

THE UNIVERSITY OF WESTERN ONTARIO
DEPARTMENT OF MATHEMATICS

Mathematics 1229A
Methods of Matrix Algebra

September - December 2010

INSTRUCTORS: (*Course Coordinator: V. Olds*)

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TEXTBOOK:

Elementary Linear Algebra, First Canadian Edition by S. Venit, W. Bishop and J. Brown,
published by Nelson Education Ltd., ISBN-13: 978-0-17-644076-3.

PREREQUISITES:

One or more of Ontario Secondary School MCF3M, MCR3U, or equivalent.

ANTIREQUISITES:

Applied Mathematics 1411 A/B, 2811B, Mathematics 1600A/B, 2120A/B, 2155A, 2211B, the former
Mathematics 030, 031, 203b.

COURSE OUTLINE:

Vectors in \mathbb{R}^m ; Equations of lines and planes; Matrix Algebra; Multiplication and Inverses; Linear Equations;
Determinants.

COURSE WEB SITE:

The course web site is in WebCT. Various supplemental materials, such as required extra homework problems,
practice tests and solutions to the homework exercises, are posted on the web site. In addition, there are
discussion boards on which students may post questions. All students are expected to be aware of information,
and make use of materials, posted on the course web site. Students must ensure they are using a computer which
is appropriately set up for WebCT.

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
homework. The student must assume responsibility for any missed classes. It is up to the student to seek out help
when needed.

**Please contact the course 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.**

EVALUATION OF STUDENT PERFORMANCE:

The 2 Term Tests, each 90 minutes in length, will be held on:

Thursday October 7 2010, 7:00 - 8:30 p.m. and **Friday November 5 2010**, 7:00 - 8:30 p.m.

Locations of these tests will be announced. Each of these Term Tests will count for 25% of the student's Final Grade.

The Final Exam will be 3 hours in length, covering all of the course material, and will count for 50%. This exam will be scheduled by the Registrar's Office during the December Exam Period.

Notes:

1. The Tests and Examination will all have some multiple choice questions and some written answer questions.
2. **Calculators are not allowed on tests and exams.**

SENATE POLICY ON PREREQUISITES:

Students are responsible for ensuring that their selection of courses is appropriate and accurately recorded and that all course prerequisites have been successfully completed. If the student does not have the requisites for a course, and does not have written special permission from his or her Dean to enroll in the course, the student may be removed from the course and it will be deleted from the student's record. This decision may not be appealed. A student will receive no adjustment to his or her fees in the event that he or she is 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 Web site:

<http://www.uwo.ca/univsec/handbook/appeals/scholoff.pdf>

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

MEDICAL EXCUSE REGULATIONS:

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 the 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 please see: <http://www.uwo.ca/univsec/handbook/appeals/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

Mathematics 1229A - Suggested Exercises - Fall 2010

Section	Page	Problems
§1.1	11	1 - 27, 37.
§1.2	20	1 - 9, 13 - 23, 34.
§1.3	29	1 - 21, 25, 27, 29.
		Extra Chapter 1 Problem Sheet.
§2.1	48	1 - 13, 16 - 25.
§2.2	55	1 - 15.
§2.3	69	1 - 17, 19, 21, 23 - 26, 37.
§2.2	56	19 - 24 (use Gauss-Jordan).
§3.1	96	1 - 14, 17 - 27, 35 - 38.
§3.2	107	1 - 7, 9 - 19, 21, 23, 25, 30 - 33.
§3.3	116	1 - 6, 9 - 21.
§4.1	151	1 - 22, 27 - 29, 34.
§4.2	163	1 - 19, 25, 26.
§4.3	172	1, 3, 5, 7, 9, 11, 13.

Notes:

- Page numbers and text references refer to the Venit, Bishop and Brown textbook (1st ed.).
- Any changes to this list will be announced on the NEWS and/or Homework discussion boards.
- Answers to all assigned questions, and complete solutions for many, are posted on the course web site.

Appendix to Course Outlines

Prerequisite Information

Students are responsible for ensuring that they have successfully completed all course prerequisites. Unless you have either the requisites for this course or written special permission from your Dean to enrol 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.

Conduct of Students in Classes, Lectures, and Seminars

Membership in the community of Huron University College and the University of Western Ontario implies acceptance by every student of the principle of respect for the rights, responsibilities, dignity and well-being of others and a readiness to support an environment conducive to the intellectual and personal growth of all who study, work and live within it. Upon registration, students assume the responsibilities that such registration entails. The academic and social privileges granted to each student are conditional upon the fulfillment of these responsibilities. In the classroom, students are expected to behave in a manner that supports the learning environment of others. Students can avoid any unnecessary disruption of the class by arriving in sufficient time to be seated and ready for the start of the class, by remaining silent while the professor is speaking or another student has the floor, and by taking care of personal needs prior to the start of class. If a student is late, or knows that he/she will have to leave class early, be courteous: sit in an aisle seat and enter and leave quietly.

