

Environmental Studies

Convener: Dr Peter Christoff (School of Anthropology, Geography and Environmental Studies)

Environmental studies at the University of Melbourne is amongst the top-ranking programs of its kind in Australia and New Zealand. Talented academic staff enjoy international recognition for their scholarship and original research, often conducted in collaboration with international colleagues and directed to project-based outcomes. Environmental studies combines a knowledge of natural environments with an understanding of how human societies work, in order to address a range of issues and problems concerned with environmental management. It addresses the biogeography and sustainability of environments, particularly as these are impacted upon by forces of development. Ecological and hydrological issues are addressed in the context of risk assessment and management approaches within regulatory frameworks. This versatile program enables students to gain practical and relevant experience in laboratory classes, group project work and field trips, including fieldwork research in China.

These activities and the excellent facilities and resources provided by the School of Anthropology, Geography and Environmental Studies (SAGES) ensure that students will obtain maximal benefits from their study. The major in environmental studies can be used as a pathway to postgraduate study in landscape architecture or the articulated structure of higher degree study options at the University of Melbourne's Office for Environmental Programs. Graduates of environmental studies at the University of Melbourne gain the experience and qualifications required for professional careers with government agencies, regulatory bodies and in private industry with environmental consulting firms.

For information on the major in geography, see *Geography (p.1)*.

Time commitment to study

As well as scheduled contact hours for lectures, tutorial and seminars a considerable additional time commitment is needed to complete the academic requirements of each subject.

A subject-specific time commitment to study will be provided by your lecturer or tutor at the beginning of semester to help you schedule your workload and successfully manage your time during the semester. In addition, general estimates of the total time commitment required to study a 12.5-point single semester subject in the Faculty of Arts can be found on page 1.

Faculty of Arts requirements

Within the environmental studies program, only those subjects offered by the departments within the Faculty of Arts are arts-approved subjects. See *Arts-approved subject requirement (p.5)* for more information.

Prerequisites

The environmental studies program commences in first year. There are no prerequisites for first-year environmental studies subjects.

Students who have completed 50 points of first-year arts subjects other than those recommended below may apply to the environmental studies coordinator for second-year entry.

Diploma in Arts (Environmental Studies)

The Diploma in Arts (Environmental Studies) is only available to students who are currently enrolled in a degree course at the University of Melbourne. It consists of a three-year sequence of study, and adds one year to the duration of your degree.

Students must complete 25 points of first-year subjects and 75 points of second/third-year subjects, including two compulsory and at least two core subjects, selected from the lists below.

Requirements for a major

A major in environmental studies usually consists of nine 12.5-point subjects, totalling 112.5 points. It comprises:

- two first-year subjects from the list below (25 points); and
- second/third-year subjects in environmental studies totalling 87.5 points. These must include three compulsory subjects:
 - 121-017 Society and Environments (p.3)
 - 121-021 Environmental Politics and Management (p.3)
 - 121-028 Sustainable Development (p.4)
- at least two, and up to four, priority subjects listed below; and no more than two elective subjects listed below.

The listed subjects are grouped according to the stream to which they contribute.

Environmental studies subjects

First year

Students must complete **two** of the following first-year subjects toward their environmental studies major:

First-year subjects		Sem.
Geography		
121-110	Famine in the Modern World (p.2)	1
121-172	Global Ecology and Biodiversity (p.2)	2
Biology		
650-141	Biology of Cells and Organisms (p.1)	1
650-142	Genetics & The Evolution of Life (p.1)	2
Earth Sciences		
625-101	Earth Sciences - The Global Environment (p.1)	1

Second/third year

In addition to compulsory subjects, students are required to make their subject selection from two categories: priority and elective subjects.

Compulsory subjects		Sem.
121-017	Society and Environments (p.3)	2
121-021	Environmental Politics and Management (p.3)	1
121-028	Sustainable Development (p.4)	2

Students are strongly recommended to take 121-028 *after* completing 121-021.

