

# Advanced Diploma of Forestry Management

## First year subjects

### 202-051 Industry Experience

See full subject details on page 681.

### 202-151 Information Technology and Communication

See full subject details on page 657.

### 209-151 Financial Management for Resource Ind I

See full subject details on page 657.

### 211-151 Introduction to Forestry&Forest Products

**Availability:** Creswick campus.

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Ms Robyn Price

**Contact:** 12 hrs of lectures, 48 hrs of practical sessions and 12 hrs of tutorials (*Semester 1*).

**Description:** This subject aims to develop the skills and knowledge in identifying trees and other woody plants, utilizing arboricultural climbing and pruning equipment to safely climb and maintain trees. Plant performance in and selection issues associated with specialized environments, and study of plant group based environmental tolerances, specialized uses and themes are covered.

**Assessment:** One 3-hour written examination worth 50% of final marks, two assignments equivalent to 2500 words and worth 25% of final marks each.

### 211-152 Forest Botany and Ecology

**Availability:** Creswick campus.

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Ms Robyn Price

**Contact:** 30 hrs of lectures and 30 hrs of practical work (*Semester 1*).

**Description:** The subject covers the areas of:

- basic plant structure, classification, taxonomy and identification, functional relationships, trophic levels, micro-environment and adaptation;
- habitat and niche;
- limiting factors, variability and diversity of forest populations, spacing, territoriality and social hierarchies;
- population growth and development of forest stands;
- community structure and species composition;
- interaction within the community and the external environment;
- and community change, succession and ecosystem stability and response to manipulation.

**Assessment:** One 2.5-hour written examination worth 40% of final marks, two assignments equivalent to 300 words and worth 30% of final marks each.

### 211-153 Fire and Water Management

**Availability:** Creswick campus.

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Ms Robyn Price

**Contact:** 30 hours of lectures and 30 hours of practical work (*Semester 1*).

**Description:** The subject covers the areas of:

- basic fire chemistry, behaviour and suppression;
- personal fire safety;
- principles of water movement in forested catchments and management of catchments for conservation of hydrologic and riparian values;
- assessment of physical and chemical fertility of Australian soils;
- soil texture, structure, organic matter, organisms, water and pH;
- soil degradation problems and control;
- soil acidity, salinity and erosion;
- and nutrient cycles and the selection, application and handling of fertilisers.

**Assessment:** One 2-hour written examination worth 30% of final marks, three assignments: two the equivalent to 2500 words and worth 25% of final marks, the other the equivalent of 2000 words worth 20% of final marks.

### 211-154 Forest Surveying and Measurement

**Availability:** Creswick campus.

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Mr Mark Stewart

**Contact:** 30 hours of lectures and 30 hours of practical work (*Semester 2*).

**Description:** The subject covers the areas of:

- map interpretation, use and maintenance of surveying instruments;
- compass traversing and mapping, gradelines and plotting contours;
- and stand parameter measurement and field assessment, tree volume and growth, aerial photograph interpretation and remote sensing systems.

**Assessment:** One 2.5-hour written examination worth 40% of final marks, two assignments equivalent to 300 words and worth 30% of final marks each.

### 211-155 Silviculture I

**Availability:** Creswick campus

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Ms Robyn Price

**Contact:** 30 hours of lectures and 30 hours of practical work (*Semester 2*).

**Description:** The subject covers the areas of forest policy relevant to silviculture; silvicultural system design for meeting management objectives; implementation of silvicultural designs; and operational considerations for silvicultural systems.

**Assessment:** One 2.5-hour written examination worth 40% of final marks, two assignments equivalent to 300 words and worth 30% of final marks each.

### 211-175 Forest Field Techniques I

**Availability:** Creswick campus

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Ms Robyn Price

**Contact:** 16 weeks in total (*Year long*).

**Description:** This subject introduces students to field techniques and tools used in the forest industry. Students also gain experience working in field situations, supervising work crews and managing projects.

The subject covers the areas of:

- practical experience in the fields of hand tools, mechanical tools, first aid, occupational health and safety, environmental care and chemical handling;
- practical experience in the field of project management, coordination and reporting; and
- and supervision skills, team work and group dynamics.

