

Advanced Diploma of Forestry Management

First year subjects

202-151 Information Technology and Communication

See full subject details on page 1.

207-156 Sustainable Outputs From Forested Lands

Availability: Creswick campus.

Credit points: 12.5

HECS-band: 2

Coordinator: Mr Peter Shepherd

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

Description: This subject discusses the production of sustainable outputs from forested land. It covers both wood and non-wood forest products.

On completion of this subject, students should:

- recognise forests as having multiple uses and the complexity of making management decisions for multi-resource forests;
- be familiar with both wood and non-wood forest products and the marketing and sale of these forest products;
- understand the concept of sustainable forestry; and
- be familiar with the features and structure of hardwoods and softwoods, the conversion of logs into wood products, value adding, defects, degrade and decay of wood products.

The subject covers the areas of:

- characteristics of world forests, developments in conservation and forest management;
- forest management practices and trade patterns in forest products;
- structure and features of hardwoods and softwoods, milling processes, solid and composite wood products, value adding, paper and pulp production;
- non-wood forest products, integrated forest management;
- marketing forest products;
- wood science; and
- sustainability.

Assessment: A test on completion of the subject (40%) and up to three assignments (totalling 60% and 1000-2000 words).

207-160 Forest Botany & Ecology

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:

- 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 3000 words and worth 30% of final marks each.

207-161 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.

207-162 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 3000 words and worth 30% of final marks each.

207-163 Silviculture

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 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 3000 words and worth 30% of final marks each.

207-166 Forestry Work Skills 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 introduces students to field techniques, tools and report writing as required in the forestry sector. Students also gain experience working in field situations, supervising work crews and managing projects.

On completion of this subject, students should:

- be able to describe and comment on the major tasks performed;
- have gained an insight into working as a member of a team and supervising a team working in a forest;
- understand the process of project development, completion and reporting;
- understand occupational health and safety issues and responsibilities in forests; and
- be able to prepare and write a report.

Forest skills developed during the subject will include:

- hand tools, mechanical tools, first aid, occupational health and safety, environmental care and chemical handling, surveying, measurement, mapping and remote area skills;
- project management, coordination and reporting;
- supervision skills, team work and group dynamics; and
- report preparation and time management.

Assessment: Students are required to complete a report (of 2000 words) on the activities undertaken. Students not currently employed in the forest industry must attend 80 days of field instruction.

207-168 Forestry Work Skills I (MYE)

Availability: Creswick campus

Credit points: 12.5

HECS-band: 2

Coordinator: Mr Peter Shepherd

Contact: 16 weeks in total (*Semester 2, repeat Summer*).

Description: This subject introduces students to field techniques, tools and report writing as required in the forestry sector. Students also gain experience working in field situations, supervising work crews and managing projects.

On completion of this subject, students should:

- be able to describe and comment on the major tasks performed;

- have gained an insight into working as a member of a team and supervising a team working in a forest;
- understand the process of project development, completion and reporting;
- understand occupational health and safety issues and responsibilities in forests; and
- be able to prepare and write a report.

Forest skills developed during the subject will include:

- hand tools, mechanical tools, first aid, occupational health and safety, environmental care and chemical handling, surveying, measurement, mapping and remote area skills;
- project management, coordination and reporting;
- supervision skills, team work and group dynamics; and
- report preparation and time management.

Assessment: Students are required to complete a report (of 2000 words) on the activities undertaken. Students not currently employed in the forest industry must attend 80 days of field instruction.

208-161 Financial Management for Resource Ind I

See full subject details on page 1.

Second year subjects

207-279 Forest Policy

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 policy and legislation for forestry and examines the role of, limits to and creation of policies and legislation.

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 2.5-hour written examination worth 40% of final marks, two assignments equivalent to 3000 words and worth 30% of final marks each.

207-285 Wildlife, Soil & Cultural Conservation

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 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.

207-287 Forestry Work Skills II

Availability: Creswick campus.

Credit points: 12.5

HECS-band: 2

Coordinator: Mr Peter Shepherd

Prerequisites: 207-166 or 207-168 Forestry Work Skills I.

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

Description: This subject builds on the knowledge students gained in Forestry Work Skills I. Students are required to apply principles learnt through their studies to participate in work placements and projects. Students experience the practical application of techniques and methods studied during the course of the advanced diploma.

On completion of this subject, students should:

- be able to work independently and unsupervised as well as actively participate in group work;
- understand the process of project development, completion and reporting, and effectively manage time allocated to activities.

The subject covers the areas of:

- practical application of the field skills acquired during Forestry Work Skills I and other advanced diploma subjects;
- advanced project design management, coordination and reporting; and
- supervision skills, team work and group dynamics.

Assessment: Students are required to complete a report (of 2000-2500 words) on the activities undertaken. Those students not employed in the forestry or a related industry, must complete 80 days of industry experience.

208-269 Managing Staff

See full subject details on page 3.

Elective subjects

207-280 Silviculture of Native Forests

Availability: Creswick campus.

Credit points: 12.5

HECS-band: 2

Coordinator: Ms Robyn Price

Prerequisites: 207-163 Silviculture.

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 2.5-hour written examination worth 40% of final marks, two assignments equivalent to 3000 words and worth 30% of final marks each.

207-282 Plantation and Farm Silviculture

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 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 2.5-hour written examination worth 40% of final marks, two assignments equivalent to 3000 words and worth 30% of final marks each.

207-284 Protected Area 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: One 2.5-hour written examination worth 40% of final marks, two assignments each equivalent to 3000 words and worth 30% of final marks each.

207-286 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 2*).

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;
- ecological impacts of pest plants and animals; and
- management practices to avoid and overcome damage caused by pest plants and animals.

Assessment: One 2.5-hour written examination worth 40% of final marks, two assignments each equivalent to 3000 words and worth 30% of final marks each.

207-289 Fire Suppression

Availability: Creswick campus.

Credit points: 12.5

HECS-band: 2

Coordinator: Mr Peter Shepherd

Prerequisites: 207-161 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: One 2-hour written examination worth 30% of final marks, a fire skills test worth 20% of final marks, two assignments each equivalent to 2000 words and worth 25% of final marks each.

208-267 Financial Management for Resource Ind II

See full subject details on page 5.

