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Torina Deachune Lewis* (lewist@cookman.edu), **Talmage James Reid** and **Laura Sheppardson**. *Bicircular Matroids with Circuits of at Most Two Sizes*.

Young reports that Murty was the first to study matroids with all hyperplanes having the same size. Murty called such a matroid an “Equicardinal Matroid”. Young renamed this matroid a “Matroid Design”. Further work on determining properties of these matroids was done by Edmonds, Murty, and Young. These authors were able to connect the problem of determining the matroid designs with specified parameters with results on balanced incomplete block designs. The dual of a matroid design is one in which all circuits have the same size. Murty restricted his attention to binary matroids and was able to characterize all connected binary matroids having circuits of a single size. Lemos, Reid, and Wu provided partial information on the class of connected binary matroids having circuits of two different sizes. Here we determine the connected bicircular matroids with all circuits having the same size. We also provide structural information on the connected bicircular matroids with circuits of two different sizes. The bicircular matroids considered are in general non-binary. Hence these results are a start on extending Murty’s characterization of binary matroid designs to non-binary matroids. (Received September 21, 2011)