

Advanced Diploma & Diploma of Applied Science

200 level subjects

792-100 Industry Placement

Credit points: 100

HECS-band: 2

Coordinator: Mr Rob Binns

Contact: 10 months full-time industry experience (farming) completed as a 'Sandwich' year between the first and second years of formal course work (*Year long*).

Description: The objective of this subject is to extend participants' ability to:

- perform a range of practical farming skills pertinent to one or more agricultural enterprises;
- evaluate an annual management program for one or more rural enterprises and understand the management requirements;
- identify the climatic and environmental features of a farm which determine its suitability to an agricultural enterprise;
- interpret the key features of a farming system and be aware of sustainable land use systems;
- identify the physical resources (i.e. labour, facilities and equipment) required to effectively carry out particular enterprise tasks and demonstrate a knowledge of safe working practices on a farm;
- observe and appreciate the management techniques available which assist in the production of high quality, marketable agricultural products;
- plan the efficient use of one's own labour in carrying out agricultural tasks/duties;
- identify the place of individual agricultural enterprises within the broader agricultural industry; and
- document the legal obligations of an employer when hiring labour.

Assessment: Concluding 4000 word report (30%); working diary (20%); assignment of 5000 words (50%). This is a pass level subject only.

792-209 Enterprise Management - Grazing

Credit points: 5

HECS-band: 2

Coordinator: Mr Peter Guthrie

Prerequisites: Animal Production

Contact: 2.5 hours per week (*Semester 1*).

Description: The objective of this subject is to enable students to develop management programs for beef cattle production, prime lamb production and wool production from a self-replacing flock. Specifically they will be able to:

- explain the structure and function of the various Australian grazing industry organisations;
- appreciate the range of production alternatives in the Australian grazing industry and the factors which influence these alternatives;
- apply their understanding of the factors which underline the management of grazing enterprises to practical situations;
- analyse and evaluate biological, industry, marketing, and physical production functions as factors affecting management decisions in the Australian grazing industry; and
- utilise their understanding of the above in making competent practical management decisions in the grazing industry.

The content includes environmental restrictions on animal production systems; strategic health programs; feed sources, preparation and quality; feeding and supplementary feeding strategies for specific classes of livestock; meeting market specifications through breeding, feeding and management; product quality and markets; visual selection and evaluation of grazing animals; breeds and strains of livestock and their relative contributions to production systems; and integrating single enterprises into whole farm strategies.

Assessment: Two assignments of 1500 words (30% each); 2-hour exam (40%).

792-210 Enterprise Management - Cropping

Credit points: 5

HECS-band: 2

Coordinator: Mr Russell Venn

Prerequisites: Plant Production

Contact: 2.5 hours per week (*Semester 2*).

Description: The objective of this subject is to enable students to develop management programs for rainfed cereal grain production, pulse production and oilseed production. Specifically they will be able to:

- explain the structure and function of the various Australian cropping industry organisations;

- appreciate the range of production alternatives in the Australian cropping industry and the factors which influence these alternatives;
- apply their understanding of the factors which underline the management of cropping enterprises to practical situations;
- analyse and evaluate biological, industry, marketing, and physical production functions as factors affecting management decisions in the Australian cropping industry; and
- utilise their understanding of the above in making competent practical management decisions in the cropping industry.

The content includes environmental restrictions on production systems; crop and variety selection; tillage and soil preparations; rotations; fertiliser use; timeliness of operations such as spraying, sowing, fertilising, crop production and harvesting; identification of problems and appropriate responses and control measures; and product quality and management.

792-231 Agricultural Economics and Policy

Credit points: 5

HECS-band: 2

Coordinator: Mr Mal Wyeth

Contact: 2.5 hours per week (*Semester 1, repeat Summer*).

Description: The objective of this subject is to enable participants to:

- understand the major economic factors affecting the agricultural sector of the national economy;
- appreciate the various methods used to stabilise prices and incomes; and
- understand the effects of government policy on the marketing of agricultural commodities and our competitiveness in the international market place and the role of the various interest groups in shaping government policy.

The content includes an overview of the various ways in which the prices of agricultural commodities are determined; an analysis of Australia's competitive position in the markets for our major exported agricultural commodities; a summation of the importance of agriculture to the Australian economy; a brief overview of the advantages and disadvantages of the major marketing alternatives for agricultural commodities; a basic coverage of the major means by which farm gate prices and farm incomes might be stabilised or supported; an overview of possible pathways for rural policy formulation and promulgation; and coverage of some of the possible impacts of government policies and the constraints within the Australian Constitution on the marketing of agricultural commodities.

Assessment: 3-hour open-book written examination (60%); assignment of 2000 words (40%).

792-236 Farm Trade Skills II

Credit points: 5

HECS-band: 2

Contact: 2.5 hours per week (*Semester 1*).

Description: The objective of this subject is to extend participants' ability to:

- perform basic farm plumbing and water supply skill;
- fabricate simple models out of sheet metal; and
- construct, maintain and repair simple farm structures and machines using timber and metal materials.

The content includes: plumbing: thread identification, thread cutting, valves, pipes, fittings; sheet metal: soldering, marking out; welding: safety, metal identification, arc, gas, MIG, TIG, tools and their maintenance; working with metals: - cutting, plasma, gas, saw, tempering, filing, tools and their maintenance and model construction; and working with timber: joints, setting out, tools and their maintenance and model construction.

Assessment: 1-hour written examination (30%); timber model (30%), practical work and attendance (40%).

792-237 Major Farming Study I

Credit points: 5

HECS-band: 2

Prerequisites: Industry Placement.

Contact: 2.5 hours per week (*Semester 1*).

Description: The objective of these subjects is to extend participant's ability to:

- state the features of significance to the Australian economy and natural resource base of agriculture;
- list major innovations in agriculture, and the role of agricultural technology in the further development of the industry;
- prepare a business plan for the implementation of innovations into farming or related industry; and
- use basic statistical techniques to help design small field trials to assess the local impact of new technology.

The content includes the state of the farming industries; industry trends and developments; industry indicators and trends; the need for innovation in farming; innovators and innovations; criteria for successful innovation; rural

development case study; climate and agricultural opportunities; factors affecting new industries; interpreting and applying technical information; components of a business plan; business plan for case study; statistics and experimentation including mean, standard deviations, t-test, field trial design.

Assessment: One 250 word report (10%); one 500 word report (20%), one 1500 plan (35%); 2-hour examination (35%)

792-238 Taxation Practice

Credit points: 5

HECS-band: 2

Coordinator: Mr Danny Gray

Contact: 2.5 hours per week (*Semester 1, repeat Summer*).

Description: The objective of this subject is to develop participants' ability to:

- understand the relevance of the taxation system in the Australian economy;
- determine if a taxpayer is entitled to primary production concessions;
- understand the concept of taxable income and allowable deductions;
- determine the taxable income of a primary producer;
- calculate tax payable applying to primary producers under the averaging provision including provisional tax;
- indicate how the taxation position may be managed through planning strategies;
- state how information should be given to an accountant or tax agent for the preparation of income tax returns; and
- state whether or not capital gain tax or fringe benefits tax would be payable.

