Graduate Module Outline

Title: Digital Image Processing

Instructor: Dave Barrett

Timing (month/year module will be offered): one month during September 2018-August 2019

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), such as the Image Pro Plus software program. Each student will be involved in presentation peer evaluation.

Students will be required to study relevant background material. The instructor will assign readings on image processing, concepts of processing, and examples of digital image processing.

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

4 weeks; 1 h introductory lecture; 3 h meeting to develop assignment; 3 h teaching students how to use the image processing system; 1 h presenting assignment

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)