

# 南臺科技大學 105 學年度第 2 學期課程資訊

課程名稱	電子學(二)
課程編碼	30D10402
系所代碼	03
開課班級	四技系統二甲
開課教師	林永春
學分	3.0
時數	3
上課節次地點	一 7 8 9 教室 P303
必選修	必修
課程概述	<ul style="list-style-type: none"> <li>●The Ideal Operational Amplifier</li> <li>●The Field-Effect Transistor</li> <li>●Basic FET Amplifiers</li> <li>●Frequency Response</li> </ul>
課程目標	<p>The purpose of the course is to provide a foundation for analyzing and designing both analog and digital electronic circuits. The majority of electronic circuits today are designed as integrated circuits (ICs), in which the entire circuit is fabricated on a single piece of semiconductor material. The ultimate objective is to understand the operation, characteristics, and limitations of these integrated circuits.</p>
課程大綱	<ul style="list-style-type: none"> <li>●理想操作放大器及其電路               <ol style="list-style-type: none"> <li>1.操作放大器</li> <li>2.反向放大器</li> <li>3.加法放大器</li> <li>4.非反向放大器</li> <li>5.操作放大器的應用</li> <li>6.操作放大器電路設計</li> </ol> </li> <li>●場效電晶體               <ol style="list-style-type: none"> <li>1.MOS 場效電晶體</li> <li>2.MOSFET 直流電路分析</li> <li>3.基本 MOSFET 應用</li> <li>4.接面場效電晶體</li> </ol> </li> <li>●基本場效電晶體放大器               <ol style="list-style-type: none"> <li>1.MOSFET 放大器</li> <li>2.基本電晶體放大器架構</li> <li>3.共源極放大器</li> <li>4.共汲極放大器</li> <li>5.共閘極架構</li> <li>6.三種基本放大器架構：總結與比較</li> </ol> </li> </ul>

	<ul style="list-style-type: none"> <li>7.單級積體 MOSFET 放大器</li> <li>8.多級放大器</li> <li>9.基本 JFET 放大器</li> <li>●頻率響應 <ul style="list-style-type: none"> <li>1.放大器頻率響應</li> <li>2.系統轉換函數</li> <li>3.具有電路電容的電晶體放大器的頻率響應</li> <li>4.雙極電晶體的頻率響應</li> <li>5.FET 的頻率響應</li> <li>6.電晶體電路的高頻響應</li> </ul> </li> </ul>
英文大綱	<ul style="list-style-type: none"> <li>●The Ideal Operational Amplifier <ul style="list-style-type: none"> <li>1.The Operational Amplifier</li> <li>2.Inverting Amplifier</li> <li>3.Summing Amplifier</li> <li>4.Noninverting Amplifier</li> <li>5.Op-Amp Applications</li> <li>6.Op-Amp Circuit Design</li> </ul> </li> <li>●The Field-Effect Transistor <ul style="list-style-type: none"> <li>1.MOS Field-Effect Transistor</li> <li>2.MOSFET DC Circuits Analysis</li> <li>3.Basic MOSFET Applications</li> <li>4.Junction Field-Effect Transistor</li> </ul> </li> <li>●Basic FET Amplifiers <ul style="list-style-type: none"> <li>1.The MOSFET Amplifier</li> <li>2.Basic Transistor Amplifier Configurations</li> <li>3.The Common-Source Amplifier</li> <li>4.The Source-Follower Amplifier</li> <li>5.The Common-Gate Configuration</li> <li>6.The Three Basic Amplifier Configurations</li> <li>7.Signal-Stage Integrated Circuit MOSFET Amplifiers</li> <li>8.Multistage Amplifiers</li> <li>9.Basic JFET Amplifiers</li> </ul> </li> <li>●Frequency Response <ul style="list-style-type: none"> <li>1.Amplifier Frequency Response</li> <li>2.System Transfer Functions</li> <li>3.Frequency Response:Transistor Amplifiers eith Circuit Capacitors</li> <li>4.Frequency Response:Bipolar Transistor</li> <li>5.Frequency Response:The FET</li> <li>6.High-Frequency Response of Transistor Circuits</li> </ul> </li> </ul>
教學方式	

評量方法	
指定用書	微電子學 (下)
參考書籍	
先修科目	
教學資源	
注意事項	
全程外語授課	0
授課語言 1	華語
授課語言 2	
輔導考照 1	
輔導考照 2	