The content includes the Australian taxation system; taxation of primary producers; various aspects to establish primary producer status; taxation forms; rates of tax; leaven and rebates; accessible income; allowable deductions; taxable income; depreciation; substantiation; special concessions: averaging of income, income equalisation deposits, elections etc.; provisional tax; capital gains tax; fringe benefits tax; tax planning strategies; and professional tax advice.

Assessment: Internal students: 2-hour examination (50%); assignment (50%). External students: two assignments (40%, 60%).

792-239 Financial Management & Info Systems

Credit points: 5

HECS-band: 2

Coordinator: Mr Russell Venn

Contact: 2.5 hours per week (*Semester 1*).

Description: The objective of this subject is to extend participants' ability to:

- explain the decision-making process at different management levels within a business;
- describe the sources and methods of collection, of information which could be used for management;
- construct a simple decision support system for use in management control;
- explain the purpose and use of the analysis of financial statements for management decision-making;
- understand the financial stability of a business and the usefulness of the analytical techniques used;
- analyse the business profitability;
- prepare written reports on the profitability and stability for the stakeholders of a business; and
- prepare and understand the use of the source and application of funds statement;
- use a computer to combine data from a range of internal and external sources to produce information for use in management decision making.

The content includes management information systems: levels of management and decision making within an organisation, information requirements and sources, decision support systems, querying data bases, analysing computer based data, capturing data, combining and transforming data, report preparation; financial management: business financial stability and profitability in relation to the trade cycle, analysing the P statement and the balance sheet for both stability and profitability, using currently accepted ratio and rate analysis, the purpose, use and analysis of the fund statement, business financial report preparation, and comparative financial analysis.

Assessment: Internal and external students: two assignments of 1000 and 500 words (30% each), 2-hour examination (40%).

792-246 Business Law

Credit points: 5

HECS-band: 2

Coordinator: Mr Geoff Tually

Contact: 40 hours (lectures 15, workshops 25) (*Semester 2*).

Description: The objective of this subject is to enable participants to:

- appreciate the significance of law in a business;
- understand the contractual basis of all commercial transactions;
- determine the areas of potential legal problem situations in a commercial transaction and provision of advice; and
- determine the need for legal training of all staff involved with business clients.

The content includes difference between law and justice; statute and common law; law of contract, bailment, principal and agent, insurance, securities, consumer law and trade practices; and negligence and legal action, business legal structures.

Assessment: Internal: objective tests (20%), assignments (20%), class presentations (40%), examination (20%). External: two assignments of 2000 words (50% each).

792-251 Management Practices in Industry

Credit points: 25

HECS-band: 2

Coordinator: Mr Geoff Tually

Contact: 15 weeks (*Semester 1*).

Description: The objective of this subject is to:

- expose the student to the practices in agribusiness that are relevant to the student's career aspirations;
- enable the student to gain further experience in performing various tasks;
- enable the student to observe, be aware of and be involved in the work programs of an agribusiness; and
- provide the opportunity for the student to experience different approaches to specific agribusinesses;
- provide the student with an opportunity to assess management skills directed towards maximising profit.

Students will complete a 15-week period of industry experience by working in a suitable agri-service business. The placement normally commences in the summer vacation and extends through the first half of Semester 3. Industry experience is normally a continuous 15-week period but may be varied according to individual circumstances. During the placement the student will be required to gather and record information relating to the host business. This information is required for subjects conducted after industry experience is completed. Students will keep a diary and compile business data regarding, structure, organisation, management, reporting systems, planning, business goals and general financial data. Students are encouraged to discuss all aspects of the business with their hosts and employees.

Assessment: Internal and external students: host report (40%); diary (20%); skills report (20%); critical evaluation (20%).

792-253 International Agribusiness

Credit points: 5

HECS-band: 2

Coordinator: Mr Mal Wyeth

Contact: 2.5 hours per week (*Semester 2*).

Description: The objective of this subject is to enable participants to:

- appreciate the role of agricultural exports to the Australian economy;
- understand the major international bodies controlling world trade;
- prepare documentation for export and import of goods and services;
- understand legal aspects of importing and exporting;
- understand the financing of international trade arrangements; and
- appreciate the role of culture in international trade.

The content includes role of international trade to Australian agribusiness; trading blocks and international conventions; export/import procedures; law and international trade; environmental and cultural influences on trade patterns; the economics of world trade; finance and banking facilities; agents and promotion; and place and effect of multinational technique in overcoming barriers to international product distribution.

Assessment: Internal students: two assignments of 2000 words (30% each); one 2-hour examination (40%). External students: three assignments (26%; 34%; 40%).

792-256 Sustainable Land Use

Credit points: 5

HECS-band: 2

Coordinator: Mr Rob Binns

Prerequisites: Farm Planning.

Contact: 2.5 hours per week (*Semester 1, repeat Summer*).

Description: The objective of this subject is to extend participant's ability to:

- understand the ecological principles which influence the management of sustainable systems;
- foster attitudes toward the philosophy of sustainable management; and
- analyse the practices and management strategies for natural resource management for sustainable farm productivity and lifestyles.

The content includes land degradation processes and reclamation strategies; strategies for maintaining soil structure and nutrient status on farms; evaluation of sustainability in a range of farming systems, including rained cropping, irrigation, intensive grazing, rangeland and intensive animal systems; farmer and urban attitudes to sustainable land use issues.

Assessment: 2-hour examination (40%); major assignment of 2000 words (30%); reports on tours and practical work (20%).

792-257 Major Farming Study II

Credit points: 10

HECS-band: 2

Coordinator: Mr John Goldsmith

Contact: 5 hours per week (*Semester 2, repeat Summer*).

Assessment: Major project topic up to 7500 words (80%); seminar topic (10%).

792-262 Farm Water Supply

Credit points: 5

HECS-band: 2

Contact: 2.5 hours per week (*Semester 1, repeat Summer*).

Description: The objective of this subject is to extend participants' ability to plan and develop farm water supply systems for both stock and domestic use and irrigation.

This subject will cover the conservation, utilisation and distribution of water on the farm, as well as the planning and development of farm water supply schemes. Water conservation will cover water sources, ground water, catchment yield, peak discharge, return periods, rainfall intensity, evaporation, storage volumes, bywash design, storage construction, soil types for construction. Water utilisation will cover stock and domestic water use, water quality, irrigation requirements, evaporation, storage requirements, flow rates. Water reticulation will cover flow-rates, water requirements, pipe flow, channel flow, pump performance, pump selection troughs, reticulation design, water supply location and layout.

Assessment: Two 750 word reports (10% each), 2-hour examination (50%); two assignments of 1000 words each (15% each).

792-269 Major Agribusiness Study

Credit points: 10

HECS-band: 2

Coordinator: Mr M Wyeth

Prerequisites: Management Practices in Industry.

Contact: 5 hours per week (*Semester 2*).

Description: The objective of this subject is to enable participants to:

- integrate information from other subjects into a business plan; and
- prepare a major report for a business with which they are familiar or about to commence.

