

MATH 376 Advanced Linear Algebra

Syllabus

Instructor:	Dr. Colin Starr	Office Hours:	M 1-3; W 11:30-12:30 and 1:30-2:30(Z)
Office:	Collins 308		TΘ 9-10(Z); T 2-3(Z); Θ 1:30-2:30(Z);
Office Phone:	(503) 370-6419		F 11:30-12:30
Home Phone:	(503) 585-4088	Others by appointment	
e-mail:	cstarr@willamette.edu	My URL:	http://www.willamette.edu/~cstarr

A "(Z)" indicates office hours held on Zoom.

Required Text: *A Guide to Advanced Linear Algebra*, by Steven H. Weintraub.

Goals: This is a deeper study of linear algebra. Some of the results will be familiar but in a larger context, and some will be entirely new. We will approach all of them using an advanced perspective.

1. Students will gain an understanding of the structures that underlie familiar linear algebra.
2. Students will gain a deeper understanding of the results of linear algebra.
3. Students will gain facility in communicating abstract mathematics to others.

Assessment: Your grade will be computed as follows:

Presentations:	40%
Homework:	40%
Project:	17%
Colloquium attendance:	3%

Presentations: This course is a step up from "regular" linear algebra in mathematical sophistication. One of our goals for this class is to have a corresponding step up in sophistication of exposition. Everyone will have many opportunities to practice communicating higher-level mathematics to the class, and I will offer feedback on each such presentation. These will be board presentations rather than Beamer or PowerPoint, and most will be only a few minutes. There is more detail in a separate document.

Homework: I will assign homework regularly and post it on our course web page. I encourage you to work together on the homework in groups of whatever size you find most productive. However, please be aware that **your write-up must be your own**. Please create an Overleaf project and share it with me. Upload colin.sty and the homework template from my web page to that folder and use those for your homework write-ups. I will make my comments (in blue) directly in your file. Note: please be sure all of your homework files are in the same MATH 376 project.

I will be grading the homework on a 5-point scale. One of those points is reserved for the mechanics of writing (e.g., grammar, spelling, punctuation). Please pay attention to those mechanics!

Project: In the latter half of the term, we will begin work on group projects. I will have some topics you can choose from, or you may select your own (subject to my approval!). They can be on some facet of advanced linear algebra, a real-world application of advanced linear algebra ideas, or something in another mathematical subject area that uses ideas from advanced linear algebra.

Attendance at the Math Department Colloquium: According to math department policy, since you are enrolled in a 300-level mathematics course, you are required to attend at least 3 mathematics department colloquium talks.

Please note: Written responses to all questions must be in complete sentences. I expect correct use of grammar, spelling, and punctuation; your grade will reflect this! I also expect your work to be neat.

Special Needs: If you have special needs (e.g., for a documented disability), it is your responsibility to approach me at least a day in advance of the need for accommodation. To receive accommodation, you must be registered with Disability Services; this office is located in Bishop Health Center in Baxter Hall. (Phone: (503) 370-6471.)

Cheating: Cheating will not be tolerated. The minimum penalty for cheating is a 0 on the assignment and a formal notification to the dean. I encourage you to work together on your homework, but your final

write-up **must** be your own. **NOTE:** It is your responsibility to avoid even the **appearance** of cheating. See the website below for the Willamette policy on cheating and plagiarism.

http://www.willamette.edu/cla/catalog/resources/policies/plagiarism_cheating.php

Classroom Comportment: We will all make mistakes, and these are an essential part of learning. The classroom environment must be tolerant and welcoming so that everyone feels free to contribute without fear of ridicule or harassment. Treat everyone with respect, and we can all learn from each other.

General Info: Please take advantage of my office hours. While you will be giving solo presentations at the board, I will not hang you out to dry! You are more than welcome to consult with me.

General Policies

Academic Integrity

Students of Willamette University are members of a community that values excellence and integrity in every aspect of life. As such, we expect all community members to live up to the highest standards of personal, ethical, and moral conduct. Students are expected not to engage in any type of academic or intellectually dishonest practice and encouraged to display honesty, trust, fairness, respect, and responsibility in all they do. Plagiarism and cheating are especially offensive to the integrity of courses in which they occur and against the College community as a whole. These acts involve intellectual dishonesty, deception, and fraud, which inhibit the honest exchange of ideas. Plagiarism and cheating may be grounds for failure in the course and/or dismissal from the College. <http://willamette.edu/cla/catalog/policies/plagiarism-cheating.php>

