

Geography

Geography at the University of Melbourne is administered by one of the top-ranking departments of its kind in Australia and New Zealand. Our academic staff enjoy international reputations for their scholarship and engage in original research, including collaborative research with local and international colleagues. Geography enables students to gain practical and relevant experience by working with staff who apply up-to-the-minute knowledge in a variety of real situations including practical laboratory classes, field trips, and group project work. These practical activities provide opportunities for students to develop transferable skills and to benefit from the leadership of peers, public responsibility and community participation, mentoring, and professional skill development, all of which are highly desirable attributes in the market place. A variety of prospective career pathways is available to students of geography that draw on the analytical and research knowledge gained in this area of study. Alternatively, students are able to expand on their interest and knowledge through an articulated structure of higher degree study at the University of Melbourne.

Geography is about the relationship between society and the environment. It integrates both the physical and social sciences to provide students with the skills and conceptual frameworks needed to understand the processes that shape the world around us. Areas of research include social, cultural and economic geography, feminist geographies, urban geography, development studies, Asian studies, Indigenous studies, environmental policy and management, plant and animal ecology, and geomorphology.

In addition to the major in geography, the Department of Geography and Environmental Studies offers majors in *Anthropology* (p.55), *Development* (p.135), *Environmental studies* (p.159) and an *Specialist Program in Environmental studies* (p.163). The Department of Geography and Environmental Studies also offers pathways for students who wish to gain privileged entry into either a Master of Urban Planning or Master of Landscape Architecture: see the entry in this Handbook under *Planning and design* (p.297).

Prerequisites

There are no prerequisites for first year subjects in geography.

The prerequisite for a second/third year subject in geography is usually two first year subjects in geography (25 points). Students who have done suitable alternative first year subjects are advised to consult with the Department for permission to enrol. Exemptions may also be granted where second/third year subjects are taken as part of an approved interdepartmental program with its own entry requirements.

The prerequisite for a third/fourth year geography subject is usually three second/third year subjects in geography (37.5 points).

Requirements for a major

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

- two first year subjects in geography (25 points) and;
- second/third year subjects in geography (totalling 87.5 points).

It is recommended that students take at least one 25 point subject in their third year of study since these subjects incorporate fields of study which are regarded as an important component of training in the discipline.

Students wishing to complete a double major in geography should undertake 175 points of second/third year subjects in geography.

Subjects for the major	Points
121-006 Urban Economic Geography (p.180)	12.5
121-015 Development and the Third World (p.180)	12.5
121-016 Landscapes of Power (p.185)	12.5
121-017 Society and Environments (p.181)	12.5
121-018 Geomorphology (p.181)	12.5
121-019 Urbanisation and Urban Development (p.181)	12.5
121-021 Environmental Politics and Management (p.181)	12.5
121-022 Urban Environments (p.181)	12.5
121-023 China in Transition (p.181)	12.5
121-024 GIS and Remote Sensing in Geography (p.182)	12.5
121-025 Biodiversity (p.182)	12.5
121-026 The Mobile World: Migration and Tourism (p.182)	12.5
121-028 Sustainable Development (p.182)	12.5
121-033 Environmental Hydrology A (p.183)	25
121-029 Environmental Hydrology B (p.183)	12.5
121-030 Ecological Biogeography (p.183)	25
121-031 Ecological Biogeography (Theory) (p.183)	12.5
121-032 Australian Quaternary Environments (p.184)	25
121-034 Environmental Field Class (p.184)	25
121-036 China Field Class (p.184)	25

Subjects for the major	Points
121-037 Fieldwork Research Project (p.184)	12.5
121-044 Place and Possession (p.185)	12.5
121-045 Native Title (p.182)	12.5
121-046 Garma Fieldwork (p.183)	12.5
121-039 Environmental Management Systems (p.184)	12.5
121-071 Coastal Geomorphology (p.184)	12.5

Specialist options

1. For students wishing to specialise in physical geography

At least four of:

121-025 Biodiversity (p.182)	12.5
121-029 Environmental Hydrology B (p.183)	12.5
121-033 Environmental Hydrology A (p.183)	25
121-018 Geomorphology (p.181)	12.5
121-022 Urban Environments (p.181)	12.5
121-030 Ecological Biogeography (p.183)	25
121-031 Ecological Biogeography (Theory) (p.183)	12.5
121-032 Australian Quaternary Environments (p.184)	25
121-071 Coastal Geomorphology (p.184)	12.5

2. For students wishing to specialise in human geography

At least four of:

121-006 Urban Economic Geography (p.180)	12.5
121-015 Development and the Third World (p.180)	12.5
121-016 Landscapes of Power (p.185)	12.5
121-019 Urbanisation and Urban Development (p.181)	12.5
121-017 Society and Environments (p.181)	12.5
121-028 Sustainable Development (p.182)	12.5
121-036 China Field Class (p.184)	25
121-037 Fieldwork Research Project (p.184)	12.5
121-044 Place and Possession (p.185)	12.5
121-045 Native Title (p.182)	12.5
121-046 Garma Fieldwork (p.183)	12.5
705-220 Urban Development in Asian Megacities (p.33)	12.5
121-026 The Mobile World: Migration and Tourism (p.182)	12.5

Entry to honours

The prerequisites for entry to Fourth Year Honours in Geography are:

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

Students should note that the Department offers a pure honours program only.

Honours requirements

Students undertaking pure honours in geography must complete:

- 121-517 Geography Thesis (p.185) (50 points) and;
- 121-040 Geography Coursework (p.185) (50 points).

or

- 121-518 Geography Thesis (MYE) (p.185) (50 points) and;
- 121-041 Geography Coursework (MYE) (p.185) (50 points).

Part-time honours is only permitted under exceptional circumstances, subject to approval of the head of department.

Career opportunities

Geography provides students with information and skills relevant to thinking about the relationship between society and the environment. Few would doubt the contemporary relevance of this issue. Environmental considerations are an important and necessary component of doing business for almost all sectors of industry and government. This means that students who are skilled in this area are well equipped to enter the workforce.

Many students entering the workforce find little direct use for the particular knowledge they have acquired while doing their university degree. This is not the case for geography students. The knowledge and skills that students learn when studying geography are much sought after by employers of many kinds. About half of our graduates find their way into jobs which use the specific skills they learnt in geography.

