

AMATH 352: Applied Linear Algebra and Numerical Analysis
Spring Quarter 2018
Time: MWF 12:30-13:20, MLR 301

Instructor: Ulrich Hetmaniuk (LEW 327)

Office Hours: MW 13h30-14h30, Th 9h30-11h30

Course webpage: <https://canvas.uw.edu/courses/1199163>

Course description: Analysis and application of numerical methods and algorithms to problems in the applied sciences and engineering. Applied linear algebra, including eigenvalue problems. Emphasis on use of conceptual methods in engineering, mathematics, and science. Extensive use of MATLAB package for programming and solution techniques.

Objectives: By the end of the class, you should:

- be familiar with important concepts in linear algebra, such as vector spaces, linear independence, orthogonality, factorization...;
- be able to analyze and solve a system of linear equations;
- understand how to verify your computations against MATLAB or Octave.

Prerequisites: MATH 126 or MATH 136. Or instructor permission.

Textbook: D. Lay, S. Lay, and L. McDonald, “Linear Algebra and Its Application”, 5th Edition (2016)

Workload: This class is a **three (3)** credit course. The average workload is **9 hours a week**, including class time (3 hours a week per credit hour). Class time amounts to 3 hours a week. Consequently, students are expected to spend, on average, **6 hours per week** of outside contact with the material.

Homeworks: Six homeworks will be assigned. Homeworks may be long. Students are **strongly** encouraged to start their homeworks as soon as possible and to **use all office hours available**. There will be a late penalty of 25% per day for homework handed in up to 48 hours late. **No homework assignments will be accepted more than 48 hours late.**

Final exam: A final exam will be given in-class on **June 7th from 8h30 until 10h20**. Its goal will be to **assess your understanding** of all the material covered in class.

Final grade: Your course grade will be determined from your six homeworks, the final exam, and an attendance/participation score. The total score will be computed according to the following weights: **75% for the homework average, 15% for the final exam, and 10% for the attendance/participation score.**

Your **total score** will be mapped **linearly** to the 4.0 grade scale. For example, a score of 100% will result in 4.0, a score of 80% in 3.2, a score of 75% in 3.0, and a score of 50% in 2.0. The UW uses a numerical grading system (for the correspondence with letter grades, https://www.washington.edu/students/genclat/front/Grading_Sys.html)

Participation: Even though this class is a large lecture, participation will be scored by attending regularly the lectures, by asking questions in class, by being active on the discussion board, and by using the office hours (either from the instructor or the teaching assistant).

Email: The primary communication electronic tool is the discussion board. **Emails to the instructor will only be addressed during office hours, if schedule allows it.** Any email from an address different from your own "UWNetID@uw.edu" **will not be read.** Canvas messaging **will not be read** either.

Class Etiquette: The instructor is responsible to establish an atmosphere where students can learn (see <http://depts.washington.edu/grading/conduct/expectations.html>). The instructor may forbid conduct that distracts other students and/or interferes with their ability to teach, including:

- use of cell phones, pagers, laptops, tablets, music, or video players;
- loud talking;
- eating and drinking.

Late arrivals and early departures are disruptive. If you arrive late or have to leave early, please **be discrete and courteous to others in the class.**

Academic misconduct code: Academic misconduct includes plagiarism, cheating on examinations or other individual projects or assignments, and the theft or alteration of other person's work for the purpose of gaining academic credit or of enhancing grades. **All cases of academic misconduct will be reported to the Dean's representatives.**

The University of Washington has a Student Conduct Code (WAC 478-121) available at <http://www.washington.edu/admin/rules/policies/WAC/478-121TOC.html>. Additional information is available at <https://www.washington.edu/cssc/>

Students with disabilities: If you would like to request accommodations due to a disability, please contact DRS Office <http://depts.washington.edu/uwdrs/>