1125-34-836 Ahmed Ghatasheh\* (ghatash@uab.edu), UAB Department of Mathematics, Campbell Hall, 1300 University Boulevard, Birmingham, AL 35294, and Rudi Weikard, UAB Department of Mathematics, Campbell Hall, 1300 University Boulevard, Birmingham, AL 35294. *Generalized* Sturm-Picone Comparison Theorems.

The original Sturm-Picone comparison theorem considers two equations of the form -(pu')'+qu=0 where p,q are continuous on [a,b] and p>0 on (a,b). We modify Picone identity to develop Sturm-Picone type comparison theorems for two equations of the form -(p(u'+su))'+r p(u'+su)+qu=0 where 1/p,q,r,s are integrable on (a,b) and p>0 almost everywhere on (a,b). We show that there are multiple tests that can be used to do Sturm-Picone type comparison for two such equations. We show that the original Sturm-Picone comparison theorem is a simple case of our new results. (Received September 12, 2016)