



University of Sadat City
Faculty of Veterinary Medicine
Dept. of Food Hygiene and Control
(2014-2015)



Specific courses in milk contamination, milking abnormalities,
milk-borne diseases, egg hygiene, fats & oils

(708P)

PhD COURSE SPECIFICATION

A. BASIC INFORMATION

University:	Sadat City
Faculty:	Veterinary Medicine
Program on which the course is given:	PhD in Veterinary Medical Sciences (Dairy Hygiene and Control)
Department offering the Course:	Food Hygiene and Control
Course code:	708P
Course title:	Specific courses in milk contamination, milking abnormalities, milk-borne diseases, egg hygiene, fats & oils
Lecture (hr/week):	1
Practical (hr/week):	2
Course coordinator:	Prof .Dr. Abdel Rahman El Bagoury

B. PROFESSIONAL INFORMATION

1) Overall aims of course

Upon successful completion of the course, the student will be able to:

-)] Identify the different sources of milk contamination.
-)] Grading and assessment the quality of the of milk
-)] Describe microbial and sanitary quality of eggs.
-)] Write professional reports.

2) