

# Graph Theory (Math 428), Summer 2018

**Instructor** Matt Hohertz

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**Office hours** In Hill 622, MTh 2-3pm, or by appointment.

**Section** B1

**Meetings** At SEC 2010, 29 May - 5 July, 10:10 a.m. - 12:10 p.m., M-Th.

**Text** *A first course in graph theory*, Chartrand and Zhang. ISBN 978-0486483689.

**Prerequisites** Calculus III and Math 250 (Linear Algebra).

A mathematical proof course (like Math 300), though not required, is highly recommended.

NOTE. If any statement about course policy conflicts with wording on this syllabus, then the latter should be assumed correct. This syllabus is subject to revision; all revisions will be clearly marked with dates.

## 1 Lecture schedule

A lecture schedule will be posted to Resources on Sakai; please check it frequently for changes.

## 2 Homework

[revised 8 June: Assignments is not working as of that date.]

There will be six homework sets, due when indicated on the lecture schedule and graded by an undergraduate grader. ~~Submit solutions through Assignments on Sakai~~

E-mail assignments as PDF files containing either (1) a scan of a neat handwritten copy or (2) a rendered  $\text{\TeX}$  document to `tmv50@scarletmail.rutgers.edu`. In particular, sets will NOT be accepted in person.

Homework due on a certain date must arrive in the mailbox before the *beginning of class* (10:10 am) on that date. Any submissions received later, but not more than 24 hours past due, will receive 50% of full credit; after 24 hours past due submissions will receive no credit but may be still submitted for feedback. Please submit well before the deadline to avoid losing points over connectivity issues or last-minute emergencies.

Your lowest homework set grade will be dropped.

### 3 Piazza

Our Sakai page links to Piazza, a forum specifically designed for asking and answering course questions. In addition to serving as the platform for a major assignment (*cf.* the next section), Piazza will also be the preferred medium of online discussion for our course. You are encouraged to ask non-private questions (and especially questions about course material) on Piazza rather than by e-mail so that everyone can benefit from the answers.

Since this is a senior-level course, I would like discussion on Piazza to be primarily student-led and -driven; to that end I will comment only occasionally, mostly with guidance and hints. I will also expect you to contribute where you can; the “Participation” portion of your grade will largely depend on your Piazza footprint, especially the quality of your responses to exam review solutions. Students striving for the full five points should, in addition to actively participating during lectures, frequently make Piazza contributions of substance, examples of which include proofreading notes for exam review solutions; answers to classmate questions; and well-written partial solutions, proposals for solutions, or leading or thoughtful questions.

### 4 Quizzes and exams

[revised 30 May 2018: added subsection *Scope* and footnote to *In-class quizzes*]

#### 4.1 Scope

Quizzes and exams will generally test material emphasized in lecture, but may also cover material taught in assigned readings or touched on in homework assignments.

#### 4.2 In-class quizzes

There will be five thirty-minute-long in-class quizzes, the focus of which will be material not covered on previous quizzes. However, any material covered

in lectures up to two lectures before the quiz date is testable.<sup>1</sup>

### 4.3 Exam review question

About a week before the midterm and final I will post review sheets. For one of the two exams, you will be responsible for posting a complete solution of one review question to Piazza, revising that solution in response to any errors I or your classmates point out, and accurately and coherently fielding questions. This assignment will count as your sixth quiz grade (out of six).

### 4.4 Final exam

The final exam will take place in our ordinary classroom on

**Thursday, July 5, 2018 from 10:10 am - 1:10 pm**

and will be comprehensive.

### 4.5 Quiz/exam conduct

(In the following, *exam* means “exam or quiz.”)

1. Unless otherwise specified, exams are closed-note and -resource.
2. Place all personal items apart from writing utensils in the back of the room, where they must at no time be visible or audible to anyone taking the exam. In particular, silence mobile phones, ensure that you have all materials at hand before the exam starts, and turn your exam in before accessing your belongings.
3. Refrain from wearing baseball caps or clothing tied around the waist.
4. Ensure that your exam is complete *before* submitting it: all submissions shall be definitive and under no circumstances shall anyone be permitted to revise or add to a submitted exam.
5. Once you begin your exam, you may not leave the room without submitting it (*i.e.*, definitively); in particular, make sure to use the restroom before starting the exam.

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<sup>1</sup>EXCEPTION: Quizzes given on a Monday may test all material from the previous week, including material from the preceding Thursday’s lecture.

6. Arrive on time: for security reasons no one may start an exam once any person has submitted his or hers.
7. Please do not take offense if you are asked to show something or put something away; I am not asking out of mistrust but out of thoroughness.

Please do not cheat in this class. **Anyone reasonably suspected of cheating will be reported to the Office of Student Conduct, and anyone whom that Office finds guilty of cheating will face severe penalties up to expulsion.** Violations of the above rules of conduct, or of regulations printed on exams, are grounds to suspect cheating for purposes of filing a complaint with the Office.

## 5 Grading

### 5.1 Makeups

Neither quizzes nor exams may be made up. If you miss the midterm (but not a quiz or the final) due to a *serious* and *unavoidable* conflict that you could not have anticipated during registration, your other grades will be scaled appropriately. You must notify me as soon as you become aware of the conflict and provide written corroboration.

### 5.2 Calculating final grades

1. You will receive a score out of 100 in each of five categories of grades, and your final score will be calculated as the following weighted average:

Participation	5%
Homework	15%
Quizzes	30%
Midterm	20%
Final	30%

2. Letter grade boundaries out of 100 will be determined after final exams are graded. Because I will base these boundaries on the distribution of the final weighted averages as calculated above, I cannot make an educated guess about where the boundaries will be set before all final exams are graded.

3. However, the following table gives scores out of 100 which will be sufficient for each letter grade:

A	90
B+	85
B	80
C+	75
C	70
D	60

### 5.3 Curves

Individual assignments will generally not be curved; all grades will be raw unless otherwise specified. However, there *will* be a curve at the end of the semester – for more information, see the previous subsection.

## 6 Contingency plan

Check Sakai if I am late to office hours or class: if I will be late, I will try to post an announcement there to keep you informed.

If I am more than 30 minutes late to lecture and the department does not know where I am, then (and only then) you may assume that class is cancelled. Please check Sakai for further instructions and information.

In all other cases, assume that lecture will be held unless officially cancelled by the university.

## 7 Academic Integrity

### 7.1 University Policy

All students in the course are expected to be familiar with and abide by the academic integrity policy (<http://academicintegrity.rutgers.edu/academic-integrity-at-rutgers>). Violations of the policy are taken very seriously.

## 7.2 Collaboration

Put briefly, you may **consult** but not **copy** on homework and assignments where collaboration is expressly allowed. On such assignments, you are allowed and even encouraged to discuss potential solution methods with others, but you must be able to arrive at the ideas *you* express in *your written solutions* without *anyone else's* aid. In particular, copying or paraphrasing from a single group solution is NOT allowed even if everyone in the group contributed to writing it. Additionally, you may not use solution forums like Reddit and StackExchange, and collaboration is, of course, forbidden where not expressly allowed.

## 8 Appeals

If you believe that I have wrongly graded a quiz or exam then you must appeal your grade by **4:30 pm** on the day one week after the item in question was returned to the class. For example, if an exam was returned on the 7th then appeals are due by the 14th at 4:30pm.

For concerns about homework grading, please e-mail the grader directly at `tmv50@scarletmail.rutgers.edu`.

## 9 Disability policy

Students with disabilities requesting accommodations must present a Letter of Accommodations to me as early in the term as possible (see <https://ods.rutgers.edu/my-accommodations/letter-of-accommodations>).