

MATH 495/589
GRAPH THEORY
Nicholls State University, Fall 2007

Instructor: Dr. Brian Heck
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My office hours are 9:00 am-12:00 pm M, W, F and 9:00 am-10:30 am T, TH. Please contact me (by phone, by email, or in person) during these times if you have any questions. If you need assistance at a different time, contact me and we'll work something out.

Prerequisite: Math 358.

Text: *Introduction to Graph Theory* (2nd ed.) by West (Prentice Hall).

Course Description: We will cover the first six chapters of our text. Specifically, we will cover the basics of graph theory including notations and terminology, simple graphs, bipartite graphs, planar graphs, cycles, digraphs, trees, paths, matchings, colorings, and Eulerian circuits. We'll also cover important theorems such as Min-Max Theorem, Tutte's 1-Factor Theorem, Menger's Theorem, Turan's Theorem, and Kuratowski's Theorem.

Course Objectives: At the completion of this course, a student will be able to:

- Demonstrate knowledge of the vocabulary of graph theory
- Prove graph theoretical propositions using definitions and theorems
- Communicate results orally and in writing
- Use theorems of graph theory to solve problems

Grading Structure: There will be four equally weighted components to this course: board work, problem sets/paper, midterm exam, and final exam. These will be described fully below.

Board Work: Every night, a portion of class time will be set aside for student presentations of homework problems. Each presentation will be graded, but more importantly over the course of the semester, you will also be graded on how many problems you present. This portion of your grade will therefore be based on quality *and* quantity.

Problem Sets/Paper: Several times throughout the semester (maybe 4-5 times), I

will assign additional problems to be turned in the next week. These will primarily be just like the other homework problems. Additionally, students enrolled in Math 589 will have a paper to write by the end of the semester. I will assign the topics around mid-term. This paper will count as two additional problem sets.

Exams: We will have an in-class midterm exam and a take-home final.

Important Dates

‘W’ Day – Friday, October 26, 2007

Disability: If you have a documented disability that requires assistance, you will need to register with the Office of Disability Services for coordination of your academic accommodations. The Office of Disability Services is located in Peltier Hall, Room 100-A. The phone number is (985) 448-4430 (TDD 449-7002).