

Course Title	Herd Management and Medicine				
Course Code	VET-309				
Course Type	Required				
Level	Undergraduate				
Year / Semester	Year 3/ Semester 2 (Spring)				
Teacher's Name	Course Lead: Contributor:				
ECTS	6	Lectures / week	3	Farm visits, tutorials / week	2
Course Purpose and Objectives	<p>The main objectives of the course are:</p> <ul style="list-style-type: none"> • To teach the students the role of the veterinarian in the management of animal health and production in the dairy and beef cattle herds, beef feedlots, swine herds, and sheep flocks. • To teach the students how to give management support to the dairy, beef cattle, swine and sheep farmer, in order to optimize the health, productivity and welfare of the herd. The course will cover management practices and farm conditions which have both positive and negative influences on these aspects. In this course we will not focus on the individual animal or specific disease. We will focus on operational and problem-solving issues such as: nutrition, health care, reproduction, milk production etc. • The course will teach the students to be able to efficiently and effectively plan and manage activities on a farm and livestock business; do actual livestock farming themselves; manage, analyze, interpret and report farm animal data; develop, adapt and evaluate animal production technologies to suit local needs; assist farmers achieve better efficiency and results in their livestock business setting; instruct and assist farmers in modern farming technologies; develop intra- and inter-farm product quality control systems; instruct and assist farmers and the private sector improve and add value to their animal products; and be conversant with modern technologies for use in high level livestock production. 				

	<ul style="list-style-type: none"> Principles of Livestock Health & Production Economics. Principles of Business Management
Learning Outcomes	<p>The following list provides the learning objectives that will be covered in the lectures, lab practical sessions and tutorials of each week:</p> <p>Week 1</p> <p>LOBs covered during lectures:</p> <ol style="list-style-type: none"> Introduction. Development of Dairy Industry in World. Present Status and Future Prospects of Livestock Development in World. Breeding Systems. Mating Systems. Cattle Enterprises. Selecting Cattle Breeding Cattle Calving in Cattle Health Problems in Cattle Herd Health for Cattle Facilities and Equipment for Cattle Beef Cattle Management from Birth to Market. Management of Beef Replacement Stock. Management of Beef Cows and Bulls. <p>Week 2</p> <p>LOBs covered during lectures:</p> <ol style="list-style-type: none"> Dairy Enterprises. Selecting Dairy Cattle. Breeding Dairy Cattle. Calving in Dairy Cattle. Health Problems in Dairy Cattle. Herd Health for Dairy Cattle. Dairy Facilities and Equipment. Management Practices for Dairy Cattle. Sheep and Goat Enterprises. Selecting Sheep and Goat. Breeding Sheep and Goat. Lambing. Health Problems in Sheep and Goat. Flock Health for Sheep and Goat. Facilities and Equipment for Sheep and Goat. Sheep and Goat Management from Birth to Market. Management of Sheep and Goat Breeding Stock. <p>Week 3</p>

LOBs covered during lectures:

33. Swine enterprises
34. Selecting Swine
35. Breeding Swine
36. Farrowing
37. Health problems in Swine
38. Herd health for Swine
39. Facilities and equipment for Swine
40. Managing Swine from birth to market
41. Horse Enterprises.
42. Selecting Horse.
43. Breeding Horse.
44. Foaling.
45. Health Problems in Horses.
46. Herd Health for Horses.
47. Facilities and Equipment for Horses.
48. Management Practices for Horse Production

Week 4**LOBs covered during lectures:**

49. Poultry Enterprises.
50. Selecting Poultry.
51. Breeding Poultry
52. Incubation and Hatching of Poultry.
53. Health Problems in Poultry
54. Flock Health Management.
55. Poultry Facilities and Equipment.
56. Management Practices for Poultry Production.
57. Livestock Terminology
58. Selecting Livestock.
59. Scope and limitation of integrated farming systems.
60. Sustainability of integrated Livestock Farming Systems and their economic importance.
61. New approach for changing farming systems in present energy crises.
62. Project formulation and evaluation of various livestock enterprises

Week 5**LOBs covered during lectures:**

63. Farm Business Record System
64. Format for Livestock Production and Disposal Records
65. Farm Machinery Records
66. Farm Labor Records
67. Milk Production and Marketing Records

68. Analysis of Farm Business Records and Interpretation of Results.
69. Partial Budgets
70. The Enterprise Budget
71. Complete Budget or Whole Farm Budget
72. Inventory of Farm Resources
73. Input-Output Relationship and Relative Profitability
74. Handicaps and Shortcoming in the Existing Plan
75. Preparation of Alternative Plans
- 76.

Week 6

LOBs covered during lectures:

77. Providing Foodstuff for Livestock
78. Feeding Livestock and Poultry
79. Marketing Options for Livestock Enterprises

Field trips to farms.

Week 7

LOBs covered during lectures:

80. Principles of health management in food-producing animals
81. Costs and benefits of a herd health program
82. Disease diagnosis in individuals versus populations
83. Statistics for practitioners- computer oriented advanced tools
84. Testing populations versus testing individuals
85. Determining true prevalence from test outcomes
86. Costs of animal diseases
87. Costs of disease control-eradication programs
88. The difference between statistical significance and clinical significance
89. Practical examples of decision tree analysis
90. How computerized herd health records improve herd management skill

Week 8

LOBs covered during lectures:

91. Infectious diseases of food producing animals
92. Diseases caused by bacteria
93. Diseases caused by viruses, protozoa, rickettsia, helminths and arthropods

94. Zoonoses
95. Use of antimicrobials in food producing animal production
96. Investigation of infectious disease in herds
97. Treatment of infectious disease of food-producing animals
98. Principles of control of infectious disease
99. Procedures for investigating disease outbreaks

