Abstract. In this paper we introduce and investigate the idea of a type of compactness, called $\alpha$-compactness ($0 < \alpha < 1$), for arbitrary crisp subsets (i.e., ordinary subsets) of a space $X$ where $X$ is endowed with an intuitionistic fuzzy topology. We have defined $\alpha$-closed sets, $\alpha$-continuity of functions, $\alpha$-Hausdorff space in terms of the accessories available in an intuitionistic fuzzy topological space $X$, and have ultimately achieved some expected results in our setting concerning $\alpha$-compactness.