

# Math 852: Graph Theory

Spring 2008 Section 001 — University of Nebraska–Lincoln — Course Policies

INSTRUCTOR: Stephen Hartke

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COURSE WEBPAGE: [www.math.unl.edu/~shartke2/teaching/math852](http://www.math.unl.edu/~shartke2/teaching/math852)

OFFICE HOURS: Mon, Wed, Fri 11am-12pm, or by appointment.

MEETING TIMES: Mon, Wed, Fri 9:30am-10:20pm in Avery Hall Room 112

FINAL EXAM: Wed May 7 10:00am-12:00pm in Avery Hall Room 112

TEXT: *Introduction to Graph Theory*, 2nd edition, by Douglas B. West, Pearson Prentice Hall, 2001.

## COURSE OVERVIEW:

This is a graduate-level introductory course about properties and applications of graphs. We study graph-theoretic concepts such as paths, Eulerian circuits, trees, distance, matchings, connectivity, network flows, colorings, planarity, and spanning cycles. A primary goal is to improve students' clarity of thought and language when writing proofs in discrete mathematics. Famous applications include the Minimum Connector Problem (building roads at minimum cost), the Assignment Problem (filling  $n$  jobs in the best way), the Committee Scheduling Problem (using the fewest time slots), the Four Color Problem (coloring maps with four colors so that adjacent regions have different colors), and the Traveling Salesman Problem (visiting  $n$  cities with minimum cost).

## COURSE REQUIREMENTS:

Homework will be assigned weekly. The homework provides practice finding proofs and writing proofs; writing up the solutions is among the most effective ways of keeping up with the material in the course. Discussion with other students is a great way to better understand a problem and to get ideas, but each student must write his or her submission individually. Late homework will not be accepted.

There will be two 2-hour evening tests; they are tentatively scheduled for the weeks of Feb 25 and Apr 7. The final exam will be cumulative over the entire semester. Makeup tests will only be given in the case of extreme illness or other hardship. The decision to give makeups is at the discretion of the instructor.

The different components contribute to the final grade as follows: homework assignments (lowest two scores dropped): 44%; two tests: 17% each; final exam: 22%.

All students are expected to be aware of and abide by the University's policies on student conduct and academic integrity and honesty.

## RESOURCES:

Announcements will be made in class and posted on the course webpage. Some announcements may also be sent to the student email address listed on WAM. The course webpage will also have handouts and a log of the topics covered each day.

## STUDENTS WITH DISABILITIES:

Students with disabilities are encouraged to contact the instructor for a confidential discussion of their individual needs for academic accommodation. It is the policy of the University of Nebraska–Lincoln 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, 472-3787 voice or TTY.