

Click Here to upgrade to Unlimited Pages and Expanded Features

SUBJECT REVIEW REPORT

DEPARTMENT OF LIVESTOCK AND AVIAN SCIENCES



FACULTY OF LIVESTOCK FISHERIES AND NUTRITION

WAYAMBA UNIVERSITY OF SRI LANKA

 28^{th} to 30^{th} September 2009

Review Team :

Prof. (Ms.) E. R. K. Perera, University of Peradeniya Prof. (Ms.) R. T. Serasinghe, University of Ruhuna Dr. Sumith C. Wanniarachchi Dr. Anura Jayasooriya, University of Peradeniya



CONTENTS

Click Here to upgrade to Unlimited Pages and Expanded Features

Page

1.	Subject Review Process	1
2.	Brief History of the University, Faculty and the Dept. of Livestock and Avian Sciences	2
3.	Aims and Learning Outcomes	5
	3.1 Aims	5
	3.2 Learning Outcomes	8
4.	Findings of the Review Team	8
	4.1. Curriculum Design, Content and Review	8
	4.2. Teaching, Learning and Assessment Methods	10
	4.3. Quality of Students including Student Progress and Achievements	12
	4.4. Extent and Use of Student Feedback, Qualitative and Quantitative	14
	4.5. Postgraduate Studies	14
	4.6. Peer Observation	15
	4.7. Skills Development	16
	4.8. Academic Guidance and Counseling	17
5.	Conclusions	18
6.	Recommendations	19
7.	Annexes	20



Click Here to upgrade to Unlimited Pages and Expanded Features

I to evaluate the quality of education within a specific subject or discipline of both undergraduate and taught postgraduate programmes, focusing on student learning experience and their achievements. However, the responsibility for improving quality and standards lies within the institution itself, since it alone has the powers to control and to change existing practices. This review on the study program in Food Production & Technology Management offered by the Wayamba University of Sri Lanka was conducted according to the guidelines given in the Quality Assurance Handbook for Sri Lankan Universities, published by the Committee of Vice-Chancellors and Deans (CVCD) and University Grants Commission (UGC) in July 2002, based on the information contained in the Self Evaluation Report (SER) submitted by the Department of Livestock and Avian Sciences, and observations made by the review team during the site visit.

The SER submitted by the Department of Livestock and Avian Sciences consisted of twelve sections, namely: Introduction; Overall aims, learning outcomes and programme details; Students, staff and facilities; Curriculum design, content and review; Teaching, learning and assessment methods; Quality of students including student recruitment, admission, progress and achievements; Extent of student feedback, qualitative and quantitative; Postgraduate studies; Peer observation; Skills development; Academic guidance and counseling and Summary.

The review team visited the Department from 28^{th} ó 30^{th} September, 2009. The agenda of the three day visit is annexed (Annex 1). During the site visit, below listed sources were used to collect additional information for the review.

- Meetings held with the Vice Chancellor, Dean, Head of the Department, Members of the academic staff & non academic staff of the Department, Librarian and library staff, Officers-in-Charge of the Outreach Center, Computer center, Language Laboratory; Undergraduate students representing the first, second, third and final years; Members of Alumni;
- Observation of available teaching and learning facilities (Library, Outreach Center, Language laboratory, Computer center, Lecture rooms and Laboratory);
- Observation of teaching sessions;
- Other relevant documents made available at the Department (Annex 2).

The review team focused on the following eight aspects of education at the subject level according to the guidelines given in the Quality Assurance Handbook:

- 1. Curriculum Design, Content and Review
- 2. Teaching Learning and Assessment methods
- 3. Quality of Students including Student Progress and Achievements
- 4. Extent and Use of Student Feedback (Qualitative and Quantitative)
- 5. Postgraduate Studies
- 6. Peer Observation
- 7. Skills Development
- 8. Academic Guidance and Counseling

Each one of the eight aspects was judged as $:Good\emptyset / :Satisfactory\emptyset / :Unsatisfactory\emptyset$ noting the strengths, good practices and weaknesses in each. Considering the judgment of the eight aspects, an overall judgment was given as $:Confidence\emptyset / ::Limited confidence\emptyset / :No confidence\emptyset$



Click Here to upgrade to Unlimited Pages and Expanded Features

VERSITY, FACULTY AND THE DEPARTMENT

WUSL), established in 1st October 1999, is one of the youngest Universities in the University system of Sri Lanka. WUSL consists of four Faculties; Faculties of Business Studies & Finance and Applied Sciences located in Kuliyapitiya and the Faculties of Agriculture & Plantation Management and Livestock, Fisheries & Nutrition located at Makandura. The Faculty of Livestock, Fisheries & Nutrition (FLFN) established in 17th August 2001 is the youngest of the four Faculties of the University.

The vision of the WUSL is to *i*achieve and to be recognized as a Centre of Excellence in Higher Education, Research and Development of Technologies whilst training and developing human resources to meet national and global needsø. The mission of the University is primarily *i*to produce innovative, skilled and knowledgeable graduates who can lead national and global development needs through formal education as well as to carry out research and development by means of outreach programs in its mandate areasø

The mission of the FLFN is ±to produce graduates with knowledge, skills and competence to meet urgent needs in the important fields of food production and nutritionø In this endeavor, FLFN initially offered a four year degree program in ±Food Science and Nutritionø This degree programme has been subjected to revision, and two new degree programmes titled ±Food and Nutritionø and ±Food Production and Technology Managementø have been commenced with the 2009 intake of students. The Faculty is entitled to receive 80 new entrants annually (125 new entrants from 2009) through University Grants Commission, based on the results of the G.C.E. (advanced level) examination. At present, a total of 250 students are enrolled in four years of the study program to follow B.Sc. degrees in ±Food Science and Nutritionø and ±Food Production and Technology Managementø

FLFN has four Departments of study, namely, Livestock and Avian Sciences (LA), Food Science and Technology (FT), Applied Nutrition (AN), and Aquaculture and Fisheries (AF), served by a total of 44 (28 permanent) academic staff members and 27 non academic staff members. FLFN shares common facilities (Library, Computer center, English Learning Center (Language laboratory), Outreach center, Printing unit, Student Services, Hostels and Canteens) located at the Makandura premises with the Faculty of Agriculture and Plantation Management. The library has a collection of over 17500 volumes, 20 journals, and 300 CD s. Seating facilities are available for 98 students. It lends about 30-90 books a day. At present, the University provides a user account for refereed journal cites such as Science Direct or Blackwell on a trial basis. The Computer center has about 80 computers in working condition for students, while most are connected to internet. Staff has a separate computer facility with 15 computers. Staff attached to the IT unit does not have a separate office. IT facilities are made available to students from 8.00am to 6.00pm on weekdays. During weekends the facilities are made available upon request. The review team noted that the Computer centre does not have a separate office for the instructors. The Language laboratory is equipped with relevant facilities sufficient for teaching 20 students at a time. The printing unit established with the assistance of IRQUE project, has one operator. Makandura campus provides residential facilities to 240 male students and 240 female students. Medical facilities are provided through the University medical officer on Tuesday from 9 a.m. to 1 p.m. Makandura premises has a sports centre which is equipped with several exercise instruments. The playground is under preparation.



Unlimited Pages and Expanded Features

cilities, FLFN has its own mini Library, Departmental aching / learning purposes. The Faculty is located in a structed recently. In the new Faculty building each

Department is provided with a small **seminar room** which can teach maximum of 32 students in interactive manner and is used for specialization groups. These rooms are arranged in a cluster manner so that the lecturer could give individual attention to each student. In addition, each department is provided with two **multi-media projectors** which are extensively used by the staff members to add variation to teaching methodologies.

The Department of Livestock and Avian Sciences (LA) is located in the new Faculty building and shares the teaching facilities of the Faculty. Lectures for the whole batch (Common subjects) are conducted in two large lecture halls situated outside the new building. These two halls are provided with public addressing systems, green boards, white boards, overhead projectors and access to internet. However, the physical environment of these lecture halls is not suitable due to warm condition. The Department hopes to use the lecture halls of the new building as soon as upgrading and refurbishing are completed. One laptop computer and three personnel computers (PC) are available for common use in the Department. Out of three PCs, two are allocated for the students, while one is kept strictly for staff and office. The students are allowed to use Departmental printers with the permission of the Head/ Department. The Department has a small laboratory which is reasonably equipped and well managed. Department has an animal handling unit where burrowed animals are temporally kept for demonstration and handling purposes.

