this time, **please [contact me](emily.mckinnon@umanitoba.ca) as soon as possible**. The midterm content will be Units 1 – 4,

and will consist of multiple-choice questions and short-answer questions. You can bring one page of notes to the test, as well as a non-programmable scientific calculator. Students who miss the midterm test for a valid reason (illness for you or a dependent, family emergency, transportation breakdown, etc.) must contact Emily as soon as possible.

7. Final Exam 25 or 30%*

The final exam will be 2 hours in duration and will be scheduled by the Registrar's Office. Please be available during the exam period from 26 April to 3 May. It will cover Units 1 – 10, with emphasis on Units 6 – 10. The final examination will contain both multiple-choice questions and short answer questions. You can bring one page of notes to the test, as well as a non-programmable scientific calculator. If you miss the final exam for a legitimate reason (i.e. illness, emergency) you may apply to your HOME FACULTY to write the deferred exam. Instructors cannot grant deferred exams, only the faculty.

*Whichever test is your highest grade will be worth the higher percentage.

Late assignments and/or missed test/activities/worksheets

Lecture: We will do a lot of work in class, therefore if you miss class you will miss out on the opportunities to practice and work on problems together. However, life happens! And sometimes you may have to miss class. In those cases, please email me as soon as you can and I can give you some alternative activities or videos to watch to help you catch up. Those activities can be used towards your lecture participation and assignment mark.

Tutorials: Tutorial worksheets must be submitted by the end of each tutorial. Assignments must be submitted on time, but you will have lots of advance notice of due dates so you can plan to finish them well in advance of the deadline. Your top 3 of 4 assignments count towards your grade. If you miss 1 assignment, the others will all count towards your final grade. If you miss more than 1 assignment, please contact Emily as at that point your grade might be impacted and we can discuss potential accommodations.

Missed quizzes or tests: Your top 3 of 4 quizzes will be counted towards your final grade. If you miss 1 quiz, the others will all count towards your final grade. If you miss more than 1 quiz, please contact Emily as at that point your grade might be impacted and we can discuss potential accommodations. If you miss the midterm, please contact Emily so we can arrange a later date for you to write the test. If you miss the final exam, you must contact your home faculty (i.e. University 1), and request a deferred exam.

Letter Grade Conversions

Subject to the caveat in the paragraph below, the following are the minimum percentage grades required to receive each of the various letter grades:

- A+ (90%)
- A (80%)
- B+ (75%)
- B (70%)
- C+ (65%)
- C (60%)
- D (50%)

Academic Integrity

It is important that you understand what constitutes academic dishonesty and that you are familiar with the very serious consequences. Links to resources that describe academic dishonesty (including plagiarism, cheating, inappropriate collaboration and examination impersonation, as well as typical penalties) can be found at: <http://umanitoba.ca/student-supports/academic-supports/academic-integrity>

The Student Discipline Bylaw, which describes the potential consequences of academic dishonesty, can be found at the following link: http://umanitoba.ca/admin/governance/media/Student_Discipline_Bylaw_-_2018-09-01.pdf

An academic integrity and student conduct tutorial can be found at the following link (please review the parts on Tests & Exams and Inappropriate Collaboration): https://umanitoba.ca/student/resource/accessibility/files/AI-Student-Conduct-Tutorial/story_html5.html

For any student that creates a Telegram chat group (or any other chat group), please disable the room during quiz and exam times to avoid issues of academic dishonesty.

Attendance

If you are sick or have another legitimate reason for missing a class, tutorial, quiz, midterm, or exam, please let me know by email as soon as possible to make arrangements for accommodations so that it will not impact your final grade.

Supplementary Resources

The following books are recommended for reading and extra practice. I will try to give readings associated with each lecture topic from the OpenStax textbook, and I will also provide copies of some relevant chapters from the books by Levitin and Wheelan. The latter are both very accessible and engaging - if you like learning by reading, I suggest you pick up a copy of either one!

- Introductory Statistics, OpenStax College, Rice University (2013) <https://openstax.org/details/introductory-statistics>
- Weaponized Lies: How to Think Critically in the Post-Truth Era (2017) Daniel J. Levitin <https://www.amazon.ca/Weaponized-Lies-Think-Critically-Post-Truth/dp/1101983825>
- Naked Statistics: Stripping the Dread from the Data (2014) Charles Wheelan https://www.amazon.ca/Naked-Statistics-Stripping-Dread-Data/dp/039334777X/ref=tmm_pap_title_0?_encoding=UTF8&qid=&sr=

Note that these books are provided for extra reference and practice only. Coverage and notation may differ somewhat from the course notes, i.e. course notes may cover topics that are not covered in the textbooks or vice-versa. Where there are any discrepancies between the way topics are covered in the course notes and in the textbook, please defer to the course notes.