The skills geography provides which are so attractive to prospective employers include analytical and technical skills (in both the physical and social sciences), survey skills (physical and social science), writing and information synthesis, communication and group work skills, computing skills, and knowledge of social and environmental interactions

Geography graduates have found themselves in many different careers, in government, the private sector, retail and marketing, computing, teaching, human resources and public relations.

For more information

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First year subjects

121-010 Famine in the Modern World

Note: Formerly available as 121-101. Students who have completed 121-101 are not eligible to enrol in this subject.

Credit points: 12.5

HECS-band: 1

Coordinator: Prof Michael Webber

Contact: Two lectures and a 2-hour laboratory or practical class per week (*Semester 1*).

Description: This subject is an empirical evaluation of two contrasting theories of famine. The 'Malthusian' theory argues that famine is a matter of the balance of population and environmental resources. Evidence is drawn together from demography and environmental change and degradation, climatic fluctuations, soil degradation, salinity, desertification and the environmental impact of the green revolution. The 'political economy' theory argues that famine is a matter of the distribution of food. Evidence is drawn together from the class and gender characteristics of access to food within societies, and about differential access between societies, involving the implications of agribusiness and the global food trade. Students who complete the subject should be familiar with these theories and their problems. The subject concludes by examining the extent to which aid and other solutions to the world food problem draw upon these theories.

Assessment: A 90-minute examination and written work totalling 2500 words, including an essay of 2000 words and laboratory and seminar assignments.

121-011 Australia in Asia

Note: Formerly available as 121-103. Students who have completed 121-103 are not eligible to enrol in this subject. This subject is recommended for students wishing to complete a major in Australian studies.

Credit points: 12.5

HECS-band: 1

Coordinator: To be advised

Contact: Two 1-hour lectures and a 2-hour seminar or practical class per week (*Semester 2*).

Description: This subject critically evaluates the question 'is Australia part of Asia?' The themes examined include the historical, cultural and geographical diversities of 'Asia': trade links, geopolitical agreements and treaties, newly industrialised nations, reforming socialist economies, tourism, immigration, urbanisation, resource management and community, and environmental aid. By the end of the subject students should have developed an understanding of the issues relating to Australia's efforts to re-position itself in relation to Asia; understand more about the diversity of the Asian region and its relationships with Australia; appreciate various ways in which Asia and Australia are linked; understand the social, economic and environmental issues facing the Asian region; develop a familiarity with some of the current debates in geography such as globalisation, political and economic restructuring, urbanisation and ideas of national and regional identity; and develop various skills used in the discipline of geography.

Assessment: A 90-minute examination, and written work totalling 2500 words, including an essay of 2000 words and laboratory and seminar assignments.

121-012 Environmental Change

Note: Formerly available as 121-171. Students who have completed 121-171 are not eligible to enrol in this subject.

Credit points: 12.5

HECS-band: 1

Coordinator: Assoc Prof Brian Finlayson

Contact: Two 1-hour lectures and a 2-hour laboratory per week, plus 2 days of fieldwork (*Semester 1*).

Description: This subject is an introduction to the discipline of geography, both physical geography and human geography, and to a major in environmental studies. The subject examines global and regional patterns of natural and human-induced changes in the environment, together with their conse-

quences for human societies. Topics include global patterns in climate, the evolution of different sorts of landscapes, the nature of ecosystems, and the social bases of and links to environmental change. Principles are applied to highlight problems in environmental management, such as irrigation and salinisation, sustainable harvesting of forests, and urban runoff. Students should develop skills such as map use and production, interpretation of satellite photographs, the ability to argue and the presentation and interpretation of data. By the end of the subject students should have an understanding of the complexity that underlies most environmental problems.

Assessment: A 2-hour examination, and written work totalling 2000 words, which may include assignments, a field report and continuously assessed practical work.

121-013 Global Ecology and Biogeography

Note: Formerly available as 121-172. Students who have completed 121-172 are not eligible to enrol in this subject. Students who have taken 121-174 Ecology for Engineers cannot receive credit for this subject due to overlap in subject content.

Credit points: 12.5

HECS-band: 1

Coordinator: Dr Ian Thomas

Contact: Two 1-hour lectures and a 2-hour laboratory per week, plus one to two days of fieldwork (*Semester 2*).

Description: This subject serves as an introduction to the disciplines of physical geography and environmental studies, concentrating on the nature of global patterns of species diversity and biogeographic realms. Students will encounter issues such as distribution, properties and functioning of the world's major biomes; soil forming processes and the distribution of soils on a global basis; deforestation, desertification, acidification, wetland conversion, fragmentation, invasions and extinctions; the nature and scale of human impacts; and the restoration and preservation of ecosystems. On completion of the subject students should be familiar with basic ecological concepts and issues in contemporary biogeography on a global scale; be able to identify how environmental variables influence the world's major landscapes; be able to apply basic field and laboratory methods in biogeography; and have an understanding of the extent of human impacts on biomes.

Assessment: Weekly practical exercises totalling 2000 words, and a 2-hour examination.

Second/third year subjects

121-006 Urban Economic Geography

Credit points: 12.5

HECS-band: 1

Coordinator: Prof Michael Webber

Prerequisites: Completion of 25 points of first year geography and environmental studies, economics or urban planning.

Contact: A 1-hour lecture and two hours of practical classes per week (*Semester 1*).

Description: This subject examines how cities work and provides the tools with which to identify the characteristics of cities. It seeks first to explain the functions performed by cities, how cities work as economic units and how they grow and decline. It seeks secondly to examine the way in which the functions of cities are located in different parts of the city, the key economic sectors in cities and the rules of their location. There is a brief introduction to local development strategies. The subject also introduces students to the information sources that are used in urban analysis, to the principal indicators of urban social and economic well-being and to the tools that are used to analyse cities.

Assessment: Students are required to complete (and obtain a passing mark on) all practical work set in class; this is a hurdle requirement. Students will complete project and essay work equivalent to 3000 words and a 1-hour examination. The examination must be passed in order for the subject to be passed.