The Department of Livestock and Avian Sciences has cadre positions for a Professor (vacant), 2 Senior lecturers, 3 probationary lecturers (2 are on study leave), 3 temporary demonstrators, 1Technical officer, 1 Computer Application Assistant and 1 labourer (1 more labourer is assigned as needed). The staff strength is given in Annexure 2. To conduct the study programme effectively, the Department obtains the services of 11 members of visiting staff from the University of Peradeniya (Faculties of Agriculture, Veterinary Medicine & Animal Science), Veterinary Research Institute, Experts from the private sector (Poultry breeders, Food processors) and State Institutes. The English language Teaching unit and the IT center provide valuable service to the Department to carry out its academic programme, In addition, the Department has secured collaboration with outside organizations including the National Livestock Development Board, Private farms, Zoological Gardens, Wildlife parks, Veterinary Investigation Centre to strengthen the study programme.

The Department does not have a farm for conducting practical. Field visits are made to compensate for this deficiency. In addition, the Department has made arrangements to rear different poultry species such as chicken, ducks, geese, turkey, quails within the premises for species demonstration and to conduct feeding trials for student research. Facilities are available for egg incubation and hatching chicks for practical and students are given the responsibility of managing such animals in the units with the support of the non-academic staff. Department plans to build a model livestock field research station with integration of livestock and aquaculture with home gardening and waste management within next year after the acquisition of land allocated to the Faculty through a cabinet decision. Plans have been included into university cooperate plan. The department plans to improve following facilities to facilitate successful implementation of the degree programme

- 01. Feed analysis laboratory and instruments
- 02. Model feed mill
- 03. Laboratory facilities and spaces



nd office rooms

Unlimited Pages and Expanded Features

- 07. Computers and e-learning resources
- 08. Land vehicle/two wheel tractor
- 09. Motor bicycle or three wheeler

The members of the Departmental academic staff hold numerous responsibilities (Annex 2) in addition to teaching and research and make use of such opportunities to further strengthen teaching programme. For example, the members play a vital role in making the outreach mechanism of the Faculty viable and effective even with limited resources. The Department conducts consultancy service for surrounding community that brings about mutual benefits for the Faculty as well as the stakeholders. Diagnostic services, farmer training and feed analysis are provided for stakeholders on request. Services are coordinated by the Department with the resource collaboration and financial support of the private sector, while creating opportunities for training of students. Animals in the animal handling unit are also used to conduct practical such as herd management practices of cattle and buffalo and AI demonstration. Furthermore, the Department has launched an e-journal titled Wayamba Journal of Animal Science (<u>http://wayambajournal.com/</u>), to disseminate research finding s to the entire world. This is extremely impressive.

The B.Sc. Food Science and Nutrition (FSN) degree program offered by the Faculty since the beginning is of four year duration, and implemented over eight semesters. The curriculum is modular in nature comprising a compulsory core module and several optional specialization modules. The core module of \div oldø FSN degree comprises of 84 credit units offered jointly by four Departments, English language unit and Computer unit during the first four semesters (two years). From the fifth semester (third year) onwards, the students have the option of following one of the four specialization modules, during the last four semesters (two years). To be eligible for the award of the \div oldø FSN degree, a student has to successfully complete 155 credit units in the following composition:

- Compulsory 84 credits of courses during year 1 and year 2.
- Minimum of 40 credits during year 3 including compulsory courses and electives.
- Minimum of 20 credits during year 4, including compulsory Research Project and In-plant training and electives.
- Completion of all the non-credit compulsory courses offered in all levels.
- Elective courses of their choice (if they wish to) from those available in the level II and III.

The -oldø FSN curriculum has been revised in 2008 in response to the feedback obtained from stakeholders to reduce the credit load, minimize repetitions and to improve the relevance and quality of the degree using the Quality Enhancement Fund (QEF) received through World Bank project on Improving Relevance and Quality of Undergraduate Education (IRQUE). This revision resulted in two degree programmes (each with 120 credits, semester based and modular), namely, B.Sc. Food Production and Technology Management (B.Sc. FPTM ó new degree) and B.Sc. Food Science and Nutrition (B.Sc. FN - revised existing degree). The two degree programmes have a common structure and each consists of three levels of academic sessions: Level I (first two years), Level II (third year) and Level III (4th year). Each degree programme has two streams of specializations. The Departments of Livestock & Avian Science and Aquaculture & Fisheries offer specializations



Unlimited Pages and Expanded Features

Department of Food Science & Technology and Applied 2. FN.

The Department of Livestock and Avian Sciences plays a significant role in maintaining academic standards by offering a wide range of courses in both degree programmes. It contributes a total of 47 credits to the -oldø Food and Nutrition degree programme 16 compulsory credits in level I, 13 compulsory credits and 14 optional credits in level II, 14 compulsory and 10 elective credits in level II specialization module, 17 compulsory and 2 optional credits in level III in the new.Sc. FPTM degree ó specialization in Livestock and Avian Sciences. To be eligible for the award of the FPTM degree, a student should successfully complete 120 credit units in the following composition:

- Compulsory 60 credits of courses at Level 1 (year 1 and year 2)
- Minimum of 40 credits at Level II (year 3), including compulsory courses and electives
- Minimum of 20 credits at Level III (year 4), including compulsory Research Project and In-plant training and electives
- All non-credit compulsory courses offered in all the levels.
- Elective courses of their choice up to a maximum of 25 credits (if they wish to) from elective courses offered in the levels II and III.

It was the objective of this review to evaluate the quality of the study program of the Department of Livestock and Avian Sciences with respect to the aims stipulated in the Self Evaluation Report and findings of the site visit.

3. AIMS AND LEARNING OUTCOMES

The aims and learning outcomes stated in the SER submitted by the Department are reproduced below. According to the SER, the courses offered by the Department for the FPTM & revised FSN degree programmes have been designed with the below indicated objectives and learning outcomes. However, such clearly defined aims and learning outcomes had not existed for the courses offered during 2001-2008 period for the -oldø Food Science and Nutrition degree programme.

3.1. Aims

The momentous combination of core modules and advanced module offered in the degree programme provides the graduates with a good grounding on availability, characteristics and nutritive value of major food sources, technology of sustainable production and resources management, food safety, significance to food security, the technology of food processing, storage, modification, its bioethics and social and economic aspects of food and the related services. Broad objectives of the modules are to provide the graduate with following.

- The underlying principles, defining concepts, theories and methods of the animal based food production.
- The current knowledge and developments of the discipline.
- The linkages of the subject with biology, environment, society, human behaviour and economic policy and markets.
- The location of resources, their management, exploitation and patterns of utilization of resources within socio-economic and legal frameworks.



and key skills, problem-solving and a professional arning.

stainability and environmental impact of livestock and

aquatic food production.

They will also equip with generic and transferable skills and subject specific skills essential for successful performance in professional practice and day to day life.

Graduate profile

The graduates will have a good grounding in availability, characteristics and nutritive value of major food sources, technology of sustainable production and resources management, food safety, significance to food security, the technology of food processing, storage, modification, its bioethics and social and economic aspects of food and the related services.

Knowledge and understanding

- 1. Anatomy, physiology and biochemistry of livestock, avian and aquatic resources
- 2. Distribution of livestock, avian, aquatic and plant food resources.
- 3. Availability, characteristics and composition of major food sources and their sustainable production and contribution to food security.
- 4. Management of aquatic, livestock, avian and food crop systems.
- 5. Chemical, physical properties and nutritional role of aquatic, livestock, avian and crop resources.
- 6. The impacts of food manipulation, modification, storage, processing, and its bioethics related to aquatic, livestock, avian and crop resources.
- 7. The use of technologies in food production systems.
- 8. Relationship between food, nutrition, health and environment.
- 9. Microbiological aspects of food quality and safety.
- 10. Food standards, legal framework and policies and their role in crop, livestock, avian and fisheries.
- 11. Marketing, economic, social and behavioural factors affecting food security.
- 12. Catering and mobility of food resources and standards.

Skills and other attributes of graduates Intellectual skills

Graduates will be able to:

- Recognize and use appropriate theories, concepts and principles from a range of disciplines.
- Collect and integrate several lines of evidence and applying them in a balanced way in an argument.
- Design an experiment, investigation, survey or other means to test a hypothesis or proposition.
- Critically analyze information, synthesizing and summarizing the outcomes.
- Apply knowledge and understand to address familiar and novel problems.
- Demonstrate awareness of the provisional nature of the facts and principles associated with a field of study.

