Math 163: Discrete Mathematics
Spring 2013
Course Procedures

Professor: Josh Laison
Ford 215, x6689, jlaison@willamette.edu

Office Hours:
Tuesday 2:30–3:30
Wednesday 10:00–11:30 at the Bistro
Thursday 2:30–3:30
or anytime by appointment or by catching me in my office. You can see my schedule and available times at http://www.willamette.edu/∼jlaison

Class Meetings: Ford 201, 12:50–2:20 Tuesday Thursday
Textbook: Discrete Mathematics with Ducks, sarah-marie belcastro
Course Web Page: http://www.willamette.edu/∼jlaison/discrete.html

Grading:

Reading problems (around 18)	15%
Homework problems (around 6)	25%
Quizzes (around 6)	25%
Class participation and presentations	15%
Final	20%
Total	100%

Course Goals:

- Gain experience thinking about mathematics more formally.
- Gain experience articulating logical mathematical reasoning orally and in writing.
- Gain experience in creative mathematical problem solving.
- Learn core discrete mathematical topics, including topics in graph theory and combinatorics.

Topics Covered:

- An introduction to formal mathematical language, including set theory and logical statements.
- An introduction to combinatorics, including binomial coefficients, combinatorial identities, and the principle of inclusion-exclusion.
- An introduction to graph theory, including trees, planar graphs, and graph coloring.

Reading and Reading Problems: I will assign reading from the textbook for about two-thirds of the days of class, and you will have short assignments to complete based on the reading, due in class. You will be responsible to learn the content of the reading assignments, but you should not expect to understand every detail of the readings before you come to class. The reading problems are a way to verify that you've gotten what you need to get out of each reading. On the one hand, if you don't understand how to do the reading problems, you should come talk to me about them before class so that you can figure them out. On the other hand, if there are topics you're confused about that don't come up in the reading problems, then you don't need to worry about them as much.

Homework Problems: These assignments will be due approximately every two weeks. You may work together on these problems; in fact, you may have the opportunity to work on them in class. However, please write your solutions to these problems in your own words.

The problems are challenging enough that you probably won't be able to do all of them by yourself without some assistance. Banging your head against the wall in your dorm room is not a productive way to spend your time. Please talk to me in my office if you are confused, and I'll help you out.

Class Presentations: I will frequently ask members of the class to prepare solutions to problems to present in class. Sometimes the whole class will be asked to work on the same set of problems; sometimes they will be divided up by groups or by individual. You will be graded on the quality and clarity of your presentation. You will also be graded on your responses, feedback, and support of other students' presentations.

You will probably find that, although giving an oral presentation on a problem seems easier than writing up the solution, you will have to think just as carefully about these problems as you do about the written ones. In fact, it would probably help to write out your argument beforehand, so you have things straight in your mind.

Quizzes: We will have an in-class quiz about once every two weeks. They should each take about half an hour to 45 minutes of class time. The quizzes will test your understanding of the fundamental ideas of the course, emphasizing conceptual ideas over calculation.

Final Exam: The final exam for this course is set by the registrar to be held on Tuesday, May 7, from 2:00 to 5:00 pm. Please address all final exam scheduling concerns to the registrar.

Disabilities: If you have a documented disability for which accommodations may be required in this class, please contact me to discuss your needs. Additionally, you will need to register with Disability and Learning Services in the Bishop Wellness Center within the first two weeks of class. All such discussions will be confidential.

Late Assignments: I expect everyone to attend all classes and turn in all homework assignments on time. Unfortunately, it is inevitable that some people will have crises during the semester that will prevent them from turning in homework on time. If this happens to you, talk to me about it, and I will generally be sympathetic.

Academic Honesty: Cheating and plagiarism are serious offenses and will be treated severely, in accordance with college policy. In addition, I am personally insulted by such behavior. So please don't do it. These are the practices I expect you to follow in each of the components of the course:

on the reading and homework assignments: You may, and are encouraged to, discuss the homework with anyone, get help from your textbook, notes, computer algebra systems, etc. However, your submitted written work should be your own.

on the quizzes and final exam: You may not receive aid from any source other than me. Copying others' work, or providing your work to be copied by other students, is cheating.