ANALYSIS SEMINAR

ON STRUCTURE OF
UPPER SEMICONTINUITY

IWO LABUDA

WEDNESDAY, OCTOBER 27, 2004 IN ROOM 331 AT 3:00 PM

Abstract: *This talk may be considered as an extension of Brian Davis' talk on topological games on filters. I will go back to a very old theorem of Vainstein (1946) in which he shows that if f is a closed mapping from a metric space X onto a metric space Y, then for each y in Y, the fiber Fy (i.e. the the inverse image of y by the map f) has compact boundary. The inverse F of f motivates the introduction of upper semicontinuous set valued maps and the theorem of Vainstein is actually a predecessor of the Choquet-Dolecki Theorem. Topological games discussed by Brian define one class of spaces in which Choquet-Dolecki Theorem holds. Another class will be discussed towards the end of my talk.*