

Subject Description Form

Subject Code	COMP 5326																															
Subject Title	Wireless Computing Systems and Applications																															
Credit Value	3																															
Level	5																															
Pre-requisite/Exclusion	Nil																															
Objectives	<p>The objectives of this subject are to enable students:</p> <ol style="list-style-type: none"> 1. to learn underlying technologies for mobile/wireless computing systems; 2. to be familiar with related wireless networking standards; and 3. to implement various mobile and wireless applications. 																															
Intended Learning Outcomes	<p>After completing this subject, students should be able to:</p> <ol style="list-style-type: none"> a) acquire a good knowledge of wireless computing systems and applications; b) understand the standards/technologies for various wireless computing systems; c) be aware of trends of wireless computing systems and applications; and d) participate in team work, presentation and technical writing. 																															
Subject Synopsis/ Indicative Syllabus	<p>Systems and standards (particularly for supporting wireless networking and mobile data applications):</p> <p>Basics and technical overview of mobile/wireless systems. Management issues (e.g., mobility, security).</p> <p>IEEE 802.11 LANs. Cellular networks. Bluetooth. Mobile IP. Others (e.g., RFID).</p> <p>Applications:</p> <p>Mobile/wireless applications. Cases/examples. Application development.</p>																															
Teaching/Learning Methodology	Class activities including lectures, tutorials, lab(s), workshop(s), and seminar(s) where applicable.																															
Assessment Methods in Alignment with Intended Learning Outcomes	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Specific assessment methods/tasks</th> <th rowspan="2">% weighting</th> <th colspan="4">Intended subject learning outcomes to be assessed</th> </tr> <tr> <th>a</th> <th>b</th> <th>c</th> <th>d</th> </tr> </thead> <tbody> <tr> <td>Assignments, Test & Project</td> <td style="text-align: center;">55</td> <td style="text-align: center;">✓</td> <td style="text-align: center;">✓</td> <td style="text-align: center;">✓</td> <td style="text-align: center;">✓</td> </tr> <tr> <td>Final Examination</td> <td style="text-align: center;">45</td> <td style="text-align: center;">✓</td> <td style="text-align: center;">✓</td> <td style="text-align: center;">✓</td> <td></td> </tr> <tr> <td>Total</td> <td style="text-align: center;">100</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed				a	b	c	d	Assignments, Test & Project	55	✓	✓	✓	✓	Final Examination	45	✓	✓	✓		Total	100				
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Student Study Effort Expected	Class contact:	
	Class activities (lectures, tutorials, lab(s))	39 hours
	Other student study effort:	
	Assignments/quizzes, project, examination, self-study	65 hours
	Total student study effort:	104 hours
Reading List and References	<p>Books:</p> <p>Deitel, H. M., <i>et al.</i>, 2002, <i>Wireless Internet and Mobile Business: How to Program</i>, Prentice Hall.</p> <p>Garg, V., 2007, <i>Wireless Communications and Networking</i>, Morgan Kaufmann.</p> <p>Gast, M. S., 2005, <i>802.11 Wireless Networks: The Definitive Guide</i>, 2nd Edition, O'Reilly & Associates.</p> <p>Jamalipour, A., 2003, <i>The Wireless Mobile Internet: Architectures, Protocols and Services</i>, John Wiley and Sons.</p> <p>Norris, M., 2001, <i>Mobile IP Technology for M-Business</i>, Artech House.</p> <p>Perkins, C. E., 1998, <i>Mobile IP: Design Principles and Practices</i>, Addison-Wesley.</p> <p>Sadeh, N. M., 2002, <i>M-Commerce: Technologies, Services, and Business Models</i>, John Wiley and Sons.</p> <p>Sauter, M., 2017, <i>From GSM to LTE-Advanced Pro and 5G: An Introduction to Mobile Networks and Mobile Broadband</i>, 3rd Edition, Wiley.</p> <p>Stallings, W., 2005, <i>Wireless Communications and Networks</i>, 2nd Edition, Prentice Hall.</p> <p>Thurwachter, C. N., 2002, <i>Wireless Networking</i>, Prentice Hall.</p> <p>Zheng, P., Peterson, L. L., Davie, B. S. and Farrel, A., 2009, <i>Wireless Networking Complete</i>, Morgan Kaufmann.</p> <p>Journals:</p> <p><i>IEEE Transactions on Mobile Computing</i></p> <p><i>IEEE Pervasive Computing</i></p> <p><i>IEEE Transactions on Wireless Communications</i></p> <p><i>IEEE Journal on Selected Areas in Communications</i></p>	

	<p><i>ACM Wireless Networks</i></p>
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	<p><i>ACM Mobile Networks and Applications</i></p>
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