

Geography

Geography at the University of Melbourne is one of the top-ranking programs 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 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. 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.

In addition to the major in geography, the School of Anthropology, Geography and Environmental Studies (SAGES) offers majors in *Anthropology (p.1)*, *Development Studies (p.1)*, and *Environmental Studies (p.1)*. SAGES also offers pathways for students who wish to gain privileged entry into post-graduate courses in Urban Planning or Landscape Architecture: see the entry in this Handbook under *Planning and Design (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.

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 school 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).

Diploma in Arts (Geography)

The Diploma in Arts (Geography) 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 selected from the lists below. Alternatively, students who have completed appropriate background studies at first year may complete 100 points of second/third-year subjects from the list below.

Diploma in Geographic Information Systems (GIS)

The Diploma in Geographic Information Systems is only available to students who are currently enrolled in a degree course at the University of Melbourne. It consists of a 100 credit points of study, and will typically add one year to the duration of your concurrent undergraduate degree. For more details see *Diploma in Geographic Information Systems (p.4)*.

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, with at least three subjects chosen from the list of compulsory subjects and the remaining subjects chosen from the list of elective subjects.

First year subjects for the major

Two of the following:

Subject	Sem.
121-110 Famine in the Modern World (p.2)	1
121-171 Environmental Change (p.2)	1
121-172 Global Ecology and Biodiversity (p.2)	2

Second/third year subjects for the major

Compulsory subjects

Subject	Sem.
at least three of:	
121-017 Society and Environments (p.2)	2
121-018 Geomorphology (p.3)	1
121-222 Field Class in Geography (p.4)	1
121-229 Geographical Thought (p.5)	1

Elective subjects

121-015 Development and the Third World (p.2)	2
121-017 Society and Environments (p.2)	2
121-018 Geomorphology (p.3)	1
121-021 Environmental Politics and Management (p.3)	1
121-022 Development and Urban Environments (p.3)	1
121-023 China in Transition (p.3)	1
121-026 The Mobile World: Migrancy, Home & Exile (p.3)	1
121-028 Sustainable Development (p.4)	2
121-029 Environmental Hydrology B (p.5)	N/A
121-030 Applied Ecology (p.5)*	2
121-033 Environmental Hydrology A (p.6)	1
121-071 Coastal Geomorphology (p.6)	1
121-211 Landscape and Visual Culture (p.4)	2
121-222 Field Class in Geography (p.4)	1
121-224 Garma Fieldwork (p.4)	2
121-226 Native Title (p.4)	N/A
121-227 Spatial Informatics and GIS (p.4)	2
121-228 Space, Power, Culture (p.5)	1
121-229 Geographical Thought (p.5)	1
121-231 Indigenous Peoples & Resource Management (p.5)	2
121-310 Fluvial Geomorphology (p.6)	2
121-433 China Field Class (p.6)	2
121-434 Fieldwork Research Project (p.6)	2
121-436 The Geopolitics of Peace and Development (p.2)	1
121-458 Australian Quaternary Environments (p.7)	2
121-494 Africa: Environment, Development, People (p.7)	1
606-301 Applied Ecology (Theory) (p.2)	2

Students seeking to specialise in ecology and/or biogeography within their studies in geography are advised to enrol in at least one of:

654-204 Ecology: Individuals and Populations (p.2)	1
or	
606-204 Ecology: Communities and Ecosystems (p.1)	2
Students seeking to specialise in ecology or biogeography and wish to proceed to:	
121-030 Applied Ecology (p.5) in their third year	2
should enrol in at least one of the subjects above in their second year.	
606-204 Ecology: Communities and Ecosystems (p.1) is recommended.	2

One of these subjects may count towards a major in geography and environmental studies.

* Students wishing to enrol in a theory-only version of 121-030 Applied Ecology are advised to enrol in:

606-301 Applied Ecology (Theory) (p.2)	2
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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. For information on how to apply see *Applying for Honours (p.13)*.

Honours requirements

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

Students undertaking pure honours in geography must complete:

- 121-518 Geography Thesis (*p.7*) (50 points); and
- 121-403 Geography Coursework (*p.7*) (50 points).

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

Dr Wayne Stephenson, Undergraduate Coordinator
SAGES
221 Bouverie Street
The University of Melbourne
Victoria 3010
Tel: +61 3 8344 0807
email: wjs@unimelb.edu.au
Web: <http://www.geography.unimelb.edu.au>

First-year subjects

121-110 Famine in the Modern World

Availability: 1st year

Credit points: 12.5

Coordinator: To be advised

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

Description: This subject is an introduction to development geography. It examines the problems of famine and hunger, and as it does so introduces key issues, concepts and theories central to development geography. This subject is structured around an examination 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, environmental change and degradation, 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 to explain differences in access to food within and between societies, including the implications of agribusiness and the global food trade and the effect of war on food supply. The subject also considers the ways in which aid, food, and development policies are informed by these theories. Students who complete the subject should be familiar with these theories and the causes, extent, and possible solutions to famine and food problems.

