

Graduate Module Outline

Title: Digital Image Processing for Biological Sciences

Instructor: Dave Barrett

Timing (month/year module will be offered): Fall 2015 or Winter 2016
or Summer 2016

Module Description:

In this module, students will learn about digital image processing. Students will be introduced to image processing and concepts of processing. We will examine many examples of digital image processing from our everyday lives and own imaging based research areas.

Format:

Students will spend most of the module planning, carrying-out, and presenting a digital image processing assignment of their own research images or images from their fields of research. The instructor will approve of and provide some assistance with this assignment. Every student will have designated periods of time to use the image processing system(s). Each student will be involved in presentation peer evaluation.

Students will be required to study relevant background material.

The final exam will cover image processing, concepts of processing, and examples of digital image processing.

4 weeks; 1 introductory lecture

Method of Evaluation:

The overall grade will be based on the assignment (45%), presentation of the assignment (20%; including presentation peer-evaluation), and final examination (35%; 1 h based on theory and applications).

Prerequisites (list undergraduate courses required or recommended as prerequisites):

STAT 2000 or equivalent (required)

CSCI 1000 or equivalent (recommended)