# MAT 531 — FALL 2009
## SECOND COURSE IN LINEAR ALGEBRA

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| ------------: | ---------------------------------------------------------------------------- |
|   instructor: | Professor Graham Leuschke                                                     |
|       office: | 206C Carnegie                                                                |
|        phone: | 443-1469                                                                     |
|        email: | gjleusch@math.syr.edu                                                         |
|           IM: | leuschkeg on AIM; graham_leuschke on Yahoo!; leuschke@gmail.com               |
|               |                                                                              |
| time & place: | 316 Carnegie, TR 3:30–4:50                                                    |
|         text: | S. Axler, *Linear Algebra Done Right*, 2nd ed., Springer, 1997               |
| office hours: | MW 2–4, TF 9:30–11.                                                           |
|               | Also by appointment, and any time my door is open                            |
| course web page: | http://www.leuschke.org/Teaching/Math531Fall2009                          |

**Prerequisites:** MAT 331 and MAT/CIS 275.

**Course Description:** This course is a rigorous, proof-based treatement of linear algebra. We plan to cover much of Chapters 1–7 of the text and additional topics as time permits.

You will find this course completely different from MAT 331. There will be much more emphasis on developing proof-reading and proof-writing skills. In particular, there will be very few, if any, problems of the form "diagonalize this matrix" or "Compute...". Problems will more typically begin "Prove that...". Some of the concepts will be familiar from MAT 331, but some will be new. All the material will be in a more abstract environment.

**Homework:** Problem sets will be assigned each week, due generally on Thursdays. These homework assignments are crucial to your experience in the course. Working independently on them will probably help you to learn more effectively, and to do better on exams. However, you may work with others if you prefer; each student must write up their solutions completely independently.

You are always welcome — encouraged!! — come see me in office hours for help.

I will be grading on mathematical correctness, and also on the clarity and completeness of your presentation. No late homework will be accepted.

**Grades:** In addition to the homework assignments, your grade will be based on three midterm exams and a cumulative final exam. These five factors will determine your grade according to the following weights.

|                |     |
| -------------- | --- |
| Midterm exams  | 50% |
| Homework       | 20% |
| Final exam     | 30% |

The midterm exams will be given on or about the following dates:

| Exam 1: | Thursday 24 September |
| ------- | --------------------- |
| Exam 2: | Thursday 22 October   |
| Exam 3: | Thursday 19 November  |

The final exam will be given on Friday 18 December, 2:45–4:45pm. The location will be announced later in the semester. This is the only time the exam will be offered.

**Academic Integrity:** The Syracuse University Academic Integrity Policy holds students accountable for the integrity of the work they submit. Students should be familiar with the Policy and know that it is their responsibility to learn about instructor and general academic expectations with regard to proper citation of sources in written work. The policy also governs the integrity of work submitted in exams and assignments as well as the veracity of signatures on attendance sheets and other verifications of participation in class activities. Serious sanctions can result from academic dishonesty of any sort. For more information and the complete policy, see academicintegrity.syr.edu.

**Students with disabilities:** Students who are in need of disability-related academic accommodations must register with the Office of Disability Services (ODS), 804 University Avenue, Room 309, 315-443-4498. Students with authorized disability-related accommodations should provide a current Accommodation Authorization Letter from ODS to the instructor and review those accommodations with the instructor. Accommodations, such as exam administration, are not provided retroactively; therefore, planning for accommodations as early as possible is necessary. For further information, see the ODS website, Office of Disability Services disabilityservices.syr.edu.