The content includes the elements of a major business report; the presentation of a major report in written and seminar format to meet the needs of a financier and for shareholders; and the preparation of a business plan to include the analysis showing sustainable competitive advantage, research and development program to support the competitive advantage, market analysis (current and forward) finance and cash flow analysis, competitive analysis.

Assessment: Internal and external students: assignment based on study guide (20%); verbal presentation of business plan (10%); report on skills acquisition to support competitive advantage (20%); business plan (50%).

792-271 Management Communication

Credit points: 5

HECS-band: 2

Coordinator: Mr Max Coster

Prerequisites: Communication.

Contact: 2.5 hours per week (*Semester 2*).

Description: The objective of this subject is to extend participants' ability to:

- effectively communicate in organisations at the interpersonal and professional level; and
- gain an understanding of how mass communication affects individuals and the community.

The content includes writing covering how to critically analyse a statement, develop an argument, use correct referencing for scientific writing, reach a clear conclusion; mass communication covering how to critically evaluate different forms of mass communication, select and analyse one form of mass communication, develop a greater understanding of the theory of mass communication; organisational development covering how to identify critical elements in an organisation, synthesise various external and internal dynamics of an organisation, write a critical report on enterprise placement; and career development covering how to identify factors in a career choice, use Job Search facilities, write a job application and attend a job interview.

Assessment: Three essays of 2000 words (20% each), job application and interview (20% each). External: two assignments of 4000 words each (50% each).

792-274 Investment and Finance

Credit points: 10

HECS-band: 2

Coordinator: Mr Geoff Tually

Contact: 5 hours per week (*Semester 2*).

Description: Topics include income and capital growth; gearing and leverage of investment returns; business risk management; the use of futures; insurance; valuation and purchase of a rural property; loan management and repayment schedules (flat rate and reducing balance methods); sources and types of loans available; diversification of the asset base and of income and the nature of off-farm investments in real estate and the financial markets; alternatives to ownership of land for the purposes of primary production; preparation of a case to be presented to a lending authority for that finance; cash budgets, identification of peak debt/surplus periods, amount of debt servicing possible for the business, methods of remedying the cash flow deficit (including reconstruction of debts); and assessment of various investments, both on and off the farm, as a means of achieving personal investment goals.

Assessment: Internal: objective tests (10%), assignments (40%), class presentations (30%), examination (20%). External: four assignments (25% each).

793-208 Business Responsibilities and Leadership

Credit points: 10

HECS-band: 2

Coordinator: Mr Lindsay Ferguson

Prerequisites: Information Management; Investment and Finance.

Contact: Lectures/tutorials 65 hours (*Semester 2*).

Description: The objective of this subject is to provide the student with skills and knowledge relating to the legal and ethical responsibilities of management and leadership and to communicate effectively with others.

The content includes introduction to business law covering law making, business structure, consumers, contracts, property transfer, disputes; primary producer issues covering land ownership and use, environment, animals, equipment, produce; taxation (both direct and indirect) covering primary producer definition, concessions, taxable income, tax and estate planning; employment, enterprise bargaining, awards, contracts, liability, termination, equal opportunity, affirmative action, anti-discrimination; personnel management, recruitment, training, development; communication with clients, in business organisations, producer groups, farming families; leadership and motivation in managing change, organisations, succession; and professional advisers and their effective use: accountants, solicitors, consultants, and technical specialists.

Assessment: Two assignments; interview; examination.

Prescribed texts: Australian Tax Office, *Tax pack*, (current year). • Queensland Department of Primary Industry, *Farm Taxation*, 4th Ed., Queensland Government, 1994.

793-209 Equine Marketing

Credit points: 5

HECS-band: 2

Coordinator: Mr Wayne Binney

Contact: Lectures 20 hours; tutorials 12 hours (*Semester 2*).

Description: The objective of this subject is to enable the student to:

- develop an understanding of the fundamental principles of marketing systems for bloodstock, products and services; and
- describe the marketing systems currently employed.

The content includes the marketing fundamentals/concepts; marketing strategies (marketing mix); planning marketing programs; role of information (producers and consumers); direct supply marketing; international marketing; alternative marketing systems; and government involvement in the marketing process.

Assessment: Internal students: assignment of 2000 words (50%); 2-hour test (50%). External students: assignment of 3000 words (100%).

793-211 Land Use and Development

Credit points: 10

HECS-band: 2

Coordinator: Mr Jeff Lawes

Contact: Lectures 39 hours; practical classes 26 hours (*Semester 1*).

Description: The objective of this subject is to enable students to develop knowledge and skills in relation to land use and development.

The content includes an introduction to property planning; assessing farm resources; developing a farm plan and property subdivision; aerial photo interpretation; long term plans for improving productivity by pasture improvement, control of erosion, salinity and tree decline; use of trees for control of land degradation, shade and shelter, marketable products, wildlife habitat and fire protection; use and construction of roads and lane ways;

selection and installation of fencing; awareness of fire hazards and control of fires; location and installation of survey lines as an aid to internal subdivision; sitting and functional design of buildings; performance and control of buildings including heating, insulation, lighting, humidity; selection of materials and components of buildings such as foundations, flooring, columns, beams, cladding; safe use of power and tools in building construction; management of wastes from buildings; the law and buildings; and communication using drawings, specifications and costings.

Assessment: Internal students: two assignments of 2000 words each (30% each); 3-hour test (40%). External students: two assignments of 2000 words (40% and 60%).

793-214 Farm Management III

Credit points: 10 **HECS-band:** 2

Coordinator: Mr Graeme Christie

Prerequisites: Farm Management II; Planning and Budgeting Techniques.

Contact: Lectures 20 hours; practical 39 hours (*Year long*).

Description: The objective of this subject is to further develop students conceptual and practical skills in farm management, building on the work achieved in Farm Management 1 and 2.

The subject will cover a number of farm management systems, e.g. beef, irrigation, multi-enterprise, prime lambs. Topics include the input of different forms of ownership and tenure including the financing of these arrangements; comparative analysis of case farms against district industry averages is used to identify weaknesses in existing management; and concepts of strategic market management as applied to farming, e.g. SWOT analysis, analysis of external and internal business factors.

Assessment: Internal students: two assignments of 2000 words each (30% each); 2-hour test (40%). External students: two assignments of 3000 words (50% each).

793-216 Equine Management III

Credit points: 5 **HECS-band:** 2

Coordinator: Mr Lindsay Ferguson

Prerequisites: Equine Management II; Accounting for Management; Planning and Budgeting Techniques.

Contact: Lectures 7 hours; practical classes (including tour), 26 hours (*Semester 1*).

Description: The objective of this subject is to enable students to analyse horse enterprise management systems in order to suggest improvements in the effective use of resources.

The content includes organisation, resource management and decision-making for management of venues commonly used for major horse events; effects of improved combinations of resources on the technical and economic performance of studs, stables, riding establishments and agistment farms; the use, management and financial performance of alternative livestock enterprises operated in association with a horse enterprise; the effective use of technological breeding, training and managerial aids; and preparation of a written program outline planning the evaluation and analysis of the horse industry and the development and operation of a horse business.