**Assessment:** Students are required to complete a report (of 2000 words) on the activities undertaken. Students will also be assessed on participation.

### 211-176 Forestry Technical Project I

**Availability:** Creswick campus.

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Mr Peter Shepherd

**Contact:** 16 weeks in total (*Year long*).

**Description:** This subject is designed to allow students to experience the undertaking of a long term project. The subject requires students to develop a project, in conjunction with their employer and the School of Forestry, Creswick.

The subject covers the areas of:

- planning, proposal writing, project management;
- researching, investigating, interpreting research material and results; and
- report writing, proof reading and referencing.

**Assessment:** The final draft of the report forms 100% of the marks for this subject.

## Second year subjects

Complete descriptions of second year subjects will be available in the 2002 Handbook, or from the course coordinator.

### 209-254 Managing Staff

See full subject details on page 659.

### 211-267 Policy and Legislation

**Availability:** Creswick campus

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Ms Robyn Price

**Contact:** 30 hrs of lectures and 30 hrs of practical work (*Semester 1*).

**Description:** This subject introduces policy and legislation for forestry and examines the role of, limits to and creation of policies and legislations.

On completion of this subject, students should:

- understand the need for policy and legislation and the role it plays in forestry;
- be aware of the different levels at which policy and legislation operate;
- be able to implement and adhere to policy and legislation in the field;
- understand the legality of policy and legislation and be able to enforce policy and legislation requirements;
- and understand the process by which policy and legislation are created.

The subject covers the areas of:

- policy and legislation in forestry;
- creation and implementation of policy and legislation;
- codes of practice;
- and adherence and enforcement.

**Assessment:** One two-and-a-half written examination worth 40% of final marks, two assignments equivalent to 300 words and worth 30% of final marks each.

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### 211-273 Wildlife, Soil & Cultural Conservation

**Availability:** Creswick campus.

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Ms Robyn Price

**Contact:** 30 hrs of lectures and 30 hrs of practical work (*Semester 1*).

**Description:** This subject introduces forest attributes other than timber, and outlines the management strategies adopted to care for these values.

On completion of this subject, students should:

- understand animal population dynamics;
- be familiar with both terrestrial and aquatic habitats and be able to conduct wildlife surveys;
- understand the complexity of park management and the need for balance in making decisions about forest use;
- be aware of the recreational opportunity spectrum and its implications in managing recreational activities in the forest;
- understand the complexity of cultural issues in land management;
- and be aware of cultural conservation conflict issues and the management strategies developed to meet the challenge of these issues.

This subject covers the areas of:

- population dynamics and terrestrial and marine wildlife surveying and monitoring techniques;
- habitat change and wildlife management plans;
- conflicts of values and the concept of balance;
- factors important to cultural conservation, communication and liaising;
- role of legislation and policy in cultural conservation;
- history and development of National Park legislation and systems;
- policy, planning and management for National Parks;
- cultural and historic values in National Parks and extension and enforcement;
- and recreation and park management.

**Assessment:** One two-hour written examination worth 30% of final marks, three assignments: two the equivalent to 2500 words and worth 25% of final marks, each the equivalent of 2000 words worth 20% of final marks.

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### 211-275 Forestry Field Techniques II

**Note:** Forestry Technical Report I and II can be discrete, isolated investigations, or the two reports can form parts of one large, long-term investigation. Investigation Topics are subject to approval from the coordinator and before commencement a project proposal must be submitted and approved.

**Availability:** Creswick campus.

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Mr Peter Shepherd

**Contact:** 16 weeks in total (*Year long*).

**Description:** This subject is designed to allow students to experience the undertaking of a long term project. The subject requires students develop a project, in conjunction with their employer and the School of Forestry.

On completion of this subject, students should:

- understand the need for planning in project management;
- have developed interpretive and investigative skills;
- be able to write project proposals;
- be able to write technical reports;
- and be able to adhere to deadlines.

The subject covers the areas of:

- planning, proposal writing, project management;
- researching, investigating, interpreting research material and results;

- and report writing, proof reading and referencing.

The bulk of this subject is undertaken in the workplace, with tutorial sessions at Creswick on a regular basis.