Assessment: A 2-hour examination 40%, a 1000-word essay due mid semester 15%, a 1000-word essay due end semester 15% and practical/tutorial assignments 30%.

121-171 Environmental Change

Availability: 1st year

Credit points: 12.5

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 consequences for human societies. Topics include global patterns in climate, hydrology and water resources, the evolution of different sorts of landscapes, 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 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 20% (during the examination period), a research essay of 2000 words 30% (due in mid-May), weekly practical exercises and essay draft (due in the fourth week of semester) 35% and a field exercise 15% (due early in the semester).

121-172 Global Ecology and Biodiversity

Availability: 1st year

Credit points: 12.5

Coordinator: Dr Ian Thomas

Contact: Two 1-hour lectures and a 2-hour laboratory per week (*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; 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 on a global scale; be able to identify how environmental variables influence the world's major landscapes; be able to apply basic methods in biogeography; and have an understanding of the extent of human impacts on biomes and biodiversity.

Assessment: Weekly practical exercises totalling 2000 words 50% and a 2-hour examination 50% (in the examination period).

Second/third-year subjects

121-015 Development and the Third World

Availability: 2nd and 3rd year

Credit points: 12.5

Coordinator: Dr Salim Lakha

Prerequisites: Completion of 25 points of first year subjects in development studies, anthropology, geography, a relevant discipline or approval of the subject coordinator.

Contact: A 2-hour lecture and a 1-hour tutorial per week (*Semester 2*).

Description: This subject is an introduction to a range of issues about the relationship between development and the 'third world'. It will explore the basic concepts used in development literature in addition to the many ways that development is understood and applied. Concepts such as 'third world', 'aid' and the 'international development industry' will be critically examined. The key development institutions will be introduced through the use of case studies. The subject will consider the role of local knowledge, grass roots schemes, ecological knowledge, appropriate technology, empowerment, globalisation and modernity in this relationship between development and the 'third world'. At the end of the subject students should be able to discern a range of modernities, approaches to development, and development alternatives that pertain locally within the broader political economies of the 'third world'.

Assessment: Two 750-word assignments 15% each (due in week 4 and week 8), an essay of 2500 words 60% (due at the end of semester) and tutorial participation 10%.

121-017 Society and Environments

Availability: 2nd and 3rd year

Credit points: 12.5

Coordinator: Dr Fraser MacDonald

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/practicals per week (*Semester 2*).

Description: This subject aims to think critically and rigorously about the relationship between social and natural worlds. Its primary purpose is to question the idea that the environment exists outside of, and independent from, the realms of science, culture, politics and economy. Students will be introduced to different conceptual frameworks for understanding the environment as a social entity; to the processes by which capitalism and science structures social and environmental relations; and to alternative modes of living in, and thinking about, the environment. These broad themes will be addressed through engaging examples from Australia and beyond. Particular attention will be given to the concept of 'wilderness'; the postcolonial nature of the zoo; restoration ecology; ecotourism; the politics of visualising nature (e.g.

through wildlife documentary); the 'new natures' of genetic modification; and ideas about 'environmental justice'.

Assessment: A field report of 1500 words due by end of week 4 (30%); an essay of 2500 words due at the end of week 10 (60%); a practical presentation and participation (10%).

121-018 Geomorphology

Note: 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.

Availability: 2nd and 3rd year

Credit points: 12.5

Coordinator: Dr Wayne Stephenson

Prerequisites: Completion of 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 two hours of practical classes per week including one day of fieldwork (*Semester 1*).

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; hill slopes; 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 15%, an individual project of 1500 words 25% (due in the first half of the semester), an individual field report of 1500 words 25% (due in the second half of the semester) and a 2-hour examination 35% (in the examination period). Students must submit both written assignments within deadlines, submit 80% of the laboratory work within deadlines and attend the field trip to be eligible to pass the subject.

Prescribed texts: R J Huggett, *Fundamentals of Geomorphology*, Routledge 2003. • D S G Thomas & A Goudie, *The Dictionary of Physical Geography*, (3rd ed) Blackwell 2000.

121-021 Environmental Politics and Management

Note: 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.

Availability: 2nd and 3rd year

Credit points: 12.5

Coordinator: Dr Lisa Palmer

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.

Contact: Two 1-hr lectures and a 1-hr tutorial per week (*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 to illuminate ways of understanding and managing the Australian continent. The subject examines linkages between the scientific, cultural, economic and political dimensions environmental politics and management. 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 and sustainable development.

Assessment: Written work totalling 4000 words comprising an oral presentation of a tutorial paper 10% (during the semester), an essay of 3000 words 60% (due during semester), a take-home examination of 1000 words 25% (due at the end of semester) and tutorial attendance 5%. Each component of assessment must be completed for a student to be able to pass this subject.

121-022 Development and Urban Environments

Note: 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.

Availability: 2nd and 3rd year

Credit points: 12.5

Coordinator: Rachel Hughes

Prerequisites: Completion of 25 points of first year geography, environmental studies, urban planning or environmental science, or at the discretion of the subject coordinator.

