1035-B1-243   **Gary Greenfield*** (`ggreenfi@richmond.edu`), Dept. of Mathematics and Computer Science, University of Richmond, Richmond, VA 23173, **Carolyn Marks**, Dept. of Biology, University of Richmond, Richmond, VA 23173, and **Gary Radice**, Dept. of Biology, University of Richmond, Richmond, VA 23173. *On The Mathematics Component of a Biological Imaging Course.*

In undergraduate institutions there is an increasing availability of sophisticated brightfield, phase contrast, fluorescent, and laser scanning confocal microscopy, plus various electron microscopes with computer controlled image acquisition devices. We describe our integration of mathematics and image processing components into a special topics course on Biological Imaging whose purpose was to permit students to learn how to use different imaging techniques to investigate biological structures. The challenge we faced was providing a non-specialist audience with the necessary background and theory on topics such as digital color, digital images, convolution filtering, Fourier transforms, and stereology. These topics in concert with image processing software tools are needed to support laboratory procedures, make optimal use of the instruments available, and reinforce the fundamental resolution-contrast-magnification theme. We describe our approaches to these issues and survey some of the projects students developed during the course. (Received August 23, 2007)