



COURSE OUTLINE FOR REMOTE LEARNING

1. **Course:** MATH 311, Linear Methods II - Spring 2020

Lecture 01: MWF 10:00 - 11:50 - Online

Instructor	Email	Phone	Office	Hours
Dr Jerrod Smith	jerrod.smith@ucalgary.ca	403 220-6766	MS 442	Individual meetings via Zoom by appointment only (MWF 10:00 - 11:00 AM)

Remote Learning Supplemental Information:

Some aspects of this course are being offered in real-time via scheduled meeting times. For those aspects you are required to be online at the same time. Please refer to the details below for more complete information.

Remote Learning Details:

We will meet on Mondays and Wednesdays from 11:00 - 11:50 AM via Zoom for group discussions and question/answer sessions. Our Zoom meetings are accessible via D2L > Communication > Zoom > MATH 311 - Linear Methods II - Office Hour (Spring 2020). Visit <http://elearn.ucalgary.ca/zoom-d2l-student/> for more information about Zoom.

Problem solving and question/answer sessions hosted by our Teaching Assistants will be held on Zoom on Mondays and Wednesdays from 12:00 - 12:50 PM. Problem solving sessions are accessible via D2L > Communication > Zoom > MATH 311 - Linear Methods II - Problem Solving (Spring 2020).

Course content will be delivered via assigned readings from the course textbook, course notes, and videos posted on D2L. Each week, students will be able to work through this material at their own pace following schedules posted on D2L. Students will complete Top Hat questions (active learning exercises) at their own pace as they work through the course material.

Course Site:

D2L: MATH 311 L01-(Spring 2020)-Linear Methods II

Note: Students must use their U of C account for all course correspondence.

2. **Requisites:**

See section [3.5.C](#) in the Faculty of Science section of the online Calendar.

Prerequisite(s):

Mathematics 211 or 213.

Antirequisite(s):

Credit for Mathematics 311 and 313 will not be allowed.

3. **Grading:**

The University policy on grading and related matters is described in [F.1](#) and [F.2](#) of the online University Calendar. In determining the overall grade in the course the following weights will be used:

Component(s)	Weighting %	Dates
Quizzes (best 4 of 5)*	50 %	May 15, 22, 29, June 5 and 12
Lyryx Assignments	10 %	May 11, 19, 25, June 1, 8 and 17
Writing Assignments (D2L Discussion Boards)	10 %	May 13, 20, 27, June 3 and 10 (response posts due 24 hours after original post)
Top Hat (Active Learning)	10 %	At students pace (Deadline: June 17)
Final Exam	20 %	To be scheduled by the Registrar**

*Quizzes are designed to take 50 minutes, but we will give a 3 hour (180 minute) window in case of any technical issues. Quizzes (held on Fridays) will become available at 10:00AM and are due via D2L Dropbox, as a single PDF file, at 1:00 PM. Students with SAS accommodations should contact their instructor to discuss the time allowed. All other accommodations will be done on a case-by-case basis.

**For example, if the registrar schedules an exam from 2-4pm on June 20, 2020, the exam must be submitted no later than 4pm on June 20, 2020 to be graded. Students would have a 24 hour window prior to this submission time in which they may open and begin the exam.

Each piece of work (reports, assignments, quizzes, midterm exam(s) or final examination) submitted by the student will be assigned a grade. The student's grade for each component listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade.

The conversion between a percentage grade and letter grade is as follows.

	A+	A	A-	B+	B	B-	C+	C	C-	D+	D
Minimum % Required	95 %	90 %	85 %	80%	76%	72 %	68 %	64%	60%	55 %	50 %

4. Missed Components Of Term Work:

The university has suspended the requirement for students to provide evidence for absences. Please do not attend medical clinics for medical notes or Commissioners for Oaths for statutory declarations.

In the event that a student legitimately fails to submit any online assessment on time (e.g. due to illness etc...), please contact the course coordinator to arrange for a re-adjustment of a submission date. Absences not reported within 48 hours will not be accommodated. If an excused absence is approved, then the percentage weight of the legitimately missed assignment could also be pro-rated among the components of the course.

