Plan of the course MAT 211 Real Analysis (Professor: Irina Markina.)

Books:

1) W. Rudin, Principles of mathematical Analysis. McGraw-Hill International editions, Mathematical Series, 3d edition.

2) K.G.Binmore, Mathematical Analysis, a straightforward approach. Cambridge University Press.

Week	Date	Theory	Exercises and activities
34	25.08	Introduction, ordered sets, fields	
34	27.08	Real field and extended Real field	
35	01.09	Complex field, Euclidean spaces R^k	List of exercises 1
35	03.09	Finite, countable and uncountable sets	
36	08.09	Metric spaces	List of exercises 2
36	10.09	Notion of the topology	
37	15.09	Open and closed sets	List of exercises 3
37	17.09	Compact sets, Heine-Borel theorem	
38	22.09	Perfect set, connected set	
38	24.09	Convergent sequences, subsequences	Delivering mandatory exercises
39	29.09	Cauchy sequence, special sequences	List of exercises 4
39	01.10	Series, the number	
40	06.10	Absolute convergence, rearrangements on series	List of exercises 5
40	08.10	Addition and multiplication of series	
41	13.10	Limits and continuity of the functions	List of exercises 6
41	15.10	Continuity and compactness	

42	20.10	Continuity and connectedness	List of exercises 7
42	22.10	Monotonic functions	
43	27.10		Mandatory Quiz
43	29.10	Infinite limits and limits at the infinity	
44	03.11	Derivative, mean value theorems	List of exercises 8
44	05.11	The L'Hospital rule,	
45	10.11	The Taylor theorem	List of exercises 9
45	12.11	Uniform convergence and continuity	
46	17.11	Uniform convergence and differentiation	List of exercises 10
46	19.11	Equicontinuous families of functions	
47	24.11	The Stone – Weierstrass Theorem	
47	26.11	The Stone – Weierstrass Theorem	
48	01.12	Repetition	Repetition
48	03.12	Repetition	Repetition
49	06.12-		
49	-10.12		

- The participation on the lectures is optional, but strongly suggested.
- You will be given a list of exercises every week
- There will 3 obligatory activities on the course
    1. Mandatory exercises on week 38
    2. Written quiz on week 43
    3. You have to give a 10 min presentation for members of the exercise group on one of the given topics
- Please check the webpage for the updated information