Statistics Help Centre

In Room 311 Machray Hall (which contains a number of computers), graduate students and senior undergraduate students in statistics are available to help you with any questions you have about the course, as well as the installation of R and RStudio. The Help Centre is open at the following times:

- Monday 9:30 a.m. – 2:30 p.m.
- Tuesday 9:30 a.m. – 2:30 p.m., 4:30 p.m. - 7:00 p.m.

- Wednesday 9:30 a.m. – 2:30 p.m.
- Thursday 9:30 a.m. – 2:30 p.m., 5:30 p.m. - 7:00 p.m.
- Friday 9:30 a.m. – 2:30 p.m.

The Help Centre will also have online access, which will take place in the form of an open Zoom call. It is strongly recommended that you go to 311 Machray Hall if you are able, as the capacity of the on-line offering will be limited. The links and schedule are given below:

- Tuesday 3:00 p.m. - 7:00 p.m. <https://umanitoba.zoom.us/j/61950565450>
- Saturday 1:00 p.m. - 5:00 p.m. <https://umanitoba.zoom.us/j/66187591920>

The Help Centre will be closed on holidays and during the Winter term break (Feb. 21 – 24).

Technology & Software Requirements

This course will make use of the statistical software **R** and **RStudio**. Both are free to use and are available for both Windows and Mac operating systems. You will need to have a working laptop upon which to download the software and complete your assignments. You must have an updated operating system and room to install software. Please check this in advance of your first lab! Tablets or phones are not compatible with R.

R is the software that does the calculations and graphs for you (by using open-source ‘packages’ of software, made by smart people around the world); RStudio takes R and makes it a little less computer-sciencey and a bit more user friendly. You must download R before you download RStudio. You will also use a special package in R called RMarkdown to format the documents that you submit (both in the form of lab worksheets and your assignments). RMarkdown can use R to make accessible PDFs or even Word-compatible documents. I made this syllabus using RMarkdown!

To download R, follow one of the links below (depending on your operating system): Windows systems: <https://muug.ca/mirror/cran/bin/windows/> MacOS systems: <https://muug.ca/mirror/cran/bin/macosx/> Once you have downloaded and installed R, you may access RStudio through the link below: <https://posit.co/products/open-source/rstudio/#download>

#protip about R and RStudio: If something is not working always check to see if you are using the most up-to-date version of both R and RStudio! Because they are open-source software packages, they get updated ALL THE TIME and it can cause things that previously worked to suddenly stop working. When in doubt, check for updates!

If you do not have access to any of the above, please contact me ASAP emily.mckinnon@umanitoba.ca

Voluntary Withdrawal

The voluntary withdrawal date is **22 March 2023**. If you are considering dropping the course, please talk with Emily and your academic advisor to make sure this is the right decision for you. STAT1000 is a required course for many programs.

Copyrighted Material

All course notes, tests, exams, practice exams and solutions are the intellectual property of your instructor or the Department of Statistics. Reproduction or distribution of these materials is strictly forbidden without their consent.

Recording of Class Lectures

Your instructor and the University of Manitoba hold copyright over the course materials, presentations and lectures which form part of this course. No audio or video recording of lectures or presentations is allowed in any format, openly or surreptitiously, in whole or in part without permission from your instructor.

Use of Electronics in the Classroom

It is the general University of Manitoba policy that all technology resources are to be used in a responsible, efficient, ethical and legal manner. A student may use technology in the classroom setting only for educational purposes approved by the instructor and/or the University of Manitoba Accessibility Services.

Class Communication

The University requires all students to activate an official University email account. Please note that all communication between your instructor and you as a student must comply with the Electronic Communication with Students Policy. Please see http://umanitoba.ca/admin/governance/governing_documents/community/electronic_communication_with_students_policy.html You are required to obtain and use your U of M email account for all communication between yourself and the university.

Course Outline

Please note that the dates here are approximate; each week I will post a guide as to what material to cover on UM learn on the homepage of the STAT1000 G07 site.

