

## 431-465 Wireless Communication

<b>Credit Points:</b>	12.500
<b>Level:</b>	Undergraduate
<b>Dates &amp; Locations:</b>	2008, This subject commences in the following study period/s: Semester 2, - Taught on campus.
<b>Time Commitment:</b>	Contact Hours: Twenty-four hours of lectures, 12 hours of tutorials and 12 hours of laboratory or project work Total Time Commitment: Not available
<b>Prerequisites:</b>	431-460 Digital Communications, 431-462 Communication Networks
<b>Corequisites:</b>	None
<b>Recommended Background Knowledge:</b>	None
<b>Non Allowed Subjects:</b>	None
<b>Core Participation Requirements:</b>	<p>&lt;p&gt;For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry.&lt;/p&gt;         &lt;p&gt;It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: &lt;a href="http://services.unimelb.edu.au/disability"&gt;http://services.unimelb.edu.au/disability&lt;/a&gt;&lt;/p&gt;</p>
<b>Subject Overview:</b>	<p>On completion students should have an understanding of the fundamental physical layer and network layer issues involved in the design of wireless networks.</p> <p>Topics include cellular networks and frequency planning; Erlang blocking models, including handover analysis; large-scale propagation models; link budget and cell dimensioning; code division multiple access and capacity; multipath and time-varying channels and their characterisation; simulation of wireless channels; binary signalling in Rayleigh fading; equalisation techniques; diversity techniques (frequency, space, multi-user); and wireless data networks. Students will undertake a wireless project, such as network design, or analysis.</p>
<b>Assessment:</b>	Continuous assessment of written assignments, consisting of problem-solving exercises (10%), and laboratory work (20%), with reports not exceeding 6000 words. A mid-semester class test of one hour duration (10%). A final exam three hours (60%). In addition, students are required to pass the final exam to pass the subject as a whole.
<b>Prescribed Texts:</b>	None
<b>Recommended Texts:</b>	Information Not Available
<b>Breadth Options:</b>	This subject is not available as a breadth subject.
<b>Fees Information:</b>	Subject EFTSL, Level, Discipline & Census Date, <a href="http://enrolment.unimelb.edu.au/fees">http://enrolment.unimelb.edu.au/fees</a>
<b>Generic Skills:</b>	<ul style="list-style-type: none"> <li># ability to apply knowledge of basic science and engineering fundamentals</li> <li># in-depth technical competence in at least one engineering discipline</li> <li># ability to undertake problem identification, formulation and solution</li> <li># ability to utilise a systems approach to design and operational performance</li> </ul>

	<ul style="list-style-type: none"> <li># ability to function effectively as an individual and in multi-disciplinary and multi-cultural teams, with the capacity to be a leader or manager as well as an effective team member</li> <li># understanding of the social, cultural, global and environmental responsibilities of the professional engineer, and the need for sustainable development</li> <li># understanding of professional and ethical responsibilities and commitment to them</li> <li># expectation of the need to undertake lifelong learning, capacity to do so</li> <li># capacity for independent critical thought, rational inquiry and self-directed learning</li> <li># intellectual curiosity and creativity, including understanding of the philosophical and methodological bases of research activity</li> <li># openness to new ideas and unconventional critiques of received wisdom</li> <li># profound respect for truth and intellectual integrity, and for the ethics of scholarship</li> </ul>
<b>Related Course(s):</b>	Bachelor of Engineering (Computer Engineering) Bachelor of Engineering (Electrical Engineering) Bachelor of Engineering (Software Engineering)