Contact: Two 1-hour lectures, two hours of practicals/seminars per week and two days of fieldwork (during semester) (*Semester 1*).

Description: This subject examines the impacts of development on urban environments and of urbanisation on urban hydrology, land and biological systems. This subject also covers how these impacts are manifest as problems, and the variety of ways these impacts are managed. The issues discussed include globalisation and impacts on urban environments; urban transport; urban environments and human health; pollution causes and control; urban impact on natural resources; cities and sustainable development. Students should gain an appreciation of the nature of cities as part of, rather than separate from, the general environment; complex interactions between social groups and agents, historical processes and political structures, natural phenomena, and built environments; and the conflicting political and policy responses to urban environmental issues.

Assessment: Practical reports totalling 1000 words 20% (due during semester), field trip report 1000 words 30% (due mid-semester) and major essay 2000 words 50% (due at end of semester).

121-023 China in Transition

Availability: 2nd and 3rd year

Credit points: 12.5

Coordinator: Dr Mark Wang

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

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

Description: This subject is about the changing geography of 'Red Capitalist' China. The focus of the subject is the on-going social, economic and political transformation and the impacts of the reforms on China's people and environment. The subject covers three sets of topics: China's many faces (generation conflicts, ethnic minorities, rural China, physical landscapes and environment, Chinese women - "half sky"); China in transition (large is not beautiful-population policy and one-child only, China's reform model, open door policy and geography of "Made in China", population mobility and urbanisation, and spatial shifts of development focus); China's major challenges (AIDS/HIV-geography of commercial sex industry, income polarisation, corruption and "Guanxi" with Chinese characteristics, "get rich quickly" and environmental cost, development and resource demand, and Three Gorges Dam resettlement).

Assessment: An essay of 2000 words 35% (due at the end of semester), tutorial reports 30% and a two hour exam 35%.

121-026 The Mobile World: Migrancy, Home & Exile

Availability: 2nd and 3rd year

Credit points: 12.5

Coordinator: Professor Andrew Dawson

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: A 2-hour lecture and a 1-hour tutorial per week (*Semester 1*).

Description: The accelerated speed, frequency and commonality of the movement of people through space is an increasingly ubiquitous feature of the modern world. Consequently, migration studies has developed as an established field of enquiry, encompassing disciplines such as anthropology, development studies, geography, sociology and political science. Its key shortcoming, however, rests in its exclusion of other forms of human movement or mobility. In contrast, drawing widely on examples from within and between the developed and developing worlds, this subject considers human mobility in the fullest sense, providing an understanding of the structural and experiential differences and commonalities between different kinds of human mobility, from the forced migration of refugees to the nomadism of Gypsies to the leisure migration of 'old aged travellers' for example. In so doing, it explores a number of related questions that are simultaneously empirical, theoretical and methodological: how do people move? Where do people move to? How have human mobility, its impact on places and the identity-making processes that mobile people engage in been theorized. Given that most social science methodologies have been designed to study situations of its opposite, fixity, what particular approaches are required to research and write about human mobility? Finally, and centrally, the subject's objectives are political in hue. By investigating how nation states legislate and police human mobility, it seeks to offer an understanding of how mobility is experienced as a form of home or exile.

Assessment: Written work totalling 4000 words comprising a 3000 word essay 65% (due at the end of week 9), a 1000-word tutorial paper 25% (due during semester) and a 10-minute tutorial presentation 10%.

Prescribed texts: C B Brettell & J F Hollifield, *Migration Theory: Talking Across Disciplines*, Routledge 2000.

121-028 Sustainable Development**Availability:** 2nd and 3rd year**Credit points:** 12.5**Coordinator:** Dr Peter Christoff**Prerequisites:** Completion of 25 points of first year geography and 121-021 Environmental Politics and Management 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, population growth and biodiversity preservation. On completion of this subject students should be able to illuminate underlying ecological, economic, and social issues associated with different practices of environmental management and have a working understanding of the national and international dimensions of ecological governance.**Assessment:** Written work totalling 4000 words comprising an oral presentation of a tutorial paper 10% (during the semester), an essay of 3000 words 60% (due during semester), a take-home examination of 1000 words 25% (due at the end of semester) and tutorial attendance 5%. Each component of assessment must be completed for a student to be able to pass this subject.**121-211 Landscape and Visual Culture****Availability:** 2nd and 3rd year**Credit points:** 12.5**Coordinator:** Dr Fraser MacDonald**Prerequisites:** 25 points of first and/or second year Arts subjects or approval of the subject coordinator.**Contact:** A 1.5-hour lecture and a 1-hour tutorial per week with six further hours of field or class-based seminars (*Semester 2*).**Description:** This subject is concerned with the relationship between geography and visual culture, as it is expressed through the concept of landscape. Geography has been, and continues to be, a quintessentially visual enterprise reliant on practices of envisioning people and place. This subject introduces students to the meaning, power and politics of those visual practices from nineteenth century photography of Africa and Australia to contemporary digital culture. Drawing on ideas from art history, anthropology and cultural studies, the subject will discuss the evolving landscape tradition in oil painting, photography and contemporary art. Students who complete this subject will be familiar with current work in cultural geography that presents 'landscape' as more than an image, but as a critical concept that reveals the relations between processes and things. Particular attention will be paid to the fundamental question of what it means to see, and the connection between sight and other senses. Students will be introduced to these themes through various geographical contexts and through constant reference to a range of visual media, particularly photography and film.**Assessment:** Participation in tutorial discussions 5%, an essay of 2500 words 60% (due at the end of week 8) and a take-home examination of 1500 words 35% (due at the end of semester).**121-222 Field Class in Geography****Note:** This subject is recommended for students who have completed at least 25 points of first year geography subjects and who intend to complete a major in geography in either an arts or science degree.