Week 9

LOBs covered during lectures:

Dairy herds

100. Overview of the dairy industry
101. Animal and herd productivity
102. Interaction between health and production
103. Managing reproductive efficiency in dairy herds
104. Reproductive disorders and culling
105. Examination of reproductive system and records
106. Investigating reproductive inefficiency
107. Financial implications of reproductive inefficiency
108. Culling and replacement strategies for dairy herds
109. Genetic improvement programs for dairy herds
110. Health management of dairy calves
111. Principles of control and prevention of infectious diseases of dairy calves
112. Health management of replacement dairy heifers

Week 10

LOBs covered during lectures:

113. Mastitis control in dairy herds
 114. Epidemiology of mastitis
 115. Screening tests for detecting mastitis
 116. Contagious mastitis: goals, assessment, and control
 117. Environmental mastitis: goals, assessment, and control
 118. Health problems in dairy cattle associated with nutrition
 119. Health problems associated with the design of facilities and management of the environment
- ##### **Beef cattle**
120. Health management in beef cattle breeding herds
 121. Disease challenges to beef herds
 122. Factors that raise and lower herd susceptibility to disease
 123. Beef cow reproductive pathogens and relative risk by gestational period

124. Herd health calendar for a herd
125. Dystocia management
126. Common enteropathogens associated with acute diarrhea in beef calves
127. Vaccination protocols
128. Parasite control
129. Causes of infertility in beef heard
130. Control and prevention of disease in feedlot cattle
131. Undifferentiated Bovine respiratory disease in cattle in feedlots

Week 11

LOBs covered during lectures:

Swine herds

132. Subclinical diseases and inadequacies of management
133. Veterinarian in swine health and production management
134. Population based problem solving in swine herds
135. Procedure for routine visit to swine herd
136. Effect of the housing on disease incidence
137. All-in, All out systems
138. Identification and control of infectious disease in the swine herd
139. Emergency action plan for herd disease investigation
140. Porcine reproductive and respiratory syndrome virus
141. Vaccination
142. Mastitis metritis agalactia syndrome
143. Control of diseases of the piglet from birth to weaning
144. Respiratory diseases of growing and finishing pigs
145. Gastrointestinal diseases of growing and finishing pigs
146. Locomotor diseases of growing and finishing pigs
147. Skin diseases of growing and finishing pigs
148. Strategic medication of feed and water of growing and finishing pigs
149. Vaccination and the use of anthelmintics and insecticides

Week 12

LOBs covered during lectures:

Sheep flocks

150. Veterinarian's role in flock health
151. Diagnosis and management of reproductive inefficiency
152. Environmental causes of lamb deaths
153. Infectious disease-causing neonatal lamb mortality
154. Dystocia
155. Health management to optimize perinatal survival of lambs

	156. Summary and control procedures in some diseases of sheep 157. Gastrointestinal helminthiasis 158. Footrot 159. Clostridial diseases 160. Control of international spread of infectious diseases of sheep		
Prerequisites	None	Required	None
Course Content	<p>Lecture Topics:</p> <ul style="list-style-type: none"> ● Introduction of Animal Production and Management: Learning about development of dairy industry in world. Present and future prospects of livestock. Getting an idea about breeding system and mating system. ● Cattle Production and Management: learning about cattle enterprise, how to select cattle? learning about breeding system of cattle, facilities and equipment and health management. ● Dairy Cattle Production and Management:-p Learning about dairy cattle enterprise, how to select dairy cattle? breeding system of dairy cattle, facilities and equipment, health management of dairy cattle. ● Sheep and Goat Production and Management: Learning about sheep and goat production and management. Gather knowledge about selection of sheep and goat, production and management. Learning about breeding system, lambing, facilities and equipment and sheep and goat management from birth to market. ● Horse Production and Management: How to create enterprises of horses. How to select horses. Breeding system, Foaling, health problems in horses, herd health for horses, facilities and equipment and management practice for horse production. ● Poultry Production and Management: Learning about poultry enterprises, how to select poultry? Learning about breeding system of poultry, facilities and equipment, health problem, learning about incubation and hatching of poultry. ● Integrated Livestock Farming System: Learning about livestock terminology, livestock selecting, scop 		

	<p>and limitation of integrated farming systems, sustainability of integrated livestock farming systems and their economic importance and project formulation and evaluation of various livestock enterprises.</p> <ul style="list-style-type: none"> ● Analysis of Farm Business: Learning about farm business record system, farm machinery record system, farm labor records, milk production and marketing records, analysis of farm business records and interpretation of results. ● Budget Management for Farm: Learning about partial budget. Budget management for enterprises. Complete budget or whole farm budget. Inventory of farm resources. Learn about input-output relationship and relative profitability. Handicap and shortcoming in the existing plan. Given knowledge about preparation of alternative plans. ● Animal Feeding: Learning about how to provide foodstuff for livestock and feeding livestock and poultry. ● Marketing: Gather knowledge about marketing options for livestock enterprises. ● Concepts in health management in food-producing animals ● Record systems and tools for health monitoring ● Control of infectious diseases ● Control of mastitis in dairy herds ● Investigation of disease outbreaks ● Nutritional management of herd health ● Health management of dairy calves ● Health management in beef cattle breeding herds ● Health management in beef feedlots ● Health management in swine herds ● Health management in sheep flocks
Teaching Methodology	Lecture based learning, small group tutorial sessions and farm visits
Bibliography	<ol style="list-style-type: none"> 1. <u>Livestock production and management</u> 2. <u>Practical manual on livestock production management</u> 3. <u>Herd Health, 3rd, Radostitis</u> 4. <u>Dairy herd health, Green</u>
Assessment	Final written exam 100%
Language	English