Unit 1 — Examining Distributions (January - Feb)

- types of variables: quantitative, categorical (nominal, ordinal)
- graphs: bar charts, pie charts, frequency distributions, time plots, histograms
- examining distributions, shape (skewed symmetric)
- describing distributions with numbers: mean, weighted mean, median, quartiles, percentiles, interquartile range, range, variance and standard deviation
- five-number summary and quantile boxplots
- outliers
- the $1.5 \times \text{IQR}$ rule for suspected outliers, outlier boxplots
- resistant measures

Unit 2 – Correlation and Regression (7-11 Feb)

- association, response variable, explanatory variable
- examining scatterplots
- correlation
- least-squares criterion and least squares regression line, prediction
- slope, intercept, r^2
- residuals
- outliers, influential observations

- association vs. causation, lurking variables
- extrapolation

Unit 3 – Sampling and Experimental Design (14-18 February)

- populations and samples
- voluntary response sample, convenience sample
- simple random sample
- stratified random sample
- multistage sample
- systematic sample
- census
- undercoverage, nonresponse
- observational study vs. experiment
- experimental units
- factors, factor levels, treatments
- placebo effect, control group
- principles of experimental design
- completely randomized design
- randomized block design

Unit 4 – Density Curves and Normal Distributions (18 February-4 March)

- continuous random variables, density curves
- continuous uniform distribution
- normal distributions
- 68–95–99.7 rule
- standardizing observations (z -scores)
- normal distribution calculations

The midterm test covers material from Units 1 – 5.
The test is on **Monday 6 March 2023** from 5:30 p.m. – 7:30 p.m.

Unit 5 – Probability and Sampling Distributions (March)

- randomness, definition of probability
- sample space
- basic probability rules
- sampling distribution of a sample mean
- Central Limit Theorem
- sampling distribution of a sampling proportion

Unit 6 – Inference for a single population (March)

- estimating with confidence
- confidence interval for a population mean (σ known)
- margin of error
- effect of sample size, confidence level, standard deviation
- effect of population size
- sample size calculation for estimating a population mean
- tests for a population mean (σ known)
- hypotheses, test statistic, P -value, statistical significance
- two-sided tests and confidence intervals
- confidence intervals and hypothesis tests for a population mean (σ unknown)
- confidence intervals and hypothesis tests for a population proportion
- sample size calculation for estimating a population proportion

Unit 7 – Inference for the Means of Two Populations (Apr)

- Matched pairs t procedures (dependent samples)
- Inference for comparing means of two populations (independent samples, equal population variances)
- Inference for comparing means of two populations (independent samples, unequal population variances)

The final examination covers material from Units 1 – 7, with emphasis on Units 5 – 7.
The exam is 2 hours in duration and will be scheduled by the Student Records Office.

University Supports, Policies, and Procedures

ACCESS program supports

This course is exclusively for students in the Access Program. As an Access student, you have academic, financial, personal, and cultural/spiritual supports available to you throughout the duration of your degree. These supports can include tutoring, counselling, academic and financial aid advising, ceremony and traditional medicines, and help connecting to resources on and off campus. Please speak to your instructor or contact the Access office if you require information about the supports available to you: 204-474-8000.

UM Policies

As a student at the University of Manitoba you have rights and responsibilities. It is important for you to know what you can expect from the University as a student and to understand what the University expects from you. Become familiar with the policies and procedures of the University and the regulations that are specific to your faculty, college or school.

The University of Manitoba (UM) website's Governing Documents <https://umanitoba.ca/governance/governing-documents> is one important source of information, in particular the Academic and Students sections. The Student Advocacy office can also help you understand policies and procedures; find their information in the UM Learner Supports section below.

Academic Calendar

The Academic Calendar <https://umanitoba.ca/registrar/academic-calendar> is the University's official publication containing course descriptions, program and graduation requirements, as well as UM and faculty/school-specific rules, regulations and policies. In particular, familiarize yourself with the sections University Policies and Procedures and General Academic Regulations.

Academic Integrity

In addition to reviewing your instructor's academic integrity policy listed in their syllabus, you are expected to view the General Academic Regulation section within the Academic Calendar <https://umanitoba.ca/registrar/academic-calendar> and specifically read the regulation pertaining to Academic Integrity. Ask your instructor for additional information about demonstrating academic integrity in your academic work, and consult the following UM resources for more information and support:

Academic Integrity

Student Resources

Academic Misconduct and How to Avoid It

Student Advocacy Office

Copyright

All students are required to respect copyright as per Canada's Copyright Act. Staff and students play a key role in the University's copyright compliance as we balance user rights for educational purposes with the rights of content creators from around the world. The Copyright Office <https://umanitoba.ca/copyright/> provides copyright resources and support for all members of the University of Manitoba community.