**Assessment:** The final draft of the report form 100% of the marks for this subject.

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### 211-276 Forestry Technical Project II

**Note:** Forestry Technical Report I and II can be discrete, isolated investigations, or the two reports can form parts of one large, long-term investigation. Investigation Topics are subject to approval from the coordinator and before commencement a project proposal must be submitted and approved.

**Availability:** Creswick campus.

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Mr Peter Shepherd

**Semester:** Year long

**Description:** This subject is designed to allow students to experience the undertaking of a long term project. The subject requires students develop a project, in conjunction with their employer and the School of Forestry.

On completion of this subject, students should:

- understand the need for planning in project management;
- have developed interpretive and investigative skills;
- be able to write project proposals;
- be able to write technical reports;
- and be able to adhere to deadlines.

The subject covers the areas of:

- planning, proposal writing, project management;
- researching, investigating, interpreting research material and results;
- and report writing, proof reading and referencing.

**Assessment:** The final draft of the report form 100% of the marks for this subject.

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## Elective subjects

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### 209-252 Financial Management for Resource Ind II

See full subject details on page 660.

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### 211-268 Silviculture II

**Availability:** Creswick campus.

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Ms Robyn Price

**Prerequisites:** 211-155 Silviculture I.

**Contact:** 30 hours of lectures and 30 hours of practical work (*Semester 2*).

**Description:** The subject expands on the basic principals of silviculture and looks, in detail at the silvicultural systems applied to forests of varying type.

On completion of this subject, students should:

- have an awareness of the constraints on silviculture due to ecological and social factors;
- understand the factors which can affect stand health and growth and be aware of the techniques available to manage these factors;
- understand silvicultural processes, as applied to different forest types, from site selection through to harvesting and post harvesting processes;
- and be aware of genetic developments, tree breeding and nursery practices.

The content includes:

- stand health and growth and the factors that affect them;
- ecological and social limiting factors;
- site selection, preparation, planting, stand tending, monitoring, harvesting and post harvesting treatments;
- yield regulation and harvesting, second rotations, and product oriented silviculture;
- stand monitoring and seed collection;
- and genetics, tree breeding and nursery practice.

**Assessment:** One two-and-a-half written examination worth 40% of final marks, two assignments equivalent to 300 words and worth 30% of final marks each.

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### 211-269 Forest Harvesting

**Availability:** Creswick campus

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Mr Mark Stewart

**Prerequisites:** 211-155 Silviculture I.

**Contact:** 30 hours of lectures and 30 hours of practical work (*Semester 2*).

**Description:** The subject introduces harvesting systems and covers the definition, selection and supervision of forest harvesting operations.

On completion of this subject, students should:

- be aware of Environmental Care principals and the Code of Forest Practices in the efficient conduct of forest harvesting operations;
- be able to assess harvesting performance against accepted environmental standards;
- be able to make decisions regarding the protection of environmental values;
- understand the harvesting process, in terms of the design, planning and equipment involved in the removal of timber from forests;
- and be able to design a harvesting plan.

The subject covers the areas of:

- environmental care principals and assessment;
- methods for timber harvesting;
- equipment used in timber harvesting;
- harvesting plans;
- code of forest practice;
- and coordination of harvesting with roading, regeneration and climate.

**Assessment:** One two-and-a-half written examination worth 40% of final marks, two assignments equivalent to 300 words and worth 30% of final marks each

### 211-270 Farm and Plantation Forestry

**Availability:** Creswick campus

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Ms Robyn Price

**Semester:** Semester 2

**Description:** The subject introduces the concept of plantations as forests and outlines the range of uses for tree on farms.

On completion of this subject, students should:

- understand the processes involved in establishing both softwood and hardwood plantations;
- understand the range of uses of trees on farms, including commercial possibilities and the potential of agroforestry;
- be aware of the stand tending operations required in both plantations and farm forestry;
- and be familiar with current practices involving policy, planning, establishment, maintenance and utilisation of farm forests and plantations.

The subject covers the areas of:

- use of trees on farms and whole farm planning;
- markets for farm tree products;
- agroforestry;
- species selection;
- site assessment and preparation;
- establishment;
- stand tending and health;
- and government incentives.

