

The University of Manitoba
STAT 7140 – Linear Models
Winter Term 2023
Course Outline

Course Number & Title: STAT 7140, Linear Models.

Time, Location & CRN: Tuesdays & Thursdays 10:00 a.m. – 11:15 a.m., 316 Machray Hall.
CRN: 60147.

Instructor: Dr. Saumen Mandal
Office: 328 Machray Hall, Department of Statistics.
E-mail: saumen.mandal@umanitoba.ca
Phone: 204-474-9661

Office Hours: Tuesdays and Thursdays: 11:30 a.m. – 12:30 p.m.
If the above time is not convenient for you, please email me to arrange an alternate time to meet. You can also ask me questions at the end of the class, and of course you can stop me anytime if you have questions during lectures.

Web Pages: UM Learn: <http://umanitoba.ca/umlearn>
Statistics: <https://www.sci.umanitoba.ca/statistics>
Crowdmark: <https://crowdmark.com>
SAS software: <https://welcome.oda.sas.com>

Calendar Description

Theory of linear models, regression analysis, and analysis of variance. Prerequisite: Consent of instructor.

Textbook and Course Materials

A First Course in the Theory of Linear Statistical Models by R.H. Myers and J.S. Milton, PWS-KENT Publishing Company, Boston. ISBN: 0-534-91645-7.

The textbook is required. This book is available both in physical (hard) copy and electronic form (e-Book). This book can be purchased in our Fort Garry Bookstore. The price for the electronic version (e-Book) is cheaper than the hardcopy. If you would like to order the book online, you can go to the Bookstore webpage: www.umanitoba.ca/bookstore, shop for textbooks and then search by course. You can also try this link: <http://bookstore.umanitoba.ca/SelectTermDept>, then search by course. If you have difficulty, let me know. You can also go to the bookstore and purchase the physical (hard) copy directly from there. Before you go, give them a call to make sure they have the physical (hard) copy in stock.

Detailed Lecture Notes and other materials (e.g. SAS code, data sets) will be posted in UM Learn. I expect you to attend all the lectures so that you do not miss any information and you have a solid understanding of the course materials.

Supplementary References: Searle, S.R. *Linear Models*. Wiley, New York.
Rencher, A.C. and Schaalje, G.B. *Linear Models in Statistics*. 2nd Edition, Wiley-Interscience.

Statistical Software

SAS statistical software will be used to perform the statistical analysis throughout the course. You can have free access to SAS Studio with SAS OnDemand for Academics. This is a free cloud-based software for teaching and learning. No installation is required! After registering, you can start using SAS Studio in a web browser. Homepage of SAS OnDemand for Academics: https://www.sas.com/en_us/software/on-demand-for-academics.html Frequently Asked Questions can be found at: https://support.sas.com/ondemand/caq_new.html

Instructions for Getting Started are given in the SAS web site. Here are the steps:

Step 1: Create and verify a SAS profile (use this link: <https://www.sas.com/profile/ui/#/create>) if you don't have one. If you do have one, just log in.

Step 2: Register (use this link: <https://welcome.oda.sas.com/login>) for SAS OnDemand for Academics using your SAS profile credentials.

Step 3: Once you receive a confirmation email, click the link to go to SAS OnDemand for Academics.

Step 4: Log in to access SAS Studio.

After all the steps, for your convenience, make a bookmark at: <https://welcome.oda.sas.com/login>

Please watch this YouTube video on Getting Started with SAS OnDemand:
<https://www.youtube.com/watch?v=tmL8fdOd-pl>

I will give a demo in the class. Instructions will be given in the class. Data sets and SAS code will be posted in UM Learn.

Assignments, Midterm Test and Final Exam

Assignments: The assignments will be conducted using the **Crowdmark** software, an online grading tool. You need to create a Crowdmark account (if you don't have one) at the web site: <https://crowdmark.com/> using your U of M email. This email must be the same as you have in UM Learn. All assignments will be written by you on paper and then scanned (or taken a photo of your paper) and uploaded through a link you will be provided over email. Please make sure your scanned/photo pages are sharp and readable. I will provide the detailed information and instructions throughout the course.

There will be two assignments, each counting equally (15% each) toward your final grade. I will mention the tentative dates/weeks for the assignments. Assignments will include some theoretical problems and computing problems. The computing problems will involve some data analysis using SAS software. Whenever you answer a question using SAS, you must attach the output (highlight the appropriate sections and answer the questions using the output). Assignments are to be submitted to the Crowdmark link provided in your email by the due date and time. No late assignments will be accepted.

