

Instructor: Dr. Xavier Pérez-Giménez

Office: 328 Avery Hall, office hours (via Zoom) TR 8:30 am – 9:30 am or by appointment.

Email: xperez@unl.edu

Class Times and Location: MWF 9:30 am – 10:20 am, Oldfather Hall – Room 208.

Text book: *Introduction to Graph Theory*, 2nd edition, by Douglas B. West.

Graph Theory: Graph Theory is the mathematical study of networks. These can represent physical networks, such as the internet or the connections between processors inside a computer, or logical networks expressing constraints or dependencies in a mathematical problem. It is both beautiful as a mathematical theory and practical in many ways—the algorithms of graph theory are used frequently to solve real world problems.

Course Overview: This course is an introduction to the properties and applications of graphs. We will study important graph-theoretic concepts, including paths, circuits, cycles, trees, matchings, connectivity, network flows, colorings, and planarity. The course is designed to develop students' ability to understand and write proofs.

Covid-19 adjustments: This course will be primarily delivered in-person but the classes will be also streamed live via Zoom. In order to comply with social-distancing measures, approximately half of the students will attend the classes in person while the other half will follow them remotely, on a rotational basis. Reasonable accommodations will be provided to students who choose to follow the entire course remotely (synchronously or asynchronously). Students in class are required to follow the face-covering and social-distancing policies mandated by UNL (see Face Coverings Syllabus Statement). The unpredictable evolution of the Covid-19 pandemic during the term may require further adjustments.

Grades: Grades for the course will be computed as follows:

Homework	35%	
Midterms	40%	(2×20%)
Final Exam	25%	

Homework: There will be homework assigned and collected weekly to be graded. The homework will be a mixture of problems from the text and additional problems written by me. Late homework will be subject to a 50% penalty. You are encouraged to talk to one another and to me about the homework, but you must write the solutions up yourself.

Midterm Exams: There will be two take-home midterm exams. Makeup midterms are only allowed for reasons limited to serious illness or travel to university approved events. Proof of these circumstances will be required. The *tentative* dates for the midterm exams are

Exam 1: week of September 28 and **Exam 2: week of November 9.**

Final Exam: The final exam is cumulative. Students are expected to arrange their personal and work schedules to allow them to take the final exam at the scheduled time. Our final exam is on

Tuesday, November 24, 10:00 am – noon in class.

Department Grading Policy: Students who believe their academic evaluation has been prejudiced or capricious have recourse for appeals to (in order) the instructor, the department chair, the departmental appeals committee, and the college appeals committee.

Course Evaluation The Department of Mathematics course evaluation form will be available through Canvas during the last two weeks of class. Evaluations are anonymous and instructors do not see the responses until after final grades have been submitted. Evaluations are important – the department uses them to improve instruction. Please complete the evaluation and take the time to do so thoughtfully.

Students with Disabilities: Students with disabilities are encouraged to contact me for a confidential discussion of their individual needs for academic accommodation. It is the policy of UNL to provide flexible and individualized accommodation to students with documented disabilities that may affect their ability to fully participate in course activities or to meet course requirements. To receive accommodation services, students must be registered with the Services for Students with Disabilities (SSD) office, 132 Canfield Administration, 402-472-3787 voice or TTY.