



**SOKOINE UNIVERSITY OF AGRICULTURE
COLLEGE OF AGRICULTURE**

**DEPARTMENT OF ANIMAL, AQUACULTURE AND RANGE
SCIENCES (DAARS)**

**FIELD PRACTICAL TRAINING GUIDELINES FOR B. Sc. ANIMAL SCIENCE
DEGREE PROGRAMME**

JUNE, 2016

1.0 INTRODUCTION

1.1 Background Information

B.Sc. Animal Science degree programme was established in 1997 at Sokoine University of Agriculture (SUA) under the term system. In 2001, the curriculum was revised to fit the semester system following the decision of the University to change from term system to a semester system. The aim was to attract good quality students who will promote the mission of the University and reduce the rate of student drop out. Among the strategies for implementing this objective was to periodically review the curricula to make them more attractive and cost effective. At different times since the establishment of the semester system, the curriculum has been reviewed. Because of globalization, the world has turned into a global village, new ideas and information are pouring in a constant stream. It is, therefore, imperative to update the curriculum for B.Sc. Animal Science by introducing the recent developments in the relevant field of knowledge. The proposed revised curriculum shall allow part-time students and a system for transferring relevant credits from other Universities. It is expected that graduates of this programme shall meet the formal educational requirements for professional Animal Scientists. Furthermore, the programme will prepare graduates with the necessary skills and knowledge required to serve the animal industry in the country and worldwide in a variety of ways including fields of Animal Nutrition, Breeding, Pasture and Range management, Management of various species or domestic animals and processing and marketing of livestock products.

In addition to passing examinations in the above mentioned areas or specialization, field practical training shall be an essential requirement of the B.Sc. Animal Science degree programme and shall be conducted effective at the end of the **fourth** and the **sixth** semester for **five** weeks each. The assessment of the field training shall be made by a special committee comprising of members from the Department of Animal, Aquaculture and Range Sciences (DAARS). Special emphasis shall be paid to attitude and commitment to perform livestock husbandry practices. A pass in the FPT shall be required before a candidate is allowed to proceed to the next semester of study or to graduate in case of a student in the last semester.

The major aims of Field Practical Training include;

- To provide practical knowledge in animal management
- To design and execute animal experiments and collect and analyze data from field experiments

- To provide practical knowledge in handling and processing of animal products and their by-products.
- To impart skills to the students in the field of animal planning, organization and extension services.
- To impart practical skills to the students like the use of scientific laboratory and animal field equipment and carry out routine animal management operations in the field.
- To foster practical production attitudes in the fields of awareness, production input costs, input-output interactions and relationships.
- To enable students to appreciate, comprehend and perform the various activities in animal production management, land use planning, water and waste management.

To-date most of the aforementioned, aims have not been achieved by the FPT due to a number of challenges in the organization and conduct of the FPT within the College of Agriculture (CoA). These challenges include inadequate funding, lack of the appropriate and sufficient number of FPT stations, poor and inadequate supervision, inappropriate timing of the field practicals training that is always off season for most agricultural activities, and the lack of relevance of the FPT activities at the FPT stations.

1.2 Objectives of Field Practical Training (FPT)

1.2.1. General objective

The overall objective of the FPT is to provide a thorough training in Animal Science and equip students with basic knowledge and applied knowledge in animal production. Such knowledge and skills will enable graduates to either employ themselves or be employed in the private or public sector. Also to offer the necessary skills needed to manage animal industries effectively and to impart knowledge on current development in the animal sector.

1.2.2. The specific objectives for students undertaking FPT are to:

- Offer specialized training in animal science so that students will acquire the necessary skills needed to manage animal industries effectively.
- Impart knowledge on current development in the animal industries
- Equip students and SUA graduates with knowledge and skills so that they fit better into the national and regional competition for job market

- Equip SUA graduates with knowledge and skills that will enable them to employ themselves.

2.0 SCOPE OF THE FPT GUIDELINES

These Guidelines are intended to provide the basis for implementing the FPT for BSc Animal Science students in the Department of Animal, Aquaculture and Range Sciences. These guidelines give detailed information on;

- The General Regulations for FPT – these regulations provide all relevant information to ensure efficient conduct of the FPT programme under CoA;
- Clarifications on the kind of reports which are expected to be produced by the students at various levels of FPT;
- Procedures to be used by both local supervisors at FPT stations and the academic supervisor from SUA in supervising the FPT, assessing and grading of the FPT performance of students.

