

1106-D5-2086      **Yevgeniy V. Galperin\*** (egalperin@esu.edu), 200 Prospect St., East Stroudsburg, PA 18301.  
*Derivatives, Edge Detection, and Image Sharpening.*

Many Calculus students struggle with the definition of the derivative because they consider it irrelevant from the practical point of view. We help students appreciate the importance of the definition by working out several derivative-based edge detection methods (the 2x2 Roberts operator, the Prewitt and Sobel kernels, and the Laplacian edge detector). This approach also provides the students with an opportunity to experiment with image enhancement (such as image sharpening) and with Matlab programming. (Received September 16, 2014)