

# ICE6202 Digital Image Processing

Course Teacher

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Lecture 1 Introduction

Lecture 2 Sampling & Reconstruction, Quantization, Radiometry  
Fundamentals

Lecture 3 Colorimetry Fundamentals, Human Visual System,  
Human Visual Models & Image  
Quality Assessment

Lecture 4 2D DFT, DCT, WHT

Lecture 5 KLT, 2D DWT

Lecture 6 Gray Level Enhancement

Lecture 7 Image Filtering in Spatial Domain, Image Filtering in  
Frequency Domain, Median  
Filtering

Lecture 8 Image Restoration

Lecture 9 Image Reconstruction

Lecture 10 Theoretical Fundamentals of Image Compression

Lecture 11 Entropy Coding

Lecture 12 Predictive Coding, Transform Coding

Lecture 13 Edge Detection, Line Detection

Lecture 14 Region-Based Segmentation, Morphological Filtering

Lecture 15 Image Description

Lecture 16 Review

### **Textbook**

Digital Image Processing (Third Edition), Rafael C. Gonzalez,

Richard E. Woods, 2017

### **Evaluation Criteria**

Practice exercise 20%

Project reports 40%

Final exam 40%