1125-VF-2627 **Miranda Bowie*** (mbowie@una.edu), **Louis Sewell** and **Anne Sinko**. *Set-Sized Packing on Graphs.* Preliminary report.

For a graph G, the packing number, $\rho(G)$, is defined to be $max\{|S| : S \subseteq V(G)$ and $|N[v] \cap S| \leq 1$ for each $v \in V(G)\}$. Notice that for every vertex in $V(G)$ there is a restriction on the number of vertices in the packing set S which lie within that vertex's closed neighborhood. Set-sized packing extends the notion of packing beyond restrictions for individual vertices to collections of vertices. We define the set-sized packing number $\rho_{X(c_1,c_2,\ldots,c_t,\ldots)}(G)$ to be the maximum cardinality of a set $S \subseteq V(G)$ such that, for each set of k vertices, there are no more than c_k vertices of S in the union of their closed neighborhoods. An introduction to set-sized packing will be discussed along with preliminary results. (Received September 20, 2016)