

B.SC. DEGREE IN ANIMAL SCIENCE AND FISHERIES

(B.Sc. AS&F)

Livestock industry and Fisheries play a crucial role in the economy of Sri Lanka where livelihood of many depends on direct or indirect involvement in those sectors. With the expansion and development of those industries, the need and demand has risen for graduates specialized in those fields having capabilities to solve problems and boost growth of those sectors. B.Sc. in Animal Science and Fisheries degree programme was meticulously designed to cater to the growing need for such graduates locally and internationally.

Objectives of the Degree Programme

Following are the essential features of the programme:

- Thorough and well balanced theoretical knowledge as well as practical skills on the subject matter. (Theory : Practical = 1437 h:1286 h)
- Series of On-farm/industrial training in all major disciplines, periodically scheduled during semester and vacation periods.
- Supplementary minor projects/assignments, and a research oriented major project which will provide an in-depth knowledge on a specific field (Dairy, Poultry, Fisheries etc.).

The AS & F graduate will have the necessary knowledge, skills and attitudes to pursue a career as an academic, researcher, manager, planner, implementer and entrepreneur in the field of animal science and fisheries.

Main Features of the Degree Programme

The B.Sc. AS & F degree curriculum was formulated after a series of consultations with various stakeholders, features of the degree programmes offered by the Faculty of Agriculture of University of Peradeniya and of other Universities.

The Curriculum

Apart from relevant courses of the B.Sc. AgTech & Mgt. degree programme, the B.Sc. AS & F degree programme is comprised of 35 courses, which have been specially designed and introduced in line with the current and future needs of the Livestock and Fisheries sectors.

Compulsory and Optional courses

There are compulsory (C) and optional (O) components in the curriculum. The compulsory components include mandatory courses which are designed to impart knowledge and skills essential for a student. Students have a choice in selecting courses from the optional components.

Credit and Non-credit courses

There are credited and non-credited courses in the Degree programme. The grade point of the credited courses will be used in calculating the Grade Point Average (GPA)(see the relevant section below for more details of GPA), while the non-credit course (supplementary course) will not carry a grade point and therefore will not be used in the calculation of the GPA. However, these courses are required to be completed successfully in order to be eligible for the award of the Degree. Non-credit courses are designed to develop practical skills, communication skills and career development of students.

Structure of the Curriculum

The four-year Degree programme includes compulsory, optional and supplementary courses offered during 1-7 semesters. Taught courses in the 1st semester will be completed within the first seven weeks while the remaining time will be devoted for Industrial training courses. All students will undergo one livestock

practices course, and three industrial training courses, each of two weeks duration on rotation basis. In addition all students will undergo in-plant training of 4 weeks duration at the end of the 2nd and 3rd academic years, and should obtain a 'Pass' grade.

The final semester (8th) is devoted for a Research Project which will be carried out by individual students on a specific topic under the supervision of a senior academic. Students are required to submit a thesis on the Research Project in order to complete the Project work successfully.

Outline of the B.Sc. AS & F degree

Semester	Series	Type of courses offered	No. of Credits Offered/ required ¹
1	1100	Compulsory courses	16
2	1200	Compulsory courses	18
3	2100	Compulsory and optional courses	18 (16 C + 2 O)
4	2200	Compulsory and optional courses	18 (16 C + 2 O)
4 weeks In-Plant training During Vacation ²			
5	3100	Compulsory and optional courses	17 (15 C + 2 O)
6	3200	Compulsory and optional courses	17 (15 C + 2 O)
4 weeks In-Plant training During Vacation ²			
7	4100	Compulsory and optional courses	18 (16 C + 2 O)
8	4200	Compulsory course (Project)	6
Total Credit Units			128 (118 C + 10 O)

C = Compulsory courses, O = Optional courses

Consists of 160 hrs of involvement and evaluated on Pass/Fail basis

Courses Offered in B.Sc. AS & F Degree

The courses offered in B.Sc. AS & F degree have been formulated by incorporating the essential knowledge, skills and attitudes that require fulfilling the objectives of the degree programme. The theoretical and practical skills have been incorporated in a balanced recipe in designing each course. In total, the compulsory courses and practical training alone (before considering the 10 credit hours of optional courses) provides 1,321 hours of theoretical knowledge and 1,218 hours of practical skills. The identified courses have been sequenced in such a way to deliver especially the knowledge and skills pertinent to Animal Science and Fisheries themes evolving from principles to synthesis and application.

Course Sequence of the B.Sc. AS & F degree

Semester	Notation	Courses and Credit Hours	Credits ¹
1100	ASF 1101	Animal Biochemistry (2: 30/00/00)	16
	ASF 1102	Anatomy & Physiology of Farm Animals (2:25/10/15)	
	ASF 1103	Anatomy and Physiology of Fish (1: 12/06/10)	
	ASF 1104	Livestock Farm Practice (1:00/30/10)	
	ASF 1105	Industrial Training in Animal Production & Fisheries (3:00/90/30)	
	ASF 1106	Immunology (1:13/04/10)	
	ASF 1107	Principles of Genetics & Animal Breeding (2:22/16/18)	
	AS 2102	Principles of Animal Nutrition (2:25/10/18)	
	AS2103	Forage Production and Conservation (2:23/14/19)	
1200	ASF 1201	Fish Nutrition (1:15/00/10)	18
	ASF 1202	Aquatic Plants & Live Feeds (2:25/10/10)	
	ASF 1203	Fish Breeding & Fish Seed Production (3:35/20/30)	
	ASF 1204	Analytical Techniques in Animal Feed & and Products (2:10/40/20)	
	AS 2201	Ruminant Animal Production (2:23/14/33)	

