COMP90017 Sensor Networks and Applications

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	This subject is not offered in 2011.
Time Commitment:	Contact Hours: 24 hours of lectures, 12 hours of tutorial/laboratory classes; Non-contact time commitment: 84 hours Total Time Commitment: Not available
Prerequisites:	None
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Students Experiencing Academic Disadvantage Policy, academic requirements for this subject are articulated in the Subject Description, Subject Objectives, Generic Skills and Assessment Requirements of this entry. The University is dedicated to provide support to those with special requirements. Further details on the disability support scheme can be found at the Disability Liaison Unit website: http://www.services.unimelb.edu.au/disability/
Contact:	Dr Adrian Pearce email: **adrianrp@unimelb.edu.au (mailto:adrianp@unimelb.edu.au)**
Subject Overview:	Topics covered include: Introduction to sensor networks, attributes of sensor networks, wired and wireless sensors, sensors and networks design and deployment issues, bandwidth and energy constraints aware techniques for network discovery, network control and routing, collaborative information processing, offloading processing and data management tasks to computational grids, querying, tasking and programming sensor networks, standards such as Sensor ML that provide the models and XML schema encoding for defining the geometric, dynamic and observational characteristics of a sensor, and applications in infrastructure security, environment and habitat monitoring, industrial sensing, traffic control, etc.
Objectives:	On successful completion students should: # Have developed an understanding of sensor network technologies from three different perspectives: sensing, communication, and computing (including hardware, software, and algorithms) and their applications # Have a capacity for independent critical thought, rational inquiry and self-directed learning; and # Have a profound respect for truth and intellectual integrity, and for the ethics of scholarship
Assessment:	Term paper of 1000 words and presentation on selected topics in sensor networks during semester (10%), project work during semester (30%) and a written 3-hour examination (60%). All components must be completed satisfactorily to pass the subject.
Prescribed Texts:	None
Breadth Options:	This subject is not available as a breadth subject.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	On completion of this subject students should: # Be able to undertake problem identification, formulation and solution
Related Course(s):	Bachelor of Computer Science (Honours)

	Master of Engineering in Distributed Computing Master of Science (Computer Science) Master of Software Systems Engineering
Related Majors/Minors/ Specialisations:	Master of Engineering (Software)