Grade Appeals

If you have questions about your grades, talk to your instructor. There is a process for term work and final grade appeals. Note that you have the right to access your final examination scripts. See the Registrar's Office <https://umanitoba.ca/registrar/grades/appeal-grade> for more information including appeal deadline dates and the appeal form.

Intellectual Property

For information about rights and responsibilities regarding intellectual property view the Intellectual Property Policy <https://umanitoba.ca/governance/governing-documents/governing-documents-university-community#intellectual-property>

Program-Specific Regulations

For information on regulations that are specific to your academic program, read the section in the Academic Calendar and on the respective faculty/college/school website <https://umanitoba.ca/academics>.

Respectful Work and Learning Environment

The University is committed to a respectful work and learning environment. You have the right to be treated with respect and you are expected to conduct yourself in an appropriate and respectful manner. Policies governing UM community behaviour include:

Respectful Work and Learning Environment Student Discipline Violent or Threatening Behaviour

The UM website, Engaging in Respectful Conduct <https://umanitoba.ca/student-supports/respectful-conduct>, includes more details about expectations for behaviours related to university activities.

Sexual Violence Policies

The UM has several policies and procedures that deal with the rights and responsibilities of the University community with regards to all forms of sexual violence. For a comprehensive list of policies and associated resources, visit the Sexual Violence Resource Centre's information page <https://umanitoba.ca/student-supports/sexual-violence-support-and-education/sexual-violence-get-informed>. Please note that there are many supports available in addition to these policy documents (see UM Learner Supports).

Voluntary Withdrawal

Voluntary withdrawal (VW) is a way for students to leave a class without academic penalty once the Registration Revision Period has ended. If you opt to voluntarily withdraw from a course, you will not be eligible for a refund and, if applicable, will still be required to pay any outstanding tuition fees for the course. On your transcript, the course you have withdrawn from will be listed; however, "VW" will appear in lieu of a grade. If you do not drop a course before the VW deadline, you will receive a final grade in the course on your transcript.

Please note that there are separate deadlines for dropping a course early in a term during the Registration Revision Period. Dropping a course means you are removing that course from your schedule, will not be charged tuition fees for that course, and the course will not appear on your transcript.

The Registrar's Office website, Withdraw from a Course <https://umanitoba.ca/registrar/withdraw-course>, includes more information on the different ways in which you can withdraw from a course and important dates and deadlines to do so.

UM Learner Supports

Below you will find a select list of important supports for learners at the UM, both academic supports and otherwise. For a complete listing of all learner supports at the University of Manitoba, visit the Student Supports website <https://umanitoba.ca/student-supports>.

Academic Advising

Contact an Academic Advisor <https://umanitoba.ca/student-supports/academic-supports/academic-advising> for support with degree planning and questions about your academic program and regulations.

Academic Learning Centre (ALC)

The Academic Learning Centre <https://umanitoba.ca/student-supports/academic-supports/academic-learning> offers one-to-one tutoring, groups study sessions and workshops, as well as video and tip-sheet

resources to help you throughout your academic program. All Academic Learning Centre programing, supports, and services are free for UM students.

Make an appointment for free one-to-one tutoring <https://umanitoba.ca/student-supports/academic-supports/academic-learning/tutoring-group-study#individual-tutoring>. Content tutors (over 90 UM courses) can help you understand concepts and learn problem-solving strategies. Study skills tutors can help you improve your skills such as time management and goal setting, reading and note-taking, as well as learning and test-taking strategies. Writing tutors can give you feedback on your academic writing, whether you are just getting started on a written assignment or already have a draft. English as an Additional Language specialist, Antoanela Denchuk, is available for one-to-one tutoring to help you improve your English-language academic writing skills. Use the drop-down menu, read the tutor biographies, and make an appointment for tutoring on the Academic Learning Centre schedule <https://manitoba.mywconline.com/>.