Prescribed texts:

Much of the detailed reading for practical classes will be derived from fugitive (unpublished) material produced by local municipalities; other material will be drawn from the web.

121-015 Development and the Third World

Note: Formerly available as 121-204/304. Students who have completed 121-204/304 are not eligible to enrol in this subject.

Credit points: 12.5

HECS-band: 1

Coordinator: Dr Ludmilla Kwitko

Prerequisites: 25 points of first year geography or sociology, or approval of the subject coordinator.

Contact: Two 1.5-hour lecture/seminars per week (*Semester 1*).

Description: The subject is intended as an introduction to a range of third world issues: different perceptions of the third world; quality-of-life and its measurement; access to healthcare; aid; industry and trade; employment; population; gender; the media; the role of the UN in resolving conflict. For each of these issues, links with development are explored. After completing the subject, students should be in a position to recognise the importance of source selection; demonstrate via mapping exercises an ability to identify most of the countries that collectively make up 'the world'; and see that there are positive achievements throughout the third world. Students should recognise that development is a product of a complex mix of forces, and be able to identify these forces.

Assessment: Two essays of 2000 words each, and seminar exercises. Attendance at a minimum 80% of classes is required in order for students to qualify for assessment.

121-017 Society and Environments

Note: Formerly available as 121-208/308. Students who have completed 121-208/308 are not eligible to enrol in this subject.

Credit points: 12.5

HECS-band: 1

Coordinator: Dr Jane Jacobs

Prerequisites: Completion of 100 points of first and/or second year subjects including at least 50 points at first year level from approved subjects in your home faculty.

Contact: Three hours of lectures/tutorials per week (*Semester 2*).

Description: This subject tackles the question of the relationship between society and environments. Students will be introduced to important conceptual tools for thinking about the ways in which capitalism structures social/environmental relations; the notion of the social construction of the natural world; the role of the state in environmental management and regulation; and the relationship between cultural values and the use and meaning of the environment. The subject will ask students to think about some of the following questions: How 'wild' is 'wilderness'? What do zoos tell us about social organisation? How can we conceive of environmental justice? Why is there a renewed interest in traditional ecological knowledges? Has the state a meaningful role in sustainable development? Who owns nature? Students should complete the subject with an understanding of the complex connections between certain cultural, political and economic formations and the natural world.

Assessment: Written work totalling 4000 words.

121-018 Geomorphology

Note: Formerly available as 121-212/312. Students who have completed 121-212/312 are not eligible to enrol in this subject. All BSc students, except those enrolled in the BA/BSc combined course and the BAsc course, can only receive credit at the 200-level for this subject.

Credit points: 12.5

HECS-band: 1

Coordinator: Dr Wayne Stephenson

Prerequisites: 25 points of geography, environmental studies or earth sciences at first year or an equivalent approved by the coordinator.

Contact: Two 1-hour lectures and 2 hours of practical classes per week, including one day of fieldwork (*Semester 2*).

Description: This subject outlines the development of geomorphology as a discipline, the different approaches used to study landforms and theory of landscape processes and evolution. Topics covered include the denudation system; weathering; hillslopes; fluvial processes and landforms; glacial processes and landforms; karst landscapes and processes; deserts and aeolian processes; the coastal system and processes; and landform change during the Quaternary. Emphasis is placed on understanding the geomorphological processes that shape these landscapes. Through lectures, practicals and field exercises students should develop skills in the use of a range of analytical techniques for investigating landform processes and change. Students should also develop an appreciation of the ways landforms and process can be incorporated into environmental management and land use planning.

Assessment: Weekly practical classes, an individual project of 1500 words, and a 1.5-hour examination. Students are required to complete the field exercise and report (1500 words) and attend a minimum 80% of practical classes.

121-019 Urbanisation and Urban Development

Note: Formerly available as 121-214/314. Students who have completed 121-214/314 are not eligible to enrol in this subject. Students cannot obtain credit for this subject and 705-489 Urbanisation and Urban Development due to content overlap.

Credit points: 12.5

HECS-band: 1

Coordinator: Prof Ruth Fincher

Prerequisites: Completion of at least 100 points of first and/or second year subjects including at least 50 points at 100-level from approved subjects in your home faculty.

Contact: Three hours of lectures and tutorials per week (*Semester 1*).

Description: This subject considers theories and interpretations of urbanisation and urban development that have been influential in urban planning and geography over the past three decades. Examining the understandings of the urban in different national and regional contexts (Australian, western, Asian, postcolonial, multicultural) the subject emphasises the position of cities in contemporary processes of globalisation, and the diverse lives of urban dwellers in different places and circumstances. Students should gain experience in designing and undertaking some original research work using the perspectives discussed.

Assessment: Written work totalling 2000 words, and a 2-hour examination.

121-021 Environmental Politics and Management

Note: Formerly available as 121-219/319. Students who have completed 121-219/319 are not eligible to enrol in this subject. All BSc students, except those enrolled in the BA/BSc combined course and the BAsc course, can only receive credit at the 200-level for this subject.

Credit points: 12.5

HECS-band: 1

Coordinator: Mr Peter Christoff

Prerequisites: Completion of 100 points of first and/or second year subjects including at least 50 points at 100-level from approved subjects in your home faculty. Australian studies students wishing to enrol in this subject would normally have completed first year Australian studies, see *Prerequisites* (p.83).

Contact: Two 1-hour lectures per week and ten 1-hour tutorials (*Semester 1*).

Description: This subject explores a range of contemporary Australian environmental issues, examining the history of their emergence and management during the past two centuries of European settlement. Case studies associated with coastal management and urban development, agriculture, forestry and mining, energy use, nature conservation and biodiversity preservation are used to illuminate ways of understanding and managing our unique continent's ecosystems. The subject examines linkages between the scientific, cultural, economic and political dimensions of these environmental problems. Students should become familiar with mechanisms used to contain or resolve recent environmental conflicts, and be able to interpret them in the context of broader questions relating to ecological governance, sustainable development and intergenerational equity.

Assessment: Written work totalling 3000 words, and a take-home examination.

121-022 Urban Environments

Note: Formerly available as 121-221/321. Students who have completed 121-221/321 are not eligible to enrol in this subject. All BSc students, except those enrolled in the BA/BSc combined course and the BAsc course, can only receive credit at the 200-level for this subject.

