

A04-AA Bachelor of Environments

Year and Campus:	2008
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Level:	Undergraduate
Duration & Credit Points:	
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Course Overview:	The B.Environments degree is an innovative initiative from the University, and will provide students with the skills needed to be creative thinkers and to solve twenty-first century problems. The degree brings together expertise from a range of discipline areas across the University to provide leadership in the study of the built, natural and virtual environments, and is unique within Australia. This three year degree will give you a broad understanding across diverse environments, whilst providing you with the opportunity to focus on an area of specialisation of your choosing. The foundation of the degree is the inter-disciplinary nature of real-world projects, where built and natural environment professionals work together to bring projects to fruition. Only through innovative and integrated thinking, that will be an integral part of the B.Environments, will current challenges like sustainable urban growth and protection of threatened natural resources become attainable within your generation. Graduates of the B.Environments will be able to think about the environment beyond the short term, and play an active role in maintaining, designing and constructing sustainable areas in which to live, work and visit.
Objectives:	The B.Environments has as its objectives that graduates: • can demonstrate a broad knowledge of the sciences, social sciences and design in an environmental context, with a higher level of understanding in one of these areas; • understand the social, historical and professional context of their area of study; • are well-versed in the technical language and concepts relevant to their area of study; • can access and appreciate national and international debates in their area of study; • can demonstrate an independent approach to knowledge that uses rigorous methods of inquiry and appropriate theories and methodologies that are applied with intellectual honesty and a respect for ethical values; • can apply critical and analytical skills and methods to the identification and resolution of problems; • have a capacity to apply practical skills and technology to problem-solving; • can demonstrate innovation and creativity; • are able to engage confidently in self-directed study and research; • can demonstrate strong teamwork and interpersonal skills; • can act as informed participants within the community of scholars, as citizens and in the work force; • can communicate effectively in written, oral and graphical form; • qualify for employment in a wide range of occupations; • have a continuing commitment to learning; • are proficient in the use of appropriate modern technologies for the acquisition, processing and interpretation of data.
Course Structure & Available Subjects:	In the first year of the Bachelor of Environments, students take two core subjects, <u>880-101 Natural Environments (/view/2008/880-101)</u> and <u>880-102 Reshaping Environments (/view/2008/880-102)</u>. They then select four subjects from the following Bachelor of Environments subjects: # <u>880-103 Constructing Environments (/view/2008/880-103)</u> # <u>880-104 Designing Environments (/view/2008/880-104)</u> # <u>880-105 Governing Environments (/view/2008/880-105)</u>

[880-106 Mapping Environments \(/view/2008/880-106\)](#)

[880-107 Urban Environments \(/view/2008/880-107\)](#)

[880-108 Virtual Environments \(/view/2008/880-108\)](#)

In addition, students take two breadth subjects for a total of eight first year subjects. First year breadth subjects may be selected from **University wide breadth subjects** (<http://handbook.unimelb.edu.au/breadth/index.html>) or subjects available in other New Generation degrees.

Students in the Bachelor of Environments are able to take one of eleven majors. Specific first year subjects may be required in order to progress through particular majors. More detailed information on course structures, subject descriptions and prerequisites are available below and at the Bachelor of Environments website: www.benvs.unimelb.edu.au (<http://www.benvs.unimelb.edu.au>)

Students should also note that second and third year Environments subjects do not yet have subject codes.

Subject Options:

Architecture Major

First Year

Core subjects

880-101 Natural Environments (available Semester 1 & 2)

880-102 Reshaping Environments (available Semester 1 & 2)

Required (non-core) first year subjects:

880-103 Constructing Environments (available Semester 1 & 2)

880-104 Designing Environments (available Semester 1 & 2)

Second Year

Design Studio 1

OR Design Studio 2

Foundations of Architecture

Architecture of the Enlightenment

Construction Methods

Third Year

Hybrid Construction

Environmental Systems

Modern Architecture

Arch Design Studio 3

Arch Design Studio 4 (capstone)

Civil Systems Major

First Year

Core subjects

880-101 Natural Environments (available Semester 1 & 2)

880-102 Reshaping Environments (available Semester 1 & 2)

Required (non-core) first year subjects:

620-155 Calculus 2

620-156 Linear Algebra

Second Year

Earth Processes

Engineering Materials

421-208 Mechanics of Solids

Engineering Mathematics

Third Year

Management Tools

Risk Analysis

Fluid Mechanics

Systems Modelling and Design (capstone)

Structural Theory and Design (capstone)

Construction Major

First Year

Core subjects

880-101 Natural Environments (available Semester 1 & 2)

880-102 Reshaping Environments (available Semester 1 & 2)

Required (non-core) first year subjects:

880-103 Constructing Environments (available Semester 1 & 2)**Second Year**

The Construction Context
 Residential Construction and Structures
 Construction Cost Management

Third Year

Concrete Structures and Construction
 Structures and Construction Systems
 Environmental Systems
 Management of Construction
 The Construction Legal Environment
 Project Planning Studio (capstone)

Environmental Geographies, Politics and Cultures Major**First Year****Core subjects**

880-101 Natural Environments (available Semester 1 & 2)
 880-102 Reshaping Environments (available Semester 1 & 2)

Required (non-core) first year subjects:

None

Second and Third Year**Core subjects**

121-017 Society and Environments
 121-021 Environmental Politics and Management
 121-028 Sustainable Development (capstone)

Selective subjects

Over two years students must choose up to six selective subjects (75 points), with some thematic coherence, from the list below. A fuller description of possible sub-themes (social science, politics and policy, and physical science) in this major, and the subject selection related to them, is available from the School of Social and Environmental Enquiry website.

