

Environmental Science

Year and Campus:	2011
Coordinator:	Associate Professor Michael McCarthy, School of Botany
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Overview:	<p>Environmental Science is offered as a major field of study in the Master of Environment degree and is run in conjunction with the Melbourne Graduate School of Science.</p> <p>The Environmental Science major will attract students seeking an interdisciplinary scientific perspective, for work largely in scientific and environmental careers. Graduates should be well placed to offer leadership through a solid understanding of environmental modelling, monitoring and assessment techniques, and application of technology.</p> <p>This major will provide an appreciation for the role of modelling in environmental science; an overview of the range of environmental models in use; the skills required to model environmental systems and processes; an introduction to the construction and mathematical analysis of environmental models; and a high level of ability to analyse and evaluate environmental issues.</p>
Objectives:	<p>Students who complete the Master of Environment will have:</p> <ul style="list-style-type: none"> • An advanced understanding of environmental issues • Advanced skills and techniques applicable to changing and managing the environment • An ability to evaluate and synthesise research and professional literature in the chosen stream or focus of study • An advanced understanding of the international context and sensitivities of environmental assessment <p>The graduate attributes for the Master of Environment are:</p> <ul style="list-style-type: none"> • Expertise in multidisciplinary understanding, analysis and research with an environmental focus • Collaborative approaches to environmental problem solving • Capacity to engage in critical social and sustainability questions <p>The Master of Environment generic skills are:</p> <ul style="list-style-type: none"> • Multidisciplinary and trans-disciplinary knowledge and research of environmental relevance • Collaborative environmental management skills • Capacity for independent learning across discipline boundaries <p>Upon completion of the Environmental Science major, students will be able to:</p> <ul style="list-style-type: none"> • Describe major current global environmental challenges facing scientists and policy-makers; • Discuss the relevance of a range of scientific disciplines to environmental management including meteorology, ecology, toxicology, hydrology, geology and epidemiology; • Analyse the role of various evidentiary approaches to supporting science-based arguments including empirical observation and analysis, modelling and use of expert opinion; and • Judge the merit of scientific arguments made in documents related to environmental policy.
Structure & Available Subjects:	<p>Students will be required to complete two core subjects, plus choose three subjects from the compulsory subject list and undertake electives to make up the balance of the award. The selection of electives is made in consultation with the Environmental Science major coordinator.</p> <p>For a current list of subjects offered in the Environmental Science major, please refer to the course information page at: http://www.oep.unimelb.edu.au/currentstudents/master_of_environment/specialist_paths_of_study/environmentalscience (http://www.oep.unimelb.edu.au/currentstudents/master_of_environment/specialist_paths_of_study/environmentalscience)</p> <p>In order to qualify for the 200 point (2 year) Master of Environment (Environmental Science) degree, applicants must have completed an undergraduate degree in an appropriate discipline with at least H3 (65%) in the major or equivalent. As part of their degree studies, applicants must have completed at least one quarter of a full-time year of study in one of the following areas: Biology, Chemistry or Earth Sciences.</p> <p>In order to qualify for the 100 point (1 year) Master of Environment (Environmental Science) degree, applicants must have completed an Honours year, done equivalent independent environmental research equivalent to an Honours, either in the workplace or at another institution at postgraduate level, or have done two years full time environmental work</p>

experience. Exceptions and suitability of these entry requirements are subject to the discretion of the major coordinator and Office for Environmental Programs Selection Committee.

