

## Math 245 Discrete Mathematics, Spring 2015

### Basic Info:

Meeting Times/Locations

- Section 0001: MWF Roop Hall 212, 9:05–9:55
- Section 0002: MWF Roop Hall 212, 10:10–11:00

Instructor: Dr. Joshua Ducey

Email: [duceyje@jmu.edu](mailto:duceyje@jmu.edu)

Website: <http://educ.jmu.edu/~duceyje>

Office Location: Roop 339

Office Hours:

- Monday 11:15–12:05
- Wednesday 12:20–1:10
- Friday 1:25–2:15
- By appointment

Book: *A Discrete Transition to Advanced Mathematics* by B. Richmond and T. Richmond

### Course Content:

We will cover most of the material in the first six chapters of the text. Much of this course will focus on the subject of mathematical proof. We will use discrete mathematics topics as a playground to test our abilities.

### Homework:

I will assign homework each week. A subset of the assigned problems will be collected for grading, or alternatively a quiz may be given that week. Your grade will be based not only on correctness and completeness, but also on clarity and style of presentation. On our homework list there are some problems indicated for each class meeting—these are the *board problems*.

### Board Problems:

Each day at the start of class I will randomly call on one of you to solve a board problem in front of the class. These board problems are given to you ahead of time so that you may work on them at home and have a beautiful solution ready to present to your classmates. I will not be impressed with you figuring out these problems “on the fly.” The correctness of your solution, and also your clarity and style of presentation will be taken into account.

**Tests:**

There will be three exams this semester: two in-class tests and a cumulative final exam.

**Project:**

There will be a “group project,” including presentations to the class near the end of the semester. Details will be announced in class.

**Some Tips For Success:**

- **Take the homework very seriously.** Consistent, regular, hard work on the homework problems is absolutely the best thing you can do to succeed in this class. Slate out time to do all of the problems assigned, not just the ones that are collected.
- Don't let yourself fall behind! If you feel like you are struggling, make time to see me immediately. This is a transition or gateway course to much higher level mathematics than you may have seen before. If you let things slide it may become impossible for you to catch up.
- Read the book carefully, with a pencil and paper nearby.
- Come to class each day. Caffeinate yourself if necessary.
- I recommend jotting down a homework problem or two that you can work on when you have a minute. Sometimes inspiration comes at strange moments.
- This course will place a large emphasis on both understanding and communicating mathematics well. Reaching the next level in your mathematical career is not an easy task, and this course may be a big jump for many of you. I promise you, the effort will be worth it.

**Getting Help:**

You are encouraged to work on homework with your classmates. However, anything that you turn in to me must be written up independently and in your own words. My office hours are fixed times when I will be in my office to help you, but you can also make an appointment to see me at a different time (just email me).

**Evaluation:**

Homework: 20%

Board Problems: 10%

Tests: 40%

Project: 10%

Cumulative Final Exam: 20%

**Grade Scale:**

[90 – 100] A- to A

[80 – 90) B- to B+

[70 – 80) C- to C+

[60 – 70) D- to D+

[0 – 60) F

**Final Exam Time:**

- Section 0001: Wednesday 5/16/2015, 8:00–10:00
- Section 0002: Monday 5/4/2015, 8:00–10:00

**General University Policy:** [www.jmu.edu/syllabus](http://www.jmu.edu/syllabus)

MATH 245. Discrete Mathematics. 3 credits. Offered fall and spring.

Logic, set theory, relations and functions, mathematical induction and equivalent forms, recurrence relations, and counting techniques.

Prerequisite or corequisite: MATH 236.