BE244 Winter Quarter  Biomedical Image Analysis

January 5, 2009 – March 18, 2009 (11 weeks)

Time: Mondays and Wednesdays from 11:00 am - 12:30 pm
Location: China Basin Classroom (Room 331)
Instructors: Colin Studholme (colin.studholme@ucsf.edu)
Kio Kim (kio.kim@ucsf.edu)
Piotr Habas (piotr.habas@ucsf.edu)
Catherine Klifa (catherine.klifa@radiology.ucsf.edu)

2009 Syllabus
M Jan 5+7 Introduction to Instructors and Course Topics
M Jan 12 Digital Imaging Basics (Kim)
W Jan 14 Digital Imaging Basics (Kim)
M Jan 19 Martin Luther King birthday – HOLIDAY
W Jan 21 Image Enhancement I - Spatial Domain (Studholme/Habas)
M Jan 26 Image Enhancement II - Frequency Domain (Studholme/Habas)
W Jan 28 Image Restoration (Habas)
M Feb 2 Spatial Filtering (Klifa)
W Feb 4 Image Segmentation (Klifa)
M Feb 9 Texture (Klifa)
W Feb 11 Morphology (Klifa)
M Feb 16 President’s day - HOLIDAY
W Feb 18 Object Representation in Medical Images (Studholme)
M Feb 23 Object Descriptors for Medical Image Analysis (Studholme)
W Feb 25 Object Classification I- Linear Discriminant (Studholme)
M Mar 2 Object Classification II- High Dimensional Classification (Studholme)
W Mar 4 Object Classification III- Neural Networks (Studholme)
M Mar 9 Template Matching and Intro to Image Registration (Studholme)
W Mar 11 Image Analysis Project due (Studholme)
M Mar 16 Discussion Session
W Mar 18 Final Exam (date is negotiable)

Method of Evaluation
Homeworks - 50%
Projects (3) - 30%
Final Exam - 20%

Textbook
Digital Image Processing 2nd Edition
R.C. Gonzalez and R.E. Woods, Addison Wesley 2002