These guidelines are therefore, intended to be a resource book for students, on station – FPT training officers and supervisors.

3.0 PREPARATION OF FIELD PRACTICAL TRAINING (FPT)

The FPT in the Department of Animal, Aquaculture and Range Sciences (DAARS) shall be conducted effective at the end of the **fourth** and the **sixth** semester for five weeks each or at any other time within the academic year as may be decided by the CoA Board. DAARS is solely responsible for allocating FPT places to all students. However, students may be allowed to propose FPT stations (including farms, factory, institution and firm) of their own interest at least eight weeks before commencement of the FPT. All FPT centres proposed by students need to be approved by the Department before commencement of the FPT. Training at a center not approved and not allocated by the Department before the start of training will not be recognized.

4.0 PROCEDURE TO BE FOLLOWED DURING FPT

4.1. The students must read and ensure that they are conversant with the FPT Guidelines for BSc Animal Science degree programme (downloadable from SUA website) throughout the FPT period. Before departure for FPT, each student will be provided with FPT Logbook, a letter

of introduction to the allocated FPT station, Arrival Note (*Appendix 1*) form and ‘On-Station FPT Assessment Form’ (*Appendix 2*).

- 4.2. The “Arrival Note” form prepared and issued by the Department to each student will be filled and returned to the department by the student within the first week of FPT.
- 4.3. The Training officer (On-station Supervisor) will ensure that the training program is set up and shared with the FPT coordinator/SUA supervisor before the end of the first week of FPT. This program will form the basis for supervision and assessment when SUA supervisor visits the station.
- 4.4. Each student will be visited by the SUA supervisor at least once during each FPT period. The purpose of the visit is to co-supervise the FPT and provide an opportunity to share and gather experience about FPT at the station; and to discuss challenges of mutual interest as well as to contribute to the training programme and guide students on report writing. In addition, the SUA supervisor shall be responsible for guiding the on-station supervisor on how to fill the ‘On-Station FPT Assessment Form’ (*Appendix 2*).
- 4.5. The student is responsible for bringing the “on station assessment form” (*Appendix 2*) duly completed in a sealed, confidential envelope together with his/her Logbooks and FPT reports to the Department FPT Coordinator.

5.0 TRAINING LEVELS

Students at different levels of learning possess different skills and abilities and the tasks they are expected to perform during FPT should differ accordingly. Therefore, each FPT session is intended to impart technical competence to students according to level of training achieved as follows:

FPT I: This is for the 2nd year students in the B.Sc. Animal Science degree programme. The 2nd year B.Sc. Animal Science students do their first FPT immediately after the end of semester 4 University examinations or during their 2nd year of study at SUA and shall include the following;

- Animal handling and restraining;
- General principles of hygiene, sanitation, ventilation and housing for different
- Livestock species.
- Animal identification: ear tagging tattooing, branding
- Identification of different breeds of cattle, sheep, goats, pigs, rabbits and fowls.
- Assessment of health conditions for different farm animals to distinguish between

- Signs of good health and disease.
- Routine herd/flock health management e.g. drenching, dipping/spraying, hoof trimming, grooming for livestock shows etc.;
- Pasture establishment and management: pasture seed harvesting/collection, field preparations, sowing and propagation, fertilizer/manure application, weeding and grazing management;
- Feeding different livestock species: identification of different feed materials - forages, concentrates, crop residues, etc. Feed formulations for different classes of livestock species - poultry, rabbits, pigs, dairy cattle and goats.

FPT 2: This is for the 3rd year students in the B.Sc. Animal Science degree programme. Students in their third year of study will undertake the FPT immediately after the end of semester 6 University examinations or during their 3rd year of study at SUA. At this level the students are expected to be given opportunities to familiarize themselves with the requirements of professional practices. These shall include the following;

