600-653 Environmental Monitoring and Audit

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2009, This subject commences in the following study period/s: Semester 2, - Taught on campus.
Time Commitment:	Contact Hours: 45 hours comprising 2 one-hour lectures per week , and 1 three-hour practical class per week for 7 weeks Total Time Commitment: Not available
Prerequisites:	Thinking and Reasoning with Data, or equivalent statistical subject
Corequisites:	One or more of: Environmental Risk Assessment; Environmental Modelling; or 121-532 Environmental Impact Assessment
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 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. 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: http://services.unimelb.edu.au/disability
Coordinator:	Dr Michael Andrew Mccarthy
Subject Overview:	Monitoring and auditing are key elements of contemporary environmental management. This subject will examine the different roles of monitoring, including prediction and monitoring environmental impacts, calibration and evaluation of environmental models, and monitoring and auditing as part of the risk management cycle. In this subject you will undertake field sampling across a range of chemical, physical and biological indicators. You will gain an appreciation of the demands of monitoring and auditing in different organisational and regulatory settings, including pollution control, natural resource management, biosecurity and demonstrating performance against industry codes and standards. You will develop skills in sampling design, including recognition of issues associated with trade-offs in cost and precision, detectability, and inferential errors. These skills will enable you to make valued contributions to evidence-based decision-making in public and private sector organisations involved in environmental management.
Objectives:	At the completion of the subject, participants should be able to: • Apply sampling protocols to a range of environments and chemical, physical and biological indicators. • Describe and apply the main elements of an environmental audit as specified in ISO 14001. • Recognise and distinguish the monitoring needs of different decision-making contexts, including monitoring for performance, compliance, risk management and adaptive management. • Evaluate the merit of a monitoring program according to cost, precision and the likelihood of inferential errors.

Assessment:	Two assignments of up to 2000 words each (totalling 50%), one due early mid semester and the other late mid semester. A take-home exam at the end of semester (50%).
Prescribed Texts:	TBA
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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:	Generic skills which should be gained from this subject include the ability to: • work constructively with colleagues to recognise, synthesise and resolve disagreement through respect for evidence and analytical rigour; • use scientific evidence to influence and persuade others; • write technical reports that are accessible to non-specialists such as senior decision-makers; • exercise critical judgement, think rigorously and independently, account for decisions, and solve problems; • apply advanced analytical methods
Notes:	Students undertaking this subject will be expected to regularly access an internet-enabled computer and will be expected to be competent in the use of spreadsheet software such as Microsoft Excel or equivalent.
Related Majors/Minors/ Specialisations:	R05 PE Master of Science (Environmental Science)