Syllabus Mathematical Analysis Review

Prof. Annalisa Fabretti

Sets, Ordered Sets, Relations (equivalence and order), Upper and lower bounds, Rational and Real numbers

Topology and Metric Spaces.
Definitions, examples. Open and closed sets. Sequences: definition, convergence, Cauchy sequences, completeness and compactness

Linear Spaces. Convex sets, Normed linear spaces, Separation Theorem

Functions and mappings, continuity and hemi upper and lower continuity

Fixed point theorems

References:

M. Carter, Foundations of Mathematical Economics, The MIT Press, Cambridge, Massachusetts, 2001

W. Rudin, Principles of mathematical Analysis, 3rd edition, McGraw-Hill, 1976
Aliprantis Border

C. D. Aliprantis and K. Border, Infinite Dimensional Analysis, Springer-Verlag Berlin Heidelberg, 2006