Analysis and Computation of Models

Applied and Comp Math 935

Section: G100

Term: 2014 Spring

Instructor:

Dr. Faisal Beg (mfbeg@ensc.sfu.ca)
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Lectures:
Wed 10:30-12:20 in WMC 2507
Fri   10:30-12:20 in AQ 4120

Lectures start Wednesday Jan 15th

Discussion Topics: 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: Grades will be assigned based on short problem sets and a larger project.

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

Recommended Texts:

Materials/Supplies:

Prerequisite/Corequisite: Some undergraduate differential equations and numerical
analysis, or permission of the instructors

Notes: THE INSTRUCTOR RESERVES
      THE RIGHT TO CHANGE ANY OF THE ABOVE INFORMATION.

      Students should be aware that they have certain rights to
      confidentiality concerning the return of course papers and the
      posting of marks. Please pay careful attention to the options
      discussed in class at the beginning of the semester.

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