

## 國立清華大學課程大綱

科號	11110BME 504900	組別	N/A	學分	3	人數限制	N/A
上課時間	M5M6M7			教室	會議室		
科目中文名稱	物聯網生醫感測平台於轉譯醫學之應用						
科目英文名稱	IoT biomedical sensing platforms in translational medicine application						
任課教師	林幸瑩						
擋修科目	Discuss with professor prior to registering the course.	擋修分數	N/A				
一、課程說明	This course encompasses each component of Internet-of-Things (IoT) and the latest development. We will have paper discussions on biomedical sensing technologies. BME students will have hand-on practices on developing a confluent IoT biosensing technology with simple App control. Statistical analysis will be included.						
二、指定用書	N/A						
三、參考書籍	<ol style="list-style-type: none"> <li>1. Handbook of Biomedical Instrumentation ISBN-13: 978-9339205430</li> <li>2. Measurement, Instrumentation, and Sensors Handbook ISBN 9781439848913</li> <li>3. Journal papers</li> <li>4. Raspberry Pi</li> <li>5. Python</li> </ol>						
四、教學方式	Slides Study journal papers Presentation & discussion Projects						
五、教學進度	<ol style="list-style-type: none"> <li>1. Medical instrumentation, regulation of medical devices, patient monitoring systems, clinical laboratory instruments</li> <li>2. Surface plasmon resonance sensor, surface-enhanced Raman scattering sensor, electrochemical sensor, photonic sensor, imaging sensor, acoustic sensor, digital droplet PCR sensor</li> <li>3. Biosensor application in translational medicine</li> <li>4. Applications of liquid biopsy</li> <li>5. Familiar with one sensor or system</li> <li>6. Guide to sensor design</li> <li>7. Statistical analysis</li> </ol>						
六、成績考核	Paper reading and discussion 30% Midterm exam 30% Team work 30% Attendance 10%						
七、講義位址 http://	Google Drive will be provided.						