

DEPARTMENT OF MATHEMATICS
THE UNIVERSITY OF WESTERN ONTARIO

Mathematics 1600B
Linear Algebra
January-April 2018

INSTRUCTOR INFO:

SECTION 001: Dr. Allen O'Hara, aohara@uwo.ca

SECTION 002: Prof. Nicole Lemire, nlemire@uwo.ca

Use your UWO email address when sending an email to the instructor.

LECTURE/TUTORIAL INFO:

LEC 001, MWF 12:30-1:30pm, in SEB-2200.

LEC 002, MWF 11:30am-12:30pm, 3M-3250.

LAB 003, Th 1:30-2:30pm, HSB-13.

LAB 004, Th 12:30-1:30pm, SSC-1032.

LAB 005, Th 2:30-3:30pm, HSB-14.

LAB 006, Th 10:30-11:30am, NCB-105.

LAB 007, W 4:30-5:30pm, HSB-16.

LAB 008, W 1:30-2:30pm, SSC-1032.

LAB 009, W 5:30-6:30pm, NCB-105.

You are required to attend the tutorial (LAB) for which you are registered.

REQUIRED MATERIALS:

Textbook: UWO Custom Edition of Linear Algebra: A Modern Introduction, by David Poole.

Available at the UWO bookstore. The solutions manual is optional.

Electronic resource: Maple TA

Information about how to purchase and use Maple TA will be available on OWL.

Maple TA is required for the lab component, giving you access to quizzes and problem sets.

PREREQUISITES: One or more of Ontario Secondary School MCV4U, Math 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 Math 1411A/B, 2811B.

COURSE DESCRIPTION: Properties and applications of vectors; matrix algebra; solving systems of linear equations; determinants; vector spaces; orthogonality; eigenvalues and eigenvectors.

See the suggested exercises for more information about what is covered.

COURSE WEBSITE: All students are responsible to be aware of information, assignments, materials and grades posted at the OWL course site: <https://owl.uwo.ca/portal>.

WHAT IS EXPECTED OF THE STUDENT: Students should attend all classes, make a serious effort to understand all course material and do all the assigned work. The student must assume responsibility for any missed classes. It is up to the student to seek out help when needed. The student is responsible for being aware of all relevant information posted on the course website.

EVALUATION OF STUDENT PERFORMANCE:

Final Exam: (50%) *cumulative, to be scheduled by the Registrar's Office.*

Midterm Exam: (30%) To be scheduled.

Quizzes: (15%) Quizzes during tutorial, through Maple TA.

There will be up to 10 quizzes. Your lowest score will be dropped.

Problem Sets: (5%) Problem sets through Maple TA.

There will be up to 6 problem sets.

Notes: Electronic devices (including cell phones, ipods and calculators) are allowed on exams and may be confiscated. On quizzes, you are only allowed access to Maple TA, no other calculators or aids permitted.

See Absence/Missed work policy below.

SENATE POLICY ON PREREQUISITES:

Prerequisite checking is the student's responsibility. Unless you have either the prerequisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

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/scholastic_discipline_undergrad.pdf.

ABSENCE/MISSED WORK:

If you are unable to meet a course requirement due to illness or other serious circumstances, you must provide valid medical or other supporting documentation *to your Dean's office as soon as possible* and contact *your instructor immediately*. It is the student's responsibility to make alternative arrangements with his or her instructor once the accommodation has been approved and the instructor has been informed. In the event of a missed final exam, a "Recommendation of Special Examination" form must be obtained from the Dean's Office immediately. For further information concerning UWO's Policy on Accommodation for Medical Illness please refer to this policy at:

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

A student requiring academic accommodation due to illness should use the Student Medical Certificate when visiting an off-campus medical facility or request a Record's Release Form (located in the Dean's Office) for visits to Student Health Services. The form can be found here:

https://studentservices.uwo.ca/secure/medical_document.pdf

Quizzes will take place at your scheduled tutorial time. There will be *no makeups for quizzes or problem sets*. Remember that the lowest quiz grade is dropped, to take into account absences for

unforeseen reasons. If you have a conflict with the final exam, let your instructor know at least **two weeks in advance** so alternative arrangements can be made.

A makeup will be held for both the midterm and final exams. Only students with prior permission from their instructor will be allowed to write the makeup for a midterm. Only students with a Recommendation for Special Exam form from their Dean's Office will be allowed to write a makeup for the Final Exam. If a student is unable to write the makeup for the midterm due to a documented prolonged or recurring absence or other legitimate conflict, the instructor may consider rescheduling or reweighting that component of the grade.

ACCESSIBILITY:

Please contact the instructor if you require material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 661-2111 x82147 for any specific question regarding an accommodation.

SUPPPORT SERVICES:

- (1) Office of the Registrar: <http://www.registrar.uwo.ca>
- (2) Student Development Services: <http://www.sdc.uwo.ca>
- (3) Learning Skills Services: <http://www.sdc.uwo.ca/learning>
- (4) USC: <http://westernusc.ca/services>
- (5) Academic Calendar: <http://www.westerncalendar.uwo.ca>
- (6) ITS: <http://www.uwo.ca/its/helpdesk>
- (7) Students who are in emotional/mental distress should refer to Mental Health@Western http://www.health.uwo.ca/mental_health for a complete list of options about how to obtain help.

SUGGESTED EXERCISES:

Section	Exercises
1.1	1-13 odd, 17, 21, 29, 33, 39, 43, 53, 55
1.2	3, 9, 15, 17, 25, 33, 35, 41, 43, 47, 49, 66
1.3	1-15 odd, 19-23 odd, 27-29, 31, 33
2.1	1, 3, 9-17 odd, 21, 23, 29, 31, 37, 43
2.2	5-11 odd, 15, 21, 23, 29-37 odd, 41, 45, 47, 49, 55, 57
2.3	1, 5, 9, 15, 19, 23-29 odd, 33-37 odd
3.1	1, 7, 9, 13-17 odd, 21, 31-35 odd, 38a, 39
3.2	3-7 odd, 13, 15, 23, 27
3.3	1, 3, 9-15 odd, 21, 25, 27, 31-35 odd, 39, 43, 53-57 odd, 61, 63
3.5	3, 7, 11, 15, 19, 23, 29, 31, 37-41 odd, 45, 49, 51, 55
3.6	20, 22, 24, 36, 38
4.1	5, 7, 11, 13, 21, 23, 27, 29, 37
4.2	8-14 even, 38, 46-50 even
4.3	1-11 odd, 15, 19, 23, 40
4.4	1, 3, 7, 9-15, 19, 21, 25, 39
5.1	3-9 odd, 13-21 odd, 29, 31
5.2	1-13 odd, 17, 21
5.3	1-13 odd
5.4	3, 5, 9, 13, 17, 21, 23
8.1	1-13 odd, 17, 21
App. C	3, 5, 9, 13, 17, 21

Notes:

- (1) Section and Problem numbers refer to the UWO custom edition of Poole's Linear Algebra textbook.
- (2) Any changes to this list will be announced on the course website.