

Broad Field 8

Agriculture and Related Fields

Agriculture and Related Fields is the study of the theory and practice of growing, gathering, reproducing and caring for plants and animals. It includes the study of producing primary plant and animal products.

The theoretical content of Broad Field 8 Agriculture and Related Fields includes:

- animal production and management
- biological science
- agronomy
- silviculture
- management, marketing and distribution

The main purpose of this broad field of study is to develop an understanding of the management of farms, gardens, nurseries, turf playing surfaces, forests, fisheries and zoos, and the production of primary agricultural products.

Fields of study in this broad field are classified into the following narrow fields:

- 81 Agriculture
- 82 Horticulture
- 89 Other Agriculture and Related Fields

Exclusions:

Veterinary Studies is excluded from this broad field as it is more concerned with the prevention, diagnosis, care and treatment of diseases, ailments and injuries in animals than agriculture. It is included in Narrow Field 25 Veterinary Studies.

Narrow Field 81

Agriculture

Agriculture is the study of growing, maintaining and harvesting non-intensively managed crops and pastures, and grazing and managing animals. It includes the study of managing farms and producing unprocessed plant and animal products.

The focus of courses in Agriculture is farming technology and management, livestock, non-intensively managed crops and pastures and unprocessed plant and animal products.

Courses of study in Agriculture aim to develop:

- an understanding of animal genetics and reproductive techniques
- an understanding of the production and marketing of plant and animal products
- an understanding of health, disease and nutrition of animals
- an understanding of crop production agricultural systems
- an understanding of the theory and practice of farming and farm management
- the ability to utilise current agricultural technology, techniques and practices

Fields of study in this narrow field are classified into the following detailed fields:

811	Agricultural Science
812	Wool Science
813	Animal Husbandry
819	Agriculture, nec

Exclusions:

Fisheries and Forestry are excluded from this narrow field as they are sufficiently specialised to form distinct and separate detailed fields, Detailed Fields 891 Fisheries and 892 Forestry respectively.

Horticulture is excluded from this narrow field as it is sufficiently specialised to form a distinct and separate narrow field, Narrow Field 82 Horticulture.

811 Agricultural Science

Agricultural Science is the study of the non-intensive farming of animals and plants.

Subjects studied include:

Agricultural Marketing
Cropping and Grazing Systems
Dairying
Dryland Farming Systems
Ecology
Farm Business Management
Irrigation
Machinery Maintenance

Pest Management Systems
Soil Conservation
Soils and Climate

Skills learnt include:

- recognising key factors influencing production and profitability in running a farm business
- developing practical and technical farming skills
- analysing current and future market conditions to determine which crops are grown and/or livestock raised
- operating and maintaining farm machinery and equipment

Examples of qualifications include:

- 1 811 Master of Applied Science in Agriculture
Master of Agricultural Science
- 2 811 Graduate Diploma of Agricultural Studies in
Plant Pathology
Graduate Diploma of Science in Tropical
Agriculture
- 3 811 Bachelor of Science in Rural Management
Bachelor of Science in Agronomy
Bachelor of Rural Science
- 4 811 Diploma of Science in Agriculture
Diploma in Applied Farm Management
- 5 811 Advanced Certificate in Farming
Associate Diploma in Farm Management
Associate Diploma of Applied Science in
Systems Agriculture
Associate Diploma in Farm Production
- 6 811 Trade Certificate in Farming
Trade Certificate in Dairy Farming
- 7 811 Certificate in Agriculture
Certificate in Farming
Certificate in Agricultural Production

Exclusions:

Wool Science and Animal Husbandry are excluded from this detailed field as they are sufficiently specialised to form distinct and separate detailed fields, Detailed Fields 812 Wool Science and 813 Animal Husbandry respectively.

812 Wool Science

Wool Science is the study of producing, handling and classing wool.

