**Mentor:** Richard Papez

**Students:** Miranda Campbell, Haley Young

**Project Description:** The research that Miranda Campbell and Haley Young are working on is entitled “Synthesis with Successive Analyses of Oligomers and Polymers with Emphasis on Molecular Weight and Structure”. It involves making polymers, evaluating them with analytical techniques and studying their practical value.

Polymer research has been important for more than a half century and continues to be so as it is basic to new materials and products. Comparing polymer materials in the early part of the last century to those available today the creativity that this science represents is astounding. Some examples just to show the variety starts with a material as basic as polyvinyl chloride, a basic construction polymer, polyurethane, used in protective coatings as well as heart replacement valves, light sensitive polymers, polymer fibers covering a wide range of tensile strengths to the point of bullet-proof vests (going as far back as World War II), light weight motor replacement parts enabling better fuel efficient engines, electronic components, CD/DVD’s, antisticking surfaces (Teflon) and resiliency control (superballs). The list goes on and on. As new materials are created, they become the basis for the next generation of ideas and materials.