Approximate Due Dates:

Assignment 1: February 28. Assignment 2: March 31.

Midterm Test: There will be one in-class midterm test. The date for the test is March 14. If there is a change on this date, I will notify you well in advance. The syllabus for the midterm test will be the materials covered until March 7. There will be no make-up midterm test. Students who miss a test with legitimate reasons and notify me within 48 hours will have the midterm weight added to the final exam. Detailed instructions will be provided before the test.

Final Exam: The final exam will be of three hours in duration and will be scheduled by the Student Records Office. The final exam will cover the whole syllabus. Detailed instructions will be provided before the exam.

Both the midterm test and final exam are closed book. For both the test and exam, please note the following: (i) nonprogrammable handheld calculators are permitted (graphing calculators are not permitted), (ii) electronic devices, such as cell phones or headphones, are prohibited, (iii) statistical tables will be provided, if required.

Inappropriate collaboration, plagiarism, or contract cheating of any kind will be dealt with severely and forwarded to the appropriate disciplinary committee.

Course Evaluation and Grading Scheme

The final mark for the course will be obtained from the following rule:

Assignments (2): 30% (15% each)

Midterm Test: 30%

Final Exam: 40%

Work should normally be graded and returned promptly. It is expected to return the graded materials within two weeks of submission. Marks for the assignments and midterm test will be posted on UM Learn gradebook.

The following are the minimum percentage grades required to receive the final grades:
A+ (90%), A (80%), B+ (75%), B (70%), C+ (65%), C (60%), D (50%), F (below 50%).

Goals and Course Contents

The following is a non-exhaustive list of topics to be covered in the course. In the beginning, you will notice that we will be revisiting some topics in Linear/Matrix Algebra and Multivariate Statistics. Then we will start advanced topics. Our primary goal/objective will be to reinforce the fundamental concepts, and to have a solid understanding of Linear Models.

1. Introduction - Matrix Algebra (Chapter 1)

- Matrix Operations
- Eigenvalues, Eigenvectors, Rank and Trace
- Linear Dependence of Vectors
- Idempotent Matrices and Properties
- Orthogonal Matrices and Properties

2. Quadratic Forms and Their Distributions (Chapter 2)

- Quadratic Forms
- Differentiation of Quadratic Forms
- Expectation and Variance of Vectors and Matrices
- Distribution of Quadratic Forms
- Independence of Quadratic Forms

3. Estimation in the Full Rank Model (Chapter 3)

- Least Squares Estimation, Gauss-Markoff Theorem
- Maximum Likelihood Estimation
- Interval Estimation
- Joint Confidence Region on the Regression Coefficients
- Generalized Least Squares

4. Hypothesis Testing in the Full Rank Model (Chapter 4)

- Testing for Model Adequacy
- Testing for a sub-vector of the regression coefficients
- Partial and Sequential Tests
- The General Linear Hypothesis
- Likelihood Ratio Tests

5. Estimation in the Less Than Full Rank Model (Chapter 5)

- Model and Reparameterization
- Generalized Inverse and Properties
- Estimability of Parametric Functions, Gauss-Markoff Theorem
- Interval Estimation

6. Hypothesis Testing in the Less Than Full Rank Model (Chapter 6)

- Hypothesis Testing in a General Setting
- Reparameterization: One-Way Classification
- Testing for a Treatment Contrast
- Two-Way Analysis of Variance
- Randomized Complete Block Designs

If time permits, the following topic will be considered.

7. Analysis of Covariance (ANOCOVA) (Chapter 7)

Important Dates

The following dates are important to how the course will progress throughout the term. The dates are tentative and subject to change at my discretion and/or based on the learning needs of the students.

Jan. 10: First lecture - course overview.

Jan. 20: Last date to drop Winter term courses.

Mar. 14: Midterm test.

Feb. 21 – 24: Winter term break (no classes).

Mar. 22: Voluntary withdrawal (VW) deadline.

Apr. 11: Last lecture.

Apr. 14 – 28: Final exam period.

