

# Bachelor of Resource Management

## First year subjects

### 202-101 Chemistry for Land and Food Resources

See full subject details on page 1.

### 202-103 Biology for Land and Food Resources

See full subject details on page 1.

### 202-104 Information Technology and Communication

See full subject details on page 1.

### 202-106 Land Resources

See full subject details on page 1.

### 207-101 Economics of Resource Use

See full subject details on page 1.

### 207-103 Ecology

**Availability:** Dookie and Burnley campuses.

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Dr Steve Hamilton

**Contact:** 36 hours of lectures and 36 hours of practical exercises, including two 3-day field trips (*Semester 2*).

**Description:** On completion students will have knowledge of the structure and function of aquatic and terrestrial ecosystems, with an emphasis on the impact of human and natural disturbances on these ecosystems; and an ability to evaluate the role of individual organisms, species and populations within ecosystems and communities.

**Assessment:** A 3-hour examination (40%), one assignment of 2000 words minimum (30%), and two assignments of 1000 words minimum (15% each).

### 208-109 Australian Agricultural Production Sys

See full subject details on page 2.

### 620-081 Preliminary Mathematics A

See full subject details on page 12.

## Second year subjects

### 202-201 Plant Function

See full subject details on page 2.

### 202-202 Experimental Design/Statistical Methods

See full subject details on page 2.

### 202-203 Soil and Water Resources

See full subject details on page 2.

### 207-201 Resource Industry Economics I

See full subject details on page 4.

### 207-202 Australian Flora

**Availability:** Parkville campus.

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Dr Steve Hamilton

**Prerequisites:** 202-103 Biology for Land and Food Resources.

**Contact:** 24 hours lectures and 30 hours tutorials/practicals (*Semester 2*).

**Description:** Knowledge and an ability to identify the major taxonomic groups of the fungi, algae, non-vascular and vascular plants, and their basic biology, distribution and significance within the broader ecology of aquatic and terrestrial communities and ecosystems, and their roles in natural resource management.

The basic content includes:

- function and life cycle of the various major phylum groups within the Kingdom Plantae (Dinophyta, Chrysophyta, Bacillariophyta, Chlorophyta, Phaeophyta, Rhodophyta, Hepatophyta, Bryophyta, Lycophyta, Filicophyta, Coniferophyta and Maagnoliophyta);

- selected groups within the Kingdom Fungi (Deuteromycota, Zygomycota, Ascomycota, Basidiomycota, Oomycota, Mycophyta) and Monera (Cyanobacteria);
- the roles of these groups within the major ecosystems of Australia;
- further identification of these groups, with a major emphasis on the higher land plants; and
- preparation of a collection of vascular and non-vascular land plants.

**Assessment:** A two-hour examination (40%), one practical test (20%), one 2000 word assignment (20%) and a plant collection of 50 specimens (20%).

### 207-203 Techniques of Resource Assessment

**Availability:** Parkville campus.

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Dr Tony Weatherley

**Prerequisites:** 202-106 Land Resources.

**Contact:** 36 hours of lectures and 36 hours of practical exercises (*Semester 2*).

**Description:** On completion of this subject, students should have;

- knowledge of the major methods utilised in the evaluation of land and biological resources and the implementation of these techniques in field situations so as to derive the necessary information required; and
- an ability to interpret the results emanating from the use of such techniques, and an understanding of how to apply them in a natural resource management context.

Content includes:

- basic land survey instruments and their use;
- map reading and interpretation and the use of remotely sensed data;
- an introduction into the use of Global Positioning Systems and other forms of electronic data gathering, and the use of such information in Geographic Information Systems;
- field sampling in aquatic and terrestrial ecosystems. Methods of analysis of biological materials, and interpretation of data; and
- survey methodologies for biological assessment.

**Assessment:** A three-hour examination (50%), and two 3000-word assignments (each 25%).

### 207-205 Human Dimensions of Natural Resource Mgt

**Availability:** Burnley campus.

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Dr Kathryn Williams

**Semester:** Semester 1

**Description:** This subject provides an understanding of human social and psychological processes, and how these can be utilized to enhance resource management. Student understanding of these processes will be extended through interaction with guest speakers from a range of resource management professions, field trips, and through application of theory to resource management case studies.

