

VETM 1005: Animal Production III

Ruminant Production, Neo-tropical Animal Wildlife and Equines

VETM 1005 Animal Production III
Year 1 Semester II School of Veterinary Medicine

COURSE TITLE: **Animal Production III**
COURSE CODE: **VETM 1005**
LEVEL: **I**
CREDITS: **3**
SEMESTER: **II**
COURSE COODINATOR: **Prof. Gary Wayne Garcia**
Professor of Livestock Science
Department of Food
Production
gary.garcia@sta.uwi.edu
garygwgl@gmail.com
662-2002 Ext. 83328
Room 112, Sir Frank
Stockdale Building

LECTURERS: **Prof. Gary Wayne Garcia**

Teaching Assistants: **Michele Singh**
Department of Food Production
michele.singh@gmail.com
662-2002 Ext. 83328

YEAR: **Semester II 2012 - 2013**

Office hours: All students can communicate on line with the Course Coordinator and Course Lecturers on Line through the Google Group e-Mail account. I would like to advise ALL students that they also get a GMail e-mail address. It has very useful electronic information storage and Transfer Features.

Communication policy: Use the course group email account. In this manner we could all communicate with each other 24 hours a day. All discussions must be polite.

1. Course Schedule

January 21, 2012 to February 22, 2013

Lectures: Thursdays 10:00am-11:00am (Steve Bennett)
 Fridays 10:00am-12:00 Noon (Steve Bennett)

February 25, 2012 to April 19, 2013

Lectures: Thursdays 10:00am-11:00am (Steve Bennett)
 Fridays 10:00am-12:00 Noon (Steve Bennett)

2. Purpose of the Course

This course is to introduce the student of Veterinary Medicine to the World of Animals from the standpoint of production, growth, economics and farm management. It is the one of three courses in which the student will be exposed to domestic and non-domestic animal species. It was designed specifically for the students in the five (5) year degree programme in Veterinary medicine.

3. Course Content

This course contains an introduction to the concepts involved in designing an Intensive Animal Production System, an introduction to Ruminant Production [Sheep, Goats, Dairy, Beef Cattle and Buffaloes], Equine Production and the Production of Non-domestic Neo-tropical animal species.

4. Letter to you the students of VETM1005

Hello and Welcome to all students of this class. We are sure that you would never regret having signed up for Veterinary Medicine, but it is going to be a long haul. In addition we would like to let you know that this will be your first and only course in Animal Production. We will also like to let you know that it would be one of the most enjoyable and exciting courses that you will ever take at the University of the West Indies. This year is the second time that this course is being offered in this manner and we have tried our best to present the different disciplines to you in a very logical and organized manner. Therefore it will be important for you to work slowly but systematically throughout the semester. This semester we have planned for you to cover the material in this course in parallel with the Problems or Cases presented to you in the Problem Based Learning [PBL] sessions. Your PBL sessions this semester will be drawing on the materials that you would be given in

this course. We also have a group email account for this course so that for the first time we shall be introducing you to an **“Open Classroom”**. When you visit the website of the **“Open School of Tropical Animal Science and Production”** you can download most of the Teaching Material for this course. We do hope that you would have a wonderful time with Animal Production this semester. Good luck and welcome to our **“Open Classroom”**. This [your first handout] in this course is going **to describe for you the way in which this course has been organized and how it will be conducted for your enjoyable learning. Please do enjoy!!!!!!!!!!!!!!**

Please read carefully and understand the contents of this communication!!!!!!!!!!!!!!

5. Course Organization

This course is organized into five (5) parts that would be taught by Professor Gary Wayne Garcia as follows:

Part 1: Anatomy and Physiology of Animals

You would not be examined on this section but the information will be given to you for you to get a better understanding of Animal Production.

Part 2: Concepts for Designing Intensive Animal Production Systems – *Prof. Gary Wayne Garcia (10 % of this course)*

Part 3: Ruminants – *Prof. Gary Wayne Garcia (65 % of this course)*

Part 4: Equine Management – *Prof. Gary Wayne Garcia (10 % of this course)*

Part 5: Non-domestic Neo-tropical Animals [Neo-tropical Animal Wildlife] – *Prof. Gary Wayne Garcia (15 % of this course)*

6. Course Objectives

List of Topics

Part 1: Anatomy and Physiology of Animals

Part 2: Concepts for Designing Intensive Animal Production Systems

This will introduce you the Veterinary student to the world of Animal Production.

