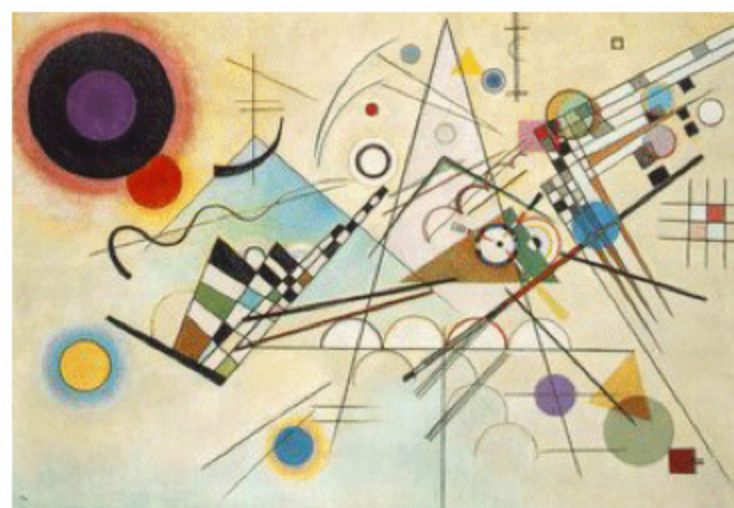


**linear algebra ii**  
math 365  
3credits  
bu 106  
mwf - 1:00 pm

scott m. lewis  
hertz 225  
phone: 963-1803  
fax: 963-3226  
hours:  
m,t,th -10:00am  
else, by appointment,  
gleefully accepted



**prerequisites:** MATH 265 or permission.

**links:**

[math 260 topical outline](#) (all the bits that are fit to print)

[georg cantor](#)

[euclid's elements](#) (from clark university, worcester, massachusetts)

[general history of mathematics](#) (from trinity college, dublin)

[aristotelean logic](#)

[chronology of mathematicians](#) (also from clark)

of course, there are many other resources out there. find some of them and report back to me.

**text:**

(1997). axler,sheldon. linear algebra done right, third edition. (san francisco: springer.)

**description:**

this course is part of a group of transitional courses for math majors. these courses are meant to provide instruction on how to write and understand proofs, while covering similar topics as math 265. it is also recommended for those students in the sciences and engineering who want to have a more theoretical understanding of linear algebra. after completing math 365, students should be prepared to take proof-based courses at the 400 level.

this course should be considered "writing-intensive"

course content will include some, or most of the following:  
definition, examples and basic facts in vector spaces  
linear systems  
linear combination, linear independence, basis and dimension, coordinates  
inner product spaces  
matrix algebra and inverse  
linear transformation, kernel, change of basis, isomorphism  
determinants  
eigenvalues and eigenvectors

there are some links in the left sidebar of this page. take the time to explore what some people in other universities are interested in. there are other possibly useful links back at my [home page](#).

this quarter we will cover selections from the following in axler:

- o ch. 1 (vector spaces)
- o ch. 2 (finite dimensional vector spaces)
- o ch. 3 (linear maps)
- o ch. 4 (polynomials (selections))
- o ch. 5 (eigenvalues and eigenvectors (selections))

check out the [class calendar](#) and the [math 260 topical outline](#) .

**evaluation:**

your grade will be determined by **two midterms** (30% ea.) and a **final examination** (40%). the first midterm will take place (and be graded) before the deadline for dropping the class. grades will be assigned on a 90%-80%-70%-60% scale. i do give A-'s, B-'s, and C-'s. occasionally, the lines between A-/B+, etc. are lowered, but **never** raised. in other words, if your average is 90% then you will receive some sort of an 'A.'

**you will also be required to keep a notebook** that will be collected and graded on a "pass/fail" basis. in order to receive the grade you have earned on the exams, you must receive a "pass" on the notebook. a "fail" on your notebook will result in a grade of "incomplete." your notebook will be *single-subject, looseleaf and have four sections:*

- **lecture notes** (complete, with each lecture dated)
- **homework** (complete)
- **list of definitions** (they will appear regularly:)
- **handouts and miscellaneous** (tba)

i collect selected homework assignments and we will have several unannounced, but straight-forward, quizzes to help you see where you stand regarding the content of the course. if you have any questions or comments, feel free to come by my office or e-mail me at the address below.

**student learner outcomes**

the most important things you learn in school are not going to be measurable, sorry. in fact, the absolute best service a list of 'student learner outcomes' could possibly provide is as a random sample of behavioral objectives. that said, at the end of this course, you will have a reasonable facility (as measured by the evaluation procedures described above) in manipulating sets, creating truth tables, identifying logical forms, and constructing sound mathematical proofs with a variety of techniques all in the context of the definitions and fundamental theoretical structure of linear algebra. By the way, when we use the phrase 'elementary set theory' to describe this course, the word 'elementary' should not be confused with 'simple.'

**note**

students with disabilities who wish to set up academic adjustments in this class should give me a copy of their *confirmation of eligibility for academic adjustments* from the disability support services office so that we can meet in order to discuss how the approved adjustments will be implemented in this class. students with disabilities without this form should contact the disability support services office, bouillon 205 or [dssrecept@cwu.edu](mailto:dssrecept@cwu.edu) or 963-2171 as soon as possible.

**no, no, no!**

no late assignments, no early tests, no late tests, no make-up tests (including finals ... be there).

