1067-Z1-327 Paul Raymond Bouthellier* (pbouthe@pitt.edu), 504 East Main Street, Titusville, PA 16354. Video Game Design=Mathematics.

In this talk we shall give an overview as to how concepts from mathematics and physics are used to create the computer graphics and programs which are used in movies, television, computer games, medical imaging and many other fields. Images and movies generated in programs such as Flash, Poser, Swift3D, Studio 3D Max, Maya, and Carrara will be used to illustrate: Bezier curves and NURBs for modeling, 2 and 3 dimensional mappings (UV and UVW mappings) for creating textures, quaternions and matrices for scaling, translations, skewing, and rotations, and cross and dot-products for back-face culling. (Received August 23, 2010)