5. Scheduled Out-of-Class Activities:

There are no scheduled out of class activities for this course.

6. Course Materials:

Required Textbook(s):

W. K. Nicholson, *Linear Algebra with Applications*. Open text available through Lyryx or https://lila1.lyryx.com/textbooks/OPEN_LAWA_1/marketing/Nicholson-OpenLAWA-2019A.pdf.

Recommended Textbook(s):

Richard Hammack, *Book of Proof*. Richard Hammack, available at <https://www.people.vcu.edu/~rhammack/BookOfProof/>.

We will be using the Lyryx system for online assignment purposes, offering formative online assessment in an effort to support student learning. The student license is normally \$39.95+GST payable upon registration on the Lyryx system. While computer labs for free access remain inaccessible during the COVID-19 restrictions, Lyryx is pleased to provide free individual licenses to students who can make the case of severe financial needs with their instructors.

7. Examination Policy:

Students will have a 3 hour period during which they may complete quizzes and a 24 our period for the exam prior to uploading their completed assessment to the appropriate D2L Dropbox folder.

Students must submit quizzes and examinations as single PDF files. This may be done by:

- Printing a copy of the exam, writing on the exam pages, and scanning your solutions (with a scanner or smartphone application).
- Using a tablet app to write your exam on a copy of the exam pages.
- Alternatively, if you are unable to print and do not have access to a tablet, then you may complete the exam on 8.5" by 11" paper and then scanning your solutions.

Students are expected to complete all quizzes and examinations independently.

No aids are allowed on quizzes, tests and examinations. This includes but is not limited to calculators, course content material posted on D2L, online calculators (e.g., WolframAlpha, Symbolab, etc.).

Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity. Members of our campus community are required to abide by our institutional code of conduct and promote academic integrity in upholding the University of Calgary's reputation of excellence.

Students should also read the Calendar, [Section G](#), on Examinations.

8. Approved Mandatory And Optional Course Supplemental Fees:

There are no mandatory or optional course supplemental fees for this course.

9. Writing Across The Curriculum Statement:

For all components of the course, in any written work, the quality of the student's writing (language, spelling, grammar, presentation etc.) can be a factor in the evaluation of the work. See also Section [E.2](#) of the University Calendar.

10. Human Studies Statement:

If you agree, your course work may be used for research purposes. Your responses will remain anonymous and confidential. Grouped data (no individual responses) may be used in academic presentations and publications. Participation in such research is voluntary and will not influence grades in this course. Students' signed consent forms will be withheld from instructors until after final grades are submitted. More information will be provided at the time student participation is requested.

See also [Section E.5](#) of the University Calendar.

11. Reappraisal Of Grades:

A student wishing a reappraisal, should first attempt to review the graded work with the Course coordinator/instructor or department offering the course. Students with sufficient academic grounds may request a reappraisal. Non-academic grounds are not relevant for grade reappraisals. Students should be aware that the grade being reappraised may be raised, lowered or remain the same. See [Section I.3](#) of the University Calendar.

- Term Work:** The student should present their rationale as effectively and as fully as possible to the Course coordinator/instructor within **ten business days** of either being notified about the mark, or of the item's return to the class. If the student is not satisfied with the outcome, the student shall submit the Reappraisal of Graded Term work form to the department in which the course is offered within 2 business days of receiving the decision from the instructor. The Department will arrange for a reappraisal of the work within the next ten business days. The reappraisal will only be considered if the student provides a detailed rationale that outlines where and for what reason an error is suspected. See sections [I.1](#) and [I.2](#) of the University Calendar
- Final Exam:** The student shall submit the request to Enrolment Services. See [Section I.3](#) of the University Calendar.

12. Other Important Information For Students:

- Mental Health** The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the mental health resources available throughout the university community, such as counselling, self-help resources, peer support or skills-building available through the SU

Wellness Centre (Room 370, MacEwan Student Centre, [Mental Health Services Website](#)) and the Campus Mental Health Strategy website ([Mental Health](#)).