A quota of 25 students applies to this subject and application forms for a quota place are available from the SAGES office. Students will be required to meet expenses.

In 2006 the field site will be in New Zealand.

Availability: 2nd year**Credit points:** 12.5**Coordinator:** Rachel Hughes**Prerequisites:** Completion of 25 points of first year geography.**Contact:** Six days of fieldwork in February and up to six 2-hour seminars and presentations during semester. Fieldwork is conducted in New Zealand (*Semester 1*).**Description:** This subject is designed for students intending to major in geography. Over six days of field work in New Zealand, students will gain the knowledge and develop the research skills necessary to undertake further study in geography. The subject presents the disciplinary approaches used by geographers to investigate a wide variety of geographical phenomena. After introducing the questions that geographers ask about places, the subject introduces and develops the research skills and methods used by practising geographers, particularly skills in acquiring, analysing and presenting

geographical data. During the field week students will identify questions about and methods of analysing social, economic, environmental and physical conditions at the field location. After the field work, students will complete projects based on their field work and subsequent reading. In semester one, there will be seminars at which student work is presented.

Assessment: A 2500-word research proposal due late semester (50%), a 15-minute presentation (10%), a field diary due at end of fieldtrip (30%) and participation on fieldtrip (10%).**121-224 Garma Fieldwork****Note:** 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 of 25 students applies to this subject. Please contact SAGES for further details.

Availability: 2nd and 3rd year**Credit points:** 25**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 seven days of fieldwork (*Semester 2*).**Description:** This subject aims to introduce students to fieldwork and research in Arnhem Land, Northern Territory, as guests of traditional owners of the region. Students from a wide range of disciplines including Geography, Environmental Science, Anthropology, Archaeology, Linguistics, Music, Fine Arts, Cultural Studies, History, Law, Education, Biology and Botany are invited to learn about the region's culture and intellectual traditions, and to contribute to the further development of cross-cultural learning and research strategies between local communities and the university. The subject will also introduce students to key literary and documentary sources by scholars who have worked in Arnhem Land, and to unique literary, audio-visual and digital resources produced by peoples of the region which explore their rich cultural and intellectual heritage. Students will learn about indigenous protocols for learning and the transmission of knowledge through an intensive fieldwork experience in Arnhem Land.**Assessment:** A short exercise of 500 words 5% (due in week 3), a field report of 4000 words 50% (due mid-semester) and an essay of 4000 words 45% (due at the end of semester).**121-226 Native Title****Availability:** 2nd and 3rd year**Credit points:** 12.5**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.**Semester:** Not Offered**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 postcolonial 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.**121-227 Spatial Informatics and GIS****Availability:** 2nd and 3rd year**Credit points:** 12.5**Coordinator:** Dr Ray Wyatt**Prerequisites:** Completion of 25 points of first year geography or approval of the subject coordinator.

Contact: A 2-hour lecture plus and a 2-hour computer laboratory or tutorial session per week (*Semester 2*).

Description: This subject's focus will be on using a geographic information system (GIS) to understand modern technology's effect on people's geographical behaviour, along with the consequences this has for spatial planning. The technological developments that will be addressed include mobile telephones, global positioning systems, teleconferencing, electronic mail, micro weather forecasting, biometric scanning, genetic engineering, cyborgs, virtual reality, data mining, fuel cells, Internet blogs, mobile publishing and open source software. Students will conduct information-based, geographical analyses using the simpler functions within the ArcMap GIS package and its peripheral software. Topics addressed by the latter will include information sources, principles of cartography, remote sensing, data compression, exploratory analyses, neural clustering and census mapping. Tutorials will then give students an appreciation of what GIS can, and cannot achieve within society, business planning, research and government. Such appreciation will be quantified through a study of dynamic mental maps, spatial perception and GIS's relationship to disaster preparedness, sustainable development, freedom of assembly and the nature of work.

Assessment: Written work totalling 4000 words comprising a 2-hour examination 60% (during the examination period), four small practical GIS assignments 20% (due during the first half of semester) and a tutorial paper written 20% (due at the end of semester).

Prescribed texts: J van Dijk, *The network society: social aspects of new media*, Sage 1999. • M I Wilson & K E Corey (eds), *Information tectonics: space, place and technology in an electronic age*, Chichester, Wiley 2000. • M Castells, *The rise of the network society*, Blackwell 2000.

