

Professor: George L. Ashline

Office: 261 Jeanmarie Hall, Phone: 654-2434

Class Meets: M, W from 3:15 to 4:50 PM in Saint Edmund's 109

Office Hours- In Person or via [Zoom](#) (by request) (Meeting ID: 979 0018 3514; Passcode: 842984) M, T, W, F starting at 1 PM; appointments available for other times.

Textbook: *Linear Algebra*, 4th edition, by Professor James Hefferon

Canvas, Echo360, Homepage: In Canvas, you can find archived class updates and assignments, solutions, and other materials via "Modules" and the gradebook. We are using the Echo360 classroom capture system this term. After creating your Echo360 account by clicking the Canvas Echo360 link, you can access class recordings for reviewing and studying. Echo360 is a valuable learning aid, and I encourage you to make use of its learning tools. Each class will be "livestreamed" in Canvas via Echo360, in the rare case that anyone needs to be absent from a class and partake remotely. (Be sure to confirm remote arrangements in advance.) For more information, please see <http://help.echo360.org/>. Clicker questions are available in Canvas to enhance discussion, summarize key concepts, and provide additional learning opportunities. You can access online information about my courses at <https://www.smcvt.edu/directory/george-ashline/>.

You can access online information about our text at <http://joshua.smcvt.edu/linalg.html>, a site maintained by Professor Hefferon. In particular, you can download the text as well as solutions to text problems.

Homework: Problems will be assigned on a regular basis. Some problems will be collected every week or so, and others provide more daily practice with the underlying concepts. Some of the homework will involve analysis using the computer algebra system Maple. Each assignment will have a due date to be submitted when the class meets on that day. Late problem sets will not be accepted. It is critical to keep up with your homework assignments and additional assigned problems. Please obtain and use **colored pencils** for class work and notes!

Exams: There will be two in-class exams given during the semester and a comprehensive final exam. The tentative schedule for the exams is:

Exam 1	Wed, October 6
Exam 2	Wed, November 17
Cumulative Final Exam	Mon, December 13, 3-5:30 PM

If you have a significant conflict with any exam date, please let me know this ASAP beforehand.

Class Support: Please address questions as they arise and seek help as needed, either during office hours or through an appointment for another time. There may be optional T class help sessions in advance of HW or exam dates. Please take advantage of regular course support opportunities!

Grading: Grades will be based on the homework and exams according to the following distribution:

Homework	180 points
Highest semester exam	150 points
Lowest semester exam	120 points
Final exam	150 points

Your final grade will be based on a total of 600 points. If you have a significant conflict with any exam/quiz date, please let me know this ASAP beforehand.

SMC Course Workload expectation: You are expected to devote a minimum of 10 hours per week on average to each 4-credit course during the 15-week semester. In this course, about three hours are spent in class, and you should expect to spend at least an additional 7 hours of effort per week (on average) outside of this class on reading, homework, studying for exams, and meeting with fellow students and the instructor.

Learning Disabilities: Any student with a documented learning disability that may affect mathematics learning is invited to consult privately with me during the first week of the term to make appropriate arrangements.

Academic Integrity: You are reminded of the academic integrity policy of Saint Michael's College. Academic integrity requires that the work you complete for this class is your own. Some examples of offenses against academic integrity include plagiarism, unauthorized assistance, interference, and interference using information technology. Details about academic integrity offenses and the possible sanctions resulting from them have been distributed at the beginning of the academic year and also can be found in the Assistant Dean's office.

Class Attendance: The following is taken from the Saint Michael's College Online Catalogue under "Academic Regulations":

"Students should understand that the main reason for attending college is to be guided in their learning activities by their professors. This guidance takes place primarily in the classroom and the laboratory.

The following policies have been established:

1. Members of the teaching faculty and students are expected to meet all scheduled classes unless prevented from doing so by illness or other emergencies.
2. The instructor of a course will set the attendance policy for the course.
3. The instructor may report excessive absences to the Associate Dean of the College, who may warn the student.

Electronic Devices: Electronics (cell phones, laptops, tablets, etc.) are prohibited during class, and please put any device away before class begins. If you need to use your device during class for a specific learning need and wish to request a waiver to this policy, please contact me before or at the start of the semester.

ADVICE FROM PREVIOUS STUDENTS:

- Don't fall behind and work on exam problems that are assigned; go over HW to study for exams
- If you need help, go and get it.
- Do not be afraid to ask questions and get things explained because they all contribute to your understanding. In addition, Prof Ashline is always willing to help to take advantage of it.
- Start studying about 4 days before the tests. Homework can really make or break you in this class so start it as soon as you can. If you learn about Chapter 6.2 in class do all the questions in 6.2 from the homework that night, because then you will know if you need extra help. Take good notes and write down everything you can because it will help you understand them later. And maybe most importantly, conceptualize as much as you can. Good luck!
- Do your work!
- Don't wait to start the HW, sometimes you will need help, others you won't. Work together.
- Stay on top of the work – start the homework early so that if questions arise there is adequate time to meet with the professor. Going to class every day also helps with staying on top of the work. And don't be afraid to ask for help!
- Complete HW before the night before it is due, keep up with it while it is being taught. Go for help when it is needed.
- When studying, practice makes perfect.
- Do your homework as he teaches the material, instead of waiting till the last day, it definitely helps.
- Keep up with the reading and additional problems.
- Start the problem sets early and review notes before and after each class so that you remember material more easily.
- Take use of office hours; do homework (graded/additional); be prepared to work hard