Commitment to Positive Sexual Ethics

Willamette is a community committed to fostering safe, productive learning environments, and we value ethical sexual behaviors and standards. Title IX and our school policy prohibit discrimination on the basis of sex, which regards sexual misconduct — including discrimination, harassment, domestic and dating violence, sexual assault, and stalking. We understand that sexual violence can undermine students' academic success, and we encourage affected students to talk to someone about their experiences and get the support they need. Please be aware that as a mandatory reporter I am required to report any instances you disclose to Willamette's Title IX Coordinator. If you would rather share information with a confidential employee who does not have this responsibility, please contact our confidential advocate at confidential-advocate@willamette.edu. Confidential support also can be found with SARAs and at the GRAC (503-851-4245); and at WUTalk - a 24-hour telephone crisis counseling support line (503-375-5353). If you are in immediate danger, please call campus safety at 503-370-6911.

DACA/Undocumented Student Advocate

Willamette is committed to supporting our DACA/Undocumented students in a variety of ways. This year, Olivia Muñoz is the contact person for all DACA/undocumented students can provide those students with a number of external and internal resources that are available. Her contact information is email: omunoz@willamette.edu, Office: 3rd Floor UC, Phone: 503-370-6447.

Diversity and Disability Statement

Willamette University values diversity and inclusion; we are committed to a climate of mutual respect and full participation. My goal is to create a learning environment that is usable, equitable, inclusive and welcoming. If there are aspects of the instruction or design of this course that result in barriers to your inclusion or accurate assessment or achievement, please notify me as soon as possible. Students with disabilities are also encouraged to contact the Accessible Education Services office in Smullin 155 at 503-370-6737 or Accessible-info@willamette.edu to discuss a range of options to removing barriers in the course, including accommodations.

Religious Practice

Willamette University recognizes the value of religious practice and strives to accommodate students' commitment to their religious traditions whenever possible. Please let me know within the first two weeks of the semester if a conflict between holy days or other religious practice and full participation in the course is anticipated. I will do my best to work with you to determine a reasonable accommodation.

SOAR Center Offerings: Food, Clothing, and School Materials

The Students Organizing for Access to Resources (SOAR) Center strives to create equitable access to food, professional clothing, commencement regalia, and scholarly resources for WU and Willamette Academy students. The SOAR Center is located on the Putnam University Center's third floor (in the former Women's

Resource Center and across from the Harrison Conference Room). The space houses the Bearcat Pantry, Clothing Share, and First-Generation Book Drive and is maintained by committed students and staff and faculty advisers.

Trans-Inclusive Classroom Space

I will gladly honor your request to address you by your affirmed name and gender pronouns. Please advise me of this at any point in the semester so that I may make appropriate changes to my records. If I accidentally use an incorrect gender pronoun when addressing you, please feel free to let me know, in whatever manner makes you comfortable, what pronouns you use so that I can make every effort to correct that error.

Land Acknowledgement

We are gathered on the land of the Kalapuya, who today are represented by the Confederated Tribes of the Grand Ronde and the Confederated Tribes of the Siletz Indians, whose relationship with this land continues to this day. We offer gratitude for the land itself, for those who have stewarded it for generations, and for the opportunity to study, learn, work, and be in community on this land. We acknowledge that our University's history, like many others, is fundamentally tied to the first colonial developments in the Willamette Valley. Finally, we respectfully acknowledge and honor past, present, and future Indigenous students of Willamette.

LinkedIn Learning

Willamette University tracks all log-in information for LinkedIn Learning. This information will be kept in-house and will be used for the purposes of developing LinkedIn Learning on campus. Faculty may keep track of your log-in for the purposes of evaluating your progress for class. Faculty using LinkedIn Learning in for class assignments will not share your log-in information with others as it is protected under FERPA.

Time Commitment

Willamette's Credit Hour Policy holds that for every hour of class time there is an expectation of 2-3 hours' work outside of class. Thus, for this class you should anticipate spending 6-9 hours outside of class engaged in course-related activities. Examples include reading course materials, preparing for discussion, and preparing and writing papers and exams.

Intellectual Property and Privacy

Class materials and discussions including recorded lectures are for the sole purpose of educating the students enrolled in the course. The release of such information (including but not limited to directly sharing, screen capturing, or recording content) is strictly prohibited, unless the instructor states otherwise. Doing so without the permission of the instructor will be considered an Honor Code violation and may also be a violation of other state and federal laws, such as the Copyright Act.