2nd Year

121-015 Development and the Third World
 121-018 Geomorphology
 121-227 Geographical Information Systems
 161-014 Environmental Philosophy
 136-213 Environmental History of Australia
 Ecology

3rd Year

121-071 Coastal Geomorphology
 121-030 Fire Ecology
 121-433 China Field Class (25pts)
 121-494 Africa: Environment, Development, People
 121-068 Redefining Nature
 Environmental Hydrology and Geomorphology (25pts)
 121-458 Australian Quaternary Environments (25 pts)
 136-035 A History of Nature
 166-212 Global Environmental Politics
 316-324 Environmental Economics
 316-325 Ecological Economics
 OR 316-324 Environmental Economics

Environmental Science Major**First Year****Core subjects**

880-101 Natural Environments (available Semester 1 & 2)
 880-102 Reshaping Environments (available Semester 1 & 2)

Required (non-core) first year subjects:

None (Chemistry, Data Analysis for Scientists or Mathematical Modelling for Scientists recommended)

Second and Third Year**Core subjects**

600-303 Environmental Risk Assessment
 600-301 Problem-Solving in Environmental Science (capstone)

Selectives

Students must choose up to seven selective subjects (87.5 points) from the following list:

Ecology
 Earth Sciences
 Further Data Analysis for Scientists
 620-371 Linear Models
 625-307 Hydrogeology and Environmental Management
 610-360 Analytical and Environmental Chemistry
 121-033 Environmental Hydrology
 Ecological Applications
 606-305 Vegetation Management and Conservation
 606-201 Plants and the Environment
 Introduction to Imaging
 610-201 Molecular Properties
 610-205 Practical Chemistry
 620-202 Statistics
 620-201 Probability

Geomatics Major

First Year

Core subjects

880-101 Natural Environments (available Semester 1 & 2)
 880-102 Reshaping Environments (available Semester 1 & 2)

Required (non-core) first year subjects:

620-154 Calculus 1 (or 620-155 Calculus 2 if qualified)
 620-156 Linear Algebra

Second Year

Applications of GIS
 Surveying and Mapping
 Residential Surveying Field Course
 Data Analysis for Scientists
 451-208 Computational Methods in Geomatics

Third Year

Introduction to Imaging
 People, Land and Sustainability
 Information Science and Programming
 451-340 Integrated Spatial Systems (capstone)

Landscape Architecture Major

First Year

Core subjects

880-101 Natural Environments (available Semester 1 & 2)
 880-102 Reshaping Environments (available Semester 1 & 2)

Required (non-core) first year subjects:

880-103 Constructing Environments (available Semester 1 & 2)
 880-104 Designing Environments (available Semester 1 & 2)

Second Year

Landscape Studio 1
 OR Landscape Studio 2
 History of Designed Landscapes
 Designing with Plants
 Building Urban Ecology 1
 Digital Design Modelling

Third Year

Site Tectonics
 Case Studies in Landscape Architecture
 Landscape Studio 3: Urban Open Space
 Landscape Studio 4: Ecology (capstone)

Landscape Management Major

First Year

Core subjects

880-101 Natural Environments (available Semester 1 & 2)
 880-102 Reshaping Environments (available Semester 1 & 2)

Required (non-core) first year subjects:

None

Second and Third Years

Core subjects

Leaves to Landscape
Soil and Water Management
Human Behaviour and Environment
Ecology
Establishing Vegetation
Integrated Landscape Management (capstone)

Selectives

Students must choose three selective subjects (37.5 points) from the following list:

Managing Fauna
Managing Plant Disease and Invasive Species
Designing with Plants
Landscape Resources
Community Engagement in Landscape Management
Vegetation Restoration and Management
Forests in the Global Context
Fire in the Australian Landscape
Catchment Hydrology

Physical Systems Major

First Year

Core subjects

880-101 Natural Environments (available Semester 1 & 2)
880-102 Reshaping Environments (available Semester 1 & 2)

Required (non-core) first year subjects:

620-155 Calculus 2
620-156 Linear Algebra

Second and Third Years

Core subjects

2nd Year

Earth Processes
Engineering Materials
421-208 Mechanics of Solids
Engineering Mathematics

Third Year

Risk Analysis
Fluid Mechanics
Systems Modelling and Design (capstone)

Selective subjects

Students must choose two selective subjects (25 points) in Year 3 as follows:

A pair of Geomatics subjects
A pair of environmental chemistry/biology subjects
A pair of environmental business/economics/management subjects

Property Major

First Year

Core subjects

880-101 Natural Environments (available Semester 1 & 2)
880-102 Reshaping Environments (available Semester 1 & 2)