MA-213-A Linear Algebra Tentative Homework and Assignments Fall 2021
Text: Prof. Hefferon's *Linear Algebra*, 4th edition

Week 1	<i>Section(s) to Read</i>	<i>Problems Assigned</i>	<i>Other Details</i>
M 8/30	1.I.1, 1.I.2 Solving Linear Systems: Gauss' method and solution sets	PROBLEM SET # 1, due M 9/6; <i>Additional problems, due following class</i>	
W 9/1	1.I.2, 1.I.3 Soln sets, General = Part + Homogen.	<i>Additional problems, due following class</i>	
Week 2	<i>Section(s) to Read</i>	<i>Problems Assigned</i>	<i>Other Details</i>
M 9/6	1.I.3, 1.III.1 Gen=Part+Hom, Gauss-Jordan, RREF	PROBLEM SET # 2, due W 9/15; <i>Additional problems, due following class</i>	
W 9/8	1.III.1, 1.III.2, 2.I.1 RREF, Row equivalence, Vector space	<i>Additional problems, due following class</i>	
Week 3	<i>Section(s) to Read</i>	<i>Problems Assigned</i>	<i>Other Details</i>
M 9/13	2.I.1,2 Vector Spaces: Defin, egs, subspaces	<i>Additional problems, due following class</i>	
W 9/15	2.I.1,2 Vect spaces, subspaces, spanning sets	PROBLEM SET # 3, due W 9/22; <i>Additional problems, due following class</i>	
Week 4	<i>Section(s) to Read</i>	<i>Problems Assigned</i>	<i>Other Details</i>
M 9/20	2.II.1, 2.III.1 Linear independence, Basis	<i>Additional problems, due following class</i>	
W 9/22	2.II.1, 2.III.1,2 Linear independence, Basis, Dim	PROBLEM SET # 4, due W 9/29; <i>Additional problems, due following class</i>	
Week 5	<i>Section(s) to Read</i>	<i>Problems Assigned</i>	<i>Other Details</i>
M 9/27	2.III.2,3 Dimension, Vector spaces&lin systems	<i>Additional problems, due following class</i>	
W 9/29	2.III.2,3 Dim, Vector spaces & linear systems	PROBLEM SET # 5, due W 10/13; <i>Additional problems, due following class</i>	

Week 6	Section(s) to Read	Problems Assigned	Other Details
M 10/4	3.I.1,2 Maps btw Spaces: Iso & Hom'isms	Additional problems, due following class	Optional problem session before Exam # 1?
W 10/6			EXAM # 1 (Chapters 1,2)
Week 7	Section(s) to Read	Problems Assigned	Other Details
M 10/11	3.I.1,2, 3.II.1 Iso & Hom'isms, Dimensionality	Additional problems, due following class	
W 10/13	3.II.1,2 Hom'isms, Range & Nullspaces	PROBLEM SET # 6, due M 10/25; Additional problems, due following class	
Week 8	Section(s) to Read	Problems Assigned	Other Details
M 10/18	3.II.2; 3.III.1 Range & nullspaces, Matrix reps	Additional problems, due following class	
W 10/20	3.III.1 Linear map matrix representation	Additional problems, due following class	
Week 9	Section(s) to Read	Problems Assigned	Other Details
M 10/25	3.III.2, 3.IV.1,2 Mat represent., Mat sums & prods	PROBLEM SET # 7, due M 11/1; Additional problems, due following class	
W 10/27	3.IV.2,3,4 Matrix products, matrix inverses	Additional problems, due following class	
Week 10	Section(s) to Read	Problems Assigned	Other Details
M 11/1	3.IV.4, 3.V.1 Matrix inverses, Change of basis	PROBLEM SET # 8, due M 11/8; Additional problems, due following class	
W 11/3	3.V.1,2 Change of basis vector, map rep	Additional problems, due following class	

Week 11	Section(s) to Read	Problems Assigned	Other Details
M 11/8	3.V.1,2, 4.I.1 Basischange vect,map rep, Det	PROBLEM SET # 9, due M 11/15 <i>Additional problems, due following class</i>	
W 11/10	4.I.1,2, 4.III.1 Determinants: Props,egs,Lap exp	<i>Additional problems, due following class</i>	
Week 12	Section(s) to Read	Problems Assigned	Other Details
M 11/15	4.III.1, 5.II.1 Laplace expansion, Similarity	PROBLEM SET # 10, due M 12/6 <i>Additional problems, due following class</i>	Optional problem session before Exam # 2?
W 11/17			EXAM # 2 (Chapter 3)
Week 13	Section(s) to Read	Problems Assigned	Other Details
M 11/22			THANKSGIVING BREAK
W 11/24			THANKSGIVING BREAK
Week 14	Section(s) to Read	Problems Assigned	Other Details
M 11/29	5.II.1,2 Similarity: Def, Diagonalizability	<i>Additional problems, due following class</i>	
W 12/1	5.II.2,3 Diagonalize, Eigenvalues & vect.	<i>Additional problems, due following class</i>	
Week 15	Section(s) to Read	Problems Assigned	Other Details
M 12/6	Final topics Populations, Markov chains		
W 12/8	Course wrap up		FINAL CLASS; Online Course Evaluations
M 12/13 3-5:30 PM		Optional Final Exam Problem Session earlier?	CUMULATIVE FINAL EXAM