Practical / Professional skills

• Plan, formulate and execute field and laboratory investigations on water, soil, plant, animals in a responsible, sustainable and safe manner, paying due attention to risk



Click Here to upgrade to Unlimited Pages and Expanded Features

ant health and safety regulations, legal requirements and gations on the environment and stakeholders.

naintain industry standards at farming and processing

- systems compliance to HACCP and other safety standards.
- Identify disease outbreaks and perform preventive measures.
- Plan, conduct, and report on investigations, including the use of secondary data.
- Analyze economical, social and other management information and use it in decision making in farm construction and implementation.

Numeric skills

- Preparing, processing, interpreting and presenting data, using appropriate qualitative
- and quantitative techniques and packages;
- Solving numerical problems using computer-based and non-computer based techniques.

Communication skills

- Receiving, evaluating and responding to a variety of information sources (eg. Electronic, textual, numerical, verbal, graphical);
- Contributing constructively to group discussions.
- Listening to appreciating and evaluating the views of others.

ICT skills

- Using the internet critically as a means of communication and a source of information.
- Demonstrating competence in the use of computer-based information handling and data processing tools.
- Using computer packages to create effective ways to communicate information.

Interpersonal and teamwork skills

- Organizing teamwork.
- Setting realistic targets.
- Recognizing and respecting the views and opinions of other team members.
- Having positive intent.

Self management and professional development skills

- Appreciating the need for professional codes of conduct where applicable.
- Recognizing the moral and ethical issues related to the subject.
- Assuming responsibility for one s actions.
- Developing and adaptable and flexible approach to study and work.
- Developing the skills necessary for self-managed and lifelong learning (eg. Working independently, time management and organization skills).

Generic / Transferable skills

Successful graduates will demonstrate;

- Ability to use library and online search facilities for accessing and searching for information in specified areas, from a range of sources, evaluating this information to draw reasoned conclusions or sustainable judgments.
- Ability to communicate effectively both orally and in writing, involving an ability to communicate information concerning food production and technology management formally and informally at a level appropriate to the needs of both specialist and non-specialist target audiences.



ll or large teams.

Unlimited Pages and Expanded Features

wide range of backgrounds.

• Skills necessary for self-managed and lifelong learning.

Values

Successful graduates will possess;

- an appreciation of the legal (moral and ethical) issues encountered in professional practice
- a commitment to ethical practice
- a commitment to research-based and evidence-based practice
- commitment to the positive advantages of ethnic, religious, cultural and social diversity

3.2. Learning Outcomes

Upon successful completion of the study programme graduates **specialize in Livestock and Avian Sciences** will be able to:

- Recognize and use appropriate theories, concepts, principles and skills from a range of disciplines to design, develop, operate and manage livestock production systems.
- Participate in handling products, marketing, economic assessment, and research and quality assurance of food production.
- Analyze trends and identify opportunities, constrains in food safety and propose solutions to problems of food production and also propose mitigation measures for issues related to livestock resource exploitation and environmental management.
- Use technology to improve productivity, processing, preservation, nutritive value, quality and functional aspects of food. Participate in handling products, marketing, economic assessment and quality assurance of food production.
- Perform analytical, regulatory and advisory services related to food safety and quality management of animal based food resources.
- Develop self employment opportunities and supplementary incomes in livestock and fisheries production and product sector.
- Design an experiment, investigation, survey or other means to test a hypothesis or proposition and critically analyze information, synthesizing and summarizing the outcomes.
- Demonstrate awareness of the provisional nature of the facts and principles associated with a field of study and understand, apply knowledge and appropriate skills to address familiar and novel problems.

4. FINDINGS OF THE REVIEW TEAM

4.1. Curriculum Design, Content and Review

The Food science and Nutrition (old) degree program as well as the Food Production and Technology Management (B.Sc. FPTM ó new degree) and Food Science and Nutrition (B.Sc. FN - revised degree) programmes are of four year duration and implemented over eight semesters; viz., each academic year consisting of two 15-week semesters. Medium of



Unlimited Pages and Expanded Features

Your complimentary use period has ended. Thank you for using PDF Complete.

im is modular in nature comprising a compulsory core

The Head / Department, staff members and students indicated that the study programme offered by the Department under the $-old \phi$ curriculum had many deficiencies including, unnecessary repetitions, improper sequence, and too heavy a workload. The review team is pleased to note that the Faculty and the Department have taken steps to rectify these deficiencies through a complete revision of the curriculum and producing two new degree programmes which have been implemented with the 2009 intake of students (one week before the site visit).

)n.

According to the SER and the presentation made by the Head / Department, all undergraduates in B.Sc. FSN (old) degree as well as FPTM (new degree) follow series of compulsory core courses offered by the Department during the first four semesters, while the undergraduates who chose to specialize in Livestock and Avian Sciences follow all the compulsory courses and a number of optional courses identified for the module from the fifth semester onwards. Structure of the new degree programmes, courses offered under the new degree programme and their anticipated outcomes are given in Annexures 3, 4 & 5, respectively.

Since the revised curricula have been just implemented (2009) about a week before the site visit, the reviewers had no opportunity of assessing its effectiveness or outcomes and hence, were compelled to focus on the study programme consisting of courses (Table 1) that contribute 47 credit units for the old curriculum consisting of 155 credit units.

Course No	Course Title	Credits
LA 1105	Introduction to Animal Production	4 (50/20)
LA 1211	Principles of Breeding and Reproduction	4 (45/30)
LA 2117	Animal Feeds and Nutrition	4 (45/30)
LA 2223	Animal Products and their Characteristics	4 (45/30)
LA 3136	Poultry Production	3 (30/30)
LA 3137	Animal Feed Technology	2 (30/30)
LA 3138	Swine Production	2 (20/20)
LA 3247	Disease Prevention & Control	2 (30/00)
LA 3254	Large Ruminant Production	3 (40/10)
LA 3255	Small Ruminant Production	2 (30/00)
LA 3256	Micro Livestock Production	2 (30/00)
LA 4164	Waste Disposal & Utilization	3 (30/30)
LA 4173	Directed Study	2 (00/60)
LA 4279	In-plant Training	10 credits

Table 1. Courses offered by the department of Livestock and avian Sciences in the B.Sc.Food Science and Nutrition Degree (present undergraduates) programme

The review team observed following strengths and weaknesses in the sstudy program offered by the Department of Livestock and Avian Sciences.

- In general, the curriculum is of broad nature addressing relevant aspects of livestock and Avian Sciences, and the courses offered by the Department are at a satisfactory academic level in terms of the content, breadth and depth. The proportional contribution of the Department to the academic program is sufficient and satisfactory.
- In-plant training stands out as a well thought about and meticulously organized component of the curriculum which helps the students to apply theoretical knowledge and



Unlimited Pages and Expanded Features

while serving as a stepping stone for employment. It with respect to its structured organization and ve the ILOs.

- Field visits and small animal units provide alternative ways for providing practical training since the department does not have a farm of its own and the laboratory facilities are limited. However, the field visits are mostly limited to demonstrations, the opportunities for providing hands on experience is limited. Therefore it is recommended for the Department to accelerate its efforts to establish the proposed model livestock farm with the blessings of the administration.
- Steps taken to provide satisfactory level of computer literacy and communication skills in English language to enhance the employability of the graduates by way of using English as the medium of instruction, and making English language and Computer Science as common and compulsory courses during the first six semesters are commendable.
- Despite the availability of large number of optional courses, availability of opportunities and necessity to follow these courses by the students is questionable due to the presence of large number of compulsory courses which nearly fulfill the credit requirement of the degree.
- The old curriculum had weaknesses such as repetitions and improper sequence, inadequate practical. The department has rectified these inadequacies during the revision. There was no way to examine the effectiveness of the new curriculum because it has just started.

In relation to the Curriculum Design, Content and Review, the judgment of the team is 'GOOD'.

4.2 Teaching, Learning and Assessment Methods

The Department staff uses a variety of teaching/learning methods such as lectures, demonstrations, practical training, case studies, individual and group presentations, assignments, term papers, reports, tutorials, field studies, and Industrial training at present. This is commendable.

Lectures are prepared in a structured format and delivered using teaching aids such as multimedia, OHP, white board and supplemented with handouts / lecture notes distributed among students. The small lecture rooms (25-30 student capacity) are well-equipped with modern teaching and learning facilities such as multimedia and are comfortably furnished for group work. The large lecture theatre (~100 student capacity) is equipped with conventional teaching aids, moderately furnished and spacious. Seminar rooms (32 student capacity) in the new Faculty building arranged in a cluster manner are used for specialization groups. Comparatively, the seminar rooms create a very conducive environment for interactive learning.