Academic Integrity

I expect students to hold themselves to the highest standards of 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, examination impersonation and typical penalties) can be found at:

https://www.umanitoba.ca/student/resource/student_advocacy/academicintegrity/students/a-to-i-what-is-academic-integrity.html

http://www.umanitoba.ca/student/resource/student_advocacy/academicintegrity/students/student-academic-misconduct-faq.html

<https://sci.umanitoba.ca/statement-on-academic-dishonesty/>

Academic Integrity Message from Associate Dean Krystyna Koczanski: <https://youtu.be/Ok-lilm4SeE>

I expect you to be honest, conduct yourself with integrity, actively encourage your peers to conduct themselves with integrity, and uphold the value of what a degree from the University of Manitoba means. When you are in doubt, always consult with me. My door is always open for discussions. Bear in mind that what is considered a violation of academic integrity can vary from course to course so it is always important to ask and clarify.

Copyrighted Material

Please respect copyright. We may use copyrighted content in this course and ensure that the contents are appropriately acknowledged according to copyright laws and university guidelines. The course notes, assignments, tests and exams are the intellectual property of your instructor or the Department of Statistics. Reproduction or distribution of these materials is strictly forbidden without their consent. You do not have permission to upload any course notes, tests, assignments, or handouts to any note sharing websites. See the university's copyright website at <http://umanitoba.ca/copyright>.

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.

Respectful Behaviour and Use of Electronics in the Classroom

It is expected that you conduct yourself professionally and do not distract your fellow students with unnecessary or inappropriate chat messages, sounds, or images while 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. Students should not engage in electronic messaging/posting activities (e-mail, texting, video or voice chat, social networking (e.g. Facebook) or electronic gaming during scheduled class time.

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. For more information, 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.

Student Accessibility Services

If you are a student with a disability, please contact Student Accessibility Services (SAS) for 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 illness, learning, medical, hearing, injury-related, visual) are invited to contact SAS to arrange a confidential consultation. For more information, please see: <https://umanitoba.ca/student-supports/accessibility>

ROASS Schedule A

Schedule A of the Responsibilities of Academic Staff with regards to Students (ROASS) policies of the University of Manitoba lists resources and policies for students. It is important that you familiarize yourself with these resources and policies. Schedule A will be posted in UM Learn.

Finally, I would like to repeat that our primary goal/objective will be to reinforce the fundamental concepts, and to have a solid understanding of linear models by the end of the course. Please feel free to ask me whenever you have problem understanding any of the materials. You can stop me anytime if you have questions during lectures. When you are in doubt on anything, please feel free to consult with me. Let us together make this course successful.

Please find some important information (Appendix for Course Syllabi) from the Faculty of Science in the following pages. In case, any link is missing, a separate pdf file is also posted in UM Learn. Some information may be repeated from the above.

Appendix For Winter 2023 Course Syllabi

How to succeed in your science courses?

The Faculty of Science is committed to delivering the high-quality education our students have come to expect. We also want to ensure that you set yourself up for success. We want you to succeed!

#1. Registration Revision Period: Use the [Registration Revision Period](#) to evaluate course syllabus. During the registration revision period you will be able to drop/add courses without any financial consequence. Speak directly with instructors if you have any questions specific to their course.

#2. Evaluate Workload: Take time to consider the workload associated with the course schedule you are planning. Be realistic about other commitments and distractions that are part of everyday life and make your course selection decisions accordingly. Please consider watching this presentation from the Academic Learning Centre for [Managing Your Time Effectively](#). If you want to discuss anything, talk to an Academic advisor in your faculty – [Academic advising](#).

#3. Commitment to Study: For an average course, you should aim to commit at least three hours of studying for every hour of lecture. Make sure you keep up with studying on a consistent basis.

#4. Reach Out for Help: If you experience issues learning the course material, reach out to your instructor, teaching assistants, supplemental instruction leaders or [Academic Learning Centre](#) for the course as soon as possible. Most content builds on previous content and deficiencies in understanding will cascade issues throughout the course. For questions about your degree program or if life stresses hinder your academic performance, contact your faculty's academic advisors immediately.

#5. Learn Efficiently, Learn to Take Notes: During the pandemic, many lectures were delivered asynchronously so students had a chance to review lecture videos when they did not catch something during the lecture. Lectures are delivered in-person this fall term therefore students will not have the luxury of rewatching a live lecture. Therefore, you may want to review some [note-taking tips](#) offered by the [Academic Learning Centre](#) which can help you learn efficiently.

University of Manitoba Policies

As a student at the University of Manitoba (UM) 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 UM website's [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](#) 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.

LEARNER SUPPORT

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](#).

Academic Advising

Contact an [Academic Advisor](#) for support with degree planning and questions about your academic program and regulations.

