

Course Title	Food Safety and Hygiene				
Course Code	Vet-302				
Course Type	Required				
Level	Undergraduate				
Year / Semester	Year 3/ Semester 1 (Fall)				
Teacher's Name	Course Lead: Contributor:				
ECTS	6	Lectures / week	3	Tutorials, abattoir visits, post-mortem training, tutorials/ week	2
Course Purpose and Objectives	<p>The main objectives of the course are:</p> <ul style="list-style-type: none"> ● To give students a deeper understanding about the importance of food safety for human health. ● To explain the students the importance and relevance of safety of foods from animal origin. ● To introduce the students to the foodborne diseases. 				
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"> 1. Definition of foodborne disease 2. Describe the various causes of foodborne disease 3. Describe the consequence of foodborne disease <p>Week 2</p> <p>LOBs covered during lectures:</p> <ol style="list-style-type: none"> 4. Explain food poisoning 5. Explain meat microbiology <p>Week 3</p> <p>LOBs covered during lectures:</p> <ol style="list-style-type: none"> 6. Describe the importance food safety and hygiene 7. Give a short overview about how to maintain food safety and hygiene <p>Week 4</p>				

LOBs covered during lectures:

8. Describe the reasons for cleaning and disinfecting plants
9. Describe the chemistry of cleaning
10. Principles of disinfection
11. Describe hygiene equipment and methods
12. Explain cleaning procedures

Week 5**LOBs covered during lectures:**

13. Describe on-line decontamination of carcasses
14. Explain interventions before hide removal
15. Explain interventions during and after hide removal but before evisceration
16. Explain interventions During and After Evisceration
17. Carcass Spraying Before Fabrication

Week 6**LOBs covered during lectures:**

18. Describe meat establishment construction and equipment
19. Explain what lairage is
20. Describe the slaughter hall

Week 7**LOBs covered during lectures:**

21. Describe the preservation of meat
22. Explain production of bacon and ham
23. Describe refrigeration
24. Explain heat: thermal processing
25. Explain other methods of preservation

Week 8**LOBs covered during lectures:**

26. Describe hygiene production
27. Discuss the sources of contamination
28. Discuss the methods of reducing contamination
29. Explain dressing technique
30. Describe post-slaughter decontamination
31. Hygiene requirements for animal by product processing establishment.

Week 9**LOBs covered during lectures:**

32. Explain production of poultry
33. Discuss the ante- mortem health inspection
34. Discuss the post- mortem inspection in the plant
35. Explain general contamination
36. Guidelines on trimming poultry

	<p>37. Miscellaneous conditions</p> <p>Week 10</p> <p>LOBs covered during lectures:</p> <p>38. Discuss Rabbit's meat production 39. Discuss farmed, park and wild deer 40. Discuss ostrich's meat production 41. Discuss commercial squab production 42. Discuss the hygiene and safety of shell eggs 43. Discuss the hygiene of honey 44. Discuss the hygiene of fish/shellfish</p> <p>Week 11</p> <p>LOBs covered during lectures:</p> <p>45. Describe accident statistics 46. Describe legislation 47. Explain general duties 48. Discuss the key topics requiring risk assessment</p>		
Prerequisites	None	Required	None
Course Content	<p>Lecture Topics:</p> <ul style="list-style-type: none"> ● Foodborne Disease: understanding foodborne disease, major foodborne illness like bacteria, viruses, parasites, prions and outcome of foodborne disease. ● Food Poisoning: We will discuss the types of food poisoning, surveillance of food poisoning, laboratory reports of enteric infection, outbreak surveillance, general considerations, food borne pathogens. ● Meat Microbiology: Bacteriological examination of carcasses, learning about action taken, discuss distribution status, action taken following infringements. ● Importance Food Safety and Hygiene: Learning about food safety and hygiene and how one can ensure food safety and hygiene. ● Plant Sanitation: Learning about scotoma effect' or 'factory-blindness, the soil, the substrate: materials of construction energies of cleaning, chemical and physical reactions of cleaning, biocidal active components, disinfectants, manual cleaning, foam cleaning, spray, gels, fogging, machine washing, cleaning in place (CIP) and the cleaning sequence. ● Strategies for On-Line Decontamination of Carcasses: Introduction of on-line decontamination of carcasses, gather knowledge about cleaning of live animals, 		

cleaning of stunned animals, chemical dehairing. Also know about hide removal, knife trimming, water vacuuming, pre evisceration decontamination, will learn about bung tying and evisceration, carcass splitting, water spray washing, hot water treatment and carcass spraying before fabrication.

- **Meat Establishment Construction and Equipment:** Discuss about meat establishment construction and equipment site, environment, area size, pest control, small abattoir units. Definition of cattle, pig, sheep, deer lairage, clipping or cleaning of livestock, manure disposal. Discussing about stunning area, bleeding area, cattle carcass dressing, sheep slaughter hall, pig slaughter hall, equipment wash and so on.
- **Preservation of meat:** We will discuss the physical changes in stored meat, chemical changes in stored meat, cutting, application of the pickle, production of cooked hams, traditional dry cure bacon, alternative dry cure, common defect of cure meat. Also learn about mechanical refrigeration, chilling of meat, freezing of meat, Storage of fresh meat, effect of freezing on pathogenic, traditional canning methodology, treatment of food to be canned, canning of meat, preservatives, irradiation, high pressure.
- **Meat Hygiene Practice:** Discussing about hygienic production, learning about outer integument, gastrointestinal tract, stunning and sticking, operatives, vermin and pests. Also learn dealing with the dirty animal, clipping cattle on line. Gather knowledge about post-slaughter decontamination.
- **Poultry production, slaughter and inspection:** Poultry feeding stuffs, Poultry flock health, reception and unloading, shacking, chilling, also learn about ante-mortem health inspection, post-mortem inspection in the plant, general contamination, guidelines on trimming poultry and miscellaneous conditions.
- **Exotic meat production:** Discussing slaughter, inspection, post-mortem judgments in rabbit, meat inspection, missing viscera and trimming, gather knowledge about farmed park and wild deer, and learn about commercial squab production.
- **Health and safety in meat processing:** Discussing accident statistics, legislation, general duties, and the key topics of risk assessment where we know about being struck by hand tools including knives, musculoskeletal disorders, slips, trips and falls, contact with machinery, transport, falls from a height, substances/microorganisms

Teaching Methodology	Lecture based learning, practical sessions in abattoir and post-mortem training, small group tutorials sessions
Bibliography	1. <u>Gracey's Meat Hygiene COLLINS</u> 2. <u>Safety of Meat and Processed Meat TOLDRA</u>
Assessment	Final written exam 100%
Language	English