Subjects studied include:

Characteristics of Wool
Fibre Growth
Fibre Strength and Measurement
Fleece Standards and Preparation
Scouring and Carbonising
Breeds of Sheep
Wool Classing

Skills learnt include:

- analysing wool fibre structure
- identifying, classing and handling wool
- managing shearing shed operations
- storing and maintaining wool stocks

Examples of qualifications include:

- 5 812 Advanced Certificate in Shearing Shed
Management
Advanced Certificate in Sheep and Wool
Technology
Certificate of Technology in Wool Handling
and Production
- 7 812 Certificate in Woolclassing
Certificate in Basic Wool Preparation

813 Animal Husbandry

Animal Husbandry is the study of the intensive management of animals. It includes their handling, care, breeding and rearing.

Subjects studied include:

Animal Anatomy and Physiology
Animal Behaviour
Animal Genetics and Breeding
Animal Handling and Care
Animal Health and Disease
Animal Housing and Hygiene
Animal Legislation, Ethics and Welfare
Animal Nutrition
Apiary Management
Horse Breaking and Training
Stud and Stable Administration and Management

Skills learnt include:

- applying artificial breeding techniques and genetics to the improvement of animal production
- supervising animal breeding programmes
- identifying environmental factors affecting flock and herd health and productivity
- providing for the day to day needs of animals including hygiene and nutrition

Examples of qualifications include:

- 1 813 Master of Rural Science in Animal Nutrition
- 2 813 Post-graduate Diploma of Applied Science in
Animal Husbandry
- 3 813 Bachelor of Applied Science in Equine Studies
Bachelor of Applied Science in Animal
Husbandry
- 4 813 Diploma in Animal Husbandry
- 5 813 Associate Diploma in Animal Technology
Associate Diploma in Animal Husbandry
Associate Diploma in Applied Science in
Apiculture
- 6 813 Trade Certificate in Poultry
- 7 813 Certificate in Animal Husbandry
Certificate in Domestic Animal Care
Certificate in Zookeeping

Exclusions:

Fisheries is excluded from this detailed field as it is sufficiently specialised to form a distinct and separate detailed field, Detailed Field 891 Fisheries.

Jockeying is excluded from this detailed field as it is more concerned with riding horses than breeding or rearing them. It is included in Detailed Field 999 Other Miscellaneous Fields, nec.

819 Agriculture, nec

Agriculture, nec includes the study of all Agriculture not elsewhere classified in Narrow Field 81 Agriculture.

Examples of qualifications include:

- 3 819 Bachelor of Applied Science in Plant Protection
- 5 819 Advanced Certificate in Irrigation
Associate Diploma of Applied Science in
Agricultural Protection
Associate Diploma of Plant Protection
- 7 819 Certificate in Pest Control
Certificate in Weed Control
Certificate in Agricultural Protection

Narrow Field 82

Horticulture

Horticulture is the study of cultivating, propagating and producing intensively managed crops such as fruits, vegetables, flowers, foliage, nursery crops, trees, shrubs and plants. It includes the study of greenkeeping, and establishing and maintaining parks and gardens.

The focus of courses in Horticulture is intensively managed crops, horticultural technology and management, and parks, greens and gardens.

Courses of study in Horticulture aim to develop:

- an understanding of the factors affecting plant propagation, growth and physiology
- an understanding of soil science
- an understanding of plant diseases, pests and weed control
- the ability to utilise current horticultural technology, techniques and practices

Fields of study in this narrow field are classified into the following detailed fields:

821 Horticulture

821 Horticulture

Horticulture is the study of cultivating, propagating and producing intensively managed crops such as fruits, vegetables, flowers, foliage, nursery crops, trees, shrubs and plants. It includes the study of greenkeeping, and establishing and maintaining parks and gardens.

Subjects studied include:

Arboriculture
 Floriculture
 Greenhouse Technology and Management
 Harvesting, Storage and Marketing
 Horticultural Engineering
 Landscape Management
 Ornamental Plants
 Plant Physiology
 Plant Protection
 Soil Management
 Viticulture

Skills learnt include:

- identifying pests, diseases and nutritional disorders in plants
- designing, establishing and maintaining turf for various sport and recreational facilities

- planting, pruning and maintaining shrubs and trees
- propagating, cultivating and harvesting intensively managed crops

Examples of qualifications include:

