

Course Content

Course Title (English)	Measurement Techniques for Microwave Systems
Course Title (Chinese)	微波系統量測技術
Credit	3
Instructor	Prof. Hsin-Chia Lu 盧信嘉 教授
Outline	<p>Topics include:</p> <ol style="list-style-type: none">1. Transmission lines and Smith chart2. Network analyzer operation principles and calibration techniques.3. Differential and multi-port measurement techniques4. On-wafer measurement for RFIC5. Spectrum analyzer6. Microwave noise measurement techniques7. Power measurement techniques8. Antenna measurement techniques9. Time domain measurement and impedance measurement10. Measurement instrument automation and programing
Goal	<p>Start from basic concepts of microwave measurement such as S-parameter, transmission line, balanced transmission line and on-wafer measurement of RFIC, then we will introduce common instrument in RF lab, such as vector network analyzer, spectrum analyzer, noise figure meter and power meter. The basic working principle and correct operation procedures will be introduced as well. The typical measurement setup and procedures for PA, LNA, miser, VCO will also be covered. Finally, the measurement automation by computer programing will be covered.</p>

English Teaching	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Teaching Material	<input checked="" type="checkbox"/> English	<input type="checkbox"/> Chinese