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Will Brian* (wbrian.math@gmail.com) and **Neil Hindman**. *Factoring a minimal ultrafilter into a thick part and a syndetic part.*

$\beta\mathbb{N}$ is at once a topological space, a dynamical system, and a semigroup. The *minimal ultrafilters* are special points of $\beta\mathbb{N}$ defined in terms of its dynamical and algebraic structure. In this talk I will explain what minimal ultrafilters are, and how their dynamical/algebraic properties can be used to reveal their set-theoretic and topological properties. The main result is that every minimal ultrafilter \mathcal{U} can be “factored” into a thick part and a syndetic part, meaning that there is a filter \mathcal{F} containing only thick sets and a filter \mathcal{G} containing only syndetic sets such that \mathcal{U} is generated by $\mathcal{F} \cup \mathcal{G}$. One consequence of this is that $\beta\mathbb{N} \setminus \{\mathcal{U}\}$ and $\mathbb{N}^* \setminus \{\mathcal{U}\}$ are both non-normal spaces. (Received August 21, 2018)