- b. **SU Wellness Center:** For more information, see www.ucalgary.ca/wellnesscentre or call [403-210-9355](tel:403-210-9355).
- c. **Sexual Violence:** The Sexual Violence Support Advocate, Carla Bertsch, can provide confidential support and information regarding sexual violence to all members of the university community. Carla can be reached by email (svsa@ucalgary.ca) or phone at [403-220-2208](tel:403-220-2208). The complete University of Calgary policy on sexual violence can be viewed at (<https://www.ucalgary.ca/policies/files/policies/sexual-violence-policy.pdf>)
- d. **Misconduct:** Academic misconduct (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the University Calendar under [Section K](#). Student Misconduct to inform yourself of definitions, processes and penalties. Examples of academic misconduct may include: submitting or presenting work as if it were the student's own work when it is not; submitting or presenting work in one course which has also been submitted in another course without the instructor's permission; collaborating in whole or in part without prior agreement of the instructor; borrowing experimental values from others without the instructor's approval; falsification/ fabrication of experimental values in a report. **These are only examples.**
- e. **Academic Accommodation Policy:** Students needing an accommodation because of a disability or medical condition should contact Student Accessibility Services in accordance with the procedure for accommodations for students with disabilities available at [procedure-for-accommodations-for-students-with-disabilities.pdf](#).
- Students needing an accommodation in relation to their coursework or to fulfill requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to the Associate Head of the Department of Mathematics & Statistics, Mark Bauer by email bauerm@ucalgary.ca or phone 403-220-4189. Religious accommodation requests relating to class, test or exam scheduling or absences must be submitted no later than **14 days** prior to the date in question. See [Section E.4](#) of the University Calendar.
- f. **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIP). Students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information, see [Legal Services](#) website.
- g. **Student Union Information:** [VP Academic](#), Phone: [403-220-3911](tel:403-220-3911) Email: suvpaca@ucalgary.ca. SU Faculty Rep., Phone: [403-220-3913](tel:403-220-3913) Email: sciencerep@su.ucalgary.ca. [Student Ombudsman](#), Email: ombuds@ucalgary.ca.
- h. **Surveys:** At the University of Calgary, feedback through the Universal Student Ratings of Instruction ([USRI](#)) survey and the Faculty of Science Teaching Feedback form provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses. Your responses make a difference - please participate in these surveys.
- i. **Copyright of Course Materials:** All course materials (including those posted on the course D2L site, a course website, or used in any teaching activity such as (but not limited to) examinations, quizzes, assignments, laboratory manuals, lecture slides or lecture materials and other course notes) are protected by law. These materials are for the sole use of students registered in this course and must not be redistributed. Sharing these materials with anyone else would be a breach of the terms and conditions governing student access to D2L, as well as a violation of the copyright in these materials, and may be pursued as a case of student academic or [non-academic misconduct](#), in addition to any other remedies available at law.

Course Outcomes:

- Explore the relationship between key linear algebra concepts and their geometric representation.
- Seek to apply linear algebra techniques to a variety of practical problems.
- Read and create proofs of mathematical statements about topics covered in the course.
- State all of the technical definitions covered in the course (such as a vector space, span, independence, dimension, linear transformation, kernel, image, and other terms)
- State all of the relevant theorems covered in the course
- Use these definitions and theorems from memory to construct solutions to problems and/or proofs.

- Verify that an abstract mathematical object satisfies a given definition, or is a counterexample
- Analyze a finite dimensional vector space and its properties, including the basis structure of vector spaces
- Understand the concept of a linear transformation as a map from one vector space to another, and to be able to construct such maps given a basis of the domain
- Use the Gram-Schmidt process to produce an orthonormal basis

Electronically Approved - Apr 30 2020 12:46

Department Approval

Electronically Approved - May 11 2020 19:43

Associate Dean's Approval for arrangements for remote learning and alternate final examination