

<b>Module Title:</b>	<b>Telecommunications 7</b>
<b>Academic year:</b>	2009 - 2010
<b>Credit Value:</b>	5 - Elective
<b>Pre- requisites:</b>	Telecommunications 5, 6
<b>Assessment:</b>	70% Final Exam, 30% Continuous Assessment (C.A.)
<b>Aims</b>	This subject is the last of three subjects which provide a mathematical analysis of telecommunications systems. In particular, this subject provides more detailed coverage of coding, baseband and passband systems, and synchronisation.
<b>Module Content</b>	<ul style="list-style-type: none"> <li>• Error Control Codes</li> <li>• Baseband Digital Transmission</li> <li>• Digital Passband Transmission</li> <li>• Power Spectra of Random Digital Signals</li> <li>• Synchronization Techniques</li> <li>• Spread-Spectrum</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. describe, analyse and design cyclic and convolutional codes</li> <li>2. describe and analyse aspects of baseband transmission systems</li> <li>3. derive equations relating to signal spaces, including the effect of noise, and apply these results to a variety of practical systems</li> <li>4. describe and analyse synchronisation techniques</li> <li>5. derive and apply equations relating to power spectra of random digital signals</li> <li>6. design, build and test a selection of basic systems and write a report to describe and analyse the activity</li> </ol>