Academic Learning Centre (ALC)

The [Academic Learning Centre](#) 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 programming, supports, and services are free for UM students.

Make an appointment for [free one-to-one 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](#).

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.

Access the Academic Learning Centre's collection of [videos and tip sheets](#) 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.

University of Manitoba Libraries (UML)

Research begins at UM Libraries. Learn at the Libraries is a great place to start, with information for students on academic writing, how to search the library, evaluating resources, and writing citations. As the primary contact for all research needs, your liaison librarian can play a vital role when completing academic papers and assignments. Liaisons can answer questions about locating appropriate resources or managing citations, and will address any other concerns you may have regarding the research process. Liaisons can be contacted by email or phone, and are also available to meet with you online. When working remotely, students can also receive help online through Ask Us! chat. For further detail about the libraries' services and collections, visit the Libraries' web site.

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*
 - o [UM Housing](#)
 - o [Winnipeg Rental Network](#)
 - o [Manitoba Residential Tenancies Branch](#)
 - o [HOPE End Homelessness Winnipeg Services & Supports](#)
- *Food*
 - o [U of M Food Bank](#)
 - o [Food Matters Manitoba](#)

- *Finances*
 - o [UM Financial Aid and Awards](#)
 - o [Manitoba Student Aid](#)
- *Child Care*
 - o [UM Child Care](#)
 - o [Manitoba Child Care Subsidy](#)
 - o [Manitoba Child Care Association](#)

English Language Centre

The [English Language Centre \(ELC\)](#) 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 UM community.

HEALTH SUPPORT

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](#) website, and make note of several specific UM and community supports listed below.

MENTAL HEALTH SUPPORT

Winnipeg Urgent Physical and Mental Health Care

If you are an adult experiencing a mental health or psychosocial crisis, contact the [Klinik Community Health](#) 24/7 crisis line at 204-786-8686, visit the [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](#) 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 for a list of locations and current wait times.

Student Counselling Centre (SCC)

The [Student Counselling Centre](#) 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](#) webpage or the urgent care resources listed above if you require immediate support.

Visit the SCC's [Our Services](#) 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 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 UM 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](#) website.

Health and Wellness Educator <https://umanitoba.ca/student/health-wellness/welcome-about.html>
britt.harvey@umanitoba.ca

469 University Centre, Fort Garry Campus
 (204) 295-9032

Spiritual Care and Multifaith Centre

Spiritual care services are available to all, whether you identify as spiritual, atheist, religious or agnostic. [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](#) 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.

Student Support Intake Assistant <http://umanitoba.ca/student/case-manager/index.html>

520 University Centre, Fort Garry Campus

(204) 474-7423

University Health Service (UHS)

Contact UHS for any medical concerns, including mental health problems. UHS offers a full range of medical services to students, including psychiatric consultation.

University Health Service <http://umanitoba.ca/student/health/>

104 University Centre, Fort Garry Campus

(204) 474-8411 (Business hours or after hours/urgent calls)

Live Well @ UofM

For comprehensive information about the full range of health and wellness resources available on campus, visit the Live Well @ UofM site: <http://umanitoba.ca/student/livewell/index.html>

HEALTH AND SAFETY

The UM is committed to maintaining a safe learning environment for all students, faculty, and staff. Should campus operations change because of health concerns related to the COVID-19 pandemic or other campus-wide emergency, it is possible that this course will move to a fully remote delivery format. Should the instructor be required to stay at home for an extended period and an alternate instructor not be available, the course may move temporarily to a remote delivery format.

Mask Wearing

In a face-to-face environment, our commitment to safety requires students to observe all Covid guidelines set by the University (<https://umanitoba.ca/coronavirus>) While on campus and in class, you must wear masks as stipulated in current University policies, procedures, and guidelines. The University highly recommends the use of KN-95 masks; the minimum requirement is a ATSM Level 2 Medical mask. Both mask types are available at many locations on campus. Students who fail to comply are subject to disciplinary action in accordance with the [Student Discipline Bylaw](#) and the [Non-Academic Misconduct and Concerning Behaviour Procedure](#).

Instructors are told to follow the protocols specified in [COVID-19 information for staff, faculty, and researchers](#) for non-compliance with masking. Students should not eat or drink during class time.

Illness

Remember: STAY HOME IF YOU HAVE SYMPTOMS OR ARE ILL. If you become ill, we highly recommend that you [self-isolate](#); you should notify your instructor by email so you can develop a plan to complete the course learning outcomes while you are absent.

