The textbook

The text that is currently being used in our department is


This is a new edition.

Make sure you have this version, not the one which does not have 2nd order differential equations as a chapter in the book. (Other versions of the book only have a reference to online material on 2nd order ODE.)

Topics to be covered

The following link on the department website contains a brief description of what will be covered in math 221:

http://www.math.wisc.edu/node/76

To cover these topics we will go through these sections of our textbook:

Chapter 1: Functions
(1) §1.1–1.4
Chapter 2: Limits and Continuity
(2) §2.1, 2.2, 2.3: Informal and formal limits
(3) §2.4: One-sided limits
(4) §2.5: Continuity
(5) §2.6: Limits involving ∞; Asymptotes of Graphs
Chapter 3: Differentiation
(6) §3.1: Tangents and Derivative at a point
(7) §3.2: The Derivative as a Function
(8) §3.3: Differentiation Rules
(9) §3.4: The Derivative as a Rate of Change
(10) §3.5: Derivatives of Trigonometric Functions
(11) §3.6: The Chain Rule
(12) §3.7 Implicit Differentiation
(13) §3.8: Related Rates
(14) §3.9: Linearization and Differentials
Chapter 4: Applications of Derivatives
(15) §4.1: Extreme Values of Functions
According to the academic calendar at

http://www.secfac.wisc.edu/acadcal

there are 43 MWF days in the fall semester. It should therefore be possible to complete this syllabus at a pace of roughly one line per lecture, leaving a little time for things like review sessions.
Course Policy and Grading. There will be two midterm exams. Each of the two midterm exams is worth 25 percent, for a total of 50 percent of the final grade. The final exam will count for 35 percent. The remaining 15 percent is a Discussion Section grade allocated by your TA who will base it on homework, quizzes, participation, attendance, and effort. (The Discussion Section grade will be adjusted to account for variations among the TAs.)

Office Hours. See the course webpage.