

**Winter 2008**  
**Math 260**  
**Sets and Logic**  
**Bouillon 109, 9:00 - 9:50 MWF**

**Instructor:** Dr. Jim Bisgard

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**Office Hours:** M-Th 10:00 - 10:50 and by appointment.

**Course Goals:** Math 260 is an introduction to sets and logic. The goal of the class is introduce basic set notation, set theory (often referred to as “naive set theory”), logic, quantifiers and some methods of proof. In addition, there is another, less well-defined goal: to increase your “mathematical maturity” in preparation for later proof based classes.

In terms of the book, we will cover Chapters 1, 2 and 3. Then, we will jump ahead to Chapter 6 and cover induction. Then, as time permits, we may cover Chapter 4 and 5. In addition, we may cover a little bit of linear algebra. Since that material is not in the book, I will give you handouts if we do some linear algebra.

An important element in familiarizing you with proofs is writing. You will do a lot of writing in this class. Unlike calculus, there will rarely be long calculations with lots of algebra. Rather, you will have to *describe* (in complete sentences) your thought process, and justify the steps you take.

**Required Text:** Velleman, Daniel J.; How to Prove It: A Structured Approach 2<sup>nd</sup> ed.; Cambridge University Press

It is very important that you read the appropriate sections from the book before lecture. A good way to do to read a mathematics text is to have a separate notebook that you use when reading the book. When you’ve finished a paragraph in the book, try and write (in the separate notebook) a short (a few sentences) summary of what that paragraph says. In addition, put any questions about the reading in this notebook, and then ask about those questions during class. If I suspect that people are not reading the book ahead of time, I reserve the right to administer a short quiz.

## 1 Grades/Exams/Homework

### Grades

Grades will be calculated using the following weighting system:

Homework: 50%;

Exams: 50% total, broken up as follows: 20% for the mid-term and 30% for the final.

### Homework

You’ll get two homework assignments every week. The first will be handed out on Tuesday and due Friday at 2:30, and the second will be handed out on Friday and due the following Tuesday at 2:30. Each assignment will be a few problems long, and will likely involve some writing. I encourage you to talk and work with your classmates on the homework! However, I expect you to write up solutions in **your own words** to hand in! Late work will be accepted up to two class days after the due date, but will be only awarded half-credit. **I will not accept (for credit) any work three or more days late.** However, with appropriate documentation (doctor’s notes, receipts for car repairs, notes from the president, etc.), you may be excused from a homework assignment.

## **Exams**

There will be two exams: a mid-term and a final. The mid-term will be on February 6, and the Final Exam will be on March 11. Make-up exams will be available with appropriate documentation. Notice that it is **NOT** possible to take your final exam early, so please do not plan on leaving for spring break before March 11.

## **Expectation for Homework and Exams**

Your homework and exams should be written up neatly and legibly, using complete sentences where appropriate. (For example, I don't expect you to write  $(a + b)^2 = a^2 + 2ab + b^2$  using complete sentences!)

## **2 Important Dates**

January 9 - Last Day for Add/Drop

February 6 - mid-term exam

February 15 - uncontested withdrawal deadline

March 11 - final exam

## **3 Legalese/Fine Print**

*Students with disabilities who wish to set up academic adjustments in this class should give me a copy of their "Confirmation of Eligibility for Academic Adjustments" from the Disability Support Services Office as soon as possible so we can discuss how the approved adjustments will be implemented in this class. Students without this form should contact the Disability Support Services Office, Bouillon 205 or [dssrecept@cwu.edu](mailto:dssrecept@cwu.edu) or 963-2171.*