- Management of ruminant animals: Calf rearing practices, management of lactating cows, dry cows and breeding bulls, management of replacement stock, body condition scoring, weight estimation, castration, dehorning/debudding, hand and machine milking;
- Breeding and pregnancy diagnosis: identifications of heat signs, artificial.
- Insemination techniques - semen collection, extension, storage and insemination, pregnancy diagnosis
- Management of non-ruminant animals: Management of poultry at different stages,
- Management practices of rabbits at different stages. Management practices of pigs at different stages;
- Record keeping for breeding purposes and enterprise evaluation;
- Commercial feed formulation and compounding for different species and classes of livestock:
- Pasture and range management: weed and bush control, grazing management, hay and silage making, identification of various range grasses, trees and shrubs, paddocking and fencing, evaluation of rangeland condition;
- Meat inspection: slaughtering of animals and carcass dressing, principles and techniques for meat inspection;
- Processing and marketing of various livestock products;
- Operation and maintenance of farm machinery;
- Planning, implementation and evaluation of livestock extension programmes.

6.0 FIELD PRACTICAL TRAINING REPORTS

6.1 FPT Logbooks

For each of the FPT sessions (FPT1 or FPT2), each student will be provided with an FPT Logbook in which he/she will be required to record day to day FPT activities carried at the station for the whole FPT period. The Logbook has to be compiled at FPT station. For any week the Logbook consists of the following:

- A daily record giving short description of actual work done (**Appendix 3**)
- A weekly summary of essential activities (work) performed in the week (**Appendix 4**)

The Logbooks have to be checked and signed weekly by the On-station supervisor/Training officer. Together with Logbooks, each student is also required to write and submit *general* and *technical reports* which will be assessed by the SUA academic staff who supervised the student's FPT. A space for writing these reports is provided in the Logbooks (immediately after the weekly reports)

6.2 The FPT reports

6.2.1 Objectives of the General and Technical FPT reports

The objectives of FPT reports are to reflect on;

- The student's understanding and appreciation of animal husbandry practices
- The student's appreciation of what might be his/her responsibilities as a manager of the livestock industry to the people he/she will have to cooperate with, and
- The student's ability to communicate scientific information effectively

6.2.2 Guidelines for preparation and submission of FPT reports

Every student is required to submit a written report at the end of the field practical training (FPT) period. This report is to be compiled in accordance with the FPT guidelines. Before being submitted to the Department for assessment, the completed reports have to be signed by the student and counter signed by the Training Officer at the FPT station where the student took the training. The reports to be submitted shall consist of two parts: a General report and a Technical report. However, it is expected that the emphasis and contents in the different sections of the report will differ depending on the year of study for the FPT. Consequently, the assessment of the different sections of the reports will reflect the emphasis in the different FPT years as shown on the assessment of FPT1 and FPT2 (Table 1)

FPT reports must be submitted together with Logbooks to the Department by or before the end of the second week after the FPT training period; otherwise one would be deemed to have failed FPT.

6.2.2.1 The general report

The aim of the general part of the FPT report is to describe the activities of the organization, institution or company where the FPT is conducted including description of the departments/sections in which the student will be attached. In addition, the report is intended to show the inter-relationships within the organization and its linkages with other institutions. Illustrations such as the organization chart may be used to elaborate on responsibilities and flow of information within the organization. For that matter the general report shall include:

- Background information of the institution/company (FPT Station), organization and its management set up (including organization chart), that is the goal, purpose and objectives/aims of the organizations with aspects to the government development strategies.
- Production and work performance at FPT Station
- Research or production thrust at FPT Station
- Community involvement and benefits around the FPT Station
- Relevance of programmes carried out to environmental developmental and policy issues.

6.2.2.2. The technical reports

The technical reports are aimed at giving the opportunity to the students to contribute their own opinion on possible solutions for existing problems on such matters or issues relevance to BSc Animal Science curriculum. These include but not limited to:

- The animal husbandry practices (management of animals)
- Production in large and small scale farms (production systems)
- Animal experiments
- Livestock products and by-products
- Marketing systems
- Farm equipment and instrumentation
- Innovations and improvements, etc
- Specific activities conducted at the stations, etc.

Possible outline for the technical report may consist of:

- Introduction
- Problem identification or justification

- Data collection and analysis
- Discussion (or alternative solutions)
- Conclusions and recommendations and suggestions

It is anticipated that the students' personal contribution to the identified problems will be clearly shown in the discussion part of the reports where alternative solutions may be presented or suggested.

Since the technical reports are supposed to deal with actual problems encountered during the FPT, their contents will be reflected in the Logbook which consists of the daily and weekly records of the activities done.

