Image Processing

Lecture 16: Pre-examination Revision

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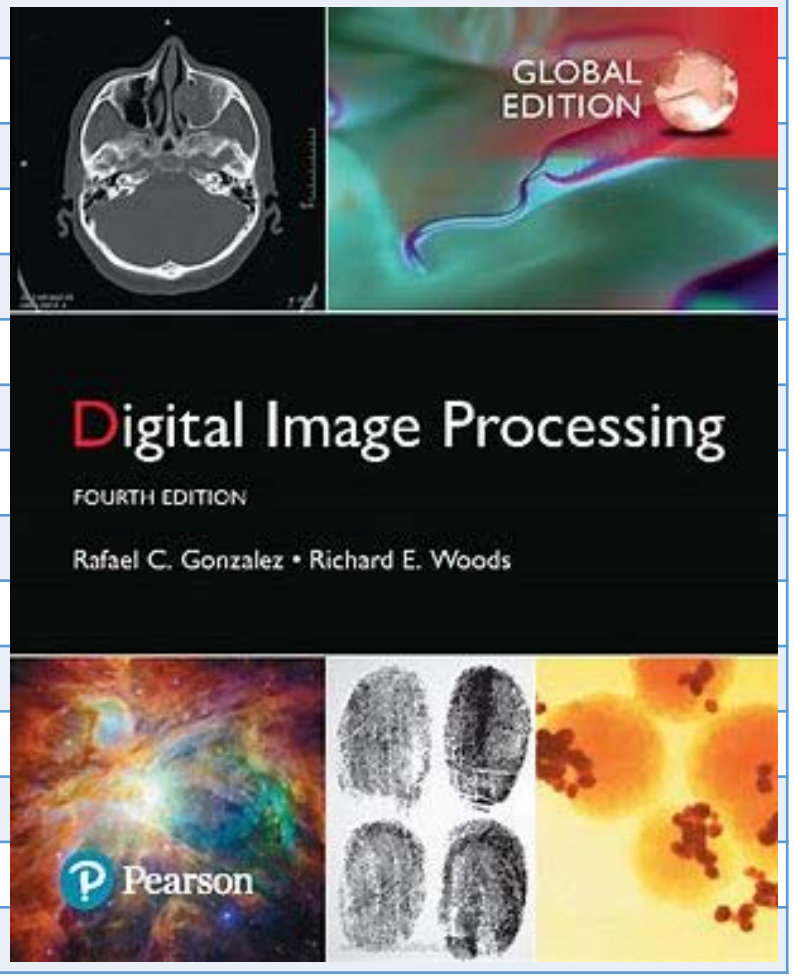
Course Overview

No.	Contents	Chapter in the Textbook
1	Introduction & Fundamentals	Chapters 1 & 2
2	Intensity Transformation	Chapter 3
3	Spatial Filtering	Chapter 3
4	Filtering in the Frequency Domain	Chapter 4
5	Image Restoration	Chapter 5
6	Color Image Processing – I	Chapter 6
7	Color Image Processing – II	Chapter 6
8	Image Compression – I	Chapter 8
9	Image Compression – II	Chapter 8
10	Morphological Image Processing – I	Chapter 9
11	Morphological Image Processing – II	Chapter 9
12	Image Segmentation – I	Chapter 10
13	Image Segmentation – II	Chapter 10
14	Feature Extraction	Chapter 11
15	Image Pattern Classification	Chapter 12



Assessment

Assessment Type	Percentage of Total Assessment (%)
Final Examination A 2-hour open-book examination	**60%**
Projects Three projects, each accounts for 10%	**30%**
Attendance 80% attendance is the minimum requirement	**10%**

Format of Examination

- **Open-book Examination**
  - You can take lecture notes, books, and other printed materials.
  - But you CANNOT use any electrical devices (including, but not limited to, mobile phones, tablets, computers, etc.)

Types of Examination Questions

- **True/False Questions (10 marks)**
  - 10 questions, each worth 1 mark
- **Multiple Choice Questions (40 marks)**
  - 20 questions, each worth 2 marks, each having one correct answer choice
- **Short Answer Questions (30 marks)**
  - 10 questions, each worth 3 marks
- **Computational Questions (20 marks)**
  - 3-4 questions, each worth 5-7 marks.

Sample Questions

True/False Questions

- We can use a Gaussian lowpass filter to effectively remove salt-n-pepper noise in an image.

- Answer: ✗ (false)

Sample Questions

Multiple Choice Questions

- Which one is NOT a color space?

  A. RGB B. LZW

  C. CMY D. HIS

- Answer: B

Sample Questions

Short Answer Questions

- The run-length code of “HHHHIIITTTTTSSSZZZZZZ” is _____.

- Answer: H4I3T5S3Z6

Sample Questions

Computational Questions

- Segment the following image by Region Growing Method. The seed point is given in shadow, and the growing criteria is the gray level difference < 3. Please give the segmentation results.

11	10	14	17	15
11	10	14	17	17
10	11	15	15	15
12	10	15	16	15
12	10	15	16	15

Exam Time and Venue

- **Date: 2nd December, 2024**
- **Time: 13:30 – 15:30**
- **Venue: H301**


Best Luck!
Final Exam Score
100 / 100