

University of Delaware  
Discrete Mathematics Seminar

**Ryser's Conjecture and other packing and covering problems**

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Ewing Hall 336 3.45-4.45pm

For a hypergraph  $H$ , we denote by  $\nu(H)$  the maximum size of a set of disjoint edges in  $H$ . The parameter  $\tau(H)$  is defined to be the minimum size of cover in  $H$ , where a cover is a set  $C$  of vertices that intersects every edge of  $H$ . The general packing and covering problem seeks to establish upper bounds for  $\tau(H)$  in terms of  $\nu(H)$  for various classes of hypergraphs  $H$ . For example, Ryser's Conjecture states that  $\tau(H) \leq (r - 1)\nu(H)$  for every  $r$ -partite  $r$ -uniform hypergraph  $H$ . We discuss some old and new results on this conjecture, and related packing and covering problems.