Attend Supplemental Instruction (SI) sessions in historically difficult courses (including Chemistry, Engineering, and Computer Science). These free weekly review sessions are facilitated by a peer mentor who has previously taken the course and provide an opportunity to discuss course content, ask questions, compare notes, solve practice problems, and develop study strategies. See online for a list of SI courses and meeting times.

Register for an Academic Success Workshop, where you can learn strategies to improve your writing and studying. More information on topics, dates, and registration, are found online.

Register for Faculty of Graduate Studies Grad Steps Workshops. These workshops are specifically designed for students working towards Master's degrees or PhDs. More information on topics, dates, and registration can be found online.

Access the Academic Learning Centre's collection of videos and tip sheets <https://umanitoba.ca/student-supports/academic-supports/academic-learning#tip-sheets-for-writing-and-study-skills> to help you with many of the academic tasks you'll encounter in university.

Contact the Academic Learning Centre by calling 204-480-1481 or emailing academic_learning@umanitoba.ca. Bannatyne students can contact the Bannatyne Student Services office at 204-272-3190.

Basic Needs

It can be difficult to learn and succeed in courses when you are struggling to meet your or your family's basic needs. Several UM and community resources are listed below if you would benefit from support with regards to housing, food, finances, and/or childcare:

Housing UM Housing <https://umanitoba.ca/housing>

Winnipeg Rental Network <https://www.winnipegrentnet.ca/>

Manitoba Residential Tenancies Branch <https://www.gov.mb.ca/cca/rtb/>

HOPE End Homelessness Winnipeg Services & Supports <https://umanitoba.ca/housing>

Food U of M Food Bank <https://umanitoba.ca/financial-aid-and-awards/u-m-food-bank>

Food Matters Manitoba <https://foodmattersmanitoba.ca/find-emergency-food-in-winnipeg/>

Finances UM Financial Aid and Awards <https://umanitoba.ca/financial-aid-and-awards>

Manitoba Student Aid <https://www.edu.gov.mb.ca/msa/>

Child Care UM Child Care <https://umanitoba.ca/about-um/child-care>

Manitoba Child Care Subsidy <https://bit.ly/3yG3ijy>

Manitoba Child Care Association <https://mccahouse.org/looking-for-child-care/>

English Language Centre

The English Language Centre (ELC) (<<https://umanitoba.ca/english-language-centre>> provides courses, tests, accommodations and individual support to students whose first language is not English in order to support academic success and participation in the University of Manitoba community.

Health and Wellness

Physical, mental, emotional, and spiritual health and wellness play a critical role in student success. See all of UM's resource on their Health and Wellness <https://umanitoba.ca/student-supports/student-health-and-wellness> website, and make note of several specific UM and community supports listed below.

Winnipeg Urgent Physical and Mental Health Care

If you are an adult experiencing a mental health or psychosocial crisis, contact the Klinik Community Health <https://klinik.mb.ca/crisis-support/> 24/7 crisis line at 204-786-8686, visit the Crisis Response Centre <https://sharedhealthmb.ca/services/mental-health/crisis-response-centre/> located at 817 Bannatyne Avenue, or contact the Mobile Crisis Service at 204-940-1781.

To speak with a nurse for guidance on what health-care path to take for the issue you are facing or for general information about health resources available in Manitoba, contact Health Links <https://misericordia.mb.ca/programs/phcc/health-links-info-sante/> at 1-888-315-9257 (toll free).

If you need urgent medical care, visit the Winnipeg Regional Health Authority's Emergency Department & Urgent Care Wait Times webpage <https://wrha.mb.ca/wait-times/> for a list of locations and current wait times.

Student Counselling Centre (SCC)

The Student Counselling Centre <https://umanitoba.ca/student-supports/student-health-and-wellness/student-counselling-centre-scc> provides free counselling and mental health support to UM, English Language Centre, and International College of Manitoba (ICM) students. We are open year-round, Monday through Friday from 8:30 am to 4:30 pm. Our commitment is to offer a support service to every student who contacts us.

Visit the SCC's For Urgent Help <https://umanitoba.ca/student-supports/student-health-and-wellness/student-counselling-centre-scc#for-urgent-help> webpage or the urgent care resources listed above if you require immediate support.

Visit the SCC's Our Services <https://umanitoba.ca/student-supports/student-health-and-wellness/student-counselling-centre-scc#for-urgent-help> webpage for more information on accessing a variety of services including individual counselling, counselling workshops and groups, support resources, and learning disability assessment services.