Course overview is given on the very first day of the semester provides a full description of the course contents in chronology on hourly basis, lecturer who conducts the session, and also the aims and intended learning outcomes of the course module. Details of further reading, guidelines on special assignments, assessment methods and allocation of marks are also informed to the students in the Course overview. Supportive reading materials and handouts are given when and where necessary to support learning. Additional reading material complied by the academics, slides used in teaching and model questions and answers are kept in the department library for student reference. A complete compendium of the material



Unlimited Pages and Expanded Features

each subject and updated every year by the course rtment for the reference of the academics. The review itiating the good practice of maintaining master file for

smooth conduction of courses and practical, planning work in each semester and upgrading and updating of course content purposes.

As indicated by the students, staff members, and as judged by the review team, teaching and learning takes place in an interactive environment. The teachers are successful in attracting the attention of all the students in the class and effective in teaching. The lectures are conducted according to a carefully prepared format. For each course lecture notes have been prepared for the use of the teacher, and parallel sets of handouts are made available to the students in the library for duplication purposes. The experience gained through serving in the Staff Development Centre, Career Guidance Unit, Student Counseling unit, Outreach centre, Curriculum Development and Academic Planning Committee, Student Advisory and welfare Committee etc., seem to have benefitted the staff in carrying out teaching activities more effectively.

Laboratory practical are conducted in the reasonably equipped and well maintained Departmental laboratory. The Technical Officer is a graduate who seems to be skillful and well organized in handling most of the instruments and conducting laboratory practical. Members of the minor staff attached to the department also provide valuable service.

In addition to the laboratory practical, field trips to outstations listed in Annex 6 are made to provide Field practical training. Furthermore, the Department has made arrangements to rear different poultry species such as chicken, ducks, geese, turkey, quails within the premises for species demonstration and to conduct feeding trials for student research. Facilities available for egg incubation and hatching chicks are used for practical while students are given the responsibility of managing such animals in the units with the support of the non-academic staff. Diagnostic services, farmer training and feed analysis are provided for stakeholders are also used for student training. Animals in the animal handling unit are used to conduct practical such as herd management practices of cattle and buffalo and AI demonstration. To further strengthen the study programme, the review team recommends establishment of the planned small farm as early as possible.

In addition to the conventional teaching / learning approaches, the Department uses modern approaches such as Industrial training. Special mentioning is warranted with respect to Industrial training, a meticulously organized program to provide a real life work world exposure and experience to students. The students are given instructions regarding the intended learning outcomes, their responsibilities, nature and expectations of the industry at the pre-placement orientation program. Each student should maintain a Diary (Format given by the Faculty). Progress of the student is monitored by both the internal and external supervisors. Students are evaluated based on the draft report submitted, presentation made and diary maintained by the students and on external supervisorøs report. Reports submitted by students were made available to the Reviewers. Majority of the students were in praise of the industrial training received, while some students indicated the need for identifying work places that are of relevant to the field of specialization. The reviewers recommend continuation and further strengthening the industrial training component by taking greater care in selecting the work places.



Unlimited Pages and Expanded Features

native and formative assessment methods. Both the end systems are in place. Depending on the nature of the g written (Quizzes, MCQs, structured essays, essays,

assignments, reports) oral (Presentations, viva voce), and practical (spots, assignments) tests are used to assess the performance of students. Examination structure and allocation of marks are indicated in the Faculty Handbook.

In general, the question papers for each course are of comprehensive nature adequately covering the material included in the course outline. All question papers are scrutinized and moderated, while answer scripts are double marked by external experts. The students are of the opinion that the assessments conducted by the department are fair. However, all the students indicated the presence of discrimination in marking their answer scripts (under grading) by another department. The review team recommends the administration to check into this complaint and take necessary action to remove such practices if exist.

The Department has introduced the concept of a Teaching calendar and practices it by maintaining a teaching calendar for the members of the department. The calendar includes all the schedules of all the lectures, practical, field visits and quizzes, and provides full description of the daily academic commitment of each lecturer in each week for the whole 15 weeks of the semester. This is prepared and distributed among all the lecturers, demonstrators and laboratory staff at the very beginning of the semester. The review team is impressed by this god practice that helps in preventing overlapping, and use available time and resources more effectively.

The review team observed the following strengths and weaknesses in the teaching learning and assessment methods used by the Department of Livestock and Avian Sciences.

- The variety of teaching methods used by the staff is effective. In-plant training stands out as a well thought about and meticulously organized component of the curriculum which helps the students to apply theoretical knowledge, obtain real life experience, and as a stepping stone for employment.
- Laboratory practical, field visits and small animal units provide limited field practical training. It is recommended to establish the proposed model livestock farm to strengthen practical training facilities.
- Assessment methods used by the Department are comprehensive and fair. Question papers are scrutinized and double marked. It is recommended for the administration to take necessary steps to ensure fair marking of answer scripts of all students by all departments.
- The devotion, commitment and enthusiasm of the dynamic team of academic and non academic members are extremely impressive. It appears that the department staff has all necessary qualities for taking the Department to greater echelons.
- In view of the teaching load and other responsibilities and the anticipated developments, it is suggested to take steps to increase the number of staff members by recruiting additional members having proper attitude and devotion, and provision of relevant training.

In relation to the Teaching, Learning and Assessment methods the judgment of the team is 'GOOD'.

4.3 Quality of Students, Student Progress and Achievements

The Faculty and the Department admits students allocated by the UGC, and have no authority in selecting them. The quality of students admitted to follow the degree depends on the admission policy adopted by the UGC. Z - score values of students admitted during the past



Click Here to upgrade to Unlimited Pages and Expanded Features .68 (except for one or two districts each year). These es above average students. However, the overall mean Z / during 2005 ó 2008 period. This could be due to many

reasons including reduction of the overall performance of the students Island wide and declining demand. Furthermore, the reviewers noted that although the Faculty is entitled to admit 80 (125 from the year 2009) new entrants annually, this eligible quota have never been realized. At present, a total of 250 students are enrolled in four years of the study programs to follow the B.Sc. degrees in Food Science and Nutritionø and Food Production and Technology Managementø instead of eligible 36. This indicates an enrollment rate of 69%. Considering these, the review team recommends the Faculty to take necessary timely action to publicize the degree programmes offered.

The students are allocated to the Department for specialization in the 3rd year based on the preference and performance in the subjects offered by the Department and at an interview. Selection criteria are given in students hand book, and the selection is forwarded for the approval of the Faculty Board. Department has the capacity to accommodate about 15 students annually. The number of students opted for specialization Livestock and Avian Sciences have changed considerably (Table 2).

Academic Year	Student Number	No of students
		completed degree
2008	05	Pending
2007	11	Pending
2006	04	03
2005	22	22
2004	12	11

Table 2. Student enrolment for specialization in Livestock and Avian Sciences

The students specializing in Livestock production appear to improve their GPA during specialization Information provided in the Faculty Handbook and the SER indicates that the criteria used for the award of classes are in agreement with the standards adopted by other Faculties in the University system. Of those specialized in Livestock and Avian sciences, approximately 60% have secured second class upper division degrees (SER page 21), suggesting the effectiveness of various measures (monitoring performance through continuous assessments, advising and counseling of weaker students) taken by the Department to ensure studentsø progress to achieve expected learning outcomes. This could be another reason for the near zero dropout rate (~100% progression rate and 100% completion rate) of the students enrolled for specialization in Livestock and Avian Science.

The quality of the department graduates is partly confirmed by external examiners/ supervisors of their in-plant training placements. The confidential reports sent by these external supervisors show that the mean performance in years 2007 and 2008 are 95% and 90%, respectively. The review team had the opportunity to discuss with students, and to observe student participation in lectures, practical and seminar presentation. Based on these experiences, the review team concludes that the quality of undergraduate students admitted to the Faculty of Livestock Fish and Nutrition of the Wayamba University of Sri Lanka in general and those specializing in Livestock and Avian Sciences in particular are in par with the undergraduates specializing in Animal Sciences in other universities in terms of their generic skills, subject knowledge, skills and attitudes. The staff members as well as the students are of the opinion that industrial training serves as a stepping stone for the first job.



Unlimited Pages and Expanded Features

lents who specialized in Livestock and Avian Sciences ent even before releasing the final examination results. mployment opportunities within their in-plant training

places. Quick turnover is a clear indication of the quality of education, attitudes and skills provided by the department on a range of subjects to cater to the needs of the livestock industry.