Credit points: 12.5

HECS-band: 1

Coordinator: Dr Ian Rutherford

Prerequisites: 25 points of first year geography or environmental studies, or one of the following subjects: 121-021 Environmental Politics and Management (p.181), 121-018 Geomorphology (p.181).

Contact: Two hours of lectures and 2 hours of practicals/seminars per week plus two days of fieldwork (*Semester 2*).

Description: This subject places urban environments in the global context and investigates the physical and biological aspects of cities; energy and water inputs, outputs and transformations; and social, demographic and political dimensions of urban centres. Topics covered include the impact of urban masses on climate, hydrology, land and biological systems; how these impacts are manifest as problems; and the variety of ways these impacts are managed. Students should gain an appreciation of the nature of cities as part of, rather than separate from, the general environment; the nature of complex interactions between social structures, natural phenomena, and built environments; and the conflicting political and policy responses to urban environmental issues.

Assessment: An essay of 2000 words, practical exercises, and a 2-hour examination.

121-023 China in Transition

Note: Formerly available as 121-238/338. Students who have completed 121-238/338 are not eligible to enrol in this subject.

Credit points: 12.5

HECS-band: 1

Coordinator: Dr Mark Wang

Prerequisites: 25 points of first year geography, economics or Asian studies or approval of the subject coordinator.

Contact: Two 1.5-hour lecture/seminars per week (*Semester 1*).

Description: This subject is about the geography of 'Red Capitalist' China. It introduces students to issues of physical landscape, resources, present livelihood, and people and places in the land of one billion. The focus of the subject is the ongoing socio-economic transformation in post-Deng Xiaoping

China including issues such as feeding a billion people; population growth and the one-child-only policy; political changes in the post-Deng era; and is China a third world country or a major economic power? Students should become familiar with questions of rapid economic growth and the environmental consequences; open door policy and foreign investment; migration and urbanisation; coast-inland conflicts and income polarisation; economic restructuring, sustainable development and environmental degradation; and China in the next century.

Assessment: A 1.5-hour examination and an essay of 2500 words.

121-024 GIS and Remote Sensing in Geography

Note: Formerly available as 121-254/354. Students who have completed 121-254/354 are not eligible to enrol in this subject. All BSc students, except those enrolled in the BA/BSc combined course and the BAsc course, can only receive credit at the 200-level for this subject.

Credit points: 12.5

HECS-band: 1

Coordinator: Dr Ray Wyatt

Prerequisites: Completion of 75 points of first year subjects.

Contact: Two 1-hour lectures and a 2-hour laboratory per week (*Semester 2*).

Description: This subject provides an introduction to the use of Geographical Information Systems (GIS) and remote sensing in geographical enquiry. Topics covered include sources of geographical data, principles of cartography, map projections, global positioning systems, classification of remotely sensed data, topological structures, data compression, data searching, elementary spatial statistics, neural clustering, census mapping and policy analysis. Students who complete this subject should have an appreciation of what GIS and remote sensing can and cannot achieve in geography and environmental studies and how they may develop in the future. Students should also be aware of the ways in which other techniques can be added to GIS and remote sensing and how the latter can alter people's perceptions within businesses, organisations and societies.

Assessment: A 1.5-hour examination, practical exercises and a project totalling 2500 words.

121-025 Biodiversity

Note: Formerly available as 121-270/370. Students who have completed 121-270/370 are not eligible to enrol in this subject. All BSc students, except those enrolled in the BA/BSc combined course and the BAsc course, can only receive credit at the 200-level for this subject.

Credit points: 12.5

HECS-band: 1

Coordinator: Prof Neal Enright

Prerequisites: 25 points of first year subjects from: 121-010 Famine in the Modern World (*p.180*), 121-012 Environmental Change (*p.180*), 121-013 Global Ecology and Biogeography (*p.180*), 600-141 Biology of Cells and Organisms (*p.791*), 600-142 Genetics & The Evolution of Life (*p.792*), 600-111 Biology of Australian Flora & Fauna (*p.791*) or other appropriate subjects as approved by the subject coordinator.

Contact: Two lectures and 2 hours of labs/seminars per week, and two days of fieldwork (*Semester 1*).

Description: This subject introduces students to genetic, species, ecosystem, and functional diversity; the scientific, economic, medical, moral and other arguments for maintenance of biodiversity; methods for estimating biodiversity; patterns of biodiversity in space and time; hypotheses to explain global, regional and local patterns of biodiversity; biodiversity loss; and national and international policy on biodiversity. On completion of this subject students should understand the reasons why maintenance of biodiversity is important; have knowledge of the global patterns of distribution of biodiversity; comprehend the major hypotheses proposed to explain global and local patterns of species diversity; be able to use a variety of quantitative methods to estimate levels of diversity; be aware of the processes leading to biodiversity loss, and of the Australian and international legislation, conventions and initiatives concerned with biodiversity conservation and exploitation.

Assessment: Written work from practical classes and seminars totalling 2500 words, and a 1.5-hour examination. Students must attend the fieldwork, and a minimum 80% of scheduled laboratory and seminar classes to be eligible to pass the subject.

Prescribed texts:

A subject reader will be available.

121-026 The Mobile World: Migration and Tourism

Note: Formerly available as 121-277/377. Students who have completed 121-277/377 are not eligible to enrol in this subject. Available in odd-numbered years, alternating with 121-016 Landscapes of Power (*p.185*).

Credit points: 12.5

HECS-band: 1

Coordinator: Dr Jane Jacobs

Prerequisites: Completion of 100 points of first and/or second year subjects including at least 50 points at first year level from approved subjects in your home faculty.

Contact: Two 1-hour lectures per week, and ten 1-hour tutorials (*Semester 1*).

Description: Human mobility is an increasingly common feature of modernity. It is also an intrinsically spatial phenomenon of abiding interest to geographers. This subject examines a number of examples of human mobility in the contemporary world including refugee movements, temporary worker migration, permanent resettlement, diasporic and 'nomadic' communities, and tourism. The subject also introduces students to a number of theoretical issues relevant to contemporary thinking about mobility in the modern world including globalisation and the nation-state, the social construction of difference, mobility and a sense of place, migration and citizenship, geographies of exclusion and the commodification of difference.