- 2.1 Factors Affecting Animal Production
- 2.2 Physiological States of an Animal
- 2.3 The Role and Function of Housing and Equipment under Intensive Systems of Production
- 2.4 Concepts for Designing Animal Production Systems
- 2.5 Types of Production Systems

Part 3: Ruminants

3.1 Introduction to Ruminants

- 3.1.1 Uniqueness of Ruminants and the Importance of Ruminants to Mankind
- 3.1.2 Products from Ruminants
- 3.1.3 Types of Ruminant Production Systems
- 3.1.4 What is a Breed?
- 3.1.5 Breed *versus* Type
- 3.1.6 Some Fundamentals of Ruminant Production
- the role and function of Colostrum

3.2 Tropical Hair Sheep Production

- 3. 2.1 Products from Sheep
- 3. 2.2 Physiological States of Sheep
- 3. 2.3 Sheep Industry Production Units Process Flow
- 3. 2.4 Sheep Production Systems
- 3. 2.5 Breeds of Tropical Hair Sheep
- 3. 2.6 Sheep Breeding Systems
- 3. 2.7 Performance Coefficients for Tropical Hair Sheep
- 3. 2.8 Key Considerations for the Production of Tropical hair sheep
 - 3. 2.8.1 Housing

- 3. 2.8.2 Care at Lambing
- 3. 2.8.3 Hoof Care
- 3.5.2.8.4 Grazing Considerations for Internal Parasite Control

3.3 Goat Production in the Tropics

- 3.3.1 Products from Goats
- 3.3.2 Physiological States of Goats
- 3.3.3 Goat Industry Production Units Process Flow
- 3.3.4 Goat Production Systems
- 3.3.5 Goat Breeding Systems
- 3.3.6 Tropical Goat Breeds and Types
- 3.3.7 The French Dairy Goat Production System
- 3.3.8 Performance Coefficients for Tropical Goats
- 3.3.9 Key Considerations for the Production of Tropical Goats
 - 3.3.9.1 Housing
 - 3.3.9.2 Care at Kidding
 - 3.3.9.3 Hoof care
 - 3.3.9.4 Grazing Considerations for Internal Parasite Control

3.4 Dairy Cattle Production

- 3.4.1 Products from Dairy Cattle
- 3.4.2 Physiological States of Dairy Cattle
- 3.4.3 Dairy Cattle Industry Production Units Process Flow
- 3.4.4 Dairy Cattle Production Systems
- 3.4.5 Dairy Cattle Breeding Systems
- 3.4.6 Tropical Dairy Cattle Breeds and Types
- 3.4.7 The Lactation Curve of Dairy Cattle
- 3.4.8 Body Condition Scoring in Dairy Cattle
- 3.4.9 Performance Coefficients for Tropical Dairy Cattle
- 3.4.10 Key Considerations for the Production of Tropical Dairy Cattle
 - 3.4.10.1 Housing
 - 3.4.10.2 Care at Calving
 - 3.4.10.3 Estrus/Oestrus/Heat Detection
 - 3.4.10.4 Grazing of Dairy Cattle

3.5 Beef Cattle Production

- 3.5.1 Products from Beef Cattle
- 3.5.2 Physiological States of Beef Cattle
- 3.5.3 Beef Cattle Industry Production Units Process Flow
- 3.5.4 Beef Cattle Production Systems

- 3.5.5 Beef Cattle Breeding Systems
- 3.5.6 Breeds of Beef Cattle
- 3.5.7 Performance Coefficients for Tropical Beef Cattle
- 3.5.8 Key Considerations for the Production of Tropical Beef Cattle
 - 3.5.8.1 Intensive Housing and Feedlot
 - 3.5.2 Care at Calving
 - 3.5.3 Grazing Systems for Beef Cattle

3.6 Water Buffalo Production

- 3.6.1 Products from Water Buffalo
- 3.6.2 Physiological States of Water Buffalo
- 3.6.3 Water Buffalo Industry Production Units Process Flow
- 3.6.4 Water Buffalo Production Systems
- 3.6.5 Water Buffalo Breeding Systems
- 3.6.6 Breeds of Water Buffalo and the Buffalypso
- 3.6.7 Performance Coefficients for Buffalypso
- 3.6.8 Key Considerations for the care and management of the Buffalypso
 - 3.6.8.1 Housing
 - 3.6.8.2 Estrus/Oestrus/Heat Detection
 - 3.6.8.3 Feeding of the Buffalypso

Part 4: Equine Management

- 4.1 Introduction to the equine industry
 - Overview of the equine industry and the Thoroughbred industry
 - Types and breeds of horses
 - Equestrian activities
 - Economic value of the horse industry
 - Careers in the equine industry
- 4.2 Basic principles of equine husbandry and management
 - Types of housing
 - Pasture management
 - Waste management
 - Biosecurity
 - Costs of maintaining horses
- 4.3 Equine nutrition, general principles
 - Body condition score
 - Energy requirements