In relation to the Quality of Students, Student Progress and Achievements the judgment of the team is 'GOOD'.

4.4 Extent and Use of Student Feedback

The Department obtains student feedback at course level during every semester through student survey using a structured questionnaire approved by the Faculty regarding the quality of teaching. A formal mechanism is in place to obtain student feedback and provide that information to the members by the administration. This is commendable. Checking of the student feedback forms revealed that the students are generally satisfied with most of the courses and teachers. Staff ó student consultative meetings held at the end of every semester is another way of obtaining feedback, while activity based feedback is also collected by individual members.

Students expressed their dissatisfaction regarding the presence of an apparent discrimination against those specializing in the Department when marking answer scripts by another Department. Some students expressed hesitance in providing honest feedback due to fear. The review team recommends the administration to check into this complaint and take necessary action to get rid of such unhealthy practices if exist.

In addition feedback on the study programme is collected annually from stakeholders including alumni and industry on regular basis. The documents made available suggest that the Department as well as individual members monitor the results of student feedback and take appropriate remedial measures to overcome weaknesses if present.

In relation to the Extent and Use of Student Feedback, the judgment of the team is 'GOOD'.

4.5. Postgraduate Studies

At present, the Department of Livestock Production does not conduct any postgraduate degree program due to lack of qualified human resources and physical facilities. Being a recently established Faculty and a Department with limited staff who shoulder numerous academic and extracurricular responsibilities, the founder members of the Department had been compelled to stay back to carry out the study programme, and obtain postgraduate qualifications locally on part-time basis. As a result, as at present, the Department has only one academic member with foreign Ph.D., while two other members are still reading for Ph.D. in foreign Universities. One member (Head/ Department) has completed M.Phil. degree at the Postgraduate Institute of Agriculture, Sri Lanka and plans to pursue Ph.D. degree at a foreign University in near future. Three other members are reading for M.Phil. at the Postgraduate Institute of Agriculture, Sri Lanka.



Unlimited Pages and Expanded Features

duate degrees are engaged in postgraduate research. All member) have served as supervisors of undergraduate r 1st semester. In recent years several reports have led to

presentations at conferences or publications. The review team noted with admiration the initiative taken by the Department to launch an e-journal titled Wayamba Journal of Animal Science (<u>http://wayambajournal.com/</u>), to disseminate research finding s to the entire world. This is extremely impressive.

Despite all these innovative activities, the review team noted that, no member of the Department serves in supervisory capacity to postgraduate students, and the Department is not in a position to offer a postgraduate degree programme at present. During the discussion with vice chancellor, it was revealed that steps are being taken to initiate postgraduate progaremmes in future with the collaboration of other local and foreign Universities. A team of academics have already visited these institutions in this regard. The review team is of the opinion that the members of the staff should first focus on acquiring relevant postgraduate qualifications for them and commence offering postgraduate degree programme / courses upon becoming qualified. According to the guidelines governing subject review, the aspects in relation to postgraduate studies of the Department as weak and non applicable at present. It is recommended to provide opportunity for relevant academic staff members to pursue postgraduate training as soon as possible.

In relation to the Postgraduate Studies, the judgment of the team is 'UNSATISFACTORY'.

4.6. Peer Observation

The Department has commenced peer observation of teaching recently. This is commendable. Every staff member has been subjected to at least one peer observation. Documents revealed that the members have received favorable comments from the peers. The members perceive peer evaluation as being helpful for improving their teaching quality. However, there was no documentary evidence on using peer evaluation to improve teaching. In addition to peer observation of teaching, the Department adopts good practices such as training of newly recruited academics on teaching methodologies, guidance and monitoring of teaching by senior members etc. All question papers are scrutinized, and answer scripts are double marked with the assistance of internal / external experts. The curriculum has been subjected to peer evaluation during the recently completed revision.

Department has introduced a peer evaluation system to final year students to improve their presentation skills during presentations made on directed study and in-plant training. It plans to extend peer evaluation to teaching materials as well.

While recognizing the good practices adopted by the Department on per evaluation, the review team recommends to initiate a practical mechanism for monitoring, evaluation and documentation of progress of peer observations to facilitate improvement of teaching quality.

In relation to the Peer Observation, the judgment of the team is 'SATISFACTORY'.



Click Here to upgrade to Unlimited Paues and Expanded Features

egral component of any curriculum. In this regard, the Department of Livestock and Avian Sciences seems to have paid adequate attention by taking the views of the stakeholders into consideration and including in the intended learning outcomes when revising its curriculum.

Discussion with the staff and students and examining the curriculum content reveled that most of the courses offered by the Department have laboratory practical component or field practical component or field trips to provide subject specific skills and team working skills. Laboratory practical are conducted in the reasonably equipped and well maintained Departmental laboratory. In addition to the laboratory practical, field trips to outstations listed in Annex 6 are made to provide Field practical training. Furthermore, the Department has made arrangements to rear differentanimal species such as chicken, ducks, geese, turkey, quails within the premises for species demonstration and to conduct feeding trials for student research. Facilities available for egg incubation and hatching chicks are used for practical while students are given the responsibility of managing such animals in the units with the support of the non-academic staff. Diagnostic services, farmer training and feed analysis are provided for stakeholders are also used for student training. Animals in the animal handling unit are used to conduct practical such as herd management practices of cattle and buffalo and AI demonstration. To further strengthen the study programme, the review team recommends establishment of the planned small farm as early as possible.

To promote generic skills including as communication skills, language skills, and computer literacy, the study program uses English as the medium of instruction, while the curriculum has series of compulsory courses in English language and Computer Science. The Computer centre and Language laboratory provide ample facilities and valuable opportunities for skill development through these compulsory courses. The library has a considerable collection of books and the internet facilities promote self learning skills. Diverse assessment methods such as presentations, reports and viva voce examinations also are used to promote communication skills.

Students are provided with opportunity to conduct a directed study during the 4th year 1st semester to promote research skills. Outreach programmes are organized with the involvement of the third and final year students to train them on extension and advisory services and for developing studentsøinter-personal skills.

To further strengthen the acquired skills and attitudes and to prepare the students for the job market an exposure and experience in real work world is given through a meticulously designed compulsory Industrial training program. Observation of the reports and records maintained regarding in-plant training programme, it was evident that the external supervisors also provide feedback on the progress of the students at the respective industrial establishments. Discussion with several members of alumni who have participated in the in-plant training revealed that while in-plant training provides opportunity for putting theory into practice in a real world setting, selection of placement should be done carefully to ensure that it provides required training. The review team wishes to draw the attention of the Departmental administration to this aspect.

In relation to the Skills Development, the judgment of the team is 'GOOD'.



seling

Click Here to upgrade to Unlimited Pages and Expanded Features

es in place for academic guidance and counseling. The

Career Guidance unit of the University plays a considerable role in academic guidance and counseling. The CGU offers 24 modules to cover different areas to develop career of the undergraduate and groom the graduates for their future.

An :Orientation programmeø is conducted every year for the new entrants. It consists of a half a day Faculty programme, one day programme by each department, and three day programme õYou are excellentö conducted by the Career Guidance Unit. The students are made aware of the nature of academic programme, studentsø responsibilities, types of job opportunities available and expectations of the employers.

The student handbook and the prospectus of the Faculty provides detail information on departments, academic programs, course capsules, method of selection for the specialization streams, GPA calculations etc., and outreach activities of the Faculty. Course outlines are provided during the introductory lecture of each course to furnish important details such as intended learning outcomes, course contents including practical titles and field visits, teaching methods, assessment methods with marks distribution, list of recommended books for reading, teaching panel and their contact details etc.

At the end of the second year the students are given another orientation on specialization modules to facilitate selection. Academic advisors and supervisors are appointed during the Final year. The students are given an orientation before they go for in-plant training regarding the Objectives of In-plant training, Career discipline and personality, and Information on studies overseas and career guidance.

The Faculty conducts a inentoringø programme and has a istudent Counseling programmeø as well. Two of the four student counselors of the Faculty are from the Department of Livestock and Avian Sciences. Academic mentors are assigned for the new entrants and students are advised to meet them at least twice a time per semester. To facilitate the communication between the imentorsø and imenteesø the latter are informed about the time slots during which the respective mentors/counselors could me met for advice on academic and other matters. Academic mentors guide them especially in related to the academic matters and if student has any different problems they are directed to the Faculty student counsellors.