- 1 821 Master of Science in Horticulture
 2 821 Graduate Diploma in Horticultural Science
 3 821 Bachelor of Business in Horticulture
 4 821 Diploma in Horticulture
 5 821 Advanced Certificate in Arboriculture
 Associate Diploma of Applied Science in Landscape
 Associate Diploma of Applied Science in Viticulture
 Associate Diploma of Applied Science in Amenity Horticulture
 Associate Diploma of Applied Science in Horticultural Nursery Management
 6 821 Apprenticeship in Vegetable Growing
 Trade Certificate in Greenkeeping
 Trade Certificate in Horticulture
 Trade Certificate in Turf Management
 7 821 Certificate in Horticulture
 Certificate in Recreational Turf Management
 Certificate in Tree Surgery
 Certificate in Arboriculture
 Certificate in Turf Cultivation

Exclusions:

National Park Management is excluded from this detailed field as it is more concerned with the relationship between organisms and their natural environment than cultivating or propagating intensively managed crops. It is included in Detailed Field 512 Environmental Science.

Wine Science is excluded from this detailed field as it is more concerned with the physical and chemical properties of wine and its production than cultivating or propagating intensively managed crops. It is included in Detailed Field 591 Food Science.

Inclusions:

The laying out and construction of urban and domestic parks and gardens is included in this detailed field as it includes the study of cultivating, propagating and producing intensively managed crops.

Narrow Field 89

Other Agriculture and Related Fields

Other Agriculture and Related Fields is the study of all Agriculture and Related Fields not included elsewhere in Broad Field 8 Agriculture and Related Fields.

Fields of study in this narrow field are classified into the following detailed fields:

- 891 Fisheries
- 892 Forestry

891 Fisheries

Fisheries is the study of breeding, rearing, harvesting, handling and processing fish and other edible aquatic resources.

Subjects studied include:

- Algology
- Aquatic Biology
- Aquatic Technology
- Artificial Propagation
- Fisheries Policy and Legislation
- Microbial Diseases in Aquaculture
- Seafood Handling and Processing
- Water Quality

Skills learnt included:

- recognising, preventing and controlling diseases associated with farming aquatic resources
- harvesting, handling and processing fish and other edible aquatic resources
- monitoring and maintaining water quality

Examples of qualifications include:

- 1 891 Master of Applied Science in Aquaculture
Master of Applied Science in Fisheries
- 2 891 Graduate Diploma in Aquaculture
Graduate Diploma in Fisheries
- 3 891 Bachelor of Applied Science in Fisheries
Bachelor of Applied Science in Fisheries
Technology
Bachelor of Applied Science in Aquaculture
- 4 891 Diploma of Applied Science in Aquaculture
- 5 891 Advanced Certificate in Fishing Operations
Associate Diploma of Applied Science in
Aquaculture
Certificate of Technology in Fisheries Operation
- 7 891 Certificate in Fishing Operations

Exclusions:

The operation of fishing vessels is excluded from this detailed field as it is more concerned with the operation of marine craft than farming fish. It is included in Detailed Field 931 Ship Operation.

892 Forestry

Forestry is the study of establishing, cultivating, harvesting and managing forests.

Subjects studied include:

- Dendrology
- Forest Botany and Ecology
- Forest Economics
- Forest Harvesting
- Forest Inventory and Measurement
- Forest Management
- Forest Pathology
- Forest Protection
- Silviculture
- Tree Breeding and Genetics
- Wood Anatomy and Properties
- Wood Conversion and Utilisation

Skills learnt include:

- designing coupes and planning broadscale harvesting operations
- identifying, classifying and measuring trees and forests
- managing post-harvest rehabilitation programmes
- assessing current forest resources and estimating future demand

Examples of qualifications include:

- 1 892 Master of Forestry
Master of Forest Science
- 2 892 Graduate Diploma of Science in Forestry
Post-graduate Diploma in Forest Science
- 3 892 Bachelor of Forest Science
Bachelor of Science in Forestry
- 5 892 Associate Diploma of Applied Science in
Forestry
- 7 892 Certificate in Forest Technology

Exclusions:

Timber Technology is excluded from this detailed field as it is more concerned with the production of milled and finished timber than cultivating and managing forests. It is included in Detailed Field 699 Other Engineering.