Please see the *Code of Student Rights and Responsibilities* at:

http://www.huronuc.ca/students/student_life/student_policies

Technology

It is not appropriate to use technology (such as, but not limited to, laptops, PDAs, cell phones) in the classroom for non-classroom activities. Such activity is disruptive and is distracting to other students and to the instructor, and can inhibit learning. Students are expected to respect the classroom environment and to refrain from inappropriate use of technology and other electronic devices in class.

Academic Accommodation for Medical/Non-Medical Grounds

For UWO Policy on Accommodation for Medical Illness and a downloadable SMC see:

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

[downloadable Student Medical Certificate (SMC): <https://studentservices.uwo.ca> under the Medical Documentation heading]

Students seeking academic accommodation on medical grounds for any missed tests, exams, participation components and/or assignments worth 10% or more of their final grade must apply to the Academic Counselling office of their home Faculty and provide documentation. Academic accommodation will be determined by the Dean's Office in consultation with the instructor.

For non-medical grounds or for medical grounds when work represents less than 10% of the overall grade for the course, students seeking academic accommodation must apply to the

Academic Counselling office of their home Faculty and provide documentation. Academic accommodation will be determined by the Dean's Office in consultation with the instructor.

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 Web site:

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

Plagiarism

Plagiarism is an academic offence and will be treated as such. Students who are in doubt as to the nature of this offence should consult their instructor, Department Chair or the Dean, as well as the Huron University College Statement on Plagiarism, available at the reference desk in the HUC Library and at <http://www.huronuc.ca/library/Citing/>. In addition, students may seek guidance from a variety of current style manuals available at the Reference Desk in the HUC Library. Information about these resources can be found in LibGuides on the main page:

<http://www.huronuc.ca/library>.

Students found guilty of plagiarism will suffer consequences ranging from a grade reduction to failure in the course to expulsion from the university. In addition, a formal letter documenting the offence will be filed in the Dean's Office, and this record of the offence will be retained in the Dean's Office for the duration of the student's academic career at Huron University College.

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com.

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

Personal Response Systems ("clickers") may be used in some classes. If clickers are to be used in a class, it is the responsibility of the student to ensure that the device is activated and functional. Students must see their instructor if they have any concerns about whether the clicker is malfunctioning. Students must use only their own clicker. If clicker records are used to compute a portion of the course grade:

- the use of somebody else's clicker in class constitutes a scholastic offence,
- the possession of a clicker belonging to another student will be interpreted as an attempt to commit a scholastic offence.

Policy on Special Needs

Students who require special accommodation for tests and/or other course components must make the appropriate arrangements with the Student Development Centre (SDC). Further details

concerning policies and procedures may be found at:

http://www.sdc.uwo.ca/ssd/?requesting_acc

Attendance Regulations for Examinations

A student is entitled to be examined in courses in which registration is maintained, subject to the following limitations:

- 1) A student may be debarred from writing the final examination for failure to maintain satisfactory academic standing throughout the year.
- 2) Any student who, in the opinion of the instructor, is absent too frequently from class or laboratory periods in any course will be reported to the Dean of the Faculty offering the course (after due warning has been given). On the recommendation of the Department concerned, and with the permission of the Dean of that Faculty, the student will be debarred from taking the regular examination in the course. The Dean of the Faculty offering the course will communicate that decision to the Dean of the Faculty of registration.

Class Cancellations

In the event of a cancellation of class, every effort will be made to post that information on the Huron website.

Accessibility

Huron University College strives at all times to provide its goods and services in a way that respects the dignity and independence of people with disabilities. We are also committed to giving people with disabilities the same opportunity to access our goods and services and allowing them to benefit from the same services, in the same place as, and in a similar way to, other customers. We welcome your feedback about accessibility at Huron. Information about how to provide feedback is available at: <http://www.huronuc.ca/accessibility>

Program and Academic Counselling

Mathematics students registered at Huron who require advice about modules and courses should contact Dean Blagrave, mblagrav@huron.uwo.ca. Students should contact Debbie Chadwick or Kent Robinson, Academic Counsellor on other academic matters. See the Academic Counselling website for information on services offered.

http://www.huronuc.ca/students/service_centre/academic_counselling/