

Biomedical image investigation: Spring 2020

Time and Location:

Tuesday PM 9:10~12:00 @ EC8037

Instructor:

莊子肇, Associate Professor

Office: EC8006, Dept. of Electrical Engineering

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Office hour by appointment

Prerequisites:

信號與系統、數位訊號/影像處理 (Optional)

Textbooks/References: 請遵守智慧財產權觀念，不可非法影印

“Digital Image Processing”, Rafael C. Gonzalez and Richard E. Woods, Pearson
2017 (4th edition)

“Digital Image Processing for Medical Applications”, Geoff Dougherty,
Cambridge University Press 2009 (1st edition)

“Engineering Statistics”, Douglas C. Montgomery, George C. Runger, and
Norma F. Hubele, Wiley 2010 (5th edition)

※此原文書由「歐亞圖書公司」代理 02-89121188※

Website: (Class notes and news are released here.)

http://bmilab.ee.nsysu.edu.tw/lab/course_mii.html

Schedule:

3/3	Introduction
3/10	Digital image fundamentals
3/17	Histogram and intensity transformation
3/24	Image enhancement: filtering in spatial domain
3/31	Image enhancement: filtering in frequency domain
4/7	Image enhancement: restoration

4/14	Color image processing
4/21	Image segmentation
4/28	Image segmentation
5/5	Image registration
5/12	Image registration
5/19	Morphological image processing
5/26	Statistics: random variables and probability distribution
6/2	Decision making: hypothesis testing
6/9	One-sample test and two-sample test
6/16	ANOVA analysis
6/23	Project report

Grading:

Homework	70%
Term project	30%