

Math 331 / CSci 331 – Graph Theory and Combinatorics

Spring 2018

Professor: Erich Friedman

About the course: We will meet every MWF at 10:00 in E311. We will cover most of chapters 1–6 and some sections from chapters 9, 10, and 12 of the text, *Introduction to Graph Theory* by Chartrand and Zhang. This course is a survey of graph theory, a field that overlaps both mathematics and computer science. We will learn what graphs are and how they can be used to solve a variety of problems in diverse fields. This is also a convenient place to learn how to count, and I will often ask how many graphs there are with a certain property. The mathematical part of this course will involve classifying graphs in several ways, and proving our results. The computer science part of this course will involve studying how graphs can be represented by a computer, and finding algorithms to perform interesting calculations on them.

About me: My e-mail address is efriedma@stetson.edu. My office is Elizabeth 214-2. My web page is at <http://www2.stetson.edu/~efriedma/>, and my office phone is 822-7552. My office hours this semester are:

WF 9:00 – 10:00 and MW 11:00 – 12:00

I am always in my office during these times. If you cannot make my regularly scheduled hours, let me know and we can set up another time to talk. Please come by if you need help, or if you just want to chat. You will soon see that my lecture style is informal. I will be calling you by your first names (or a nickname if you prefer), so please call me Erich.

About you: This course contains many proofs and algorithms, so you will need either Math 221 Logic and Proof or CSci 211 Discrete Structures. This course requires some mathematical sophistication, so you will find Math 243 Calc III useful. You should be familiar with the usual proof techniques, including induction, direct proofs, contrapositives, and proof by contradiction. You should be able to write a coherent logical argument. Please be respectful of both me and your classmates. This means coming to class on time and not socializing in class.

About your responsibility as a student: You should read the book. You should do the homework assigned. You should ask questions in class about things you don't understand or problems you couldn't do. You should come to my office hours (or make an appointment to see me at another time) if you need additional help. You should inform me beforehand if you are unable to take a quiz or test at the scheduled time.

About cell phones: I hate them. If one goes off in class, it's mine for the rest of the day.

About the honor code: Stetson has an honor code. You are not only expected to do your own work, but to tell me if another student is not. The punishment for cheating is an F in the course.

About Quantitative Reasoning: In order to assure that Stetson University is meeting its goals in providing an excellent General Education, the College has established specific General Education Learning Outcomes for all courses meeting a particular area requirement in the General Education curriculum. To monitor how well students are meeting those outcomes, instructors of those courses regularly submit work to the committees assessing each outcome. While the outcomes of these assessments are primarily for our internal use in monitoring and enhancing our curriculum, we may occasionally report the results of these assessments in published research or academic conferences. All such reports will include aggregate (not individual) data and will not include information that could identify the student or the instructor. While the use of this information within the institution is part of normal educational practice, you may choose not to allow data derived from your own work to be used for published reports or presentations by signing an opt out form in the Registrars office.

About Accommodations: If you anticipate barriers related to the format or requirements of a course, you should meet with the course instructor to discuss ways to ensure full participation. If disability-related accommodations are necessary, you should register with the Academic Success Center (386-822-7127; stetson.edu/asc) and notify the course instructor of your eligibility for reasonable accommodations. You, the course instructor and the Academic Success Center will plan how best to coordinate accommodations.

About your grade:

- **Homework** is assigned nightly, from worksheets handed out the first day of class, some of which include problems from the book. Some of the homework problems will be easy, and others will be hard. Some will just be calculations, and others will ask for explanations or proofs. You are expected to do the homework by yourself. The homework will be collected, graded, and returned promptly. Your homework should be stapled if it is multiple pages, and should contain the problems in order. I will grade a few problems from every assignment, but what I will grade will be a surprise. (Hint: I will not grade any problems whose answers are in the back of the book, so you don't have to hand those in.) Each HW is worth 6 points, so the homework is worth a total of $31 \times 6 = 186$ points.
- **Tests** will be given on the 5 dates announced on the syllabus. Please check your schedule now to see that there are no conflicts. If you miss a test without telling me beforehand with an approved excuse, the penalty is 10% per day, no exceptions. You will be expected to show your work and justify your answers. You may bring a calculator to the exams. Each test is worth 100 points, and covers all the material since the last test.
- **The Final Exam** is a comprehensive take-home exam and is worth 200 points. There is no extra credit available. There are 886 points total in the course. I use a standard 90/80/70/60 grading scale, with plusses and minuses for the top and bottom 2% of each range.