Priority subjects		Sem.
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Cultural interpretation		
121-023	China in Transition (p.4)	1
121-068	Redefining Nature (p.3)	N/A
121-229	Geographical Thought (p.5)	1
121-231	Indigenous Peoples & Resource Management (p.5)	2
121-433	China Field Class (p.7)	2

Physical sciences		
121-018	Geomorphology (p.3)	1
121-458	Australian Quaternary Environments (p.7) (25 points)	2
121-030	Applied Ecology (p.6) (25 points)	2
or		
606-301	Applied Ecology (Theory) (p.2) (12.5 points)	2
121-033	Environmental Hydrology A (p.6) (25 points)	1

or		
121-029	Environmental Hydrology B (p.5) (12.5 points)	N/A

Political and policy analysis		
121-015	Development and the Third World (p.2)	2
121-022	Development and Urban Environments (p.3)	1
121-231	Indigenous Peoples & Resource Management (p.5)	2

Elective subjects		Sem.
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Cultural interpretation		
121-063	Culture Change and Protest Movements (p.3)	1
121-224	Garma Fieldwork (p.4)	2
121-434	Fieldwork Research Project (p.7)	2
107-028	Australian Art: Colonial to Pop (p.3) (prerequisites apply)	1

136-035	A History of Nature (p.3)	Summer
136-213	Environmental History of Australia (p.5)	1
161-014	Environmental Philosophy (p.5)	2

Physical sciences		
121-071	Coastal Geomorphology (p.6)	1
121-222	Field Class in Geography (p.4)	1
121-434	Fieldwork Research Project (p.7)	2
654-204	Ecology: Individuals and Populations (p.2) (prerequisites apply)	1
606-204	Ecology: Communities and Ecosystems (p.1) (prerequisites apply)	2

Political and policy analysis		
121-006	Urban Economic Geography (p.2)	1
121-434	Fieldwork Research Project (p.7)	2
121-436	The Geopolitics of Peace and Development (p.2)	1
166-212	Global Environmental Politics (p.7)	N/A
166-022	Public Policy Making (p.5)	1
166-038	Indigenous Rights: Land and Heritage (p.6)	1
316-324	Environmental Economics (p.4) (prerequisites apply)	1
316-425	Ecological Economics (p.7) (prerequisites apply)	2

With approval of the course coordinator, students may take *one* elective subject other than those listed above.

Recommended subjects

The following subjects are recommended for students who seek vocational training in environmental studies. The subjects could be taken as part of a major in environmental studies taken alongside a major in geography specialising in physical geography.

Recommended subjects for a double major with geography	Sem.
121-021 Environmental Politics and Management (p.3)	1
121-028 Sustainable Development (p.4)	2
121-022 Development and Urban Environments (p.3)	1

and two additional subjects.

Honours entry

The prerequisites for entry to fourth-year honours in environmental studies are:

- completion of all the requirements for the BA; and
- completion of a major in environmental studies; and
- an average grade of H2B or higher over the second/third-year subjects within the major.

For information on how to apply see *Applying for Honours* (p.12).

Honours requirements

It is not possible to complete honours in environmental studies on a part time basis. Students must complete the honours year full-time over two consecutive semesters of study.

Pure honours only

Environmental studies offers pure honours study only. Students must complete:

- 121-520 Environmental Studies Thesis (p.2) (50 points); and
- 121-431 Environmental Studies Coursework (p.3) (50 points).

Further study

SAGES offers a range of postgraduate programs in environmental studies. These include:

- Graduate Certificate in Arts (Environmental Studies);
- Graduate Diploma in Arts (Environmental Studies);
- Postgraduate Diploma in Arts (Environmental Studies);
- MA (Environmental Studies) by research thesis only.

SAGES also offers PhD supervision to students undertaking research in a wide range of areas in environmental studies.