Assessment: Written work totalling 4000 words.

121-028 Sustainable Development

Note: Formerly available as 121-303. Students who have completed 121-303 are not eligible to enrol in this subject.

Credit points: 12.5

HECS-band: 1

Coordinator: Mr Peter Christoff

Prerequisites: 25 points of first year geography or the approval of the subject coordinator.

Contact: Twenty 1-hour lectures and ten 1-hour tutorials (*Semester 2*).

Description: The term 'sustainable development' is widely recognised but little understood, with over 50 definitions reflecting the different understandings of environmental theorists and practitioners. This subject discusses and interprets these key cultural, political and philosophical differences, both in concept and practice. Students will explore global, developed and developing world examples of sustainable development, examining case histories relating to climate change and ozone depletion, fisheries and tropical forest management, population growth and biodiversity preservation. On completion of the subject students should be able to use these cases to illuminate underlying ecological, economic, and social issues associated with different practices of environmental management and ecological governance.

Assessment: Written work totalling 3000 words, and a take home examination.

121-045 Native Title

Note: Available in odd-numbered years alternating with 121-044 Place and Possession (*p.185*).

Credit points: 12.5

HECS-band: 1

Coordinator: Prof Marcia Langton

Prerequisites: Completion of 100 points of first and/or second year subjects including at least 50 points of first year level from approved subjects in your home faculty.

Contact: Two 1-hour lectures per week, and ten 1-hour tutorials (*Semester 2*).

Description: In this subject the nature of native title is examined in the context of the Mabo decision. Students are introduced to the basic concepts of native title, the key features of the *Native Title Act*, the institutions which deal with native title, and new approaches to settling native title issues. A range of legal, anthropological and geographical issues are surveyed through the lens of native title, and students will become familiar with the issues that arise when there is conflict between colonial or post-colonial and customary land tenure systems. Such issues have to do with notions of property and legal recognition of customary laws. In addition to the legal, anthropological and geographical expert literature on native title issues, a range of Indigenous sources of customary law, particularly relating to land tenure, will be provided via a web site created especially for teaching the prescribed set of topics in this subject. Students will be provided with explanatory visual and documentary materials in order to increase their understanding of Indigenous concepts of customary land tenure, the social groups that exercise rights and responsibilities under these systems, and the key issues for Indigenous people in the negotiation of native title rights. Students who complete this subject will gain an understanding of the procedures for lodging and preparing native title claims; the problems associated with proof and management of native title; the human rights standards that underlie native title statutes; and the legal, anthropological, web and other library resources relating to native title issues.

Assessment: Two 2000 word essays.

Prescribed texts:

A subject reader will be available. Web site texts and resources, both documentary and visual, will be made available to students for a prescribed period of the subject.

121-046 Garma Fieldwork

Note: Available in odd-numbered years alternating with 121-044 Place and Possession (*p.185*). This subject will be delivered both on campus and through an intensive fieldwork experience in northeast Arnhem Land, relying on digital, audio-visual and print resources in both Melbourne and the Northern Territory. A quota may apply to this subject. Please contact the department for further details.

Credit points: 12.5

HECS-band: 1

Coordinator: Prof Marcia Langton

Prerequisites: Completion of 100 points of first and/or second year subjects including at least 50 points of first year level from approved subjects in your home faculty.

Contact: Two hours of lectures, a 1-hour seminar, and five days of fieldwork (*Semester 2*).

Description: This subject aims to introduce students to fieldwork and research in situ in northeast Arnhem Land as guests of the Yolngu Matha speaking people, in particular the Gumatj clan, who annually host the Garma Festival and associated activities, and who welcome students from a range of disciplines at the University of Melbourne to learn Yolngu philosophy and culture and to contribute to the learning and research culture of the Yolngu. In this subject the key literature, film and video works of anthropologists, scientists and others who have worked with the Yolngu Matha speaking people, and the Yolngu Matha literature and audio-visual and digital productions themselves, will be provided to students prior to an intensive fieldwork experience. Students from a range of disciplines - geography, environmental studies, anthropology, archaeology, linguistics, musicology, fine arts, cultural studies, history, law, education and the sciences, particularly biology and botany - will negotiate a collaborative research project and learn the protocols of negotiating a research project with a host Indigenous community as well as the Yolngu protocol and philosophy of learning and communication.

Assessment: Two 2000 word essays.

Prescribed texts:

A subject reader will be available. Web site texts and resources, both documentary and visual, will be made available to students for a prescribed period of the subject.

Third year subjects

121-029 Environmental Hydrology B

Note: Formerly available as 121-305. Students who have completed 121-305 are not eligible to enrol in this subject. Credit cannot be obtained for both this subject and 121-033 Environmental Hydrology A (*p.183*) or former Faculty of Arts subjects 121-349 Principles of Environmental Hydrology or 121-350 Techniques in Environmental Hydrology.

Credit points: 12.5

HECS-band: 1

Coordinator: Dr Barbara Downes

Prerequisites: 121-018 Geomorphology (*p.181*) or 121-025 Biodiversity (*p.182*) or equivalent as approved by the subject coordinator.

Contact: Two 1-hour lectures per week, a 1-hour tutorial per week, and fieldwork totalling 28 hours to be scheduled on weekends (*Semester 1*).

Description: This subject examines principles in the two disciplines of hydrology and ecology, emphasising the use of both to understand environmental management problems in rivers. The subject examines water in terms of quantity and quality; the physical channel and floodplain systems in which it is conveyed and stored; and the population, community and ecosystem dynamics of the organisms that occupy these systems. Through fieldwork students should develop skills in the observation and the collection and interpretation of field data relating to river channels, habitats and biota. Students should become familiar with the multidisciplinary nature of environmental management and the need for critical examination of ideas in the literature.

Assessment: Fieldwork reports totalling 2000 words, and a 2-hour examination.

Prescribed texts: N D Gordon, T A McMahon & B L Finlayson, *Stream Hydrology: An Introduction for Ecologists*, Wiley International, 1992. • J D Allan, *Stream Ecology: Structure and Functioning of Running Waters*, Chapman & Hall, 1995.

