

# **MATH 3107A [0.5 Credit] Linear Algebra III Winter 2022**

## **Basic Information:**

<u>Class Schedule:</u>	Pre-recorded Asynchronous videos posted in Brightspace (At least until Jan 28). There may be additional in-person activities afterwards dependent on in the direction of the university and public health.
<u>Tutorial Schedule:</u>	Mondays: 17:35-18:25 Tutorials will start on Jan 24 as Online Synchronous, but may convert to in-person depending on the direction of the university and public health.
<u>Course Instructor:</u>	Kyle Harvey
<u>Email:</u>	<a href="mailto:kyle.harvey@carleton.ca">kyle.harvey@carleton.ca</a>
<u>Course Webpage:</u>	All course material will be made available through Brightspace. Please check Brightspace regularly for updates on the course.

## **Course Information:**

<u>Prerequisites:</u>	MATH 1102, MATH 2107, or MATH 2152 with a grade of C- or higher; and MATH 1002, MATH 2007, or MATH 2052; or permission of the School.
<u>Textbook:</u>	A free textbook resource that I will be referring to will be found here: <a href="https://link-springer-com.proxy.library.carleton.ca/book/10.1007%2F978-0-387-48947-6">https://link-springer-com.proxy.library.carleton.ca/book/10.1007%2F978-0-387-48947-6</a>
<u>Course Overview:</u>	Similarity and unitary triangularization of matrices. Direct methods of solving a system of linear equations. Iterative techniques. Bounds for eigenvalues. Power method and deflation techniques of approximation. Emphasis is primarily on computational aspects.
<u>Classes</u>	All lectures will have pre-recorded videos with corresponding Powerpoint Presentations posted on Brightspace. It is highly recommended that you print the slides or have them available through other means to use in conjugation with the watching the videos. If the university and public health deem it safe to return to an in-person classroom setting, then I will send more information on the in-persona activities.
<u>Calculators:</u>	You are permitted to use a scientific calculator throughout the course. It is also recommended that you utilize an online RREF calculator online (which will be permitted on all assignments). <a href="https://www.symbolab.com/">https://www.symbolab.com/</a>
<u>Additional Practice:</u>	Additional practice will be posted for each lecture. It is important to practice the materials regularly to best prepare for the assignments and the final exam. The additional practice will not be graded.
<u>Tutorials</u>	The tutorial time will have the TA go through selected practice questions. It will be a good time to ask questions related to the course materials as they are presented to you in the tutorial.

## **Assessment:**

**Assignments (45%):** There will be three (3) assignments to be submitted online via Brightspace. Each assignment will be weighted 15%. The breakdown of the assignments is given below:

Assignment 1 will be posted on Friday Jan 28 and due on Tuesday Feb 15 at 11:59pm.  
Assignment 2 will be posted on Friday Feb 18 and due on Tuesday Mar 15 at 11:59pm.  
Assignment 3 will be posted on Friday Mar 18 and due on Tuesday Apr 5 at 11:59pm.

**Quizzes (5%):** There will be eleven (11) quizzes once per week starting on Jan 14. Quizzes will be posted on Fridays at 12:01 am and will close on Sundays at 11:59pm. You will have the full week to complete the quiz, and you will have unlimited attempts on each quiz. The purpose of the quizzes is to ensure you are keeping up with the lecture materials each week and to be able to explain/understand why the idea makes sense.

**Final Exam (50%):** The final exam will be a three-hour exam with the day and time set by the university. If permitted by the guidance of the university and public health, this will be an in-person exam. However, if it is deemed unsafe to do an in-person exam, then the exam will be converted to an online exam. More details will be provided as we get closer to the exam period.

## **Policies:**

### **Academic Integrity:**

Be sure that you know that academic integrity standards at Carleton which can be found [here](#).

### **Academic Accommodation:**

You may need special arrangements to meet your academic obligations during the term. For an accommodation request the processes are as follows:

**Pregnancy obligation:** write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details see the [Student Guide](#)

**Religious obligation:** write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details see the [Student Guide](#)

**Academic Accommodations for Students with Disabilities:** The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or [pmc@carleton.ca](mailto:pmc@carleton.ca) for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your Letter of Accommodation at the beginning of the term, and no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. Please consult the [PMC website](#) for the deadline to request accommodations for the formally-scheduled exam (if applicable).