121-228 Space, Power, Culture

Note: Students who have completed 121-016 Landscapes of Power and 121-228 Critical Human Geography are not eligible to enrol in this subject.

Availability: 2nd and 3rd year

Credit points: 12.5

Coordinator: Rachel Hughes & Dr Fraser MacDonald

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

Contact: A 1.5-hour lecture, a 1-hour tutorial per week and a 6-hour field-based practicals in mid semester (*Semester 1*).

Description: This subject is an introduction to debates and topics within cultural geography, and other disciplinary traditions that foreground cultural processes as constituted by, and expressed through space, place and landscape. General concepts include social construction of places and selves, the exercise of power in and through space, and the inter-relation of local and global processes. Specifically the subject will address topics as diverse as: post-modernity and urban formations; postcolonial politics and places; the contested nature of globalisation; exclusionary practices and cultures of resistance; iconographies of landscape; and geographies of visual and material culture. These themes will be elaborated by way of specific examples drawn from Australia and overseas. Students who complete this subject will develop skills in qualitative and interpretive analytical methods and critical thinking, be familiar with relevant social theoretical concepts from human geography and elsewhere and be adept at integrating theoretical concepts with empirical case material.

Assessment: A tutorial presentation of 1000 words 10% (during the semester), a written work arising from field-based practicals of 1000 words 30% (due mid semester) and an essay of 2000 words 60% (due late semester).

121-229 Geographical Thought

Note: Students who have completed 121-228 Critical Human Geography are not eligible to enrol in this subject.

Availability: 2nd and 3rd year

Credit points: 12.5

Coordinator: Dr Fraser MacDonald & Rachel Hughes

Prerequisites: 25 points of first year geography or at the discretion of the subject coordinators.

Contact: A 1.5-hour lecture and a 1.5-hour practical per week, up to sixteen hours of field-based practicals (*Semester 1*).

Description: This subject is concerned with the history and philosophy of geography and is designed to introduce students to key debates, both past and present, on the nature and scope of geography as an academic discipline. It therefore sets out an essential context for understanding contemporary research in human and physical geography. The early origins of the subject are traced back to the revolutionary intellectual climate of Enlightenment and empire, a time when geographical knowledge constituted a form of both scientific enquiry and military intelligence. The major episodes in the history of geography - from Darwinism to postmodernism - are discussed in relation to wider political and cultural developments. Specific topics covered include the

history of exploration; the relationship between human and physical geography; and the role of geography in the nation-state. Students who complete this subject will be able to think critically about different schools of geographical thought; be able to evaluate theoretical concepts from geography and elsewhere; and be able to demonstrate an understanding of the dynamic and contested nature of the discipline.

Assessment: An essay of 3000 words 65% (due at the end of semester), tutorial presentation comprising oral performance 10% (during the semester) and literature review paper of 1000 words 25% (due mid-semester).

121-231 Indigenous Peoples & Resource Management

Availability: 2nd and 3rd year

Credit points: 12.5

Coordinator: Dr Lisa Palmer

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/tutorial per week (*Semester 2*).

Description: Indigenous Peoples and Resource Management examines ideas about 'nature' and 'biodiversity' and the forms of knowledge and types of power which mediate the relationships between Indigenous and techno-scientific natural and cultural resource management in Australia and other postcolonial states. It examines some of the central issues related to the efforts by Indigenous people to regain control over their estates and biological resources and protect, promote and facilitate the use of their traditional biodiversity knowledge and resource management practices. The subject also examines the developing international frameworks for the preservation and maintenance of traditional biodiversity related knowledge and resource management and national responses to such initiatives.

Assessment: Two essays totalling 4000 words 90% (one due mid-semester and at the end of semester) and tutorial presentation and participation 10%.

Third-year subjects

121-029 Environmental Hydrology B

Note: Credit cannot be obtained for both this subject and 121-033 Environmental Hydrology A (*p.6*) or former Faculty of Arts subjects 121-349 Principles of Environmental Hydrology or 121-350 Techniques in Environmental Hydrology.

Availability: 3rd year

Credit points: 12.5

Prerequisites: 121-018 Geomorphology (*p.3*) or 654-2-4 Ecology: Individuals and Populations or 606-204 Ecology: Communities and Ecosystems or equivalent as approved by the subject coordinator.

Semester: Not Offered

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.

121-030 Applied Ecology

Note: Credit cannot be obtained for both this subject and see 606-301 Applied Ecology (Theory) (*p.2*) due to overlap of content.

Availability: 3rd year

Credit points: 25

Coordinator: Prof Neal Enright & Prof Mark Burgman

Prerequisites: At least one of 606-201, 606-204, 654-204 or permission of the subject coordinator.

Contact: Two 1-hour lectures, a 1.5-hour seminar per fortnight and a 3-hour laboratory per week and a four-day field camp (*Semester 2*).

