

**Department of Veterinary Preventive Medicine
Veterinary Public Health Specialization**

Food borne diseases, food animal production systems, and food safety.

VPM 722

4 Credit Hours

**Course Syllabus
Winter Quarter 2007**

Course Leaders:

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Description:

This course is divided in three sequenced blocks of information. In the first section, the students will receive an overview of how the food chain for the most common products of animal origin works, with special emphasis in pre-harvest safety issues. The participants will understand how the products from animal sources (milk, meat, eggs and seafood) get from the farms to the table, and at which critical points zoonotic food-borne pathogens and other health risks are most likely to enter the food chain. In the following section, the most common food-borne bacterial and viral diseases will be described in detail, with special emphasis in their epidemiology and transmission. Specific preventive and control measures for each disease will be described and discussed. Finally, during the third block of this class, food safety issues such as antimicrobial resistance, hazard analysis, good management practices, meat inspection, and food safety training will be discussed.

Course Objectives

After completion of this course, students are expected to:

- understand how food animal productions systems work (from a pre-harvest safety point of view) to produce food from animal origin.
- know the most common zoonotic food borne diseases with respect to their etiology, epidemiology, as well as specific preventive and control measures.
- know basic information about food safety issues, such as HACCP, SOPs, GMPs, inspection procedures, among others.

Course Format:

The teaching strategy of this course will be based primarily on lectures. Throughout the course several Faculty from the Veterinary Preventive Medicine Department and invited guest lecturers will teach the different classes. Their names and contact information can be found below in the Course Syllabus. Assigned readings could be used to expand the information in a specific pertinent topic.

Class Schedule:

Week	Date	Lecture	Instructor	No. of Hours	Contact
I	Jan. 3	VPM722- Introduction	Gebreyes	1	X29559
		Dairy Production Systems	Meiring	1	
II	Jan. 8	Dairy Production Systems	Meiring	2	
	Jan. 10	Beef Production systems	Wittum	2	
III	Jan. 15	HOLIDAY- MLKJr.			
	Jan. 17	Swine production systems	Gebreyes	2	
IV	Jan. 22	Poultry production systems	Sander	2	Jean Sander
	Jan. 24	Seafood production system	Levine	1	
		Global food marketing issues	Levine	1	
V	Jan. 29	EXAM-I (Production Systems)	Gebreyes	1	30 Points
		Enteric viruses	Hoet	1	
	Jan. 31	Enteric viruses	Hoet	1	
		Campylobacteriosis	Gebreyes	1	
VI	Feb. 5	Salmonellosis	Wittum	2	
	Feb. 7	Listeriosis	Yousef	1	
		Listeriosis- Applied aspects	Hoet	1	
VII	Feb. 12	<i>Escherichia coli</i> infections	Lejeune	2	
	Feb. 14	Clostridial Infections	Hoet	1	
		Other bacterial diseases	Wittum	1	
VIII	Feb. 19	EXAM-II (Bacterial/ viral diseases)	Gebreyes	1	30 Points
		Antimicrobial Resistance	Gebreyes	1	
	Feb. 21	Inspection Services	Kozimer	2	Phil- ODA
IX	Feb. 26	Postharvest food safety issues	Gallup	2	OSU extension
	Feb. 28	Protozoal diseases	Monahan	1	
		Helminths of foodborne significance	Monahan	1	
X	Mar. 5	Application of HACCP Principles	Folk	2	Mary Kay- FST
	Mar. 7	Application of HACCP Principles	Folk	1	
		Review of Lecture Materials	Gebreyes/ Hoet	1	
XI	Mar. 12-15	FINAL EXAM. (Parasites and ISSUES- Resistance, Post-harvest, Inspection, and HACCP)	Gebreyes/ Hoet	1	40 Points

Grading and Exams:

The grade points will be distributed in four exams, which will be based on the lectures course (32 hrs). Final course grades will be composed as follows:

1 st Exam (Production systems)	(11 hrs)	30%
2 nd Exam (Bacterial & Viral diseases)	(11 hrs)	30 %
3 rd Exam (Parasitic diseases and Issues)	(11 hrs)	35 %
Class participation		5 %

The following grading scheme will be used: 90-100% =A; 80-89% =B; 70-79% =C; 65-69 =D; 0-64 =E

Meeting Place and Time:

A180 Sisson Hall (Funderburg Room)
Department of Veterinary Preventive Medicine
Mondays and Wednesdays from 2:00 to 3:48 pm

Recommended Reading and Useful Websites:

- Hubbert WT. et al. Food Safety and Quality Assurance. Foods of Animal origin. Second edition. Iowa State University Press. Ames, IA. 1996.
- Heymann, D.L. Control of Communicable Diseases Manual. 18th edition. American Public Health Association. Washington, DC. 2004.
- Acha, P.N., Szyfres B. Zoonoses and Communicable Diseases common to Man and Animals. 3rd Edition. Volume I. Bacteriosis and Mycoses. Scientific and Technical Publication No. 580. Pan American Health Organization. Washington, DC. 2003.
- Acha, P.N., Szyfres B. Zoonoses and Communicable Diseases common to Man and Animals. 3rd Edition. Volume II. Chlamydioses, Rickettsioses, and Viroses. Scientific and Technical Publication No. 580. Pan American Health Organization. Washington, DC. 2003.
- Acha, P.N., Szyfres B. Zoonoses and Communicable Diseases common to Man and Animals. 3rd Edition. Volume III. Parasitoses. Scientific and Technical Publication No. 580. Pan American Health Organization. Washington, DC. 2003.

Important Web pages:

Food and Drug Administration (FDA)
Gateway to Government Food Safety Information
<http://www.foodsafety.gov/>

FoodNet - Foodborne Diseases Active Surveillance Network(CDC)
<http://www.cdc.gov/foodnet/>

National Food Safety Programs
<http://www.foodsafety.gov/~dms/fs-toc.html>

World Health Organization (WHO)
Department of Food Safety, Zoonoses and Foodborne Diseases (FOS)
<http://www.who.int/foodsafety/en/>

World Health Organization (WHO)
Foodborne Disease Surveillance Program
http://www.who.int/foodborne_disease/en/

Related Web pages:
WHO - Global Salmonella Surveillance program (Global Salm-Surv, GSS)
<http://www.who.int/salmsurv/en/>

Food Safety Research and Response Network
<http://www.fsrrn.net/modules/news/>