121-030 Ecological Biogeography

Note: Formerly available as 121-306. Students who have completed 121-306 are not eligible to enrol in this subject. Credit cannot be obtained for both this subject and 121-031 Ecological Biogeography (Theory) (*p.183*) or former Faculty of Arts subjects 121-340 Principles of Ecological Biogeography or 121-341 Techniques in Ecological Biogeography.

Credit points: 25

HECS-band: 1

Coordinator: Prof Neal Enright

Prerequisites: Any one of the following: 121-213/313 Plants, People and Changing Environments, 121-025 Biodiversity (*p.182*), 606-204 Plant Ecology (*p.795*), 654-204 Animal Ecology (*p.875*), or equivalent as approved by subject coordinator.

Contact: Two hours of lectures, a 1-hour seminar, three hours of laboratories per week, and five days of fieldwork (*Semester 2*).

Description: This subject deals with issues such as the ecological significance of modern concepts of succession and climax as they apply to plant communities; the theory and methods of palaeo-ecology and the impact that climate and humans have had on biogeographic patterns over long periods of time; the interactions between the plant, animal and soil systems in the context of ecosystem functioning and how these relate to ecosystem restoration. On completion of the subject students should be able to identify how major environmental factors influence the properties and pattern of communities and populations; and apply a range of field, laboratory and computer methods for community and population description and analysis.

Assessment: A 2-hour examination, weekly laboratory exercises totalling 2000 words, a field report of 3000 words, and seminar work totalling 1000 words. Students must attend the field trip and a minimum 80% of laboratory and seminar classes to be eligible to pass the subject.

121-031 Ecological Biogeography (Theory)

Note: Formerly available as 121-339. Students who have completed 121-339 are not eligible to enrol in this subject. Credit cannot be obtained for both this subject and 121-030 Ecological Biogeography (*p.183*) or former Faculty of Arts subjects 121-340 Principles of Ecological Biogeography or 121-341 Techniques in Ecological Biogeography.

Credit points: 12.5

HECS-band: 1

Coordinator: Prof Neal Enright

Prerequisites: Any one of the following: 121-213/313 Plants, People and Changing Environments, 121-025 Biodiversity (*p.182*), 606-204 Plant Ecology (*p.795*), 654-204 Animal Ecology (*p.875*) or equivalent as approved by the subject coordinator.

Contact: Two lectures and a seminar per week (*Semester 2*).

Description: In this subject students explore the ecological significance of modern concepts of succession and climax as they apply to plant communities; the theory of palaeo-ecology and the impact that climate and humans have had on biogeographic patterns over long periods of time; and the interactions between plant, animal, and soil systems in the context of ecosystem functioning and how these relate to ecosystem restoration. On completion of the subject students should be able to identify how major environmental factors, operating on different spatial and temporal scales, influence the properties and pattern of communities and populations.

Assessment: A 2-hour examination, a research essay of 2000 words, and seminar work. Students must attend a minimum of 80% of the seminars to be eligible to pass the subject.

121-033 Environmental Hydrology A

Note: Formerly available as 121-360. Students who have completed 121-360 are not eligible to enrol in this subject. Credit cannot be obtained for both this subject and 121-029 Environmental Hydrology B (*p.183*) or former Faculty of Arts subjects 121-349 Principles of Environmental Hydrology or 121-350 Techniques in Environmental Hydrology.

Credit points: 25

HECS-band: 1

Coordinator: Dr Barbara Downes

Prerequisites: 37.5 points of second/third year subjects including 121-018 Geomorphology (*p.181*) or 121-025 Biodiversity (*p.182*) or equivalent as approved by the subject coordinator.

Contact: Two hours of lectures and three hours of practical work per week, and seven days of fieldwork to be scheduled at weekends (*Semester 1*).

Description: This subject examines principles in the two disciplines of hydrology and ecology, emphasising the use of both to understand environmental management problems in rivers. The subject examines water in terms of quantity and quality; the physical channel and floodplain systems in which it is conveyed and stored; and the population, community and ecosystem dynamics of the organisms that occupy these systems. Through practicals and fieldwork students should develop skills in acquiring, analysing and presenting hydrological data relating to catchment characteristics, and in identification and proper field sampling of stream biota. Students should become aware of the multidisciplinary nature of environmental management and the need for critical examination of ideas in the literature.

Assessment: Practical and fieldwork reports totalling 6000 words, and a 2-hour examination.

Prescribed texts: N D Gordon T A McMahon & B L Finlayson, *Stream Hydrology: An Introduction for Ecologists*, Wiley International, 1992. • J D Allan, *Stream Ecology: Structure and Function of Running Waters*, Chapman & Hall, 1995.

121-071 Coastal Geomorphology**Credit points:** 12.5**HECS-band:** 1**Coordinator:** Dr Wayne Stephenson**Prerequisites:** 121-018 Geomorphology (*p.181*) or equivalent as approved by subject coordinator.**Contact:** 24 hours of lectures, 24 hours of practicals, 2-day field trip (*Semester 2*).

Description: This subject examines the development of coastal landforms and the processes responsible for change in the coastal zone. The processes discussed include waves, currents, tides, and changing sea levels. The coastal landforms discussed include beaches, estuaries, dunes, coral reefs, and rocky coasts. Students will also examine issues of coastal management. A theoretical understanding is developed through examining conceptual models of coastal development and behaviour. By the end of the subject students should have an appreciation of the dynamism of the coastal zone and an understanding of its physical workings and be able to measure processes and change in the coastal environment.

Assessment: A written assignment of 2500 words, and a 1.5-hour examination. Students must attend 80% of the laboratory classes and the field trip to be eligible to pass the subject.

Prescribed texts: P D Komar, *Beach Processes and Sedimentation*, (2nd ed) Prentice Hall, 1998. • J Pethick, *An Introduction to Coastal Geomorphology*, Edward Arnold, 1984.

Third/fourth year subjects**121-032 Australian Quaternary Environments**

Note: Formerly available as 121-358. Students who have completed 121-358 are not eligible to enrol in this subject. This subject is run as a 10-day intensive field trip. A quota applies. Students should contact the Department for further details. All BSc students, except those enrolled in the BA/BSc combined course and the BASc course, can only receive 25 points Science credit at the 300-level for this subject.

