

## 南臺科技大學 106 學年度第 2 學期課程資訊

課程代碼	G0D02701
課程中文名稱	計算機組織
課程英文名稱	Computer Organization
學分數	3.0
必選修	必修
開課班級	四技資工二甲
任課教師	林榮三
上課教室(時間)	週一第 6 節(N001) 週一第 7 節(N001) 週一第 8 節(N001)
課程時數	3
實習時數	0
授課語言 1	華語
授課語言 2	
輔導考照 1	
輔導考照 2	
課程概述	上課時討論上課指定用書
先修科目或預備能力	數位邏輯設計、數位系統設計
課程學習目標與核心能力之對應	<p>※編號，中文課程學習目標，英文課程學習目標，對應系指標</p> <p>-----</p> <p>1.1.能熟悉計算機組織設計之原理及應用之知識，--，1 工程知識</p> <p>2.2.能了解課程內容之計算機軟、硬體組織及其原理等專業實務技術，--，3 實務能力</p> <p>3.3.能解答習題並解釋數據的專業能力，--，2 資訊能力</p> <p>4.4.能與組員合作共同討論解答習題及了解理論，--，7 管理合作</p> <p>5.5.作答習題能以文字及方塊圖撰寫完整書面報告，--，5 報告溝通</p>
中文課程大綱	<p>一、課程簡介</p> <p>1.課程目的、進度、評分方式</p> <p>二、Digital Logic Circuits</p> <p>1. Logic Gates</p> <p>2. Map Simplification</p> <p>3. Combinational Circuits</p> <p>4. Flip-Flops</p> <p>5. Sequential Circuits</p> <p>三、Digital Components</p> <p>1. Multiplexers</p>

	<ul style="list-style-type: none"> <li>2. Registers</li> <li>3. Shift Registers</li> <li>4. Binary Counters</li> <li>5. Memory Unit</li> <li>四、Register Transfer and Microoperations <ul style="list-style-type: none"> <li>1. Register Transfer</li> <li>2. Bus and Memory Transfers</li> <li>3. Logic Microoperations</li> <li>4. Shift Microoperations</li> <li>5. Arithmetic Logic Shift Unit</li> </ul> </li> <li>五、Basic Computer Organization and Design <ul style="list-style-type: none"> <li>1. Computer Instructions</li> <li>2. Timing and Control</li> <li>3. Instruction Cycle</li> <li>4. Input-Output and Interrupt</li> <li>5. Complete Computer Description</li> <li>6. Design of Basic Computer</li> <li>7. Design of Accumulator Logic</li> </ul> </li> <li>六、Programming the Basic Computer <ul style="list-style-type: none"> <li>1. Assembly Language</li> <li>2. The Assembler</li> <li>3. Program Loops</li> <li>4. Programming Arithmetic and Logic Operations</li> <li>5. Subroutines</li> <li>6. Input-Output Programming</li> </ul> </li> <li>七、Microprogrammed Control <ul style="list-style-type: none"> <li>1. Control Memory</li> <li>2. Address Sequencing</li> <li>3. Microprogram Example</li> <li>4. Design of Control Unit</li> </ul> </li> </ul>
英/日文課程大綱	<ul style="list-style-type: none"> <li>一、課程簡介 <ul style="list-style-type: none"> <li>1.課程目的、進度、評分方式</li> </ul> </li> <li>二、Digital Logic Circuits <ul style="list-style-type: none"> <li>1. Logic Gates</li> <li>2. Map Simplification</li> <li>3. Combinational Circuits</li> <li>4. Flip-Flops</li> <li>5. Sequential Circuits</li> </ul> </li> <li>三、Digital Components <ul style="list-style-type: none"> <li>1. Multiplexers</li> </ul> </li> </ul>

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課程進度表	<ul style="list-style-type: none"> <li>一、課程簡介 課程目的、進度、評分方式 1 小時</li> <li>二、Digital Logic Circuits 6 小時 <ul style="list-style-type: none"> <li>1. Logic Gates</li> <li>2. Combinational Circuits</li> <li>3. Flip-Flops</li> <li>4. Sequential Circuits</li> </ul> </li> <li>三、Digital Components 5 小時</li> </ul>

	<ol style="list-style-type: none"> <li>1. Multiplexers</li> <li>2. Registers</li> <li>3. Shift Registers</li> <li>4. Binary Counters</li> <li>5. Memory Unit</li> </ol> <p>四、Register Transfer and Microoperations 8 小時</p> <ol style="list-style-type: none"> <li>1. Bus and Memory Transfers</li> <li>2. Logic Microoperations</li> <li>3. Shift Microoperations</li> <li>4. Arithmetic Logic Shift Unit</li> </ol> <p>平時小考 1 小時</p> <p>五、Basic Computer Organization and Design 9 小時</p> <ol style="list-style-type: none"> <li>1. Computer Instructions</li> <li>2. Timing and Control</li> <li>3. Instruction Cycle</li> <li>4. Input-Output and Interrupt</li> <li>5. Complete Computer Description</li> <li>6. Design of Basic Computer</li> <li>7. Design of Accumulator Logic</li> </ol> <p>六、Programming the Basic Computer 9 小時</p> <ol style="list-style-type: none"> <li>1. Assembly Language</li> <li>2. The Assembler</li> <li>3. Programming Arithmetic and Logic Operations</li> </ol> <p>平時小考 1 小時</p> <p>七、Microprogrammed Control 8 小時</p> <ol style="list-style-type: none"> <li>1. Control Memory</li> <li>2. Address Sequencing</li> <li>3. Design of Control Unit</li> </ol>
<p>教學方式與評量方法</p>	<p>※課程學習目標，教學方式，評量方式</p> <p>-----</p> <ol style="list-style-type: none"> <li>1.能熟悉計算機組織設計之原理及應用之知識，課堂講授，筆試</li> <li>2.能了解課程內容之計算機軟、硬體組織及其原理等專業實務技術，課堂講授，作業</li> <li>3.能解答習題並解釋數據的專業能力，課堂講授，筆試</li> <li>4.能與組員合作共同討論解答習題及了解理論，課堂講授，筆試</li> <li>5.作答習題能以文字及方塊圖撰寫完整書面報告，課堂講授，筆試</li> </ol>
<p>指定用書</p>	<p>書名：COMPUTER SYSTEM ARCHITECTURE THIRD EDITION (中譯本)</p> <p>作者：M.Morris Mano</p> <p>書局：東華書局</p>

	年份： <b>ISBN：</b> 版本：
參考書籍	Logic and Computer Design Fundamentals Prentice Hall
教學軟體	
課程規範	平時作業上傳 my 數位學習 期中考 期末考 上課不準滑手機 平時考 open book 只能帶課本和筆記不能帶盜版 copy 教科書