Required (non-core) first year subjects:

880-103 Constructing Environments (available Semester 1 & 2)
25 points of first-year Commerce subjects

Second Year

Property Market Analysis
Principles of Property Valuation
Shaping the Metropolis
Managing City Development
Residential Construction and Structures

Third Year

Property Resource Analysis
Management of Property
Structures and Construction Systems

	Property Analysis Studio (capstone) Urban Design Major First Year Core subjects 880-101 Natural Environments (available Semester 1 & 2) 880-102 Reshaping Environments (available Semester 1 & 2) Required (non-core) first year subjects: 880-104 Designing Environments (available Semester 1 & 2) 880-105 Governing Environments (available Semester 1) Second Year Core Subjects Design Studio 1 OR Design Studio 2 Property Market Analysis Urban Design Theory Shaping the Metropolis Third Year Urban Open Space 2 Designing the Urban Precinct 2 (capstone) Urban Architecture Selectives Students must choose two selective subjects (25 points) as follows: Designing with Plants OR Case Studies in Contemporary Landscape Architecture Managing City Development OR Sustainability Planning and Policy
Entry Requirements:	VCE Units 3 and 4, a study score of at least 25 in English (any) or equivalent IB - English Grade 5 Standard Level or Grade 4 Higher Level
Core Participation Requirements:	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. This course requires all students to enrol in subjects where they must actively and safely contribute to laboratory activities. Students who feel their disability will affect their meeting this requirement are encouraged to discuss this matter with the Subject Coordinator and the Disability Liaison Unit.
Further Study:	As a graduate of the Bachelor of Environments you will have the opportunity to continue your study through an honours year, a professional masters or a research higher degree in an area related to your undergraduate study area. In addition to this, from 2008 the University will be offering a range of new graduate-entry only programs, available to graduates of any 3-year Bachelor degree. Professional Masters degrees are available in Architecture, Construction Management, Engineering, Forest Ecosystem Science, Landscape Architecture, Property, Urban Horticulture and Urban Planning. Graduate study will provide you with the opportunity to investigate a research project of your interest, further develop your project management and problem solving skills, and in some cases gain national and international professional recognition in your field.
Graduate Attributes:	The Bachelor of Environments' balance between cross-disciplinary learning and disciplinary specialisation provides an ideal setting in which to develop the University of Melbourne's graduate attributes. Graduates will develop in-depth knowledge of their specialist discipline through the 112.5-point major sequence. They will be exposed to a contrasting 'way of knowing' through the breadth component. Finally, they will have the opportunity to take 37.5 points of electives from within the Bachelor of Environments to broaden their knowledge of complementary disciplines. The first year of the Bachelor of Environments will provide a foundation for these strands of the learning experience. All students will take two core subjects, Natural Environments and Reshaping Environments, which will introduce them to natural environmental processes and systems and the socio-cultural context in which these occur. Students will then select an additional four subjects introducing them to other aspects of environments, including their design, planning, production and management, from a range of disciplinary perspectives. The final two first year subjects will be taken from outside the Bachelor of Environments. The first year subjects, and some second/third year subjects, will

	be taken by students interested in different discipline areas and proceeding to different majors. They will be able to interact and share their ideas to solve real-world problems. Students will learn to work effectively in groups and appreciate the value of collaboration and different perspectives. This will stand them in good stead for interacting with professionals from related areas in their future careers. Exposure to a range of disciplines within and outside the Bachelor of Environments will ensure students are able to critically examine and synthesise different types of knowledge. They will have diverse learning experiences in settings ranging from the lecture theatre and tutorial room to the design studio, scientific lab and computer lab, allowing them to expand and adapt their cognitive and analytical skills. Bachelor of Environments graduates will be characterised by their creative, flexible and multi-disciplinary approach to the sustainable design and management of the environment. Students will be required to learn a range of communication techniques in their Bachelor of Environments studies, including written, oral and graphical. They will develop practical laboratory and computer skills and apply these to problem-solving. Bachelor of Environments subjects will encourage students to work independently as well as in groups, and become adept at finding information for themselves through research and experimental activities, and the use of technological applications. Throughout the Bachelor of Environments, a strong sense of professional ethics, intellectual integrity and social responsibility will be instilled in students. Students will develop an awareness of environmental impacts and management at a global scale, and an understanding of their professional responsibilities to shape and manage environments in a sustainable way. They will be well-positioned to become active global citizens and ambassadors for sustainable environmental values in all their endeavours.
Generic Skills:	Students in the B.Environments should develop the following skills: • demonstrate an independent approach to knowledge that uses rigorous methods of inquiry and appropriate theories and methodologies that are applied with intellectual honesty and a respect for ethical values; • apply critical and analytical skills and methods to the identification and resolution of problems; • apply practical skills and technology to identify new opportunities and solve problems; • demonstrate innovation and creativity; • engage confidently in self-directed study and research; • demonstrate strong teamwork and interpersonal skills; • communicate effectively in written, oral and graphical form; • use appropriate modern technologies for the acquisition, processing and interpretation of data.
Links to further information:	www.benvs.unimelb.edu.au