What to do if you become ill while at UM:

1. Leave the classroom, lab, or workspace immediately. Continue to wear your mask while leaving the premises and/or while waiting for transportation.

2. Perform hand hygiene (soap and water or hand sanitizer) and avoid contact with others and minimize contact with the physical environment.
3. Once at home, complete the [MB self-assessment](#) and follow the directions that are provided.
4. Inform your instructor(s) or, if in residence, the appropriate individual. The Instructor will discuss with you arrangements for extensions, deferrals or make-up assignments as required.
5. Please remain off-campus and all UM facilities until cleared to return in accordance with self-assessment, testing results, and UM recommended isolation procedures.

Recommended transportation options (in order):

1. Drive yourself home.
2. Pick-up by family or friend – remember to keep your mask on and to distance yourself as much as possible, and where possible, open a window to improve ventilation.
3. Pickup by taxi/Uber:
 - Remain masked and perform hand hygiene before entering the vehicle.
 - o Avoid touching the inside of the vehicle
 - o Keep your mask on for the duration of the ride
 - o Where possible, open a window to improve ventilation.
4. Winnipeg Transit buses – We recommend that you do not use Winnipeg Transit in this situation.

Sexual Violence Support and Education

Sexual violence affects people of all ages, sexual orientations, genders, gender identities, abilities and relationship statuses. At the UM, 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](#), 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.

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](#) 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 UM. Visit the [International Students](#) website for more information.

ACADEMIC ACCOMMODATIONS

Students who have, or think they may have, a disability (*e.g.*, mental illness, learning, medical, hearing, injury-related, visual) are encouraged to contact [Student Accessibility Services](#) to arrange a confidential consultation. Instructors are notified by Student Accessibility Services what accommodations their registered students require which will help the instructor determine fair, feasible and reasonable academic accommodations without compromising academic standards. This takes time and planning, so reach out at the start of term.

SAS students can write their exams and tests in spaces organized by the SAS Exam Centre however they must register with the SAS Exam Centre a few weeks in advance. Please be sure to do so to receive the accommodations.

Medical Notes and Other Documentation

The Self-Declaration for Brief and Temporary Absences Procedure and Policy is effective as of September 1, 2022 and therefore students will not be required to present medical or other documentation for absences due to extenuating circumstances of 120 hours or less, however [this form](#) must be completed and submitted to the instructor in lieu of

the documentation. Please note that further documentation may be requested from students who claim multiple temporary absences or absences for more than 120 hours.

Short-Term Academic Accommodations (up to 120 consecutive hours absences)

As we emerge from the pandemic, the University still has the health and safety of its community at top of mind. Since your classes are held in-person, please make sure you follow the [University's COVID-19 Health and Safety Protocols](#). Notably, exercise [good hand hygiene](#), [stay home if you are ill](#) and you must wear a [mask](#) when attending lecture/labs and on campus.

- Students who miss a lab or assessment due to an extenuating brief or temporary absence should complete a [self-declaration for brief and temporary student absences form](#) and submit it to their instructor **within 48 hours of the end of the brief absence**. The instructor will discuss with the student how the missed work can be made up.
- **Students absent for over 120 hours as a result of medical, compassionate, University scholastic, University athletic or religious event will require official documentation to explain the absence.** Students should reach out to instructors early if absences are anticipated.
- **Personal vacations and work requirements are not considered acceptable absences.**

Long-Term Academic Accommodations

Students with long-term academic accommodations are usually registered with [Student Accessibility Services](#). The long-term academic accommodations are usually to accommodate long term physical or mental illness and accommodations can be in the form of notetaking, interpreting, assistive technology, and assessment accommodations.

Final Exams

Students who have conflicting scheduled exams should contact their faculty's academic advisors as soon as possible. Students who miss their exam due to extenuating circumstances can apply for a deferred exam. Please note that the granting of a deferred exam is not necessarily guaranteed.

Missed Lecture Notes

Students missing lecture notes as a result of absences are responsible for obtaining the missed content on their own accord. Contact a classmate or the course instructor for their notes but please be aware the instructor is not obliged to create notes for students as a result of absences.

VOLUNTARY WITHDRAWAL (VW) POLICIES

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.