Interviews with students revealed that while a section of students are well aware about the mentoring process and have gained those benefits. However, a considerable number of students have not met their respective mentors and even did not remember who the mentors / counselors are. The review team recommends further educating the students regarding mentoring programme and encouraging both mentors and mentees to meet at regular intervals.

It was noted that some students have lost confidence on mentors/counselors, due to leakage of confidential information provided by students to some mentors / counselors. This breech of confidence has already created serious damage to the success of mentoring and counseling programmes that are in place. The review team recommends provision of training to the mentors/counselors regarding the required qualities, expectations and procedures.

In relation to academic guidance and counseling the judgment of the team is 'SATISFACTORY'.



ing the study visit by the review team, the eight aspects

Unlimited Pages and Expanded Features

Aspect Reviewed	Judgment Given
Curriculum Design, Content and Review	Good
Teaching, Learning and Assessment Methods	Good
Quality of Students including Student Progress and Achievements	Good
Extent and Use of Student feedback, Qualitative and Quantitative	Good
Postgraduate Studies	Unsatisfactory
Peer Observation	Satisfactory
Skills Development	Good
Academic Guidance and Counseling	Satisfactory

5. CONCLUSIONS

The degree program is of four year duration and implemented over eight semesters. Medium of instruction is English. The curriculum is modular in nature comprising a compulsory core module and optional specialization modules. This arrangement of having a compulsory core module and optional specialization modules is advantageous because it provides opportunity for the undergraduates to learn basic aspects during the core module and acquire in-depth knowledge and skills in a selected area during the specialization module. Curriculum has been revised recently. New curriculum has been implemented from 2009.

The Department of Livestock and Avian Sciences offers more than 30% of the total credit requirement of the \div oldøFSN degree, over 50% of the compulsory credit unit requirement of the newly implemented B.Sc. FPTM degree. Proportional contribution by the Department to the academic program is sufficient and satisfactory. The curriculum is of broad nature, and the courses offered by the Department of Livestock are at a satisfactory academic level in terms of the content, breadth and depth. Having English language and Computer Science as common and compulsory courses facilitates enhancement of generic skills of students. Industrial training is a well thought about and meticulously organized component of the curriculum that provides real work world exposure and experience to the students.

Members of the Department adopt diverse traditional as well as modern teaching/learning approaches. Lecture theaters are reasonably equipped while the seminar room is well-equipped with adequate teaching and learning facilities to create a conducive environment for interactive learning. The department has reasonably equipped laboratory and limited facilities to conduct field practical. Field visits and small animal units are used to provide field practical training. The Departmental staff is highly committed to teaching.

The Department practices both summative and formative assessment methods. Diverse approaches are used to assess the performance of students. The question papers are of comprehensive nature. All question papers are scrutinized and moderated, while answer scripts are double marked.



Click Here to upgrade to Unlimited Pages and Expanded Features ollow the degree depends on UGC policy. The present out rate is near zero and progression rate and completion its enrolled for specialization in Livestock and Avian

Sciences. Undergraduate students specializing in Livestock and Avian sciences are in par with the undergraduates specializing in Animal Sciences in other universities in terms of their generic skills, subject specific knowledge and skills. Criteria used for the award of classes are in agreement with the standards adopted by the university system. Average waiting time for the first job is less than two months. Graduates are employed mostly in the private sector, and the job opportunities secured by the graduates Specialized in Livestock and Avian sciences are comparable to those secured by the graduates in similar disciplines.

There is a formal mechanism in place to obtain student feedback, and the members of the academic staff use Teacher / course evaluation to improve teaching. At present, the Department does not conduct any postgraduate degree program due to insufficient human and physical resources. The department has started a formal mechanism for peer observation, but there was no evidence of using this information to improve teaching. The department adopts good practices such as scrutiny and moderation of all question papers, and double marking of answer scripts. Two members of the Department are Student counselors. Academic members are appointed as academic mentors. But, there had been no checking of the effectiveness of any of the programs. Most of the staff members had not received any training in academic counseling and some students have lost confidence on mentoring programme.

Department has paid adequate attention to skills development when designing and implementing the study programme. Diverse teaching learning and assessment methods are in place to ensure acquisition of the skills. Compulsory Industrial training further strengthens the acquired skills and attitudes and to prepare the students for the job market through an exposure and experience in real work world.

6. RECOMMENDATIONS

In the context of all above, to further improve the academic program offered by the Department of Livestock and Avian sciences, the review team recommends the following, for which the reasons are given in the sections 4.1.64.8.

- 1. Take necessary measures to publicize the degree programme.
- 2. Increase staff numbers, provide opportunities for staff members to obtain postgraduate qualifications and initiate a postgraduate program.
- 3. Implement the planned farm development activities.
- 4. Establish a mechanism to use peer observation feedback to improve teaching.
- 5. Take measures to ensure nondiscrimination of students during marking of answer scripts by every member of every department.
- 6. Provide necessary training on mentoring and counseling to staff. Take measures to improve trustworthiness and the effectiveness in counseling and mentoring.



Unlimited Pages and Expanded Features

MEMBERS OF ACADEMIC STAFF OF THE DEPARTMENT OF LIVESTOCK & AVIAN SCIENCES

Name	Designation	Year of Appointment	Academic Qualifications	Teaching & Administrative responsibilities
Mr. B.P.A.	Senior	1998	B.Sc (Agri)	Student Counsellor
Javaweera	Lecturer		M.Phil	Course Facilitator in
			(Peradeniva)	staff Development
	Head of the		SEDA- Oxford	Centre
	Department		CTHE	Parson In Charge
	- · F		Colombo	Activity C & IROUE
			SDC training -	á OLIE Project
			Peradeniya	Chairman
			j.	Committee for
				Student Counselling
				and Advising
				 Director / Faculty
				Coordinator ó CGU
				Eaculty
				• Faculty
				English language
				teaching committee
				• Mombor
				• Member 0
				Development
				Committee
				Basource person in
				• Resource person in-
				University
				Course Coordinator é
				• Course Coordinator 0
				LA3130, LA3137, LA3137, LA3254 LA3256
				Visiting Lostupor
				• Visiting Lecturer
				FOIA (AS 5100, AS
				J219)
				• visiting Lecturer
				$\begin{array}{c} \Gamma A \Gamma W I M I M \\ 2120 DM 2225 DT \end{array}$
				2120, FWI 2223, BI
Dr	Sonior	2001	BVSc	4100)
DI. Gamika	Lecturor	2001		• Course Coordinator 0
Prathanasi			(Canada)	$\begin{array}{ccc} \text{L1103}, & \text{LA1211}, \\ \text{LA2247} \end{array}$
nghe			(Callaua)	
ingite				OIC 0 IKQUE 0 Outroach Contro
				Outreach Centre
		1	1	• Member of Research



upgrade to ges and Expanded Features				Development & Publication Committee		
				 Member of Curriculum and Academic Development Faculty nominee to the Senate 		
Mr. W.A.D.V. Weerathila ke	Lecturer	2007	B.Sc Agri Reeding for MPhil CCSD - Wayamba	 Course Coordinator ó LA3138, LA4164, LA2223, LA3255. Assistant PIC IRQUE-QUF- Activity D Member of the Faculty Board Member Student Advisory & Welfare Visiting Lecturer FAPM (PM 2120, PM 2225) Member Scholarship, Staff Development and Ethics committee In-charge laboratory and Practical - DLAS 		
Mr. JADRN Appuhamy	Lecturer	2004	BSc Agri reading for PhD CCSD - Wayamba	(On Study leave)		
Dr. (Ms.) RMSBK Ranasingh e	Lecturer	2005	BVSc reading for PhD CCSD - Wayamba	(On Study leave)		
Ms. A.D. Sampath	Demonstrat or	2008	B.Sc (Food Science & Nutrition) reading for Mphil	 Coordinator /practical programme Conduct practical, tutorial and participate in the field visits Handling Academic files Teaching support Eg : Preparing teaching aids, organize practicals 		



Click Here to u	pgrade to				
Click Here to Unlimited Pag	M.P.W.L. R.B. Weeraseka	nded Features or	B.Sc in reading Mphil	(Agri) for	 Coordinator/field activities Conduct practical, tutorial and participate in the field visits
					 Handling Academic files Support lectures. Eg : Preparing teaching aids, models, specimens

Annex 3. COMMON STRUCTURES OF THE DEGREE- B.SC. FOOD PRODUCTION AND TECHNOLOGY MANAGEMENT (NEW) AND B.SC. FOOD SCIENCE AND NUTRITION (REVISED)

