

FALL 1999

MATH 514 - ANALYSIS FOR TEACHERS II

Textbook: Principles of Mathematical Analysis, W. Rudin.

Tu 6:30pm–9:30pm      Room: Humanities 320

INSTRUCTOR : Mark de Cataldo

e-mail: mde@math.sunysb.edu

Office: MATH 3-115

Office Phone: (516) 632-8262

Office Hours: By appointment

The goals are to learn the basic mathematical principles behind the notion of integration, to understand its connection with differentiation, to treat rigorously, with these and other tools, the usual functions (power series, exp, log ...) and to be able to coherently present and explain these concepts to others.

Some basic familiarity with the basic properties of real and complex numbers, sequences, series, continuity and differentiation is required. However, when necessary, I will review in class the needed notions and concepts.

You should always consult, besides your textbook and your notes, another calculus book in order to get exposed to different ways of explaining the same concepts and to have access to different exercises.

I will encourage the students to work, alone or in small groups, on exercises as well as on projects, such as the presentation of selected topics to the rest of the class.

There will be two exams: a mid-term and a final.

The final grade will depend on the in-class participation, on the presentations and, in large part, on the exams.

Tentatively, we will cover the material contained in Chapters 6, 7 and 8 of the textbook. If time permits, we may explore parts of Chapter 9 or re-visit complex numbers.