7.0 ORGANIZATION/PLANNING OF FPT AND SUPERVISION

Organization and planning of the supervision of FPT in the Department of Animal, Aquaculture and Range Sciences will be undertaken by Departmental FPT Committee with guidance from the Head of Department, and facilitation by the office of the Principal, the College of Agriculture. The SUA FPT supervisors shall be appointed by the Head of Department of Animal, Aquaculture and Range Sciences which hosts The BSc Animal Science degree programme.

The person who will be working with the students and responsible for the day to day supervision of the students at the FPT stations shall be the Training Officer (Local supervisor) appointed by the management of the FPT station (farm manager, ranch manager, hatchery manager, animal breeder and production officer) from among the senior technical personnel. FPT reports will be marked at DAARS by the academic staff that carried out the supervision and the results will be subject to consideration by the Department Examiners Board and the College Board.

7.1 Duties of the On-Station Supervisor

The appointed On-station supervisors (Training Officers) are expected to ensure the smooth running of the FPT at the station and report accordingly. Since the Training Officer has other responsibilities, he/she should treat the students just like other workers who are responsible to him/her in terms of productivity, efficiency and discipline.

The student is expected to work somehow independently requiring minimum supervision from the Training Officer. In any case, the Training Officer should give only limited assistance to the students.

The duties of the On-station supervisors (Training Officers) shall therefore include the following:

- Prepare a suitable training program for the students, preferably in collaboration with DAARS coordinator/supervisors, where possible.
- Assist the student in carrying out the proposed training program
- Examine and sign student's reports and logbooks once a week, and
- Fill an assessment form prepared by DAARS for each student (Appendix 2).

8.0 REGULATIONS ON ASSESSMENT OF FPT LOG BOOKS AND REPORTS

- 8.1. All students must report to the allocated FPT stations only. A student who fails to report to the allocated FPT station without permission from FPT coordinator shall be deemed to have failed the FPT and shall be required to undertake the FPT at his/her own time and cost during the next FPT session
- 8.2. To avoid duplication and repeating of FPT activities, no student shall be allocated to the same station for FPT1 and FPT2
- 8.3. Since the tasks expected to be performed by the 2nd year students at FPT1 and the 3rd year students at FPT2 are different, then 2nd year students should not be allocated to the same station as the 3rd year during one FPT period.
- 8.4. FPT Logbooks and reports will be assessed and marked by the academic staff who supervised the students' FPT, and the results will be subject to consideration by the Department Examiners Board before submission to the College Board for approval.
- 8.5. The FPT marking/assessment shall involve the following components:
 - Continuous (day-to-day) assessment made by the On-Station Supervisor during FPT period. This shall contribute 30% of the overall assessment as shown in Table 1 and Appendix 2
 - Logbooks, written General and Technical reports– all assessed by the SUA supervisor (70%)
 - Qualitative Character Assessment for each student made by the On-Station Supervisor for the entire FPT period (see Appendix 2). A penalty shall be imposed on final FPT score in case of bad character assessment made by the On-station supervisor. The penalty level shall be determined by the score in Part 2 of the 'On-station FPT assessment form'

- The criterion for final (overall) FPT assessment is as detailed in Table 1. The emphasis on report content is as indicated by assessment weights, and this change according to the year of study.
- 8.6. Each student will be required to pass the FPT1 (year 2) and FPT2 (year 3) before graduation. The FPT pass mark is 50%
 - 8.7. A student failing FPT will be required to repeat/supplement the FPT at his/her own cost.
 - 8.8. Not completing a full FPT period without compelling reasons means abscondment from that FPT and the student shall be discontinued from studies.
 - 8.9. A student failing to complete FPT with compelling reasons shall be required to request for postponement of the remaining FPT component, and if allowed shall complete the remaining part of the FPT during the vacation or when next offered.
 - 8.10. A student allowed to postpone FPT shall be required to undertake the FPT during the vacation or when next offered
 - 8.11. A student who fails after doing FPT as a third attempt shall be required to retake the course and if he fails for the fourth time shall be discontinued from studies.
 - 8.12. A student who will be reported to have performed any gross misconduct during FPT period shall be reported to the University Management and such case will be dealt with according to the SUA Students' by-laws.