Description: This subject will provide a sound background in the application of ecological theory and its practical implementation to present-day issues. Topics will include ecological tools in environmental management; the scientific basis of conservation and management of natural and altered ecosystems; fire ecology and management; endangered species assessment and management; restoration ecology and contaminated land remediation; urban ecology and landscape management; and the role of ecological research in global problems. By successfully completing this subject, students should gain skills in ecological approaches to the conservation and management of biodiversity and the restoration of degraded ecosystems; acquisition, analysis and critical

interpretation of ecological data; preparation, writing and presentation of reports; professionalism in ecological and environmental practice.

Assessment: Written work totalling 8000 words comprising a 2-hour examination 30% (due at the end of semester), a fieldwork project report (due late semester) 30%, weekly laboratory exercises 30% and seminar notes 10%. Students must attend and complete the written work for the field camp and a minimum of 80% of scheduled laboratory and seminar classes to be eligible to pass the subject.

121-033 Environmental Hydrology A

Note: Credit cannot be obtained for both this subject and 121-029 Environmental Hydrology B (*p.5*) or former Faculty of Arts subjects 121-349 Principles of Environmental Hydrology or 121-350 Techniques in Environmental Hydrology.

Availability: 3rd year

Credit points: 25

Coordinator: Assoc Prof Barbara Downes

Prerequisites: 37.5 points of second/third year subjects including 121-018 Geomorphology (*p.3*) or 654-204 Ecology: Individuals and Populations or 606-204 Ecology: Communities and Ecosystems 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 25%, a field report of 3000 words 40% (due late May), a group presentation from field project 10% (in week 10) and a 2-hour exam 25% (during the examination period).

121-071 Coastal Geomorphology

Availability: 3rd year

Credit points: 12.5

Coordinator: Dr Wayne Stephenson

Prerequisites: Completion of 121-018 Geomorphology (*p.3*) or equivalent as approved by the subject coordinator.

Contact: Twenty four hours of lectures and thirty six hours of fieldwork at a local beach through the semester (*Semester 1*).

Description: This subject examines the development of coastal landforms and the processes responsible for change in the coastal zone. This includes discussion of waves, currents, tides, and changing sea levels, beaches, estuaries, dunes, and rocky coasts. A theoretical understanding of the subject 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 aware of techniques to measure processes and change in the coastal environment.

Assessment: A review essay of 2500 words 50% (due before mid semester) and a research project of 2500 words 50% (due before the end of semester). Students must submit work within deadlines and attend field trips to be eligible to pass the subject.

Prescribed texts: P D Komar, *Beach Processes and Sedimentation*, (2nd ed) Prentice Hall 1998. • C Woodroffe, *Coasts*, Cambridge 2002.

121-310 Fluvial Geomorphology

Availability: 3rd year

Credit points: 12.5

Coordinator: Assoc Prof Ian Rutherford

Prerequisites: Completion of 25 points of second/third year subjects. Completion of either 121-018 Geomorphology or 121-033 Environmental Hydrology A or an appropriate number of courses in Environmental Engineering or Earth Sciences. Candidates with sufficient professional experience may also be considered.

Contact: Two 1-hour lectures per week, two 2-hour practicals, four 3-hour practicals and a three-day field trip (*Semester 2*).

Description: Fluvial geomorphology is the study of the role of rivers in shaping the morphology of the earth. This subject builds on the grounding in introductory geomorphology provided by 121-018. Students who complete the course will not only see the landscape with new eyes, but they will have the

beginnings of a capacity to manage stream systems at a professional level. We will emphasise a strong process based approach based on sediment transport and deposition, coupled with examination of modern stream channel change in the light of changes over the last two million years. The focus of the course will be the unique streams of Australia.

Assessment: A 2-hour examination 30%, a major field trip report of 1000 words 25% (due at the end of semester), an essay of 1000 words 20% (due mid-semester) and practicals 25%.

Prescribed texts: D Knighton, *Fluvial Forms and Processes: A New Perspective*, Arnold 1998.

606-301 Applied Ecology (Theory)

See full subject details on page 2.

Third/fourth-year subjects

121-433 China Field Class

Note: A quota of 38 students applies to this subject. Quota forms can be obtained from SAGES reception or via SAGES home page.

Availability: 3rd and 4th year

Credit points: 25

Coordinator: Dr Mark Wang

Prerequisites: Completion of 200 points including at least 50 points from subjects in geography, urban planning, environmental studies and environmental science at second/third year or permission of the subject coordinator. (121-023 China in Transition is recommended). 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. A quota form must be completed.

Contact: Twenty two days of intensive instruction including 20 days in China and twenty four hours of seminars (*Semester 2*).

Description: This subject consists of a three-week field trip to China in July with some pre-departure classes/seminars 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 research diary of 6000 words 60% (due the third Friday of semester) and a research proposal or essay of 3000 words for 3rd year, 4000 words for 4th year 40% (due the first Monday after the non-teaching week).

121-434 Fieldwork Research Project

Note: This is a quota subject. Students wishing to take this subject for arts points must obtain written permission from the Head of SAGES. Students wishing to take this subject for science points in a BSc degree must have their research proposal approved by the Associate Dean, Academic Programs, in the Faculty of Science.

