Multidesigns for directed graphs and hypergraphs

Given two graphs $G$ and $H$, a $(G, H)$-multidesign of order $n$ is a partition of the edges of $K_n$ into subgraphs that are isomorphic to either $G$ or $H$, and at least one copy of each is present. The construction of $(G, H)$-multidesigns has been studied for different choices of $G$ and $H$, including when $G$ and $H$ form a graph pair. A graph pair is a pair of non-isomorphic graphs with no isolated vertices whose union is a complete graph. In this talk we will examine the same problem for directed graphs and hypergraphs.