## 高等數位影像處理 (Advanced Digital Image Processing) 111 學年度第 1 學期

**Instructor:** 郭天穎  Tien-Ying Kuo

**Class:** 電機所

**Time:** Mon 2, 3, 4

**Place:** (1$^{st}$ Level ↓) 三教 209 (3$^{rd}$ Academic Building 209)

(2$^{nd}$ Level ↑) Online: Microsoft Teams

\* Use **NTUT @cc.ntut.edu.tw account** with you **name** clearly listed

\* **NO auditing/sitting-in** the class

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**Textbook:** Gonzales & Woods: Digital Image Processing, Pearson, 4$^{th}$ Ed, 2018 開發 Handout (cloze)

**References:** Digital Image Processing Using MATLAB, R.C. Gonzalez, R. E. Woods, S. L. Eddins, Prentice Hall.

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**Grade:** In-class: Homework: 60%, Project: 40%, Bonus (Textbook-En?)

Online: Homework: 57%, Project: 38%, Attendance: 5%, Bonus (Textbook-En?)

**Homework:** Programming skill is required for solving homework. (You will use C/C++, not OpenCV-centric)

**Project:** Presentation: 30 mins, Week 18 (-1 ~ -3)

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**Policy:** No late Homework.

**ABSOLUTELY NO homework plagiarism**

No cellular phone ringing.

**Covid19 Policy:** Fixed seating (starting from next lecture)

(Mask wearing/Roll calling/Photo Taking/Windows Opening/Course Recording)

Grading rule may change for online course under Covid-19 Level-3 warning

**Language:** Course Material, Notes ~~and Exams~~ will be given in English.

**Prerequisites:** Digital Signal Processing

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**Office hours:** TBA

綜科 212 (Integrated Tech Complex Building, Room 212)

**Teaching Assistant:** 張景翔 t110318081@ntut.edu.tw (same room above), Line group

**Course URL:** 北科 i 學園 plus https://istudy.ntut.edu.tw/, if online: Record yourself

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**Course Outline:**

(1) Introduction

(2) Digital Image Fundamentals

(3) Image Enhancement in Spatial Domain

(4) Image Enhancement in Frequency Domain

(5) Image Restoration

(6) Morphological Image Processing

(7) Image Segmentation

(8) Color Image Processing

(9) ~~Deep Learning~~