

1106-H1-2131      **Lee Stemkoski\*** ([stemkoski@adelphi.edu](mailto:stemkoski@adelphi.edu)), Adelphi University, 1 South Ave., Garden City, NY 11530. *Rendering Photorealistic Knots: Theory and Practice.*

We present a series of photorealistic 3D renderings of ropes based on polynomial and trigonometric parameterizations of topological knots, and explain how these images can be created using Blender, a free and open-source modeling and rendering program. We also discuss how the mathematics underlying the techniques used in this process, including extruding a circle along a curve, UV mapping, and displacement mapping, can be presented as an enrichment lesson for a multivariable calculus course. (Received September 15, 2014)