ENEN90030 Contaminant Hydrogeology

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	This subject is not offered in 2011.
Time Commitment:	Contact Hours: 48 hours per semester Total Time Commitment: 120 hours
Prerequisites:	None
Corequisites:	None
Recommended Background Knowledge:	Knowledge from the following subjects will assist with learning in this subject

Subject	Study Period Commencement:	Credit Points:
ENEN90031 Quantitative Environmental Modelling	Not offered 2011	12.50
MAST20029 Engineering Mathematics	Summer Term, Semester 1, Semester 2	12.50

Non Allowed Subjects:

Students can not gain credit for the following subjects if undertaking this subject:

421-491 Quantification of Physical Processes B

OR

Subject	Study Period Commencement:	Credit Points:
CVEN90014 Hydrological Processes 2	Not offered 2011	12.50

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:

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Subject Overview:

This course covers theoretical and practical aspects of groundwater flow, and groundwater contaminant transport. The subject includes the modelling of groundwater flow, pollutants transport through porous media, and diffusion of carbon in porous rock (geo-sequestration)

Specific topics include:

- mass transport in saturated media
- Transformation, retardation, and attenuation of solutes
- Organic/inorganic compounds in groundwater
- Nonaqueous-phase liquids in groundwater
- Introduction to site remediation and geosequestration

Objectives:

On completion of this subject students should be able to:

- identify major sources and types of groundwater contamination
- compute groundwater flow and contaminant transport in porous media
- recognize chemical reactions and biodegradation of groundwater contaminants
- quantitatively assess the fate of contaminants via modelling

	# design basic site remediation
Assessment:	One 2-hour examination, end of semester (50%)One 2500 word report, due end of semester (30%)4x10 minute quizzes, held throughout the semester (20%)
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:	# Ability to apply knowledge of science and engineering fundamentals # Ability to undertake problem identification, formulation, and solution # Proficiency in engineering design # Ability to conduct an engineering project
Related Course(s):	Master of Environmental Engineering Master of Environmental Engineering Postgraduate Certificate in Engineering
Related Majors/Minors/ Specialisations:	Master of Engineering (Civil) Master of Engineering (Environmental)