Availability: 3rd and 4th year

Credit points: 12.5

Coordinator: Assoc Prof Ian Rutherford

Prerequisites: An advanced level of achievement (H1 or H2A standard) in at least 50 points of approved second/third year geography, environmental studies or Australian Indigenous Studies subjects in your home faculty. Any student wishing to enrol must have written permission from the Head of SAGES. (See note above)

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

Description: A special study based on field research in an area of interest arising from one or more geography/environmental studies or Australian Indigenous Studies 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 field-based research activities either in Australia or overseas.

Assessment: A hurdle requirement of a 15-minute oral presentation 10% (due at the end of semester), a research proposal essay of 1000 words 20% (due mid-semester) and a research report of 3000 words for 3rd year and 4000 words for 4th year 70% (due at the end of semester).

121-458 Australian Quaternary Environments

Note: This subject is run as a 10-day intensive field trip, usually to either Tasmania or Queensland. A quota of 30 students applies to this subject. Students should contact the SAGES Office 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.

Availability: 3rd and 4th year

Credit points: 25

Coordinator: Dr Ian Thomas

Prerequisites: Students taking this subject should have already completed 37.5 points at second/third year including at least one of the following: 121433 China Field Class, 121310 Fluvial Geomorphology, 121033 Environmental Hydrology, 121030 Applied Ecology, 121231 Indigenous People and Resource Management, 121021 Environmental Politics and Management, 121018 Geomorphology, 121071 Coastal Geomorphology, 654204 Ecology: Individuals and Populations, 606204 Ecology: Communities and Ecosystems, 654308 Conservation Biology, 606202 Flora of Victoria, 606301 Applied Ecology (Theory), 606310 Field Botany, 625223 Field Geology, 625313 Advanced Field Geology, 625332 Climate: Mechanisms and Variability, 107001 Prehistoric Archaeology, 107232 Interpreting the Past, 202201 Plant Function, 202203 Soil and Water Resources, 220275 Processes in Forest Ecology, 220307 Fire Ecology and Management, 207202 Australian Flora or relevant subjects in consultation with the subject coordinator.

Contact: Twenty hours of lectures and sixty hours of fieldwork to be conducted over a 10-day intensive field trip, twelve 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, and 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 for 3rd year and 5000 words for 4th year 50% (due on the last day of semester) and a field report and exercises totalling 4000 words for 3rd year and 5000 words for 4th year 50% (due on the last day of semester). Students must attend at least 80% of scheduled practical classes to be eligible to pass this subject.

121-494 Africa: Environment, Development, People

Availability: 3rd and 4th year

Credit points: 12.5

Coordinator: Dr Simon Batterbury

Prerequisites: 50 points of first/second year geography/anthropology/development studies or approval of the subject coordinator.

Contact: Twelve 3-hour weekly lecture/seminar sessions (*Semester 1*).

Description: This subject introduces students to the physical environment, history, and development challenges facing contemporary sub-Saharan Africa. Students will examine in detail intellectual and ethical debates surrounding the strategies undertaken by postcolonial African states and the overseas development "industry" to tackle poverty, environmental change, and the colonial legacy. Students will consider how Africa's problems are portrayed and understood by the rest of the world. Topics include: the physical environment and competing understandings of environmental change; the history and governance of the continent; regional case studies (West Africa); gender and the environment; agrarian transformations and rural livelihoods; development projects and rise of the NGO; military conflict and mineral wealth; hunger, famine, and the controversies of the relief industry; and urban geographies.

Assessment: Third year: Reports and essays totalling 4000 words comprising book reviews or reading assignments of 1000 words 20% (due mid-semester), an essay of 2000 words 50% (due end of semester) and a 1-hour written exam 30% (in the last week of teaching period). Fourth year: Reports and essays totalling 5000 words comprising book reviews or reading assignments of 1000 words 20% (due mid-semester), an essay of 2000 words 50% (due end of semester) and a 2-hour written exam 30% (in the last week of teaching period).

Fourth year/postgraduate subjects

121-518 Geography 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 geography.

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 15,000 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 Studies, The University of Melbourne.

121-403 Geography Coursework

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

Availability: 4th year

Credit points: 50

Coordinator: To be advised

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

Contact: Regular contact with the supervisor plus a total of ninety two contact hours comprising twelve hours of contact in each of three research methods modules (36 hours), twelve 1-hour formal contact sessions with the supervisor of the literature review (12 hours), thirty six hours of formal seminars on research design, philosophy and scope of the discipline and eight hours of oral project presentation (*Semester 1, repeat 2*).

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: Descriptive Statistics, Inferential Statistics, Geographical Information Systems, Geocomputing, Library Information Retrieval, Electronic Focus Groups, Qualitative Research Methods, Field Methods and Research Ethics. Choice of research methods must be approved by the Geography Honours Coordinator.

Assessment: A total of 20,000 words comprising a research proposal of 2000 words, a literature review of 6000 words 35%, practical exercises on research methods for three elective modules totalling 6000 words 30%, an essay and short seminar papers totalling 4000 words 25% and two oral presentations totalling 40 minutes on research proposal and research results of 2000 words 10%.