The SCC is located is located at 474 UMSU University Centre (Fort Garry Campus).

Health and Wellness Office

Students often juggle multiple demands, and we recognize that it can be difficult to find balance. For any changes you want to make to your health and wellness, the Health and Wellness Office at the University of Manitoba would like to support you in your journey. We are here to help you take control of your own health and make your own decisions. We are a judgment-free space and we avoid labels whenever possible. For more information, please visit the Health and Wellness Office <https://umanitoba.ca/student-supports/health-wellness> website.

Spiritual Care and Multifaith Centre

Spiritual care services are available to all, whether you identify as spiritual, atheist, religious or agnostic. Spiritual Services <https://umanitoba.ca/student-supports/spiritual-services> also offer specific denominational support for certain religious groups and by Indigenous Elders-in-Residence.

Student Support Case Management (SSCM)

Contact the Student Support Case Management team <https://umanitoba.ca/student-supports/academic-supports/student-advocacy/case-management> if you are concerned about yourself or another student and don't know where to turn. SSCM helps connect students with on and off campus resources, provides safety planning, and offers other supports, including consultation, educational workshops, and referral to the STATIS threat assessment team.

University Health Service (UHS)

The University Health Service <https://umanitoba.ca/student-supports/health-wellness/university-health-service> offers a full range of medical services to students, including psychiatric consultation, via two health clinics:

- Fort Garry Campus: (204) 474-8411, ACW-Lot temporary trailer (behind the Isbister building)
- Bannatyne Campus: (204) 474-8411, P309 – Pathology Building

Student Services at Bannatyne Campus

Student Services at Bannatyne Campus (SSBC) offers a full range of mental health supports to students and residents in the Rady Faculty of Health Sciences, along with other academic and personal supports. Visit the SSBC website <https://umanitoba.ca/student-supports/student-services-bannatyne-campus> for a list of services available.

Indigenous Students

Staff, faculty and Elders are well-equipped to ensure your university experience is as beneficial, accessible, and successful as possible. Visit the Indigenous Student Experience <https://umanitoba.ca/indigenous/student-experience> website for more information on the supports and services available.

International Students

The transition to a new country and a new academic system can be both exciting and overwhelming. The International Centre (IC) is here to help you settle into life at University of Manitoba. Visit the International Students website <https://umanitoba.ca/current-students/international> for more information.

Sexual Violence Support and Education

Sexual violence affects people of all ages, sexual orientations, genders, gender identities, abilities and relationship statuses. At the U of M, we are committed to ensuring a respectful work and learning environment for all. We want to build a safe and inclusive campus community where survivors of sexual violence know they can receive the supports they need to succeed, both academically and personally.

The Sexual Violence Resource Centre <https://umanitoba.ca/sexual-violence>, located at 537 UMSU University Centre (Fort Garry campus) provides support, resources, information and referral services for any student, faculty or staff member who has been affected by sexual violence.

Student Accessibility Services (SAS)

The University of Manitoba is committed to providing an accessible academic community. Student Accessibility Services <https://umanitoba.ca/student-supports/accessibility> offers academic accommodation supports and services such as note-taking, interpreting, assistive technology and exam accommodations. Students who have, or think they may have, a disability (e.g., mental health, learning, medical, hearing, injury-related, visual) are invited to contact SAS to arrange a confidential consultation. SAS is located at 520 University Centre (Fort Garry Campus).

Student Advocacy

Student Advocacy <https://umanitoba.ca/student-supports/academic-supports/student-advocacy> is a safe place for students. We help you navigate university processes and advocate for your rights as a student at UM. If anything in your personal or academic life is affecting your studies, contact our confidential intake assistant by phone (204-474-7423) or email (stadv@umanitoba.ca).

University of Manitoba Libraries (UML)

As the primary contact for all research needs, your liaison librarian can play a key role when completing academic papers and assignments. Liaisons can answer questions about managing citations, or locating appropriate resources, and will address any other concerns you have about the research process. Liaisons can be contacted by email or phone, and are also available to meet with you online or in-person. A complete list of liaison librarians can be found by subject <http://bit.ly/WcEbA1>.

General library assistance is also available at both the Bannatyne and Fort Garry campuses by visiting any library location <https://www.umanitoba.ca/libraries/locations-and-facilities>. When working online, students can receive help via the Ask Us chat button found on the right-hand side of the Libraries' homepage <http://www.umanitoba.ca/libraries>.