

Instructor: Dr. Laura Taalman**Office:** Burruss 127**Phone:** 568-3355 (W), 442-8800 (H)**E-mail:** taal@math.jmu.edu**Website:** www.math.jmu.edu/~taal**Instant Message:** ask laura math**Class Times**

Section 01: Tuesdays and Thursdays 9:30–10:45 in Burruss 034.

Section 02: Tuesdays and Thursdays 2:00– 3:15 in Burruss 034.

Office Hours

For one hour after each class; that is, Tuesdays and Thursdays 10:45–11:45 and 3:15–4:15. Also available by email, instant message, phone, and appointment.

Textbook*A Discrete Transition to Advanced Mathematics*, by Bettina Richmond and Thomas Richmond.**Class Website**www.math.jmu.edu/~taal/245_2005.html**Course Objectives**

Math 245 is what is known as a “bridge course,” which means that by taking this class, you cross the bridge from the lower-level/computational classes in mathematics to the upper-level/theoretical classes. The main objectives of the course are for you to become good at reading mathematics, proficient at writing proofs, and in general reach a higher level of mathematical maturity. The proofs in this course will take place in the context of discrete mathematics, with topics including logic, set theory, proof techniques, number theory, counting techniques, functions and relations, cardinality, graph theory, Pascal’s triangle, and the Fibonacci numbers.

Learning to Read, Write, and Speak Mathematics

In this class you will improve your mathematical communication skills by:

- reading mathematics and learning material on your own;
- writing clear, concise, logical arguments and proofs;
- speaking aloud about mathematics in front of your peers; and
- using L^AT_EX to typeset mathematical documents.

Grades

Your grade for the course will be based on the following assignments and exams:

Homework	10 pts each	×20	200 pts
Participation	10 pts each	×20	200 pts
Tests	100 pts each	× 2	200 pts
Final Exam	200 pts	× 1	200 pts

Total: 800 pts

The number of homework assignments and participation days are approximate. I will use statistics and common sense to give you a letter grade for the course based on your numerical average. Please note that I do *not* use an arbitrary predetermined scale such as 90=A, 80=B, etc.

Structure of Class

Class will not be in the typical lecture format. You will learn most of the material by reading the book and doing the homework exercises, not by listening to me paraphrase the book for you. Most of the classroom time will be spent in discussion. A typical class day will proceed as follows:

- *Hand in Section $k - 1$.* All homework must be typeset in L^AT_EX to get full credit. (The L^AT_EX portion of the assignment is worth 3 out of 10 points, so a handwritten assignment can earn at most 7 points.)
- *Hand back Section $k - 2$ and discuss.* We may deconstruct/critique some of your proofs using the overhead projector.
- *Questions about Section k .* I will spend a few minutes answering any questions you have about the material.
- *Discussion of Section k .* The bulk of class will be spent discussing the more difficult points in the reading and the homework problems you have done for Section k . You may be asked to answer questions and/or go to the board. You will be graded on the level of your participation and your preparedness for the discussion.
- *Choose what to write up from Section k .* Based on what happened in the discussion, I will choose a subset of the assigned homework problems from Section k to be typed up in L^AT_EX and handed in on the next class day.
- *Preview of Section $k + 1$.* The last 15-20 minutes of class will be a short preview lecture of the material from Section $k + 1$. It is up to you to carefully read Section $k + 1$ and complete the bulk of the assigned homework for Section $k + 1$ for the next class day.

Expectations and Other Information

- Please bring your book with you to class every day.
- I encourage you to work with other students on the homework assignments, and talk about mathematics as much as possible. Get a study group together *now*, and meet often.
- I will put a copy of the Student Solution Manual for the book on one of the bookshelves in the Burruss Hall student lounge (room 117). It is my hope that you will go to the lounge, meet with other students in the class, and work together. Please do not steal the solution manual; I paid for it myself and do not want to have to buy another one.
- Although I keep saying that you should be working together (and you should), what you hand in to be graded should be your own work. If I even slightly suspect academic dishonesty, I will hand over any evidence I have to the Honor Council and let them deal with you. This is not personal. It is for your protection and mine. I absolutely will not tolerate any plagiarism. If you are unsure about what constitutes plagiarism, please ask!
- I will drop the lowest two homework scores when computing your final grade for the course.
- ***I do not accept late homework.*** However, contact me as soon as possible if you have an emergency or special situation. (Note: I mean CONTACT me, don't just TRY to contact me.)
- ***I do not give make-up tests.*** Again, contact me immediately if you have an emergency or special situation. My sympathy with your plight will be proportional to how quickly you speak with me about it.
- ***I do not give grades of WP/WF.*** The university deadline for withdrawing from any class with a "W" is March 17. After that date I will not grant any "W"-type grades.