Dietary requirements (water, carbohydrate, protein, fat, minerals and vitamins)

Feeding guidelines

Feeding horses at different levels of performance/work

4.4 Equine nutrition, special cases

Pregnant mare

Nursing mare

Colic horse

Geriatric horse

Part 5: Non-domestic Animals [Neo-tropical Animal Wildlife]

5.1 The Neo-tropics and its uniqueness

5.2 Animals, Wildlife and Mini-livestock

5.3 Species of Importance to the Neo-tropics and Considerations for their Production

5.3.1 Avian Species

Ibises

Guams

Chachalacas

Humming Birds/Hummingbirds

Ducks and Geese

5.3.2 Rodents

Guinea Pigs [*Cavia porcellus*]

Agouti [*Dasyprocta leporina*]

Lappe/Paca [*Agouti paca*]

Capybara [*Hydrochoeris hydrochcherus*]

5.3.3 Ruminants

Red Brocket Deer [*Mazama americana*]

5.3.4 Unique Species

Llamas, Alpacas and Vacunas

The Collared Peccary [*Tayassu tajacu/ Pecari tajacu*]

5.3.5 Reptiles

Snakes

Lizards

Crocodillan Species

Spectacled Caiman [*Caiman sclerops*]

Black Caiman/Caiman Noir

7. Learning Outcome

- i. To be able to list and describe the essential components and management practices involved in the production systems of the following animals: Dairy Cattle, Beef Cattle,

VETM 1005 Animal Production III
Year 1 Semester II School of Veterinary Medicine

Buffalo, Sheep, Goats, Aquatic species and some selected Neo-tropical Animals.

- ii. To have an appreciation of the importance of the Neotropics with respect to the availability and production of Non-domestic animals

8. TENTATIVE COURSE CALENDAR

VETM 1005 Animal Production III Course Schedule 2012-2013 Semester II

Date	Time & Place	Topic	Name
Week 1 Thursday 24 th January	10am-11am Steve Bennett	Course Introduction	Prof. G.W. Garcia
Friday 25 th January	10am-12am Steve Bennett	Anatomy and Physiology of Animals [Brief Review]	Prof. G.W. Garcia
Week 2 Thursday 31 st January	10am-11am SVM Amphi. 7- 10 pm Faculty of Agriculture, Main Campus	Anatomy and Physiology of Animals [Brief Review] Slide show	Prof. G.W. Garcia
Friday 01 st February 2012	10am-12am Steve Bennett	Concepts for Designing Intensive Animal Production Systems	Prof. G.W. Garcia
Saturday 2nd Sunday 3rd February	Weekend Field Trip Saturday 5:30 am University Field Station and Centeno Livestock Station Sunday 7:30 am Emperor Valley Zoo and Sugarcane Feeds Centre		
Week 3 Thursday 07 th February	10am-11am Steve Bennett	Concepts for Designing Intensive Animal Production Systems	Prof. G.W. Garcia
Friday 8 th February	10am-12am Steve Bennett	Introduction to Ruminant Production Systems	Prof. G.W. Garcia

VETM 1005 Animal Production III
Year 1 Semester II School of Veterinary Medicine

Saturday 9th February	Computer and Course Information Usability Testing Saturday 9-12 am Computer Laboratory, Sir Frank Stockdale Building, UWI St Augustine Prof. Gary Garcia and Dr. Alexander Nikov		
Week 4 Thursday 14 th February	10am-11am Steve Bennett	Tropical Hair Sheep Production	Prof. G.W. Garcia
Friday 15 th February	10am-12am Steve Bennett	Tropical Hair Sheep Production	Prof. G.W. Garcia
Week 5 Thursday 21 st February	10am-11am Steve Bennett	Goat Production in the Tropics	Prof. G.W. Garcia
Friday 22 nd February	10am-12am Steve Bennett	Goat Production in the Tropics	Prof. G.W. Garcia
Week 6 Thursday 28 th February	10am-11am Steve Bennett	Dairy Cattle Production	Prof. G.W. Garcia
Friday 01 st March	10am-12am Steve Bennett	Dairy Cattle Production	Prof. G.W. Garcia
Week 7 Thursday 07 th March	10am-11am Steve Bennett	Beef Cattle & Water Buffalo Production	Prof. G.W. Garcia
Friday 08 th March	10am-12am Steve Bennett	Quiz #1 [2 hours]	Prof. G.W. Garcia
Week 8 Thursday 14 th March	10am-11am Steve Bennett	Beef Cattle & Water Buffalo Production	Prof. G.W. Garcia
Friday 15 th March	10am-12am Steve Bennett	FREE for Studying	Prof. G.W. Garcia
Week 9 Thursday 21 st March	10am-11am Steve Bennett	Neo-tropical Animals	Prof. G.W. Garcia /M. Singh
Friday 22 nd March	10am-12am Steve Bennett	Neo-tropical Animals	Prof. G.W. Garcia /M. Singh
Week 10 Thursday 28 th	10am-11am	Neo-tropical Animals	Prof. G.W. Garcia