121-454 Computer-aided Policymaking

Note: Formerly available as 166-108 Computer-aided Policy Making. Students who have completed 166-108 are not eligible to enrol in this subject.

This is a web-based subject. Students must have access to a Windows-based computer that has a CD-ROM reader, can connect to the internet, and has a standard form of internet browser.

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/course fee census dates.

Availability: 4th year and postgraduate

Credit points: 12.5

Coordinator: Dr Ray Wyatt

Prerequisites: Admission to the postgraduate diploma or fourth year honours in geography, the Bachelor of Public Policy and Management (Honours), the Diploma in GIS, or an approved masters program.

Contact: One hundred and twenty hours on-line (*Semester 1, repeat 2, Summer*).

Description: This subject derives practical policy-making lessons from the way that well known software has been written. It addresses many current issues within contemporary policy-making practice, such as 'top-down versus bottom-up policy-making'; 'the theory-practice divide'; 'problem decomposition'; and the 'management of uncertainty'. Four key software packages are given particular emphasis: CyberQuest, Strad, Expert Choice and Strategizer.

Assessment: Four 500-word assignments 12.5% each (due at weekly intervals during the second month after commencement of subject) and a 4000-word research essay/project for 4th year and a 5000-word research essay/project for masters students 50% each (due by the end of the first week of the examination period).

Prescribed texts: R Wyatt, *Computer-aided Policymaking: Lessons from Strategic Planning Software*, E & F N Spon/Taylor & Francis 1999.

121-503 Research Methods and Design

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

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

Availability: 4th year and postgraduate

Credit points: 12.5

Coordinator: Dr Ray Wyatt

Prerequisites: Admission to the postgraduate diploma or fourth year honours or any masters coursework degree.

Contact: Twenty four hours of lectures/practical classes offered in intensive mode with some modules offered on weekends. Students should seek information about the specific timing of each module from the subject's web site: <http://www.geography.unimelb.edu.au/courses/unimelb-only/121503> (*Summer semester*).

Description: This subject will introduce students to a range of research methodologies relevant to both their chosen careers and their thesis research. Students will choose three 'modules' from the list of modules available. The program coordinator or thesis supervisor must approve the choice and number of modules. The actual modules offered vary from year to year, but typically, they cover topics such as the Descriptive Statistics, Inferential Statistics, Geographical Information Systems, Geocomputing, Library Information Retrieval, Electronic Focus Groups, Qualitative Research Methods, Field Methods and Research Ethics.

Assessment: This will depend on the modules chosen and it will vary from small assignments to be completed during the intensive two days during which that module is taught, through to small assignments or a major essay to be completed by the end of March. Such assessment will total 5000 words for 4th year students and 6000 words for masters students.

121-537 Heritage and Cultural Environments

Availability: postgraduate

Credit points: 12.5

Coordinator: Dr Lisa Palmer

Prerequisites: Admission to the postgraduate diploma or fourth year honours or any masters coursework degree.

Contact: A 2-hour seminar per week (*Semester 2*).

Description: This subject provides students with advanced level analysis and interpretation of the range of issues associated with cultural resource management. The subject advances student knowledge of cross cultural issues as they relate to resource management and examines specific issues pertaining to the evaluation and management of cultural resources. On completion of the subject, students should develop an understanding and/or knowledge of: the structures of governance that protect cultural resources in variously scaled jurisdictions; the methods used to evaluate cultural resources - technical and cultural; resource management systems that integrate different types of environmental knowledge and practice, including Traditional Ecological Knowledge; management of various heritage landscapes; illustrative cases of the complexities of cultural resource management.

Assessment: Written work totalling 5000 words.

Prescribed texts: A subject reader will be available.

121-542 Geographical Analysis and GIS

Availability: 4th year and postgraduate

Credit points: 12.5

Coordinator: Dr Ray Wyatt

Prerequisites: Admission to the postgraduate diploma or fourth year honours or masters programs in geography, environmental studies, urban planning and comparable fields.

Contact: A 2-hour lecture/seminar and a 2-hour practical/laboratory class per week (*Semester 2*).

Description: This subject is designed to give students of environmental research and planning a sophisticated knowledge of computer-assisted geographical analysis, and how to use, creatively, a geographic information system (GIS). More specifically, the power of modern computers and applied artificial intelligence will be enlisted to address some of the 'great unsolved problems of geography' - facilities placement, route finding, epidemiological inference, pattern classification, catchment analysis, urban morphology and landscape interpretation. Introductory practical exercises will help students become innovative applicators of the ArcMap GIS software package, which will be used to study databases, geocomputation, spatial algorithms, interpolation, digital elevation mapping, error propagation, diffusion, emergence, cellular automata, buffering, neural prediction, data matching, scripting and planning support systems. Tutorials will then amplify students' appreciation of the strengths and weaknesses of GIS for policy making, along with how its capabilities can be extended by intelligent add-ins to better understand and manage the social and natural environments.

Assessment: A 2-hour examination 60% and practical and written work totalling 3000 words comprising five small practical GIS assignments 20% (due during the first half of semester) and a tutorial paper 20% (due at the end of semester).