

MATH527

**COURSE NAME Topics in Topology**

SPRING 2012/13

INSTRUCTOR: Eberhard Malkowsky

PLACE: Fatih University, Büyükçekmece

TIMETABLE: Monday 8-11

CONTACT: eberhard.malkowsky@math.uni-giessen.de

ASSESSMENT: Projects

PRE-REQUISITES: Functional Analysis, undergraduate level (MATH410)

PRINCIPAL TEXTBOOK: A. Wilansky, Functional Analysis, Blaisdell Publ. Co. 1964

PROGRAMME

WEEKS	SUBJECTS TO BE COVERED
1 & 2	Linear spaces, linear maps
3 & 4	Convex, affine sets, quotient spaces
5 & 6	Topological spaces, weak, sup and product topologies; nets
7 & 8	Compact sets, linear topological spaces, closed maps, Baire's category theorem
9 & 10	Open mapping, closed graph theorem, uniform boundedness principle, Minkowski functional
11 & 12	Metrization, semimetric and seminormed spaces, Hahn--Banach theorem
13 & 14	Representation theorems; the adjoint map
Will be announced	Projects

SUGGESTED READING:

- A. Wilansky, Modern Methods in Topological Vector Spaces, McGraw--Hill, 1978
- G. Köthe, Topological Vector Spaces I, Springer--Verlag, 1969