Table 1: Overall FPT Assessment Form
FIELD PRACTICAL ASSESSMENT FORM (Overall marks)

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Candidate Name: Reg. No: FPT: **1,II,III** (tick)
 Examiner's Name: Department: Date:

ITEM	Maximum score		Scored marks
	FPT I	FPT II/III	Examiner
Assessment by the Training Officer at the FPT Station			
1. Skills obtained	6	6	
2. Attitude to work	6	6	
3. Initiative and independence	6	6	
4. Reliability	6	6	
5. Adherence to time working time	6	6	
Total marks by Training Officer	30	30	
Assessment of the Logbook (by the SUA supervisor)			
1. Adherence to guidelines	15	5	
2. Presentation (neatness)	5	5	
Total marks (Logbook)	20	10	
Assessment of the FPT Reports (by SUA supervisor)			
General report	15	10	
Technical Report:			
1. Description/analysis	10	10	
2. Problem identification	5	10	
3. Discussion	10	15	
4. Recommendation(s)	5	10	
5. Neat (illustrations, etc.)	5	5	
Total marks - Reports	50	60	
TOTAL MARKS	100	100	
Penalty for Character Assessment (max. -20 marks)			
GRAND TOTAL SCORE (%)			

Remarks by SUA Examiner;

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Appendix 1

FPT STATION ARRIVAL NOTE

PART A (To be filled by student)

Name of student.....

Year of study..... FPT No.....

I declare that I have started working with

Company/organization

Address: P.O. Box.....

E-mail.....

Location.....

Tel. No.....

Date of starting FPT

Student's mobile phone No.....

Student's email address.....

Signature of student.....Date:

PART B (To be filled by On-Station Supervisor)

Name of On-Station Training Supervisor.....

Position

(E.g. Farm manager, Breeder, Institute Director, etc.)

.....

Mobile phone.....

Email address.....

On-Station Supervisor's signature and stamp..... Date.....

To be sent immediately by post or email after arrival to:

FPT Coordinator

Department of Animal, Aquaculture and Range Sciences

Sokoine University of Agriculture

P.O. Box 3004, SUA, Morogoro

Email.....

Appendix 2: On-Station Student's FPT Assessment Form

ON-STATION FPT ASSESSMENT FORM [to be filled by On-station supervisor]

This is to certify that Mr. /Ms.....
has completed a period of practical training with our factory/institution/firm from
..... to(Date)

Name of the factory/institution/firm

The trainee has worked as **Livestock Field Assistant/ Livestock Field Officer (choose one)**

.....

The duties assigned to the trainee were (List)

.....

.....

.....

Name of On-Station Supervisor Position

Please assign a grade between 0 and 6 to each one of the items 1 to 5 below according to the following grading scale:

5.1 – 6.0: Excellent

4.1 – 5.0: Very good

3.1 – 4.0: Good

2.1 – 3.0: Satisfactory

<2.1: Fail

1. Place the grade in dotted lines for each item.

i. Skills obtained

ii. Attitude to work

iii. Initiative and Independence

iv. Reliability

v. Adherence to working time

2. Number of days the trainee was absent.....

Reasons for absence.....

3. Was the logbook submitted to you weekly for your comments and signature? (Yes/No)....

4. Was there any gross misconduct (e.g. lack of respect to supervisors, fighting, destruction of property, use of abusive language, drunkardness during working time, stealing, etc) by the student at any time during working hours in the entire FPT period? (Yes/No).

If **Yes** provide brief description

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.....

.....

PART 2 CHARACTER SKILLS ASSESSMENT (*tick whichever is applicable*)

S/ N	CHARACTER/SKILLS ASSESSED	Outstanding	Above average	Average	Below average	Poor
1.	Ability to work in a team					
2.	Dependability, Reliability and Trustworthiness)					
3.	Demonstration of a sense of maturity					
4.	Ability to lead, motivate and resolve conflicts					
5.	Ability to devote working time exclusively to work related					

REMARKS

Training Officers namePosition

Signature Date and Place.....

Official rubber stamp

Appendix 3. Sample of Logbook Daily Record

FIELD PRACTICAL TRAINING LOGBOOK SHEET		
Weekly Report No.	Week from:	To:
	Brief description of work performed	Hours
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Total hours per week		
Signature of Training Officer:		Date