Assessment: Internal students: assignments of 2000 words (60%); 2-hour test (40%). External students: assignment of 3000 words (100%)

793-217 Horse Health

Credit points: 5 **HECS-band:** 2

Coordinator: Dr Peter Cakebread

Prerequisites: Horse Nutrition; Anatomy and Physiology; Horse Reproductive Management.

Contact: Lectures 20 hours; practical classes 12 hours (*Semester 2*).

Description: The objective of this subject is to enable students to acquire skills and knowledge in relation to all aspects of horse health including prevention, diagnosis and treatment.

The content includes the signs of ill-health and the clinical examination and their nature and variation; the causes of disease and the nature of each cause; laboratory tests and procedures; diagnostic tests and their uses and limitations; treatments and surgical procedures; basic principles of first aid; the responsibilities of horse managers in the area of veterinary treatment; relevant laws and regulations; the role of the various forms of health services; the major diseases of each organ system; signs that the manager would notice; how the disease affects the body systems and prevention; the diseases that various types of horses are predisposed to; guidelines and measures that management can introduce to minimise these diseases; disease prevention programs; and approaches to disease control at the level of the individual stud or stable and at a national level.

Assessment: Internal students: 3-hour exam (100%). External students: assignment of 3000 words (100%).

793-218 Horse Genetics and Breeding

Credit points: 5 **HECS-band:** 2

Coordinator: Dr Peter Cakebread

Contact: Lectures 20 hours; practical classes 12 hours (*Semester 1*).

Description: The objective of this subject is to enable students to develop skills and knowledge in relation to horse genetics and breeding.

The content includes an introduction to genetics, genes and chromosomes; sex determination; dominance, recessiveness; homozygosity, heterozygosity and colouring; the inheritance of faults, lethal genes and the interaction of two pairs of genes; probability, variation, mutation and chromosomal abnormalities; selection, its goal, differential and pressure; prediction of response; aids to selection, performance testing, heart scores, chromosome tracing; performance measurement in warmbloods, quarterhorses and stockhorses; breeds, strains, development of new breeds, inbreeding, linebreeding, cross-breeding, outcrossing; breeding theories, Lowe, Varolla, Vuillier; and stamina index.

Assessment: Internal students: 3-hour exam (100%). External students: assignment of 3000 words (100%).

793-219 Horse Training Management

Credit points: 20 **HECS-band:** 2

Coordinator: Dr Peter Cakebread

Prerequisites: Horse Nutrition; Planning and Budgeting Techniques.

Contact: Practical classes 140 hours (*Year long*).

Description: The objective of this subject is to enable students to develop the skills and knowledge in relation to advanced horse training.

The content includes assessment of facilities and equipment; assessment of horses of various stages of training and the monitoring of their progress; the training of selected horses according to a pre-determined program, to achieve a specific objective; the stable routine, training program, budget and feed rations; the requirements and skills required for a range of training activities; and the use of new technology in training and the advances in exercise physiology.

Assessment: Internal students: workshop participation (50%); assignment of 1500 words (40%); 2-hour examination (10%). External students: residential school attendance (10%); documentation of training progress (40%); written report of 2000 words (50%).

793-221 Pasture Grazing and Management

Credit points: 10 **HECS-band:** 2

Coordinator: Ms Denise Burrell

Prerequisites: Plant Production; Pasture Production; Animal Production.

Contact: Lectures 39 hours; Tutorials 26 hours (*Semester 1*).

Description: The objective of this subject is to provide students with skills and knowledge relating to pasture and grazing management.

The content includes the assessment of seasonal pasture production; grazing management for maintenance of seasonal productivity; stocking rate considerations for different climate/soil and pasture situations; the management of lucerne stands for grazing and fodder conservation; identification of the common weeds in pastures and poisonous pasture plants; common pasture pests that cause economic damage; pasture management in relation to short term and long term feed planning; feed budgeting; the principles of fodder conservation, examining hay, silage and other fodder crops; and comparing the different fodder conservation options.

Assessment: Internal students: two assignments of 1800 words each (25% each); 3-hour test (50%). External students: two assignments of 2000 words each (50% each).

793-223 Farm Management IV

Credit points: 10 **HECS-band:** 2

Coordinator: Mr Graeme Christie

Prerequisites: Farm Management III; Investment and Finance.

Contact: Lectures 39 hours; practical 26 hours (*Year long*).

Description: The objective of this subject is for students to prepare a major report on the development of farm or rural business including business plans to the steady state stage or project maturity; complete a comprehensive financial analysis of the project; and interpret and critically analyse the project's results, draw rational conclusions and identify key success factors.

The content includes farm businesses which highlight one or more of the following issues: vertical integration, marketing of new products/services, on-farm response to change in government legislation, change in district infrastructure caused by collective farm action (e.g. introduction of labour saving equipment), intergeneration transfer of assets and management, and cooperation management of farms. Students are also instructed in the preparation of a major farm business review/prospectus, including a proposal for finance.

Assessment: Internal students: two assignments of 2500 words each (40% each); 20 minute interview (20%). External students: two assignments of 3000 words each (50% each).

793-224 Stud and Stable Administration

Credit points: 5

HECS-band: 2

Coordinator: Mr Gavin Drew

Prerequisites: Investment and Finance; Equine Management I; Equine Management II.

Contact: Lectures 20 hours; practical classes 12 hours (*Semester 2*).

Description: The objective of this subject is to enable students to develop skills and knowledge in relation to stud and stable administration.

The content includes buying, leasing and syndication of horses; types, use and maintenance of stud/stable records; stud contracts and the law relating to horses; labour structure and management; insuring horses; and importation of horses.

Assessment: *Internal students:* assignment of 2000 words (50%); 2-hour test (50%). *External students:* assignments of 3000 words (100%).

793-225 Equine Management IV

Credit points: 5

HECS-band: 2

Coordinator: Mr Gavin Drew

Prerequisites: Equine Management III.

Contact: Lectures 7 hours; practical classes 26 hours (*Semester 2*).

Description: The objective of this subject is to enable students to recognise the potential for new and/or improved enterprise opportunities either within or outside existing business.

The content includes market opportunities, business structure and management and strategies to accommodate risk of new/alternative business opportunities in the horse industry; development, effective operation and management of resources, methods of market and business expansion and methods of accommodating risk of existing horse enterprises.

Assessment: Internal students: a business management project (100%). External students: assignment of 3000 words (100%).

793-226 Equine Management V

Credit points: 10

HECS-band: 2

Coordinator: Mr Lindsay Ferguson

Prerequisites: Equine Management III; Investment and Finance.

Contact: Lectures and practical classes 65 hours (*Year long*).

Description: The objective of this subject is to enable students to develop a managerial perspective in relation to equine enterprises, their initiation and development.

The content includes development of a managerial perspective to the development of an enterprise; identification of correct professional conduct; and evaluation, synthesis and analysis of enterprises through the application of skills and knowledge developed in other subjects. Report writing and oral presentation of information are also covered.

Assessment: Internal students: to complete a business management project (100%) External students: two assignments 2500 words each (40% each); oral and poster presentation (20%).