Subject Options:**Core Subjects**

Students are required to complete the subjects:

Subject	Study Period Commencement:	Credit Points:
MULT90004 Sustainability Policy and Management	March	12.50
EVSC90017 Global Environmental Change	Not offered 2011	12.50

Compulsory Subjects

and choose 3 subjects from the list of:

Subject	Study Period Commencement:	Credit Points:
EVSC90010 Environmental Risk Assessment	Semester 1	12.50
EVSC90014 Environmental Risk Assessment	November	12.50
EVSC90020 Environmental Modelling	Semester 1	12.50
EVSC90016 Environmental Monitoring and Audit	Not offered 2011	12.50
EVSC90019 Graduate Seminar: Environmental Science	Not offered 2011	12.50

Elective Subjects

plus undertake electives to make up the balance of the award. The recommended list of electives includes:

Subject	Study Period Commencement:	Credit Points:
ATOC90002 Climate Affairs	Semester 2	12.50
MULT90012 Industry Project in Science	Not offered 2011	12.50
ECOL90001 Restoration Ecology	Not offered 2011	12.50
EVSC90015 Environmental Impact Assessment	Semester 1	12.50
GEOM90008 Foundations of Spatial Information	Not offered 2011	12.50
HORT90003 Plants and the Urban Environment	Semester 1	12.50
NRMT90002 Management of Plant and Animal Invasions	Semester 2	12.50
VETS90016 Wildlife Management	Semester 1	12.50
AGRI90066 Soil Science and Management	Not offered 2011	12.50
CHEM90007 Environmental Chemistry	Semester 1	12.50
BOTA90005 Flora of Victoria	February	12.50
ECOL90002 Conservation Biology	Not offered 2011	12.50
GEOL90005 Hydrogeology	Semester 1	12.50
MAST90045 Systems Modelling and Simulation	Semester 1	12.50
FRST90021 Sustainable Forest Management	July	12.50
FRST90026 Bushfire & Biodiversity	May	12.50
FRST90032 Forests, Carbon and Climate Change	June	12.50

	FRST90034 Ecological Restoration	September	12.50
	FRST90016 Trees in a Changing Climate	May	12.50
	MULT90005 Trans-disciplinary Thinking & Learning	Not offered 2011	12.50
	EVSC90001 Global Environment and Sustainability	Not offered 2011	12.50
	GEOG90003 Integrated River & Catchment Management	Semester 2	12.50
	ENST90005 Environmental Policy	Semester 2	12.50
	GEOG90006 Fundamentals & Management of GIS	Not offered 2011	12.50
	ENEN90005 Environmental Management ISO 14000	Not offered 2011	12.50
	FRST90025 Bushfire & Climate	July	12.50
	CHEM90008 Advanced Spectroscopy	Semester 1	12.50
	ENEN90011 Energy Efficiency Technology	Not offered 2011	12.50
	CHEM90010 Advanced Chemical Applications 1	July	12.50
	ENEN90016 Engineering for Sustainable Environments	February	12.50
	ENEN90027 Energy for Sustainable Development	Not offered 2011	12.50
	EVSC90009 Problem Solving in Environmental Science	Semester 2	12.50
	ATOC90004 Current Topics in Atmospheric Science	Semester 1	12.50
	AGRI90057 Climate Change: Agric. Impacts & Adaptation	September	12.50
	BUSA90403 Business Tools: Money People & Processes	Semester 2	12.50
	BUSA90471 Business Tools: The Market Environment	Semester 1	12.50
	MAST90044 Thinking and Reasoning with Data	Semester 1	12.50
	SCIE90005 Ethics and Responsibility in Science	Semester 2	12.50
	SCIE90006 Scientists, Communication & the Workplace	Not offered 2011	12.50
	SCIE90004 Science in Context	Not offered 2011	12.50
	SCIE90007 E-Science	Not offered 2011	12.50
	ENEN90028 Monitoring Environmental Impacts	Not offered 2011	12.50
	ENST90006 Environmental Research Review	Semester 1, Semester 2	12.50
	ENST90007 Environmental Research Topic	Semester 1, Semester 2	25
	ENST90018 Environmental Research Topic	Semester 1, Semester 2	37.50
	ENST90016 Environmental Research Project	Semester 1, Semester 2	50
	ENST70001 Environmental Research Proj (long) MYE	Semester 1, Semester 2	25
Links to further information:	http://www.environment.unimelb.edu.au/		
Notes:	Other subjects may be approved at the discretion of the coordinator.		
Related Course(s):	Master of Environment		