	AS 2202	Poultry and Swine Production (2:25/10/35)	
	SS 1201	Properties & Functions of Soils (3:30/30/12)	
	CS 1201	Principles of Crop Production (3:40/10/19)	
2100	ASF 2101	Marine & Inland Fisheries (3:35/20/40)	18 C: 16 O: 02
	ASF 2102	Animal Environmental Physiology (1:10/10/10)	
	ASF 2103	Poultry, Cattle & Swine Diseases (3:35/20/10)	
	ASF 2104	Shrimp and Prawn Farming (2: 26/08/10)	
	ASF 2105	Animal Behaviour & Welfare (2: 26/08/15)	
	ASF 2106	Microlivestock Production (2: 22/16/20)	
	EB 2101	Principles of Economics (3:40/10/40)	
	ASF 2107	Pet Animal Nutrition (2:25/10/15) OPTIONAL	
	ASF 2108	Equine Nutrition & Management (2:27/06/10) OPTIONAL	
	ASF 2109	Agro-ecotourism (1:12/06/10) OPTIONAL	
2200	ASF 2201	Beef Cattle Production (1:15/00/06)	18 C: 16 O: 02
	ASF 2202	Animal Waste Management (2:25/10/10)	
	ASF 2203	Ornamental Fisheries Management (2:25/10/35)	
	ASF 2204	Diseases of Fin Fish & Shell Fish (1:10/10/10)	
	AS 3201	Applied Animal Nutrition (3:40/10/08)	
	AS 3206	Feed Processing Technology (1:13/04/04)	
	EX 2201	Principles of Human Behaviour (3:40/10/60)	
	EX 2202	Career Development (1:10/10/20)	
	FT 3202	Food Microbiology (2:23/14/30)	
	ASF 2205	Traditional Practices in Livestock Production (1:12/06/10) OPTIONAL	
	FT 2202	Preservation of Agricultural Produce (2:26/08/22) OPTIONAL	
	FT 1201	Biochemistry and Human Nutrition (3:33/24/30) OPTIONAL	
	EB 2201	Development Economics (2:25/10/45) OPTIONAL	

4 weeks In-Plant Training During Vacation			
3100	ASF 3101	Meat and Fish Processing Technology (2:25/10/34)	17 C: 15 O: 02
	ASF 3102	Fisheries Resource Management (2:26/08/10)	
	CS 3102	Statistical Methods I (2:30/00/15)	
	ASF 3103	Livestock Farm Structures and Machinery (1:12/06/20)	
	AS 4102	Applied Genetics and Animal Breeding (2:25/10/20)	
	ASF 3104	Milk Procurement and Marketing (1/12/06/15)	
	ASF 3105	Slaughterhouse Management (1:12/06/15)	
	ASF 3106	Livestock & Fish Legislation (2:30/00/15)	
	ASF 3107	Wildlife Management (2:20/20/06)	
	EB 3101	Business Creation and Management (2:15/30/35) OPTIONAL	
	EX 3101	Organizational Management (2:15/30/35) OPTIONAL	
	FT 4101	Food Analysis (2:20/20/20) OPTIONAL	
3200	AS 3202	Dairy Product Technology (2:25/10/08)	17 C: 15 O: 02
	ASF 3201	Poultry Meat Processing and Egg Technology (2:25/10/30)	
	AS 3203	Applied Animal Physiology (2:24/12/30)	
	AS 3205	Forage Resources and Production (2:14/32/20)	
	CS 3201	Design and Analysis of Experiments (2:30/00/15)	
	EB 3204	Marketing Management (2:20/20/40)	
	CS/AS 3201	Farming Systems (2:27/06/15)	
	EB 3201	Project Analysis (1:10/10/20)	
	EX 3201	Extension Education (2:24/12/40) OPTIONAL	
	EX 3202	Communication: Theory and Practice (2:24/12/40) OPTIONAL	
EB 3205	Agricultural Marketing (2:30/00/50) OPTIONAL		

4 weeks In-Plant Training During Vacation			
4100	AS 4109	Animal By-product Technology (2:26/08/15)	18 C: 16 O: 02
	AS 4110	Livestock Farm Planning 2:25/10/15)	
	AS 4105	Scientific Research & Communication in Animal Science (1:05/20/15)	
	AS 4111	Integrated Animal Production Systems (2:25/10/20)	
	AS 4106	Animal Biotechnology (2:20/20/40)	
	ASF 4102	Animal Quarantine and Bio-security (1:15/00/15)	
	CS 4103	Statistical Methods II (2:30/00/15)	
	EB 4111	Livestock and Fisheries Economics (2:30/00/15)	
	EB 4109	Advanced Project Analysis (2:30/00/50)	
	EX 4107	Gender Issues in Development (2:24/12/34) OPTIONAL	
	EX 4102	Human Resource Management (2:24/12/34) OPTIONAL	
4200	ASF 4200	Research Project (6:00/180)	6

C = Compulsory courses, O = Optional courses

Total number of credits required to be completed in each semester