

[Send To Printer](#) | [Close Window](#)

Course Outline

Course title: Linear Algebra I

Course code: MATH 1600A SU20

Course format: Online only

Instructor: Avi Steiner

Instructor email: asteine9@uwo.ca

Online office hours: Mondays 10am - 11am EDT
Tuesdays 9pm - 10pm EDT

Textbook: [WebAssign IAC for Linear ALG MODRN INTRO](#) (See the Online Homework section of the Course Information tab before purchasing)

Online Office Hours

During online office hours, either the instructor or a teaching assistant will be actively monitoring the forums and responding to questions there.

Teaching Assistants

Each week, one teaching assistant will have online office hours. The times of these office hours are Wednesdays 9pm - 10pm EDT and Fridays 10am - 11am EDT.

- Marios Velivasakis
Email: mvelivas@uwo.ca
- Mohabat Tarkeshian
Email: mtarkesh@uwo.ca
- Andrew Herring
Email: aherrin6@uwo.ca
- Luis Scoccola
Email: lscoccol@uwo.ca

Lab Sections

Lab sections are only relevant for the Solve and Critique assignments—each student will only be asked to critique the work of others in their section.

Prerequisites

One or more of Ontario Secondary School MCV4U, Mathematics 1229A/B, Calculus 1000A/B or 1500A/B, the former Calculus 1100A/B. Calculus 1000A/B or 1500A/B may be taken as a pre- or corequisite.

Antirequisites

Applied Mathematics 1411A/B, 2811B, the former Linear Algebra 1600A/B.

Course Description

Linear algebra is one of the most important tools in modern mathematics and has applications in nearly every branch of science. This course is meant to be an introduction to the topic, focusing on matrices and on subspaces of real n -dimensional space. The more abstract topics of vector spaces and linear transformations are covered in later linear algebra courses.

Course Learning Outcomes

By the end of this course, students will be able to do the following:

- Compute with and recognize properties of particular matrices.
- Formulate, solve, apply, and interpret properties of linear systems.
- Recognize and use basic properties of subspaces of n -dimensional space.
- Determine a basis and the dimension of a subspace of n -dimensional space.
- Find the eigenvalues and eigenvectors of a matrix, and use them to get a matrix with those.
- Use equivalent forms to identify matrices and solve linear systems.
- Use equivalent statements regarding invertible matrices, pivot positions, and solutions of homogeneous systems.
- Persist and work through perceived failure in solving linear algebra problems.
- Construct examples and counterexamples to investigate and understand new linear algebra definitions and theorems.

Evaluation

| | |
|--------------------|-----|
| Online Homework | 15% |
| Reflections | 25% |
| Solve and Critique | 30% |
| Final Exam | 30% |

Online Homework

Online homework is through WebAssign.

Reflections

There will be four projects focused on reflections. Three will be about persistence in problem solving, and one will be about how linear algebra is used in the real world.

Solve and Critique

There will be three projects in which students will be asked both to solve various linear algebra problems and critique the solutions produced by their peers.

Final Exam

The final exam will be open book and open note and will be conducted using the remote proctoring service Proctortrack. Therefore, completion of this course will require you to have a device that meets the requirements at <https://www.proctortrack.com/tech-requirements/>.

By taking this course, you are consenting to the use of this software and to be monitored during tests and examinations. Furthermore, you are declaring that you have a reliable internet connection with sufficient capacity to support video proctoring.

Policy on Late/Missed Work

If you are unable to meet a course requirement due to illness or other serious circumstances, you must seek approval for the absence as soon as possible. During the COVID-19 pandemic, medical notes are not required. Medical absence can be reported through the Student Illness Reporting Tool at https://www.registrar.uwo.ca/academics/academic_considerations/index.html.

If this portal is not available (i.e., if the COVID-19 pandemic has lifted before the end of the course), or if you have missed (or will be missing coursework) for a non-medical reason beyond your control, approval can be granted either through a Self-reported Absence (if the portal is available) or via the Dean's Office/Academic Counselling unit of your Home Faculty. Non-medical reasons must be accompanied by supporting documentation. If you are a Science student, contact information for the Academic Counselling Office for the Faculty of Science is available at <https://www.uwo.ca/sci/counselling>.

In all cases, you must contact the instructor as soon as possible, and no later than 24 hours after the period covered, to clarify how you will be expected to fulfil the academic expectations you have missed (unless other instructions are indicated in this Course Outline). For further information, please consult the University's policy on academic consideration for student absences: https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_illness.pdf.

If you miss the Final Exam, please contact your faculty's Academic Counselling Office as soon as you are able to do so. They will assess your eligibility to write the Special Exam (the name given by the university to a makeup Final Exam).

Statement on Academic Offences

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following website:

http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf.

Support Services

Students who are in emotional/mental distress should refer to Mental Health@Western <http://www.uwo.ca/uwocom/mentalhealth/> for a complete list of options about how to obtain help.

Potential Changes to This Outline

Due to the ongoing pandemic situation, it may be necessary to make changes to this outline. Any such changes will be made in accordance with any official Western University, Faculty of Science, or Department of Mathematics guidelines.