793-227 Special Studies

Credit points: 10

HECS-band: 2

Coordinator: Ms Jane Williams

Contact: Self-directed learning equivalent to 65 hours (*Year long*).

Description: The objective of this subject is to broaden students' perspective of equine management systems through independent study of other equine, agricultural and cultural issues.

Students undertake an approved course of study that enhances and broadens their skills perspectives. The studies should enhance students' ability to approach management decisions more laterally and innovatively. Topics of study may be subjects from within the Institute with content not substantially covered by subjects within the horse management course; or subjects from other educational institutions where the student can justify that the subject meets the objectives; or other courses or activities, arranged by the student and approved by the coordinator. Content should equal the expectations of typical subjects within this course.

Assessment: Internal and external students: assessments as required by studies chosen, accompanied by an 800 word (approx.) report summarising the module chosen (Category 1 = 50%; Category 2 = 50%, Category 3 = 4 x 12.5%).

793-228 Agricultural Economics and Marketing

Credit points: 10

HECS-band: 2

Coordinator: Mr Wayne Binney

Contact: Equivalent to 65 hours (*Semester 2*).

Description: The objective of this subject is to enable student to:

- understand and analyse issues relating to agricultural economics and policy;
- develop an understanding of the fundamental principles of marketing;
- develop effective marketing systems for new products; and
- describe the marketing systems currently employed for major agricultural products.

The content includes the role of agriculture in the Australian economy; economic forces affecting farmers including effects of domestic government policy, effects of Government policy in overseas countries, causes of income variability and farmer responses, causes of the cost prices squeeze and farmer responses; the operation of farmer organisations in establishing and influencing policy; marketing fundamentals/concepts; key marketing strategies (segmentation and marketing mix); planned marketing programs for agricultural products; role of information (producers and consumers); direct supply marketing; marketing agricultural products overseas; grower marketing (issues and options); alternative marketing systems such as video and catalogue sales; and government involvement in the marketing process.

Assessment: Two 2000 word assignments; 2-hour test.

Prescribed texts: Campbell and Fisher, *Agricultural Marketing and Prices*, Longman Cheshire. • Mc Coll-Kennedy et al, *Marketing Concepts & Strategies*, Nelson.

793-274 Investment and Finance

Credit points: 10

HECS-band: 2

Coordinator: Mr Gavin Drew

Prerequisites: Planning and Budgeting Techniques.

Contact: Lectures 39 hours; practical classes 26 hours (*Semester 1*).

Description: The objective of this subject is to enable students to develop skills and knowledge in relation to investment and finance as they apply in the agriculture/farm business.

The content includes investment concepts (growth, income, gearing; investment decisions under risk and uncertainty), contracts, marketing strategies, diversification, insurance, futures, ownership and acquisition; alternatives to land ownership; investment finance; rural valuation principles; rural land purchases; and outside enterprise investment.

Assessment: *Internal students:* two assignments of 2000 words (30% each); 3-hour test (40%). *External students:* two assignments of 3000 words each (50% each).

794-218 Computers II

Credit points: 5

HECS-band: 2

Coordinator: Mr Nick Bailey

Prerequisites: Computers I.

Contact: 2 hours per week (*Semester 2*).

Description: The objective of this subject is to extend participants' ability to apply current computer software technology to the solving of horticultural problems.

The content includes computer-aided design, advanced word processing, spreadsheet and database applications, computers in greenhouse control, artificial intelligence, and geographic information systems.

Assessment: Assignment of 1500 words (30%); software project (70%).

794-221 Industry Stream Engineering

Credit points: 5

HECS-band: 2

Coordinator: Mr Ken James and Mr Ed Smart

Prerequisites: Irrigation, Machinery and Construction.

Semester: Semester 1

Description: The objective of this subject is to extend the participant's ability to:

- apply engineering principles to specific horticultural industry applications;
- understand the use of specialised horticultural equipment as applied to specific industry applications; and
- apply engineering principles to environmental management, of both the natural and artificial environments.

The topics will include a study of specialised engineering equipment and techniques used in specific industry applications such as, arboriculture, landscape construction, parks and gardens, nurseries, and turf management. Case studies will be conducted of industry applications of engineering principles and equipment in the construction and maintenance of horticultural facilities according to the selected streams. This may include landscape and earthworks construction in golf courses and parks and gardens, environmental manage-

ment and monitoring in greenhouses, structural principles for buildings, pruning and maintenance equipment for trees, and advanced irrigation and equipment control.

Assessment: Examination 1.5 hours (50%), case study assignment 1500 words.

794-222 Financial Management and Marketing

Credit points: 10 **HECS-band:** 2

Coordinator: Mr Peter McSweeney

Contact: 4 hours per week (*Semester 1*).

Description: The objective of this subject is to extend the participant's ability to:

- explain the role of financial management within horticultural enterprises;
- describe forms of business ownership structure relevant to horticultural enterprises, and examine the taxation implications of business structures;
- process accounting data following prescribed accounting methods;
- prepare and analyse profit and loss statements, statements of assets and liabilities, cash flow statements and a range of management reports;
- develop a business plan, including marketing strategies, for a horticultural enterprise;
- identify business trends and opportunities in horticulture; and
- understand marketing concepts and methods relevant to horticultural enterprises.

The content includes role of financial management, business structures and taxation, financial recording and reporting, analysis and interpretation of accounting reports, budgeting and business planning concepts and techniques, marketing concepts and methods, and trends and opportunities in horticulture.

Assessment: One practice set (25%); two exams of 1 hour and 1.5 hours (25% and 50%).

794-223 Plant Function

Credit points: 10 **HECS-band:** 2

Coordinator: Mr Kevin Blaze

Prerequisites: Biological Studies.

Contact: 4 hours per week (*Semester 1*).

Description: The objective of this subject is to extend the participant's ability to:

- describe various physiological processes, including photosynthesis;
- describe enzymes and their action;
- describe the modes of action of various plant hormones;
- describe the processes occurring during germination, growth, flowering and senescence;
- describe the processes of transport occurring in plants;
- describe the management of plant growth by horticultural chemicals;
- describe the influences of environment on plant growth;
- use simple chemical equations;
- devise an experiment to test a hypothesis; and
- set up a controlled experiment.

The content includes macromolecular structure and function; photosynthesis and respiration; protein synthesis; xylem and phloem transport; growth, development, dormancy, flowering and senescence; hormone action; enzyme action; growth promoters and herbicides; and plants and environmental pollution.

Assessment: One theory examination of 45 minutes (25%); one theory examination of 1.5 hours (55%); one assignment or practical examination (20%).

794-224 Specialist Industry Plant Protection

Credit points: 5 **HECS-band:** 2

Coordinator: Mr John Brereton

Prerequisites: Plant Protection I.

Contact: 2 hours per week (*Semester 2*).