Students have the opportunity to voluntarily withdraw (VW) from this class up to March 22 ([in the event of date discrepancies, please follow the dates on the Important Dates and Deadlines webpage](#)). By then, you will have received feedback to allow you to assess your progress and determine if you are achieving the grade you are aiming for in this course. If you are unlikely to be successful in the course, or not achieving the grade that you are aiming for, you should consider a VW from the course. You should contact your instructor to review your progress in more detail, or you may discuss the VW option with a Faculty academic advisor.

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](#), includes more information on the different ways in which you can withdraw from a course and important dates and deadlines to do so.

PROFESSIONAL CONDUCT

Students in the University community can freely express their thoughts, opinions, and beliefs however they must observe the [Respectful Work and Learning Environment Policy](#) and treat each other, staff, and faculty with respect. Students who are alleged to have breached the Respectful Work and Learning Environment Policy will be investigated and disciplined according to the [Student Non-Academic Misconduct and Concerning Behaviour Procedure](#).

ACADEMIC INTEGRITY

Academic integrity is taking responsibility for and being honest with your work and respecting the work of others. Since you are a member of the university community, we want you to learn what that responsibility and honesty entails and how we respect the work of others.

The Faculty of Science continues to uphold high standards of academic integrity. We know that you, our students, support us in this and we count on every one of you to do your part. We expect all students to strictly adhere to instructions from their professors regarding what resources can and cannot be used for assessments, to follow other rules the professors wish to set, and to adhere to the academic conduct standards of the University and Faculty.

To aid professors in assuring that all forms of assessments have been administered fairly, the University will be electronically monitoring all tests, quizzes and examinations, included, but not limited to overseeing chatrooms, relevant predatory websites and, in so doing, we will analyze scholastic evidence of individual exams.

Students who transgress academic integrity rules will be investigated and disciplined (if justified) according to the [Student Discipline By-Law](#) and [Student Academic Misconduct Procedure](#).

The list of suggested minimum penalties assessed by the Faculty of Science for acts of academic dishonesty is available on the [Faculty of Science website](#).

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 provides copyright resources and support for all members of the UM community.

Please respect copyright. We will use copyrighted content in this course. No audio or video recording of the lectures is allowed in any format, openly or surreptitiously, in whole or in part without permission from the instructor. University guidelines state that copyrighted works, including those created by the course instructor, are made available for private study and research, and must not be distributed in any format without permission. Since it is illegal, do not upload copyrighted works to a learning management system (such as UM Learn), or any website, unless an exception to the Copyright Act applies or written permission has been confirmed.

For more information, see the University's Copyright Office website at <http://umanitoba.ca/copyright>.

YOUR RIGHTS AND RESPONSIBILITIES

As a student of the UM 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 [Academic Calendar](#) is one important source of information. View the sections of *University Policies and Procedures* and *General Academic Regulations*.

While all of the information contained in these two sections is important, the following information is highlighted.

- 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 website for more information including appeal deadline dates and the appeal form <http://umanitoba.ca/registrar/>
- You are expected to view the General Academic Regulation section within the Academic Calendar and specifically read the **Academic Integrity** regulation. Consult the course syllabus or ask your instructor for additional information about demonstrating academic integrity in your academic work. Visit the Academic Integrity Site for tools and support <http://umanitoba.ca/academicintegrity/> View the **Student Academic Misconduct** procedure for more information.
- 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 respectful manner. Policies governing behavior include the: [Respectful Work and Learning Environment](#), [Student Discipline](#) and, [Violent or Threatening Behaviour](#)
- If you experience **Sexual Assault** or know a member of the University community who has, it is important to know there is a policy that provides information about the supports available to those who disclose and outlines a process for reporting. The **Sexual Violence** policy may be found at: <https://umanitoba.ca/governance/governing-documents/governing-documents-university-community#sexual-violence>. More information and resources can be found by reviewing the Sexual Assault site <http://umanitoba.ca/student/sexual-assault/>

For information about rights and responsibilities regarding **Intellectual Property** view the policy:

https://umanitoba.ca/admin/governance/governing_documents/community/235.html

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 web site <http://umanitoba.ca/faculties/>

Contact an **Academic Advisor** within **YOUR** registered faculty/college or school for questions about your academic program and regulations <http://umanitoba.ca/academic-advisors/>

Student Advocacy

Contact Student Advocacy if you want to know more about your rights and responsibilities as a student, have questions about policies and procedures, and/or want support in dealing with academic or discipline concerns.

<http://umanitoba.ca/student/advocacy/>

520 University Centre

204 474 7423

student_advocacy@umanitoba.ca