In addition, a major in environmental studies offers a pathway for students who wish to gain privileged entry into the Master of Landscape Architecture: see *Faculty of Architecture, Building and Planning* (p.1).

Career opportunities

Graduates with a major in environmental studies can expect to find creative and useful employment in a wide variety of situations. Some of the most common opportunities are:

- as scientific, planning or education officers in government departments and authorities (Conservation and Natural Resources, Housing, Transport, Melbourne Water, and their interstate counterparts);
- in private environmental consultancy, planning or exploration firms;
- as teachers and lecturers in educational institutions;
- as planning and project officers for nature conservation bodies such as the Australian Conservation Foundation, the National Trust or Greenpeace;
- as environmental officers for major development companies such as BHP, oil companies or any number of smaller organisations;
- as environmental consultants to overseas nations either through aid programs or direct employment.

For more information

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Fourth-year subjects

121-520 Environmental Studies Thesis

Note: Students must have permission from the coordinator to enrol in this subject

Availability: 4th year

Credit points: 50

Coordinator: To be advised

Prerequisites: Admission to the postgraduate diploma or fourth year honours in environmental studies.

Contact: Regular contact with the supervisor over two consecutive semesters of enrolment (*Semester 1, repeat 2*).

Description: An approved topic/research project selected in consultation with the supervisor/s. The student will also write a research proposal and give an oral presentation on the proposed research.

Assessment: A thesis of 15000 words 100% (due in the second semester of enrolment). Hurdle requirement: a 2000 word research proposal, a 30-minute oral presentation and attendance at departmental research seminars.

Prescribed texts: M Webber, *Writing Theses: A Manual for Honours and Masters Students*, Research Paper No.14, School of Anthropology, Geography & Environmental, The University of Melbourne.

121-532 Environmental Impact Assessment

Note: Formerly available as 121-003/420 Social Environmental Assessment. Students who have completed 121-003/420 are not eligible to enrol in this subject.

Availability: 4th year and postgraduate

Credit points: 12.5

Coordinator: Dr Barbara Downes

Contact: Twenty four contact hours in total plus fieldwork to be advised (*Semester 1*).

Description: This subject prepares students for environmental management roles by providing them with the principles of how human impacts on the environment might be detected and managed. The principles will be placed within the legal and social contexts of environmental impact assessment. At the completion of the subject, students should understand three aspects: prediction of the kind of changes that might occur with human activities; the design and implementation of proper monitoring programs that can detect changes; and assessment of those changes. Additionally, a strong emphasis is placed on the practical implementation of principles using a field-based approach.

Assessment: A design exercise of 2000 words 40% (due mid semester) and a critique of an EES of 3000 words 60% for 4th year students (due early June). A design exercise of 2000 words 30% (due mid semester) and a critique of an EES of 4000 words 70% for master students (due early June).

121-529 Social Impact Assessment

Note: Formerly available as 121-004/421 Social Impact Assessment. Students who have completed 121-004/421 are not eligible to enrol in this subject.

Availability: 4th year and postgraduate

Credit points: 12.5

Coordinator: Dr Simon Batterbury

Prerequisites: Admission to the postgraduate diploma or fourth year honours in environmental studies.

Contact: Twelve 2-hour weekly seminars plus fieldwork to be advised (*Semester 2*).

Description: This subject develops the skills to understand and assess the social impacts of development. The different actors involved in shaping and implementing development projects and programmes (the state, international development agencies, non-government organisations and grass roots institutions) are appraised. Using practical examples from the non-Western and Western world, we develop techniques to monitor and evaluate impacts using interdisciplinary techniques drawn from anthropology, development studies, and the policy sciences that move beyond summative assessment and financial accounting. We consider the social and environmental contexts in which development is embedded, and the capacities of different actors and organizations to avert or mitigate negative impacts through learning, negotiation, and citizen participation. At the completion of the subject students will have developed the conceptual skills to understand the relationship between society and development; be familiar with the range of methodologies and techniques used in impact assessment studies; and be able to critically evaluate the impacts of development projects and programmes.