Semester	B.Sc. FPTM	B.Sc. FN
Pre degree	Intensive English course	Intensive English course
	Career Guidance Module I	Career Guidance Module I
Level I		
Year 1 semester I	Core ócourses (12 credits)	Core ócourses (12 credits)
	Mathematics & Computing	Mathematics & computing
	Introduction to IT	Introduction to IT
	English for Science I	English for Science I
Year 1 semester II	Outbound training/Special	Outbound training/Special
	assignment	assignment
	Core ócourses (16 credits)	Core ócourses (16 credits)
	Concepts and Practice of	Concepts and Practice of Statistics
	Statistics	English for Science II
	English for Science II	C
Year 2 Semester I	Core ócourses (16 credits)	Core ócourses (16 credits)
	Academic English I	Academic English I
Year 2 Semester	Core ócourses (16 credits)	Core ócourses (16 credits)
II	Academic English II	Academic English II
	<u> </u>	
Level II	Specialization modules	
Year 3 semester I	Core courses,	Advanced courses (20 credits)
	Advanced courses (20 credits)	
Year 3 Semester	Core courses.	Advanced courses (20 credits
II	Advanced courses (20 credits)	
Level III		
Year 4 Semester I	Research project (10 credits)	Research project (10 credits)
Year 4 Semester	Career Guidance Module II	Career Guidance Module II
Π	In-plant Training (10 credits)	In-plant Training (10 credits)



Unlimited Panes and Expanded Features

<u>S OF B.SC. FPTM DEGREE – SPECIALIZATION</u> <u>IENCES</u>

Course notation

First three letters denotes the department or the responsible body for the module (LFN = Faculty of Livestock, Fisheries and Nutrition, CGU = Career Guidance Unit, ELT = EnglishLanguage Teaching unit, FST = Department of Food Science and Technology, LAS = Department of Livestock and Avian sciences, NTN = Department of Applied Nutrition, AQF = Department of Aquaculture and Fisheries). First digit denotes the level, second digit denotes the semester, third digit denotes the course number and the fourth digit denotes the number of credits.

Course	Course Title	Credits	Remarks
code		(hr of	
		T/P)	
	L		
Level 1[1	6 Credits]		
LAS 1114	Anatomy and Physiology	4 (45/30)	
LAS 1214	Nutritional Biochemistry and Principles of	4 (45/30)	
	Animal Nutrition		
LAS 1314	Poultry meat and Egg production	4 (45/30)	
LFN 1314	Food crop production systems	4 (45/30)	
Level 2 Ser	nester 1 [Minimum of 20 credits max 25]		
LAS 2113	Animal breeding & selection	3 (30/30)	Compulsory
LAS 2112	Animal feed technology	2 (20/20)	Compulsory
LAS 2123	Practicum I	3 (00/90)	Compulsory
LAS 2114	Principles of animal disease control and	4 (45/30)	Compulsory
	diagnostic technology		
LAS 2122	Goat and sheep production	2 (25/10)	Elective
LAS 2132	Egg science & technology	2 (20/20)	Elective
LAS 2142	Farm mechanization and engineering	2 (20/20)	Elective
LAS 2152	Farm planning and economics	2 (25/10)	Elective
LAS 2162	Forage crop production	2 (25/10)	Elective
LAS 2172	Micro livestock production and management	2 (25/10)	Elective
LAS 2182	Pet animal nutrition and feed formulation	2 (25/10)	Elective
LAS 2111	Poultry breeding and parent stock	1 (10/10)	Compulsory
	management		
LAS 2121	Special topics in animal science	1 (10/10)	Elective
LFN 2113	Field crop production	3 (30/30)	Elective



ere to ed Pa	ges and Exp	anded Features module-Livestock	and Avian S	Sciences) [Minimum of
	LAS 2213	Dairy and beef production and management	3 (30/30)	Compulsory
	LAS 2212	Meat science	2 (20/20)	Elective *(LAS 2172)
	LAS 2222	Animal experimentation	2 (20/20)	Compulsory
	LAS 2223	Practicum ii	3 (00/90)	Compulsory
	LAS 2232	Swine production and management	2 (25/10)	Compulsory
	LAS 2242	Dairy product quality control and processing	2 (20/20)	Elective *(LAS 2213)
	LAS 2252	Animal by product technology	2 (20/20)	Elective
	LAS 2262	Food inspections and evaluation	2 (25/10)	Compulsory
	LAS 2272	Animal biotechnology	2 (20/20)	Elective
	LAS 2282	Waste management and utilization	2 (20/20)	Compulsory
	LAS 2292	Wildlife and recreational animal management	2 (25/10)	Elective
	LFN 2213	Post harvest technology of major food crops	3 (30/30)	Compulsory
	LFN 2211	Scientific writing	1 (10/10)	Compulsory
	LFN 2223	Fruit and vegetable production	3 (30/30)	Elective
	Level 3 Sem	nester I (10)		
	LAS 311X	Research project in livestock and avian sciences	10 (600)	Compulsory.
	Level 3 Sem	ester II		
	LAS 3215	In-plant training	5 (400)	Compulsory
	LAS 3222	Commercial food preparation and service management	2 (25/10)	Compulsory
	LAS 3212	Extension methodology	2 (25/10)	Elective
	LFN 3212	Human resource management	2 (30/00)	Elective
	LFN 3222	Organizational management	2 (30/00)	Elective
	CGU 3211	Mass communication	1 (00/30)	Elective
	CGU 3221	Entrepreneurship development	1 (00/30)	Elective

Table 3.2	Courses offered by other Departments		
AQF 2123	Crustacean and mollusc farming systems	3 (30/30)	Elective
FST 2133	Fish, meat and egg product technology	3 (35/20)	Elective
FST 2281	Indigenous food technology	1 (10/10)	Elective
LFN 2213	Post harvest technology of major food	3 (30/30)	Compulsory
	crops		
FST 2222	Food packaging	2 (25/10)	Elective
FST 2242	Food safety and quality management	2 (25/10)	Elective
LFN 2211	Scientific writing	1 (10/10)	Compulsory
AQF 2212	Aquatic pathobiology and health	2 (20/20)	Elective
	management		
AQF 2223	Post harvest management of bio-aquatic	3 (30/30)	Elective
	resources		
AQF 2252	Remote sensing and GIS	2 (20/20)	Elective



Click Here to upgrade to Unlimited Pages and Expa

DURSES OFFERED TO THE STUDENTS IN LIVESTOCK AND AVIAN SCIENCES

SPECIALIZATION

Title of the course module	Subject specific skills	IT skills	Numeric skills	Writing skills	Oral commu nication	Team work	Problem solving skills	Learning to learn	Information Handling
FT1103 Basic Chemistry	ç		ç	ç		ç	Ç	ç	
AF1101 Fish Biology	ç			ç		ç			
IF1104 Mathematics and Statistics	ç		ç				ç		
CU 1102 Information Technology	ç	ç		ç					ç
LA1105 Introduction to Animal	ç			ç		ç		ç	Ç
Production									
EU English Foundation 1	ç			ç	ç	ç			
FT1209 Microbiology	ç		ç	ç	ç	ç		ç	ç
AF1206 Principles of Aquaculture	ç			Ç		ç			
AN1207 Principles of Biochemistry	ç			ç				ç	
AN1208 Physiology I	ç			ç				ç	ç
IF1210 Principles of Crop Production	ç			ç					
LA1211 Principles of Breeding &	ç		ç	Ç		ç	ç		
Reproduction									
EU English Foundation II	ç			ç	ç	ç			
FT2114 Principles of Food Science	ç			Ç		ç		Ç	Ç
IF2116 Applications of Biotechnology	ç	ç		Ç		ç		Ç	Ç
AF2112 Environmental Assessment &	ç			Ç					
Management									
AN2113 Physiology II	ç			ç					
IF2115 Principles of Economics	Ç			ç		ç			Ç
LA2117 Animal Feeds and Nutrition	Ç		Ç	Ç		Ç	Ç		Ç
EU English Writing I	ç			ç					
FT2220 Food Preservation Technology	ç			Ç		ç	Ç	ç	
IF2221 Principles of Marketing	ç	ç		ç	ç	ç	ç	ç	ç



