1067-Z1-2115 Cathy W. Carter* (ccarter@cbu.edu), 650 East Parkway South, Memphis, TN 38104, Brittany Nicole Course (bcourse@cbu.edu), 650 East Parkway South, Memphis, TN 38104, and Alan Killen (rkillen@cbu.edu), 650 East Parkway South, Memphis, TN 38104. Folding Math Together - A Senior Seminar in Origami.

The mathematics of origami is a fairly new and exciting field of study. It is based on seven axioms, known as Huzita's Axioms, which parallel the straight edge and compass constructions of geometry. This presentation describes some of the explorations of a senior seminar. We began by looking at simple examples of origami and investigated their relationships to previously encountered math. We found connections with optimization and tangent lines of calculus. Abstract algebra arose when we encountered extended fields. Graph theory abounded when we immediately thought of duals, Euler cycles, and bipartite graphs. Topics just covered in a complex analysis class reappeared in our origami study. We saw how something as simple as folding paper can actually be complex. We will engage the audience by guiding them through origami folds as we illustrate links to mathematics. (Received September 22, 2010)