

<b>Module Title:</b>	<b>RF Design</b>
<b>Academic year:</b>	2009 – 2010
<b>Credit Value:</b>	5 - Elective
<b>Pre- requisites:</b>	Telecommunications 7
<b>Assessment:</b>	70% Final Exam, 30% Continuous Assessment (C.A.)
<b>Aims</b>	This elective teaches the student how to design microwave circuits such as amplifiers, filters and matching circuits.
<b>Module Content</b>	<ul style="list-style-type: none"> <li>• Component Behaviour at High Frequencies</li> <li>• Transmission Lines &amp; Impedance Matching</li> <li>• The Transistor at Radio Frequencies</li> <li>• Small Signal RF Amplifier Design</li> <li>• Microwave Printed Circuits &amp; Microwave Solid State Devices</li> <li>• RF Power Amplifiers</li> <li>• Microwave Filters</li> <li>• Microwave Measurements</li> <li>• Lab/Tutorials</li> </ul>
<b>Intended Learning Outcomes:</b>	<p><b>On successful completion of the module the student will be expected to be able to:</b></p> <ol style="list-style-type: none"> <li>1. Design a RF amplifier using appropriate calculations and verify results using Matlab or RF Simulator software.</li> <li>2. Use specialised RF test equipment to measure the s parameters of a simple circuit consisting of surface mount components as part of a team.</li> <li>3. Solve RF design problems concerning Noise Factor, Stability and gain using analytical techniques.</li> <li>4. Analyse transmission lines using Impedance/Admittance Smith Chart techniques.</li> <li>5. List important issues concerning RF safety.</li> </ol>