Credit points: 25**HECS-band:** 1**Coordinator:** Dr Ian Thomas

Prerequisites: Students taking this subject must have already completed 37.5 points at second/third year, including at least one of: 121-025 Biodiversity (*p.182*), 121-018 Geomorphology (*p.181*), 600-201 Physical Environment (*p.817*), 625-221 Geological Methods (*p.812*), 606-204 Plant Ecology (*p.795*), 654-204 Animal Ecology (*p.875*), 107-007 Prehistoric Archaeology (*p.115*), 107-005 Archaeology of Western Asia (*p.112*).

Contact: 20 hours of lectures and 60 hours of fieldwork to be conducted over a 10-day intensive field trip, 12 practicals/seminars to be conducted over the remainder of the semester (*Semester 2*).

Description: The Quaternary encompasses the past 2.5 million years of earth and human history. In this subject students will encounter topics such as climate changes, dating methods, glacial/interglacial cycles, sea level changes and associated biotic responses, palynology, the effects of hunter-gatherers on the environment, Quaternary geomorphology, the development of modern landscapes. On completion of the subject students should be familiar with aspect of the Quaternary such as the major forces which have driven environmental change; the processes which operated to shape physical landscapes; the nature of anthropogenic impacts on landscapes. Students should acquire field and laboratory skills in palaeoenvironmental methods; in Quaternary geomorphological methods; and methods to analyse and reconstruct past environments.

Assessment: An assignment of 4000 words at third year, 5000 words at fourth year, and a field report and weekly laboratory exercises totalling 4000 words at third year, 5000 words at fourth year. Third year students must attend at least 80% of scheduled practical and seminar classes to be eligible to pass this subject.

121-034 Environmental Field Class

Note: Formerly available as 121-364. Students who have completed 121-364 are not eligible to enrol in this subject. This subject is run as a 7-day intensive field trip. A quota applies. Students should contact the Department for further details.

Credit points: 25**HECS-band:** 1**Coordinator:** Ms Natalie Jamieson

Prerequisites: At least 37.5 points of geography or environmental studies at second/third year. Usually students must have enrolled in sufficient subjects (previously or concurrently) to be able to complete a major in geography or in environmental studies during the year in which this subject is taken.

Contact: A 7-day field trip held in mid-semester break which includes a 3-hour practical class each night, and a 1-hour lecture and 2 hours of practical/seminar classes per week (*Semester 1*).

Description: In this subject students will investigate the nature and extent of environmental degradation in the selected field location. The roles of the main players in land management will be assessed, such as landholders, State and Federal Government agencies, industry groups and community-based movements, such as Landcare. Students should learn to recognise how theories of sustainability are translated into practical outcomes on the ground, and to assess the interactions between physical aspects of environmental quality and management and social, political and economic processes. Students should develop skills in the design, conduct and reporting of field-based investigations and will participate in on-ground rehabilitation and monitoring.

Assessment: Contributions to group reports and an individual report totalling 5000 words.

Prescribed texts:

Materials prepared by the Department.

121-036 China Field Class**Credit points:** 25**HECS-band:** 1**Coordinator:** Dr Mark Wang

Prerequisites: Completion of 200 points including at least 50 points from subjects in geography, environmental studies and environmental science at second/third year or permission of the subject coordinator. Students enrolled in the Master of Contemporary Asian Analysis and students completing a major in Asian studies within the BA degree are exempt from these prerequisites.

Contact: 16 days of intensive instruction including 14 days in China and 24 hours of seminars (*Semester 2*).

Description: This subject consists of a two-week field trip to China in July with follow-up classes in Melbourne in Semester 2. The subject is designed to develop students' interests in Asia, in China in particular, and in the impacts of economic and social development on the environment. While in China, students will interact with local academics and environmental managers who will inform them about issues and processes in China. This will be supplemented by site visits. The field trip will be under the supervision of the subject coordinators. Students are responsible for the cost of airfares, accommodation and food.

Assessment: A project proposal of 1500 words at third year, 2000 words at fourth year, and a research paper of 6500 words at third year, 8000 words at fourth year.

121-037 Fieldwork Research Project**Credit points:** 12.5**HECS-band:** 1**Coordinator:** Assoc Prof Brian Finlayson

Prerequisites: An advanced level of achievement (H1 or H2A standard) in at least 50 points of approved second/third year geography or environmental studies subjects in your home faculty. Students wishing to enrol must obtain written permission from the head of department.

Contact: A 1-hour weekly meeting with the supervisor/coordinator, and a minimum of 65 hours of research and writing during the semester (*Semester 1, repeat 2*).

Description: A special study based on field research in an area of interest arising from one or more of the departmental subjects taken by the student. Students will gain a thorough understanding of a particular geographical or environmental issue and how it relates to the broader perspective of the relevant discipline. The subject will demonstrate how to research and evaluate a wide range of literature sources for information on the chosen topic; and how to design, carry out and prepare a report which may involve the collection of some primary data. The subject is especially aimed at students who wish to engage in research activities overseas.

Assessment: A research proposal essay of 1000 words, and a research report of 3000 words, and a hurdle requirement of a 15-minute oral presentation.

121-039 Environmental Management Systems

Note: Formerly available as 950-300. Students who have completed 950-300 are not eligible to enrol in this subject.

Credit points: 12.5**HECS-band:** 1**Coordinator:** Prof Michael Webber

Prerequisites: At least 50 points of second year subjects approved for environmental science or equivalent. Familiarity with quantitative methods (mathematics or modelling or statistics) is recommended.

Contact: 24 1-hour lectures; and 24 hours of practical classes (*Semester 1*).

Description: This subject identifies the tasks involved in managing environmental projects; determines appropriate methods for accomplishing those tasks; and indicates how to conduct those methods. Students should become familiar with the principles of project management/ project design including: critical path analysis; decision-making processes and decision support systems; project control; risk management; and scheduling. Students should also become familiar with cost-benefit analysis including issues of welfare, exter-

nalities, options and discounts; pricing environmental goods; social impacts; opportunity costs; assessing costs and benefits. Finally students will explore the question of environmental standards including issues such as the role of standards; Australian and international standards; transparency and accountability; auditing compliance.