The content includes:

- human motivation;
- adult learning;
- perception and cognition;
- social influence; and
- group processes.

These will be examined in the context of influencing human environmental behaviour to protect natural resources or promote adoption of new technologies, designing and evaluating extension projects, dealing with conflict in resource management, planning for leisure and recreation, and interpreting natural resources.

Students will undertake a two-day industry placement to observe communication or extension staff in the workplace.

**Assessment:** One three-hour examination worth 50% of final mark. Two assignments each equivalent to 3000 words and each worth 25% of final mark.

### 207-211 Australian Fauna

**Availability:** Parkville campus.

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Ms Cheryl O'Dwyer

**Prerequisites:** 202-103 Biology for Land and Food Resources.

**Contact:** 24 hours lectures and 24 hours practicals (*Semester 2*).

**Description:** This subject should provide students with an understanding of the identification, biology and ecology of Australian vertebrate and invertebrate fauna.

The content includes:

- origins and diversity of Australian vertebrates and invertebrates, nomenclature and taxonomy of the Australian fauna;
- biology and ecology of the major invertebrate and vertebrate groups; and
- identification of insects, reptiles, amphibians, birds and mammals.

**Assessment:** A two-hour examination (40%), a practical examination (30%), and a 3000-word assignment (30%).

## Third year subjects

### 202-001 Industry Placement#

See full subject details on page 3.

### 202-301 Industry Project

See full subject details on page 3.

### 202-302 Human Resource Management

See full subject details on page 3.

## Fourth year subjects

### 202-401 Industry/Research Project

See full subject details on page 4.

## Elective subjects

### 208-105 Field Skills

See full subject details on page 4.

### 600-142 Genetics & The Evolution of Life

See full subject details on page 1.

### 202-304 Resource Mgt & Agric Systems Analysis

See full subject details on page 7.

### 207-301 Global Env'ment & Sustain Prod Systems

See full subject details on page 7.

### 207-305 Revegetation and Landscape Restoration

**Availability:** Dookie and Parkville campuses.

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Dr Greg Moore and Dr Steve Hamilton

**Prerequisites:** 206-202 Australian Flora and 206-204 Australian Fauna or 206-105 Horticulture II.

**Contact:** 36 hours lectures, 36 hours field excursions (*Semester 2*).

**Description:** The objectives of the subject is to extend students' ability to:

- define agroforestry, revegetation and habitat creation systems;
- select appropriate species for habitat creation and revegetation situations;
- assess and prepare sites for planting and habitat creation;
- plan, implement and cost plantings and the creation of habitat landscapes;
- evaluate, design and implement urban and rural revegetation programs;
- recognise the relationships between flora and fauna in relevant systems;
- prepare a management plan for a revegetation or habitat creation site;
- determine the best land use options for a unit of land;
- describe the benefits of revegetation and habitat creation; and
- identify relevant aesthetic and design principles and philosophies.

The topics to be studied in the subject include:

- agroforestry, habitat creation and revegetation philosophies and definitions;
- costs and benefits of revegetation and habitat creation management;
- site assessment and modification;
- products and markets;
- species selection;
- site preparation and amelioration;
- revegetation schemes;
- techniques for creating habitats and diversifying flora and fauna;
- sites and their management; planting and establishment costs;
- labour;
- plantings and wildlife;
- government policy;

- career structures; and
- land use options and management.

**Assessment:** A three-hour examination (60%) and two assignments equivalent to 2500 words (each 20%).

### 207-314 Social Research Methods

See full subject details on page 4.

### 207-318 Management of Heritage Landscapes

See full subject details on page 5.

### 207-325 Aquatic Ecology

**Availability:** Dookie campus.

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Ms Cheryl O'Dwyer

**Contact:** 36 hours of lectures and 36 hours of practical exercises (*Semester 1*).

**Description:** This subject should provide students with an understanding of the ecology and management of aquatic ecosystems.

The content includes:

- radiation and adaptations of different animal and plant groups in freshwater and marine environments;
- methods of assessing water quality, biological monitoring and sampling aquatic vertebrate species;
- wetland characteristics, ecology and management;
- impact of land management and catchment issues on aquatic ecosystems; and
- management of fisheries and aquatic systems.