Click Here to upgrade to Unlimited Pages and Expanded

-				Ç					
AN2219 Nutritional Aspects of Food	ç			ç	ç	ç			
IF2222 Principles of Accounting &	Ç		ç	Ç			Ç		
Management									
LA2223 Animal Product & their	Ç			Ç	Ç	Ç	Ç		
Characteristics									
EU English Academic Writing II	ç			ç					
FT3124 Food Chemistry	Ç			ç			ç	ç	ç
FT3125 Food Microbiology	Ç		ç	ç	Ç	ç		ç	ç
AN3126 Metabolism of Macro and	ç	ç		ç		ç		ç	Ç
Micro Nutrients									
AN3127 Human Nutrition	ç	ç		ç	ç	ç		ç	Ç
EU Advanced English	ç			ç	ç	ç		ç	
FT3128 Processing of Milk & Dairy	Ç	Ç		Ç		Ç		ç	
Products									
LA3136 Poultry Production	ç		ç	ç	ç	ç	Ç	ç	Ç
LA3137 Animal Feed Technology	ç	ç	ç	ç		ç	Ç	ç	Ç
LA 3138 Swine Production	ç			ç	ç	ç	Ç	ç	Ç
FT3242 Food Analysis & Quality	Ç		ç	Ç		Ç	Ç	ç	Ç
Control									
AN3243 Nutrition in Life Cycle	ç	ç		ç	ç	ç	Ç	ç	Ç
ID3244 Design and Analysis of	Ç	Ç	ç	Ç		Ç	Ç	ç	Ç
Experiments									
LA 3254 Large Ruminant production	ç	ç		ç	ç	ç		ç	Ç
ID Integrated farming systems	ç			ç		ç	Ç	ç	Ç
LA 3247 Disease Prevention and	ç			Ç	Ç	Ç	ç	ç	Ç
Control									
LA 3255 Small Ruminant Production	ç	Ç	Ç	Ç	ç	Ç		ç	ç
LA 3256 Micro Livestock Production	ç		ç	ç	ç	Ç	Ç	ç	ç
FT4159 Food Packaging	Ç			ç	Ç			ç	Ç
IF4160 Statistical Methodology	Ç	ç	ç	ç				ç	ç



Click Here to upgrade to Unlimited Pages and Expande

 een tiges this Expanded reatures		ç	ç	ç	ç	ç	ç	ç	Ç
Writing	3	3	3	3	3	3	7	,	7
ID4162 Factory Sanitation and Safe	Ç			ç	ç	ç		ç	Ç
Processing									
FT4163 Processing of Meat and	Ç			ç	ç	ç		ç	Ç
Poultry Products									
FT4164 Waste Disposal and	Ç			ç	ç	ç	ç	ç	Ç
Utilization									
LA 4277 In-plant Training	ç	ç	ç	ç	ç		ç	ç	ç
LA 4287 Research Project	ç	ç	ç	ç	ç		Ç	ç	Ç



Unlimited Pages and Expanded Features

- Horakale NLDB Farm-
 - Livestock breeds (sheep, goat, swine), swine management, swine breeding
- AI center ó Kundasale
 - $\circ\,$ Breeding program, semen collection, evaluation, preparation, storage and distribution
- Ruwan Farm ó Kuliyapitiya
 - Large scale layer management, feeding program, vaccination program, egg collection and marketing, small scale feed milling
- Welisara NLDB farm
 - Swine breeding program, management of nucleus herd
- Anuradhapura Veterinary Investigation Centre
- Screening tests for animal diseases, case studies
- Nikawaratiya NLDB Farm
 - Cattle and buffalo breeds, Herd Management practices of cattle and buffalo in dry zone of Sri Lanka, feeding of cattle and buffalo, pasture management, Breeding program, Waste disposal, Disease prevention, Product processing and marketing
- Malsiripura NLDB Farm
 - Cattle and buffalo breeds, herd management of cattle and buffalo, feeding practices of cattle and buffalo, breeding program in coconut triangle, broiler chicken and layer chicken management, pasture management, dairy product processing and marketing, waste disposal
- Marandawila NLDB farm
 - Cattle and buffalo breeds, herd management of cattle and buffalo, feeding practices of cattle and buffalo, pasture management, breeding program, disease prevention, waste disposal
- Andigama NLDB farm
 - Cattle breeds, herd management of cattle and buffalo, feeding practices of cattle and buffalo, pasture management, breeding program, and waste disposal
- National Zoological Gardens
 - Cage birds management, Crocodile management, Deer and Elk management
- Pinnawala Elephant Orphanage
 - Elephant conservation, wild life management
- Haragama NLDB farm
 - Quail and rabbit management
- Kaudulla Wildlife Sanctuary
 - Wild life management, elephant conservation,
- Bopaththalawa NLDB Farm
 - Cattle breeds for upcountry, herd management practices, feeding practices, breeding program, disease prevention
- New Zealand Farm Ambewela
 - Cattle management in large scale in upcountry, feeding practices, breeding program, disease prevention, waste disposal, value added dairy products
- Thelahara Goat Breeding Centre
 - Goat breeding program and extension service
- Bairaha Farms Pasyala



Unlimited Pages and Expanded Features

t stocks of broilers, feeding program, lighting system, tion for hatching, hatching of eggs in commercial scale, roiler chicks, waste disposal

- Nel farm (Pvt) Ltd- Naththandiya
 - Management of commercial layers, layer breeders and broiler breeders, housing systems, feeding programs, vaccination
- Ceylon Grain Elevators limited
 - Laboratory evaluation of animal feeds, purchasing of ingredients and storage, types of feed ingredients, microbiology tests for animal feeds, PCR, Feed mill, processing of different types of animal feeds (pellets, mash, crumbles)
- Mawela farm, University of Peradeniya
 - Poultry breeds, Cattle breeds, Goat breeds, sheep breeds, Rabbit breeds, Swine breeds, Farm management, Farm equipments, Slaughtering and meat science and On farm training
- New Bernardøs feed mill, Udubaddawa
 - Medium scale feed milling, Marketing of animal feeds
- Veterinary Research Institute
 - Screening tests for animal diseases, preparation of vaccines and vaccination programmes.
- Sandalanka Dairy farm, Ibbankatuwa, Dambulla
 - Buffalo management, farm instrumentation and machine milking
- Udawalawa National Park and Elephant Transit Home
 - Wild life management, Elephant conservation
- Goat farms in dry zone, Galgamuwa
 - Small scale goat farming in dry zone
- Mahayaya Estate
 - Large ruminant handling and on farm training and practicals, Mediumscale commercial broiler farming
- Waste Disposal unit, Housing scheme, Raddolugama
 - Municipal waste handling and treatment
- Department of Agricultural Engineering and Mewatura waste research station, University of Peradeniya
 - Principals of waste disposal, Municipal waste handling and treatment and model disposal plant
- Gamisewa sevana
 - Farm waste management, Integrated farming
- BOI waste treatment plant, Biyagama
 - Industrial waste handling and treatment



NEW ENTRANTS TO THE B.SC. F&N IN LAST

Click Here to upgrade to Unlimited Pages and Expanded Features

No	District	Academic Year								
110.	District	2007/2008	2006/2007	2005/2006	2004/2005					
1	Colombo	1.3805	1.3563	1.607	1.5693					
2	Kalutara	1.4761	1.4016	1.6067	1.6045					
3	Gampaha	1.4203	1.2338	1.4337	1.5217					
4	Kandy	-	1.3394	1.4882	1.4232					
5	Matale	1.4617	-	1.4180	-					
6	Nuwara Eliya	1.0112	1.0748	1.1285	-					
7	Trincomalee	1.2752	0.9578	-	1.3905					
8	Baticaloa	1.4544	-	-	-					
9	Ampara	-	1.5433	1.5282	-					
10	Kegalle	1.4058	1.3498	1.3822	1.3564					
11	Ratnapura	1.3378	1.2542	1.41393	1.3787					
12	Badulla	1.3312	1.2931	1.4802	1.4241					
13	Monaragala	-	1.3408	1.3229	-					
14	Galle	1.4488	1.4075	1.5445	1.6693					
15	Matara	1.5769	1.4247	1.6432	1.6186					
16	Hambantota	1.5402	1.5630	1.6280	1.6877					
17	Jaffna	1.3552	1.3977	1.3013	1.6603					
18	Mannar	1.3227	0.5199	-	-					
19	Mulativu	-	0.7494	1.126	1.049					
20	Killinochchi	-	1.1008	1.2106	0.8036					
21	Anuradapura	1.3596	1.2674	-	1.3679					
22	Polonnaruwa -		1.0467	-	-					
23	Vavunia	0.3057	1.5249	-	1.5816					
24	Kurunegala	1.3143	1.2734	1.3752	1.5654					
25	5 Puthlam 1.4337		-	1.4219	1.4478					