Assessment: A 1-hour examination, and 12 practical exercises totalling 4000 words for third year, 5000 words for fourth year. The outside class component, which will be partially completed in class, will be equivalent to 3000 words.

Fourth year subjects

121-517 Geography Thesis

Credit points: 50 **HECS-band:** 1

Coordinator: Dr Barbara Downes

Prerequisites: Admission to the Postgraduate Diploma or Fourth Year Honours in Geography.

Contact: Regular contact with the supervisor (*Year long*).

Description: An approved topic/research project selected in consultation with the supervisor/s.

Assessment: A thesis of 15 000 words.

121-518 Geography Thesis (MYE)

Credit points: 50 **HECS-band:** 1

Coordinator: Dr Barbara Downes

Prerequisites: Mid-year admission to the Postgraduate Diploma or Fourth Year Honours in Geography.

Contact: Regular contact with the supervisor (*Semester 1, repeat 2*).

Description: An approved topic/research project selected in consultation with the supervisor/s.

Assessment: A thesis of 15 000 words.

121-040 Geography Coursework

Note: Research modules are offered in intensive mode over January and February. Students should consult the Department for details by November in the year prior to enrolment.

Credit points: 50 **HECS-band:** 1

Coordinator: Dr Barbara Downes

Prerequisites: Admission to Fourth Year Honours in Geography.

Contact: Regular contact with the supervisor (*Year long*).

Description: The subject comprises three components: a course of lectures and seminars, held throughout the year, which addresses a range of issues related to contemporary research in geography and to the historical and philosophical evolution of the discipline, 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 review is situated, research methodology lectures and practical exercises covering three methodology areas chosen from the following possible list: Geographical Information Systems; SPSS; Writing Skills for Thesis Students; Library Skills; Questionnaire Design; Survey Analysis; Managing Your Thesis; Ethics in Research; Researching Culture; Using Computers in Research; Research Design; Evaluation Research; Observation Methods; Introduction to Statistics; Painting as an Entry to History; Researching Vulnerable Groups; Storytelling and Narrative Analysis; History and the New Critical Theory; Geocomputing; The Sociological Intervention; Planning a Fourth Year Research Project; Field Methods; Research for Professional Practice.

Assessment: A total of 18 000 words comprising a literature review of 6000 words, practical exercises on research methods for three elective modules totalling 6000 words, an essay and short seminar papers totalling 4000 words, and two oral presentations totalling 40 minutes on research proposal and research results.

121-041 Geography Coursework (MYE)

Note: Research modules may be offered in intensive mode over January and February. Students should consult the Department for details by November in the year prior to enrolment.

Credit points: 50 **HECS-band:** 1

Coordinator: Dr Barbara Downes

Prerequisites: Admission to Fourth Year Honours in Geography.

Contact: Regular contact with the supervisor (*Semester 1, repeat 2*).

Description: As for 121-040 Geography Coursework (*p.185*).

Assessment: As for 121-040 Geography Coursework (*p.185*).

121-503 Research Methods and Design

Note: Formerly available as 121-618 Introduction to Statistical Methods and Computing. Students who have completed 121-618 are not eligible to enrol in this subject.

Credit points: 12.5

HECS-band: 1

Coordinator: Dr Ray Wyatt

Prerequisites: Admission to Fourth Year Honours in Geography.

Contact: 36 hours of lectures/practical classes offered as an intensive module with some modules offered on weekends. Students should seek information about specific timing of each module from the subject coordinator (*Summer semester*).

Description: This subject will introduce students to a range of research methodologies relevant to their chosen careers, and especially to the skills required for implementation of their thesis research. Students will choose three methodology 'modules' from the list of modules available. The program coordinator or thesis supervisor must approve the choice of modules. The actual modules offered vary from year to year, but typically, they cover topics such as Introduction to Statistics for Social Scientists, Descriptive Statistics, Inferential Statistics, Survey Design and Analysis, Geographical Information Systems, Geocomputing Narrative Analysis, In-depth Interviewing and Participant Observation, Experimental Design Analysis.

Assessment: Written work and practical exercises totalling 5000 words.

Subjects not offered in 2001

Second/third year subjects not offered in 2001

121-016 Landscapes of Power

Note: Formerly available as 121-207/307. Students who have completed 121-207/307 are not eligible to enrol in this subject. Available in even-numbered years alternating with 121-026 The Mobile World: Migration and Tourism (*p.182*).

Credit points: 12.5

HECS-band: 1

Prerequisites: Completion of 100 points of first and/or second year subjects including at least 50 points at first year level from approved subjects in your home faculty.

Semester: Not Offered

Description: This subject is an introduction to cultural geography and other theoretical traditions which foreground cultural production processes as they relate to space, place and landscape. Specific attention will be given to the social construction of identity in and through place; the relationship between the global and the local; the exercise of power through spatial logics. Specific topics will include cartography and power, the socio-semiotics of space, geographies of resistance, sexuality and space, and geographies of exclusion and inclusion. Students who complete the subject should be able to interpret contemporary social and spatial trends in the light of theoretical perspectives covered in the subject, and be able to write essays which integrate theory and empirical materials.

121-044 Place and Possession

Note: Available in even-numbered years alternating with 121-045 Native Title (*p.182*).

Credit points: 12.5

HECS-band: 1

Prerequisites: Completion of 100 points of first and/or second year subjects including at least 50 points of approved first year subjects in your home faculty.

Semester: Not Offered

Description: In this subject students survey selected case studies, and key ideas and documents in the history of the engagement between colonial and post-Federation Australian legal systems and Indigenous land tenure systems, culminating in a consideration of the concept of native title. An array of titles under various statutes, and the anthropological ideas which have informed them, will be examined as to their efficacy in legitimating Indigenous traditions of social affiliation to place and customary ownership. Some key ideas explored in this subject include property; place; group titles; kinship; lineages and customary landholding groups; transmission and succession of customary land tenure; the sociological nature of estates of land and territory and their attributes, such as names, borders, and meanings; the attribution by anthropologists of ownership or possession to clans, 'tribes' or regional linguistic groupings; and dispute-processing in land conflicts, both in customary tradition and Australian history.