VETM 1005 Animal Production III
Year 1 Semester II School of Veterinary Medicine

March	Steve Bennett		/M. Singh
Friday 29 th March	10am-12am Steve Bennett	GOOD FRIDAY	
Week 11 Thursday 04 th April	10am-11am Steve Bennett	Neo-tropical Animals	Prof. G.W. Garcia /M. Singh
Friday 05 th April	10am-12am Steve Bennett	Equine Production	Prof. G. W. Garcia
Week 12 Thursday 11 th April	10am-11am Steve Bennett	Equine Production	Prof. G.W. Garcia
Friday 12 th April	10am-12am Steve Bennett	Quiz #2 [2 hours]	Prof. G.W. Garcia
Week 13 Thursday 18 th April	10am-11am Steve Bennett	Review	Prof. G.W. Garcia
Friday 19 th April	10am-12am Steve Bennett	Review	Prof. G.W. Garcia

9. TEACHING STRATEGIES

This is a blended course that would be presented to you in the face to face mode within the classroom, with Field Trips and with the use of the PBL (Problem Based Learning) methodology.

10. REQUIRED READING

All required reading will be available from the website of The Open School of Tropical Animal Science and Production

Website: www12.brinkster.com/ostasp/index.aspx

11. ASSESSMENT

- **Coursework (40%)**
- **Final Examinations (60%)**

Coursework breakdown

Assessment	Weight
Mid Semester Quiz #1	20%
End of Semester Quiz #2	10%
Computer Course Information Usability Testing	5%
Field Trip Attendance (2%) & Field Trip Report (2%)	4%
Slide Show Report (1%)	1%
Final Exam	60%
Total	100%

12. ATTENDANCES/ABSENCES

Students are expected to attend most (75%), if not all, classes. Students absent during an exam or when an assignment is due must have an excused absence (requested in writing) to avoid being awarded a zero mark. Discuss any planned absences with the lecturer **prior** to the absence. Emergency absences should be discussed immediately after return to class. Medical excuses must be signed by a physician.

***** *Enjoy your course and Best Wishes* *****

Problem Based Learning [PBL] and Field Trips Semester Schedule

Week of Semester [Dates]	PBL Topic
1] 21/1 to 25/1	
2] 28/2 to 1/2	
THURSDAY 31st January	Special Slide Session 7- 10 PM Lecture Room B, Sir Frank Stockdale Building Faculty of Science and Agriculture St Augustine Campus (1%)
SATURDAY 2nd February	Field Trip 5:30 am - UFS Dairy - Centeno Livestock Station (2%)
SUNDAY 3rd February	9:00 AM - Emperor Valley Zoo - Sugarcane Feeds Centre (2%)
3] 4/2 to 8/2	PBL#1: Sudden Death in Calves
4] 11/2 to 15/2	Carnival Monday and Tuesday NO PBL
5] 18/2 to 22/2	PBL#2: No Kidding
6] 25/2 to 1/3	PBL #3: A Fat Duck
7] 4/3 to 8/3	PBL#4: Persistent Mastitis
8] 11/3 to 15/3	PBL#5: 3 Chickens for \$30
9] 18/3 to 22/3	PBL#6: Chicken Farm Dilemma
10] 25/3 to 29/4	Good Friday NO PBL
11] 1/4 to 5/4	Easter Monday No PBL Friday to be used for Structured Review
12] 8/4 to 12/4	PBL#7: Floating Tilapia and Cascadura
13] 19/4 to 25/4	

Additional Information

All students in the class would belong to a Google Group email account and website. This would afford us to have an “Open Classroom” in which learning and communication can take place 24 hours a day.

How to study for this Course

This course has been laid out for you in a very fluid manner. One weeks information flows into the other. In addition the PBL Cases for the respective subject will be presented to you the same week or the week following the week that the material was introduced to you. It is important therefore that you treat the PBL session with reverence and do not waste the time allocated to the PBL Sessions.

Course Mark Allocation

Continuous Assessment:	40%
Mid Semester Quiz #1	(20%)
End of Semester Quiz #2	(10%)
Computer Usability Testing	(5%)
Field Trips	(4%)
Slide Session	(1%)
Final Exam:	60%
Total:	100%