Description: The objective of this subject is to extend the participant's ability working within specific industry streams to:

- identify and give the common name, genus and species of common pests diseases and weeds which are recognised as being problematic;
- develop further diagnostic skills to deal with plant protection problems concerning pests diseases and weeds, peculiar to the nominated industry stream for study;
- explain and describe the major plant protection principles and practices which are applicable to the relevant industry;
- describe the common types of agricultural chemicals and application practices which are utilised in the nominated industry;

- prepare an integrated control program for pests, diseases and weeds, for a nominated industry stream, explaining the selection of strategies and the implications that follow where chemical control agents are employed; and
- explain the fate of agricultural chemicals in the environment and how to minimise any unwanted affects, particularly in the urban environment.

The content includes advanced diagnostic field skills, plant protection principles and practices which are specifically employed in different sectors of the horticultural industries nominated by the student, detailed knowledge of pest disease and weed problems specific to nominated industry streams. Students will examine case studies of particular pest, disease and weed problems, damage thresholds and control strategies in the context of the urban environment and the economics of chemical use.

Assessment: One theory examination and submission of assignment work. Theory examination (50%), integrated pest management plans (30%), chemical application practices (20%).

794-225 Managing Staff & Business Operations

Credit points: 10 **HECS-band:** 2

Coordinator: Mr Peter McSweeney

Prerequisites: Financial Management & Marketing.

Contact: 4 hours per week (*Semester 2*).

Description: The objective of this subject is to extend the participant's ability to:

- understand and describe organisational structures and relationships relevant to horticultural enterprises;
- understand and describe the role and functions of management, supervision and leadership;
- describe the factors that influence individual and group behaviour;
- understand and apply proper procedures for human resource management functions including hiring employees, performance appraisal, compensation management, training and development, and disciplinary and grievance procedures;
- define and explain the significance of the terms productivity and quality;
- identify factors that affect productivity and quality and how they can be managed;
- identify risks associated with the operation of a horticultural enterprise and outline risk prevention and management strategies; and
- explain in practical terms, the impact of laws and regulations on horticultural enterprises.

The content includes the role and function of supervision; individual and group behaviour, human resource management functions including hiring, performance appraisal, compensation, training and development, disciplinary and grievance procedures; productivity and quality improvement; business risk identification and management; and business legal obligations in relation to the law of contract, consumer law, law of tort, business taxation administration.

Assessment: Three 1-hour tests (25% each); and one class paper (25%).

794-226 Ecology

Credit points: 5 **HECS-band:** 2

Coordinator: Dr Greg Moore

Prerequisites: Biological Studies.

Contact: 2 hours per week (*Semester 2*).

Description: The objective of this subject is to extend the participant's ability to:

- describe Australian plant communities;
- analyse the environmental and biotic factors that influence plant communities;
- define populations, communities and ecosystems;
- analyse trophic structure and nutrient cycling within plant communities;
- define ecological terms;
- use vegetation classification schemes;
- apply the concepts of range and limit to plant communities;
- use appropriate sampling and statistical techniques;
- analyse energy flow through plant communities; and
- apply the concept of homeostasis to the communities as a whole.

The content includes introduction and definition of ecology, populations, communities, ecosystems, homeostasis, energy flow, food chains and trophic structures, limiting factors, nutrient cycles, Australian plant communities, habitat and niche, sampling technique, environmental factors, fire, and human impact on vegetation.

Assessment: Two examinations of 50 and 100 minutes (40% and 60%).

Elective subjects

Note: Insufficient enrolments may lead to a subjects being suspended.

202-051 Industry Experience

Note: This subject is a hurdle requirement for the completion of the Advanced Diploma.

Availability: Dookie Glenormiston and Longerenong campuses

HECS-band: 2

Coordinator: Prof Ellen Goddard

Contact: 24 hour lectures plus 24-36 hour tutorials and practicals (Year long).

Description: To enable students to:

- recall and analyse operational and management practices in relation to a specific agricultural industry relevant to their stream of study;
- acquire a range of operational skills that will enable them to perform effectively in an employment situation upon graduation; and
- understand the aspects of industry that relate to seasonal and other cyclical patterns.

Assessment: One 5000 word report (100%).

792-180 Animal Nutrition

Credit points: 5

HECS-band: 2

Coordinator: Mr Andrew Almond

Prerequisites: Animal Production.

Contact: 2.5 hours per week (*Semester 1, repeat 2, Summer*).

Description: The objective of this subject is to extend participants' ability to:

- identify the quality of farm animal feed components;
- determine feeding strategies and ration formulations for the maintenance and production of farm animals;
- determine special purpose feeding programs; and
- evaluate the economics of feeding programs.

The content includes visual quality assessment of common farm animal feed components; animal requirements versus feed availability; ration formulation for the maintenance and production of farm animals; special purpose feeding e.g. drought, feedlot, stud stock, creep feeding; feeding management strategies for farm animals; and economics of various feeding management strategies.

Assessment: Five practical reports (10% each), assignment of 500 words (25%), 2-hour written examination (25%).

792-181 Pasture Establishment and Production

Credit points: 5

HECS-band: 2

Coordinator: Dr Rob Norton

Contact: 2.5 hours per week (*Semester 2, repeat Summer*).

Description: The objective of this subject is to extend participants' ability to:

- select pasture species and pasture mixes for specific combinations of soil and climate;
- evaluate the role of a species within a pasture mix;
- discuss pasture establishment techniques and strategies;
- discuss strategies for matching pasture production to animal requirements; and
- discuss common methods of fodder conservation and their relative merit.

The content includes recognition of the major temperate climate pasture species, and an appreciation of their climatic and soil requirements; techniques for evaluating pasture production and composition; pasture establishment techniques, pest and weed control; diseases affecting pasture production, and strategies to control them and minimise losses caused by diseases; and the principles and practices of fodder conservation, pasture evaluation, and assessment of the benefits of changing a species or pasture mix within an established pasture.

Assessment: 2-hour examination (60%); two assignments of 500 words (20% each).

792-215 Feedlotting

Credit points: 5

HECS-band: 2

Coordinator: Mr Peter Guthrie

Prerequisites: Animal Production

Contact: 40 hour block release (*Semester 2*).

Description: The objective of this subject is to enable students to:

- become familiar with legislation regarding feedlot development;
- understand concepts of feedlot design;

- become familiar with all aspects of marketing and sourcing feedlot requirements;
- understand concepts of animal nutrition and health of feedlot animals; and
- discuss concepts of QA programs for feedlot.

The content includes legislation regarding the establishment of feedlots, specifically in Victoria and the general concept for Australia; requirements of design and facilities in construction of a feedlot including the implementation issues ensuring animal welfare is considered; strategies for sourcing food-stuffs and livestock in a feedlot; markets and market specifications for grain fed livestock; strategic alliances in the red meat industries; ruminant nutrition and preparation of appropriate rations to achieve targeted levels of performance; health programs and strategies appropriate to a feedlotting enterprise; and product quality and the development of QA programs.

Assessment: A 4000 word major assignment (40%); workshop exercises (30%); 2-hour exam (30%).

792-241 Plant Protection

Credit points: 5

HECS-band: 2

Coordinator: Dr Rob Norton

Contact: 2.5 hours per week (*Semester 2*).

