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Scott Crass* (scrass@csulb.edu). *Math as Exploration*. Preliminary report.

The Long Beach Project in Geometry and Symmetry provides students with the chance to experience math as an exploratory process. Supported by an NSF-CCLI grant, its centerpiece is a *Geometry Studio*. Housing a variety of tools, the studio is a space where students and faculty gather to construct, discover, and explore models and structures connected to mathematical ideas and results. A fundamental objective is to encourage students to develop experimental, perceptual and geometric modes of thinking.

I will focus on an upper-division course in the standard curriculum that's been offered as a "studio experience." *Modern Geometry* is populated mostly by students preparing for high-school teaching. The class engages in a number of explorations each of which begins with a question of a fairly simple and experiential nature. What are the maximally symmetric polyhedra? Can one knot be turned into another? How do you render a three-dimensional object on a plane? Working by collaborative experimentation and exploiting the studio's material resources, students then develop independent ways of thinking about the issues. Frequently, they arrive at new questions or refine the original one. The class gains insight and understanding through an ensuing class-wide discussion. (Received September 12, 2008)