

MATH 401: Introduction to Analysis
Syllabus - Spring 2009

Instructor: Dr. Aissa Wade
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Office hours: MW 1:30 - 2:30PM and by appointment.

Prerequisite: Math 230 or Math 231 .
Textbook: Mathematical Analysis by K.G. Binmore, 2nd edition
Class Meetings: MWF 11:15 -12:05 in 316 Boucke
Course webpage: <http://www.math.psu.edu/wade/math401-SP09.html>
Calculators are not allowed on exams.

Homework:

Homework will be assigned each Wednesday and collected in class the following Wednesday. Homework should be **neat** and stapled. Correct answers without supported work will receive no credit. *No late homework* will be accepted. The two lowest homework grades will be dropped.

Quizzes: Approximately twice a month, there will be a short in-class quiz. The lowest quiz grade will be dropped.

Midterms: The two midterm exams will be given **in class** :

Midterm I: Friday, February 27, 2009

Midterm II: Friday, March 27, 2009.

Final exam: A comprehensive final exam will be given during the week of May 4-8, 2009. Cellphones or any electronic device must be turned off during the exams. You must bring your University ID card to all exams. The final examination may be scheduled on any day during the final examination period. Do not plan to leave University Park before May 9, 2008.

Grading Policy: Grades will be assigned on the basis of 400 points distributed as follows:
150 points for homework and quizzes
75 points for each midterm exam
100 points for the final exam

A grade:90-100 % , B grade 80-89 % , C grade: 70-79% , D grade 60-69%, F grade: 0-59%

NOTE: Your grade will be based EXCLUSIVELY on the midterm examinations, homework, quizzes and the final examination. **There will be NO extra credit work. There will be no makeup quiz.**

TOPICS

Chapter 1: Real numbers

Chapter 2: Continuity property

Chapter 3: Natural numbers

Chapter 4: Convergent Sequences

Chapter 5: Subsequences

Chapter 6: Series

Chapter 7: Functions

Chapter 8: Limits of functions

Chapter 9: Continuity

Chapter 10: Differentiation

Chapter 11: Mean Value Theorems

Chapter 12: Monotone Functions

Chapter 13: Integration

Chapter 15: Power series

Additional topic: Pointwise and uniform convergence for sequences of functions

Academic Integrity: All Penn State policies regarding academic integrity apply to this course. Academic integrity is the pursuit of scholarly activity in an open, honest and responsible manner. Academic integrity is a basic guiding principle for all academic activity at The Pennsylvania State University, and all members of the University community are expected to act in accordance with this principle. Consistent with this expectation, the University's Code of Conduct states that all students should act with personal integrity, respect other students' dignity, rights and property, and help create and maintain an environment in which all can succeed through the fruits of their efforts.

Academic sanctions range from a warning to removal from the academic program, and include deductions of points or alterations in grades.

See <http://www.science.psu.edu/academic/Integrity/index.html> for details.

Tentative weekly schedule

Week 1 (Jan. 12-16): Chapter 1 (Real numbers)

Week 2 (Jan. 19-23): Chapter 2 (Continuum Property)

Week 3 (Jan. 26-30): Chapter 3 (Natural Numbers)

Week 4 (Feb. 2-6): Chapter 4 (Convergent sequences)

Week 5 (Feb. 9-13): Chapter 5 (Subsequences)

Week 6 (Feb. 16-20): Chapter 6 (Series)

Week 7 (Feb. 23-27) : Chapters 7 and 8 (Functions and limits of functions)

Week 8(Mar. 2-6): Chapter 9 and 10 (Continuity and differentiation)

Week 9 (Mar. 9-13): No class - Spring break

Week 10 (Mar. 16-20): Chapters 11 (Mean Value Theorems)

Week 11 (Mar. 23-27): Chapter 12 (Monotone functions)

Week 12 (Apr. 6-10): Chapter 13 (Integration)

Week 13 (Apr. 13-17) : Chapter 15 (Power series)

Week 14(Apr 20-24): Pointwise convergence and uniform convergence for sequences of functions

Week 15 (Apr. 27-May 1): Review