Description: The objective of this subject is to extend participants' ability to:

- recognise disorders in crops;
- identify seedling stages of common weeds;
- identify varying life cycles of pests;
- identify appropriate control measures for crops and pastures;
- estimate the threshold at which control becomes economically viable; and
- use appropriate sources of information to make decisions about the use of agricultural chemicals.

The content includes weeds and their control including the problems weeds can cause and how they can reproduce and spread, describing weed control methods, limitations of each and how they may be integrated, explaining how controls are affected by weed and crop growth characteristics and patterns; herbicides: actions, translocation, contact and sensitivity; factors that affect herbicide selectivity and activity, off target damage and herbicide resistance management, selecting herbicides. pests: environmental factors that influence pest infestation, control of pests, IPM, external features of insects and other arthropods, classifying adult insects into common orders, identifying appropriate pesticide types for given situations. diseases, pathogenic and non-pathogenic disorders, biology of pathogen (fungi, bacteria, nematodes and viruses), host/pathogen/environment interaction and its significance; disease control, methods, data sources to select pesticides for a given plant pathogen problem.

Assessment: Two field reports of 200 words each (15% each); assignment of 500 words (20%), 1-hour practical test (20%); 1-hour examination (30%).

792-249 Grain Handling and Storage

Credit points: 5

HECS-band: 2

Contact: 2.5 hours per week (*Semester 2, repeat Summer*).

Description: The objective of this subject is to extend participants' ability to:

- understand the processes and select equipment for feed milling, mixing and handling;
- select and use safely a range of grain storage, cleaning and handling equipment; and
- understand how to maintain grain quality in storage.

The content includes simple storage design of sheds, silos and bunkers; capacity calculation and measurement; grain handling equipment including augers, elevators, conveyor belts, pneumatic conveying, grain cleaners, mixers, dryers, hammermill, roller mill; grain pest identification and control, disease identification and control, correct and safe use of pesticide application equipment, economics, cost of storage; and milling operations.

Assessment: 2-hour examination (60%); assignment of 2000 words (40%).

792-258 Animal Health

Credit points: 5

HECS-band: 2

Coordinator: Mr John Goldsmith

Contact: 2.5 hours per week (*Semester 2*).

Description: The objective of this subject is to extend participants' ability to:

- identify healthy farm animals;
- identify diseases commonly affecting farm animals;
- select suitable prevention and control measures that may be adopted for diseases of farm animals;
- evaluate the production and economic losses that may occur through animal disease;

- understand the role played by the Department of Agriculture and other authorities in disease diagnosis and control; and
- appreciate the skills involved with the use of animal husbandry equipment and preparations.

The participant will be involved in lectures, group sessions and practical classes where, in each, the emphasis will be on the practicalities of disease prevention, recognition and control. Group sessions will also provide the student with the opportunity to specialise by concentrating on the health and husbandry of one selected type of farm livestock. An excursion and visiting presenters will give students an insight into the role and operations of the Department of Agriculture and the various service companies involved with animal health products. In practical classes, the student will have the opportunity to see some of the more common organisms involved with farm animal disease and the student will be shown how to operate and maintain animal husbandry equipment and how to store and utilise veterinary preparations.

Assessment: 2-hour examination (60%); 2 assignments of 1000 words (20% each).

792-259 Special Studies in Agribusiness I

Credit points: 5 **HECS-band:** 2

Coordinator: Mr Geoffrey Tually

Contact: 2.5 hours per week (*Semester 1, repeat Summer*).

Description: The objective of these subjects is to assist participants to:

- acquire specialist skills appropriate to an area of study;
- develop greater depth or breadth of knowledge in an area of study; and
- develop industry contact in the area of special study.

A proposed study program of a previously approved study area, must be devised with a specific lecturer and approved by the subject coordinator. The program must demonstrate the availability of expertise within the Institute or from industry to provide guidance to the student; feasibility of the study within the constraints of resources and time; necessity of the study to the student's overall academic objectives; limits of the study in topics and depth of study; industry input necessary to complete the study; and that the level of academic rigour is appropriate to Semester 3 and/or Semester 4 level studies.

Assessment: Internal and external students: completion of a negotiated learning contract equivalent to an assignment of 5000 words (100%).

792-261 Special Studies in Agriculture I

Credit points: 5 **HECS-band:** 2

Coordinator: Dr Rob Norton

Contact: 2.5 hours per week (*Semester 1*).

Description: The objective of the subject is to assist participants to:

- acquire specialist skills appropriate to an area of study;
- develop greater depth or breadth of knowledge in an area of study; and
- develop industry contact in an area of special study.

A proposed study program of a previously approved study area, must be devised with a specific lecturer and approved by the subject coordinator. The program must demonstrate the availability of expertise within the Institute or from industry to provide guidance; feasibility of the study within the constraints of resources and time; necessity of the study to the student's overall academic objectives; limits of the study in topics and depth of study; industry input necessary to complete the study; and a level of academic rigour appropriate to Semester 3 and/or Semester 4 studies.

Assessment: 792-261 - Completion of a negotiated learning contract equivalent to a 5000 word assignment.

792-266 Special Studies in Agribusiness II

Credit points: 5 **HECS-band:** 2

Coordinator: Mr Geoff Tually

Semester: Semester 1, repeat 2

Additional details as for 792-259 Special Studies in Agribusiness I (*p.682*).

792-268 Special Studies in Nat Res Management II

Credit points: 5 **HECS-band:** 2

Coordinator: Dr Rob Norton

Semester: Semester 2, repeat Summer

Additional details as for 792-267 Special Studies in Nat Res Management I (*p.682*).

792-267 Special Studies in Nat Res Management I

Credit points: 5 **HECS-band:** 2

Coordinator: Dr Rob Norton

Contact: 2.5 hours per week (*Semester 1, repeat Summer*).

Description: The objective of these subjects to assist participants to:

- acquire specialist skills appropriate to an area of study;
- develop greater depth or breadth of knowledge in an area of study;
- develop industry contact in the area of special study.

A proposed study program of a previously approved study area, must be devised with a specific lecturer and approved by the subject coordinator. The program must demonstrate the availability of expertise within the Institute or from industry to provide guidance; feasibility of the study within the constraints of resources and time; necessity of the study to the student's overall academic objectives; limits of the study in topics and depth of study; industry input necessary to complete the study (people, time and resources); and a level of academic rigour appropriate to Semester 3 and/or Semester 4 studies.

Assessment: Completion of a negotiated learning contract equivalent to a 5000 word assignment.

792-273 Special Studies in Agriculture II

Credit points: 5 **HECS-band:** 2

Coordinator: Dr Rob Norton

Semester: Semester 2

Assessment: Assignment up to 5000 words; assessment tasks agreed upon with subject coordinator and declared in a 'learning contract'.

Additional details as for 792-261 Special Studies in Agriculture I (*p.682*).

792-275 Animal Genetics and Breeding

Credit points: 5 **HECS-band:** 2

Coordinator: Mr Andrew Almond

Contact: 2.5 hours per week (*Semester 1*).