**Assessment:** A three-hour examination (60%), and two assignments 2500 words (each 20%).

### 207-326 Wildlife Conservation and Management

**Availability:** Dookie campus.

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Ms Cheryl O'Dwyer

**Prerequisites:** 207-211 Australian Fauna.

**Contact:** 36 hours of lectures and 36 hours of practical exercises (*Semester 2*).

**Description:** This subject should provide students with an understanding of the principles of wildlife management and the application of various techniques for increasing, harvesting and reducing wildlife populations.

The content includes:

- fundamentals of wildlife management, ecological processes and the regulation of wildlife populations;
- methods of population assessment;
- application of various techniques for increasing at risk populations; and
- productive use of wildlife and the management of this production.

**Assessment:** 5000-word written assignment (40%), 2500-word written assignment (20%), and a two-hour examination (40%).

### 207-327 Resource Industry Communication

See full subject details on page 7.

### 207-328 Working with Community Groups

See full subject details on page 7.

### 207-330 GIS and Remote Sensing

**Availability:** Dookie campus

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Mr Graham Brodie

**Contact:** 24 hours lectures and 36 hours practical work (*Semester 1*).

**Description:** This subject should provide students with an understanding of the principles of Geographic Information System and Remote Sensing technologies and their application to urban and rural resource management.

The content includes:

- introduction to Database Management Systems;
- introduction to Geographic Information Systems;
- Global Position Systems and automatic data acquisition;
- integration of conventional data analysis tools with GIS;
- passive and active sensing systems;
- image processing and interpretation; and
- remote sensing for improved resource management.

**Assessment:** 3-hour written examination (50%), two 2500-word assignments (40%) and a practical assignment (10%).

---

### 207-335 Resource Management Policy and Action

**Availability:** Parkville campus

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Prof Snow Barlow

**Prerequisites:** 207-205 Human Dimensions of Natural Resource Management

**Contact:** 36 hours of lectures, 36 hours of tutorials and presentations (*Semester 1*).

**Description:** This subject will provide a general introduction to the development, implementation and review of environmental policy, and its relationship with the legal system. A variety of both Australian and international case studies will be examined, with a range of guest speakers to further explore these themes. At the completion of the subject, students should have developed an appreciation for the role of the legal and policy development process in the management of public and private land resources.

The content includes:

- the Australian legal system and the formation of law;
- the role of environmental law on a national and international scale;
- the major state and national legislation associated with land use, conservation and/or environment;
- the scope, objectives and practices of the major government agencies involved in public and private land policy development and implementation in Australia;
- assessment/regulatory procedures for potential environmental impacts of proposed developments;
- environmental policy at the international, national, state and local level, including the roles and powers of major stakeholders;
- environmental activism in Australia, and the role of populist opinion in policy development;
- the concept of ecological, economic and social sustainable development as a framework for environmental policy;
- policy analysis techniques and policy instruments, including regulatory and economic instruments; and
- future perspectives on environmental policy in Australia.

**Assessment:** Examination of 3 hours duration (40 %), two assignments of 3000 words (25% each) and a seminar presentation (10%).

---

### 207-401 Soil Management and Conservation

See full subject details on page 10.

---

### 207-402 Management of Plant & Animal Invasions

**Availability:** Parkville and Dookie campuses.

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Prof Roger Cousens

**Prerequisites:** A basic ecology subject, such as 207-202 Australian Flora and 207-211 Australian Fauna; or 208-203 Ecology and Management of Grazing Systems; or 207-275 Forest Ecology; or 606-204 Plant Ecology; or 654-204 Animal Ecology.

**Contact:** 24 hours of lectures, and 36 hours of tutorials and presentations (*Semester 2*).

**Description:** This subject will explore the ecology of invasions of exotic organisms, and the approaches that can be taken to manage them. It will be divided into three sections:

- general principles - dispersal mechanisms; population dynamics; chemical control methods; biological control; policies and regulations;
- case studies of plant invasions;
- case studies of animal invasions.

On completion of the subject, students should be able to assess the potential of a species to invade, design a management strategy for an invading species and be familiar with strategic and policy issues relating to plant and animal pests.

**Assessment:** Examination of 3 hours duration (40%), two assignments of 3000 words (25% each), seminar presentation (10%).

---

### 207-407 Parks and Recreation

See full subject details on page 4.

---

### 207-410 Agroforestry

See full subject details on page 4.