Assessment: An essay of 3000 words 70% (due at the end of semester) and a project report of 2000 words 30% (due mid semester) for fourth year students. An essay of 4000 words 70% (due at the end of semester) and a project report of 2000 words 30% (due mid semester) for masters students.

121-531 Hydrology & Fluvial Geomorphology

Note: Strict enrolment deadlines apply to subjects taught during the Summer Semester. Any enrolment in, or withdrawal from, this subject for the Summer Semester must be made in line with HECS census dates.

Availability: 4th year and postgraduate

Credit points: 12.5

Coordinator: Prof McMahon A/Prof Finlayson, Rutherford

Prerequisites: Admission to the postgraduate diploma in environmental studies or the masters program in environmental studies.

Contact: Twenty four hours intensive over one week comprising of lectures, practicals and fieldwork (*Summer semester*).

Description: This subject focuses on the hydrology and geomorphology of rivers with particular reference to their management for ecological benefits. Students are introduced to the principles of river hydrology and geomorphology as they govern the patterns of flows, the movement of sediment and the behaviour of the channel. The subject is taught through a combination of lectures, practical classes (including computer-based data analysis) and fieldwork. Students will gain an insight and practical experience in the assessment of river condition and will be introduced to the issues surrounding the restoration of degraded rivers. This subject is aimed primarily at freshwater ecologists who wish to gain an understanding of the physical controls and behaviour of river systems.

Assessment: Four practical exercises of 400 words each 10% each, tests equivalent to 600 words 15% (due during the intensive teaching period) and field trip report 45% (due early March).

Prescribed texts: N Gordon, T A McMahon & B Finlayson, *Stream Hydrology: An Introduction for Ecologists*, John Wiley & Sons 1992.

121-431 Environmental Studies Coursework

Note: Research modules are offered in intensive mode over summer. Students should consult Dr Ray Wyatt, the modules coordinator, for timetable details by November in the year prior to their enrolment.

Availability: 4th year

Credit points: 50

Coordinator: To be advised

Prerequisites: Admission to the postgraduate diploma or fourth year honours in environmental studies.

Contact: Regular contact with the supervisor plus a total of 96 contact hours comprising: 12 hours of contact in each of two research methods modules (24 hours), twelve 1-hour formal contact sessions with the supervisor of the literature review (12 hours), 28 hours of formal seminars on research design and philosophy and scope of the discipline and 24 hours of lectures and seminars (*Semester 1, repeat 2*).

Description: This subject comprises three components: a course of lectures and seminars on the principles and practice of environmental or social impact assessment; preparation of an extended review of the literature related to the subject matter of the student's individual thesis, covering both specific research in this area, and also the broader context within which the survey is situated; research methodology lectures and practical exercises covering two methodology areas chosen from the following list: SPSS or Introductory Statistics; GIS or Geocomputation; Research Planning or Managing Your Thesis or Planning a Fourth-Year Research Project; Ethics or Researching Vulnerable Groups; Storytelling and Narrative Analysis or Observation Methods; Survey Analysis; Questionnaire Design.

Assessment: Written work totalling 20 000 words comprising a research proposal of 2000 words, a literature review of 6000 words, practical exercises on research methods for two elective modules totalling 5000 words, an essay and short seminar papers totalling 5000 words, two oral presentations (totaling 40 minutes) on research proposal and research results. Attendance at the School seminar series and other prescribed seminars is compulsory, as is completion of two methodology modules. Literature review 35% (due the last week of the first semester of enrolment), research modules 20% (due during the semester), essay and seminar papers totalling 7000 words 35% (due at the end of the second semester of enrolment) and oral presentation equivalent to 2000 words 10% (in week six of the second semester of enrolment).