Description: The objective of this subject is to enable participants to gain basic understanding of genetic principles behind the practices of animal breeding programs. On completion of this subject, participants should be able to:

- describe the structure of genes and demonstrate an understanding of their functions;
- discuss the range of genetic evaluation programs and their use in breeding systems;
- describe how genes are transmitted from parent to offspring;
- describe the differences between homozygosity, heterozygosity and hemizygosity and their implications on genotypes and phenotypes;
- define simple mechanisms of allelic interaction such as dominance, recessiveness and codominance, and epistasis as an example of non-allelic interaction;
- appreciate the role of environmental variables in modifying the potential expression of superior genotypes of animals in agricultural systems;
- discuss the importance of accurate measurements and recording of production traits; and
- describe various selection methods for single and multiple traits, and their practical applications and limitations.

The content includes evaluation of problems relating to reproductive performance of grazing and housed animals, selection methods and achieving genetic gain, setting of breeding objectives and aiming to achieve these objectives; performance criteria: the principles involved in developing a program for genetic improvement in an animal enterprise; performance recording schemes and the use of these to aid selection, selection of animals visually and using performance records; and advanced reproductive techniques.

Assessment: 2-hour examination (80%); Four assignments of 250 words each (5% each).

792-276 Livestock Marketing

Credit points: 5 **HECS-band:** 2

Coordinator: Mr Peter Guthrie

Prerequisites: Animal Production.

Contact: 2.5 hours per week (*Semester 1, repeat 2*).

Description: The objective of this subject is to develop the students:

- understanding of the various marketing methods of livestock;
- livestock marketing skills;
- skills in the assessment of live animals in relation to carcass quality; and
- understanding of livestock classification according to AUSMEAT and CALM.

The content includes marketing alternatives including auction, liveweight, over the hooks, contract, CALM, Meatbid, Helmsman; presentation of livestock for sale; sale organisation and cataloguing; stud stock marketing including auctioneer training, CALM assessor training, AUSMEAT classification, and evaluation of live animals and carcasses.

Assessment: Successful completion of an auctioneer's course and a base level CALM assessors course (these are preconditions for the award of a pass grade in this subject). Two assignments of 2000 words (50% each).

792-280 Reproductive Technology

Credit points: 5

HECS-band: 2

Coordinator: Mr Peter Guthrie

Prerequisites: Animal Genetics and Breeding.

Contact: 2.5 hours per week (*Semester 2*).

Description: The objective of this subject is to develop in students an understanding of the principles of technology used in advanced sheep and cattle reproduction.

The content includes AI, ET, embryo sexing and multiplication, gene mapping and transfer, transgenesis and semen sexing. Students should be able to discuss the elements of sheep and cattle management and husbandry required to enable the successful adoption of high level reproductive technology into farm management systems.

Assessment: Two assignments, 60%, class presentation, 25% and tour/practical report, 15%.

793-231 Dairy Management I

Credit points: 10

HECS-band: 2

Coordinator: Mr John Nunn

Prerequisites: Animal Health and Nutrition; Animal Breeding.

Contact: Lectures 39 hours; tutorials 26 hours (*Semester 1*).

Description: The objective of this subject is to provide students with skills and knowledge relating to dairy production and management.

The content includes feeding and nutrition of different classes of stock, condition scoring and production estimation, feed budgeting grazing strategies and disease management; calf rearing and replacement heifer rearing, conformation and structural soundness, visual assessment and its importance to a breeding program, the practical application of breeding programs in the dairy industry; maintaining and comparing milk harvesting and storage equipment; analysis of dairy shed designs; and dairy farming beyond 2000.

Assessment: Internal students: two assignments; 3-hour examination. External students: two assignments.

793-234 Crop Production and Management

Credit points: 10

HECS-band: 2

Coordinator: Mr Jeff Lawes

Prerequisites: Plant Production.

Contact: Lectures 39 hours; practical classes 26 hours (*Semester 2*).

Description: The objective of this subject is to provide students with skills and knowledge relating to crop production and management.

The content includes an introduction to the cropping industry and Australia's position in the international market place; domestic marketing of cereal grains and analysis of the economics of growing cereals in suitable climatic zones of Australia; crop selection and the influence of climate and soils; the resources needed for successful cropping; the principles of crop growth and development; developing a crop rotation and principles of establishment; yield potential and limitations to yield; managing the harvest process; crop management systems involving irrigation and combining livestock with cropping; grain legumes and vegetable oilseed crops, their production potential, establishment, management and benefits in a cereal crop rotation; assessing the merits of alternative crops particularly summer grown cereals and pasture seed production; and possibilities to expand enterprises to include agroforestry, fruit, vegetable or floriculture crops.

Assessment: Internal students: two assignments of 2000 words each (25% each); 3-hour test (50%). External students: two assignments of 2000 words (50% each).

793-235 Dairy Management II

Credit points: 10

HECS-band: 2

Coordinator: Mr John Nunn

Prerequisites: Dairy Management I.

Contact: Lectures 39 hours; tutorials 26 hours (*Semester 2*).

Description: The objective of this subject is to enable students to develop their knowledge of the factors affecting the management of a modern dairy farm.

The content includes analysis of the logistics of expanding/intensifying a dairying enterprise; new technology as related to nutrition, health and reproduction; labour and lifestyle issues related to dairy farming; major legal and contractual arrangements of dairy farming; dairy farm design for improved production; pricing mechanisms and the impact of government policy; industry structures in Australia and the marketing of dairy products.

Assessment: Internal Students - Assignment; 3-hour examination. External Students - Two assignments.

793-239 Management and Production of Beef

Credit points: 10

HECS-band: 2

Coordinator: Mr Bill Poynton

Prerequisites: Animal Production; Animal Nutrition and Breeding.

Contact: Lecture, workshops; tutorials/tours 65 hours (*Semester 1*).

Description: The objective of this subject is to provide students with skills and knowledge relating to beef production and management.

The content includes feedlots and their development and the role in the production cycle; pure and cross-breeding in the beef industry; chemical pesticides and testing and maintaining a 'chemical-free' status; industry bodies and their role; and quality assurance, beef nutrition and cattle handling facilities.

Assessment: Internal students: two 2000 word assignments; 3-hour examination. External students: two 3000 word assignments.

Prescribed texts: T McKenzie (ed), *Beef Production Guide*. • NSW Agriculture, *Home Study Program*.

793-240 Sheep and Wool Production and Management

Credit points: 10

HECS-band: 2

Coordinator: Mr Bill Poynton

Prerequisites: Animal Production; Animal Nutrition and Breeding.

Contact: Lectures 39 hours; tutorials/tours 26 hours (*Semester 2*).

Description: The objective of this subject is to provide students with knowledge and skills relating to all aspects of wool production and management.

The content includes the breeds of sheep and their uses; ram and ewe selection; flock structure for successful production; meat quality, classification and grading; AusMeat workshop, marketing for meat and wool; aspects of flock health, study of wool fibre; technologies in wool production and alternative fibres; all aspects of sheep dairying; study industries; shed operation, equipment and facilities.

Assessment: Internal students: two 2000 word assignments; 3-hour examination. External students: two 3000 word assignments.

Prescribed texts: D J Cottle, *Australian Sheep and Wool Handbook*, Inkata, 1991.

