

課程資訊 (Course Information)					
科號 Course Number	10720ISA 523000	學分 Credit	3	人數限制 Size of Limit	25
中文名稱 Course Title	影像分析之計算方法				
英文名稱 Course English Title	Algorithms for Image Analysis				
任課教師 Instructor	陳朝欽(CHEN, CHAUR-CHIN)				
上課時間 Time	T5R7R8	上課教室 Room	EECS資電 129		
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此科目對應之系所課程規畫所欲培養之核心能力 Core capability to be cultivated by this course	<ul style="list-style-type: none"><li>■ 具有資訊系統與應用領域之專業知識的能力 (20%) To possess the professional knowledge and abilities on information systems and applications (20%)</li><li>■ 具有策劃、設計及執行資訊系統與應用的能力 (10%) To possess the capabilities to plan, design and conduct on information systems and applications (10%)</li><li>■ 具有創新思考及解決資訊系統與應用問題的能力 (10%) To possess the capabilities of creative thinking, solving on information systems and applications (10%)</li><li>■ 具有與資訊系統與應用領域內外的專業人員溝通、協調與團隊合作的能力 (20%) To possess the capabilities of communication, coordination and teamwork with expertise on information systems and applications (20%)</li><li>■ 具有良好的國際觀，了解國際上資訊系統與應用相關學術研究與產業發展 (10%) To possess a good global view to understand international academic research and industrial development on information systems and applications (10%)</li><li>■ 具有領導、管理及規劃資訊系統與應用計畫的能力及專業倫理素養 (10%) To possess the leadership, management and planning capability on information systems and applications (10%)</li><li>■ 具有終身自我學習成長的能力 (20%) To possess self-learning and lifelong learning capabilities (20%)</li></ul>				
課程簡述 (Brief course description)					
This course aims to provide an in-depth knowledge and technical background for reading papers and writing technical reports on the topics of Digital Image Processing and Analysis with Applications. The fundamentals of Linear Algebra,					

Probability Theory, PCA, LDA, ICA, Cluster Analysis, C/C++ and Matlab Programming are required. The skills of oral presentations will also be emphasized.

#### 課程大綱 (Syllabus)

Course keywords:

Image Processing, PCA and LDA, Probability Theory, Matlab and C/C++, Eigenvalues

#### 一、課程說明(Course Description)

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The skills of oral presentations will also be emphasized.

#### 二、指定用書(Text Books)

See <http://www.cs.nthu.edu.tw/~cchen/ISA5230/isa5230.html>

#### 三、參考書籍(References)

See <http://www.cs.nthu.edu.tw/~cchen/ISA5230/isa5230.html>

#### 四、教學方式(Teaching Method)

- Lectures
- In-class discussion
- Attending Seminars by Outside Speakers
- Participate workshops and conferences

#### 五、教學進度(Syllabus)

See <http://www.cs.nthu.edu.tw/~ccchen/ISA5230/isa5230.html>

#### 六、成績考核(Evaluation)

- Class Attendance (50%)
- One Exam (30%)
- Presentations and Report (20%)

七、可連結之網頁位址

<http://www.cs.nthu.edu.tw/~cchen/ISA5230/isa5230.html>

<http://www.cs.nthu.edu.tw/~cchen/ISA5305/isa5305.html>

八、歡迎資應所、資工所、電機所喜歡數學與撰寫程式的碩一同學選修。