Instructors:
Dr. Steven Ruuth (sruuth@sfu.ca)
Dr. Faisal Beg (mfbeg@ensc.sfu.ca)

Lectures: Tues, Thurs 2:30pm-4:20pm
Room: AQ 5035
Lectures start Tuesday Jan 14.

Prerequisites:
Some undergraduate differential equations and numerical analysis, or permission of the instructors

Textbook:
The lectures will not follow one particular textbook. The topics presented will be selected from a variety of texts and research papers.

Course description:
This course will introduce students to a number of problems in image processing and describe how they can be solved using modern techniques based on the calculus of variations and partial differential equations. Topics will be selected from image restoration (e.g., de-noising, de-blurring, inpainting...), image segmentation (e.g., active contours, the Mumford Shah model of image segmentation,...) and image registration. Relevant mathematical and numerical techniques such as variational calculus and level set methods will be introduced as part of the course.

Grading:
Based on 4 assignments (17% each) and a project (33%).