

**朝陽科技大學 094學年度第1學期教學大綱**  
**Special Topic on Signal Processing (III) 訊號處理專題(三)**

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|---------------|--|---------------------------|---|
| <b>當期課號</b>   | 7384   | <b>Course Number</b>      | 7384  |
| <b>授課教師</b>   | 張原豪  | <b>Instructor</b>         | CHANG,YUEN HAW  |
| <b>中文課名</b>   | 訊號處理專題(三)  | <b>Course Name</b>        | Special Topic on Signal Processing (III)  |
| <b>開課單位</b>   | 資訊工程系碩士班二A   | <b>Department</b>         |   |
| <b>修習別</b>    | 選修   | <b>Required/Elective</b>  | Elective  |
| <b>學分數</b>    | 2  | <b>Credits</b>            | 2   |
| <b>課程目標</b>   | 本課程為實務課程，授課內容主要為將學生所學有關訊號處理的知識實際應用於語音及影像處理上。課程內容將講授包括-類比訊號、離散訊號、類比系統以及離散系統的時域表示法和頻域表示法。學生在完成本課程後，將可利用以下之基本原理：1. 內積和運算、2. 傅立葉轉換、3. 取樣原理、4. 數位濾波器原理等進行語音及影像處理。 | <b>Objectives</b>         | The goal of this course is to teach the students to implement the signal processing on image processing with speech processing. In this course the students will learn include the time domain and frequency domain of analog signal、discrete signal、analog system and discrete system. The students will realize the following basics after finishing this course: 1. the convolution theory, 2. the Fourier transform, 3. the sampling theory, 4. the application of digital filter theory. Finally, the students will use above knowledges to implement on image processing and speech processing. |
| <b>教材</b>     | CIC handout  | <b>Teaching Materials</b> |   |
| <b>成績評量方式</b> | project 60% homework 40%   | <b>Grading</b>            | project 60% homework 40%  |
| <b>教師網頁</b>   | -  |                           |   |
| <b>教學內容</b>   | 本課程由積體電路製程介紹,進而講解製程相對元件，元件相對佈局的關係，藉由實際的製程資料來說明積體電路設計與佈局設計的實現與考量，並搭配Cadence公司提供的Virtuoso Layout Editor與Diva軟體,來實習元件的佈局與佈局驗證，以期使學員具佈局概念與設計基礎。                  | <b>Syllabus</b>           | 1. Technology Introduction<br>2. Basic Layout Concept<br>3. Layout and Device<br>4. Layout Design Consideration<br>5. Layout Verification<br>6. Preparing Mask Tooling Form<br>Introduction to Layout Editor (Virtuoso)<br>Lab  |

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