**Assessment:** One two-and-a-half written examination worth 40% of final marks, two assignments equivalent to 300 words and worth 30% of final marks each.

### 211-271 Extension and Landcare

**Availability:** Creswick campus.

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Ms Robyn Price

**Semester:** Semester 2

**Description:** The subject introduces the concept of extension and discusses the role of extension and the importance of Landcare in land management.

On completion of this subject, students should:

- understand the role, objectives and organisation of the Landcare movement;
- be aware of Landcare rehabilitation techniques, including soil, weed control and waterway management;
- be aware of the funding, projects and outcomes of Landcare;
- be able to use community education and extension techniques;
- be familiar with rural social processes and forestry extension;
- and be familiar with environmental and conservation legislation.

The subject covers the areas of:

- the Landcare movement, its role and objectives;

- rehabilitation techniques, soil, weed control and waterway management;
- and community education and forestry extension. environmental and conservation legislation.

**Assessment:** One two-and-a-half written examination worth 40% of final marks, two assignments equivalent to 300 words and worth 30% of final marks each.

### 211-272 Park and Wilderness Management

**Availability:** Creswick campus.

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Mr Peter Shepherd

**Contact:** 30 hours of lectures and 30 hours of practical work (*Semester 1*).

**Description:** The subject introduces the concepts of Parks, Reserves and Wilderness areas and discusses the considerations for effective land management of these areas.

On completion of this subject, students should:

- be aware of the recreational opportunity spectrum and its implications in managing recreational activities in the forest;
- understand the complexity of park management and the need for balance in making decisions about forest use;
- be aware of the development process and history of Parks and Wilderness areas;
- be aware of the policy and legislation relevant to the management of these areas;
- and understand the importance of extension, interpretation, education and enforcement in the effective management of Parks and Wilderness areas.

The subject covers the areas of:

- history and development of National Park legislation and systems;
- policy, planning and management for National Parks;
- cultural and historic values in National Parks and extension and enforcement;
- recreation and park management;
- and interpretation techniques.

**Assessment:** A test on completion of the subject, and a Project.

### 211-274 Plant and Animal Pests

**Availability:** Creswick campus.

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Ms Robyn Price

**Contact:** 30 hours of lectures and 30 hours of practical work (*Semester 1*).

**Description:** This subject introduces common plant and animal pests which affect forests and outlines the management practices used for pest control.

On completion of this subject, students should:

- be able to define a pest in forest ecosystems;
- be familiar with the main plant and animal pests and their biology and ecology;
- be aware of the impacts of plant and animal pests on production forestry;
- and know of the management techniques available for pest control.

The subject covers the areas of:

- plants and animals declared as pests;
- environmental weeds and feral animals;
- environmental weeds and feral animals;
- ecological impacts of pest plants and animals;
- and management practices to avoid and overcome damage caused by pest plants and animals.

**Assessment:** One two-and-a-half written examination worth 40% of final marks, two assignments equivalent to 300 words and worth 30% of final marks each.

### 211-277 Fire Suppression

**Availability:** Creswick campus.

**Credit points:** 12.5

**HECS-band:** 2

**Coordinator:** Mr Peter Shepherd

**Prerequisites:** 211-153 Fire and Water Management.

**Contact:** 30 hours of lectures and 30 hours of practical work (*Semester 1*).

**Description:** This subject deals with the management of fire control incidents and the use of fire as a management tool.

On completion of this subject, students should:

- be able to assist in fire weather forecasting;
- understand the principals of fire behaviour and the basis of fire danger ratings;

- understand the principals of fire control, planning and conduction of fuel hazard reduction and fire suppression strategies;
- be aware of the role of personnel and organisations in fire suppression;
- understand fire law and logistics;
- and appreciate the role and impact of fire on forest ecosystems.

The subject covers the areas of:

- fire weather forecasting and climatic zones, weather systems, temperature, moisture and wind effects;
- fire behaviour, fuel, weather, topography effects and fire danger rating systems;
- fire control, hazard reduction, suppression strategies;
- fire law, logistics and operational considerations;
- and fire ecology.

**Assessment:** A test on completion of the subject, and a Project.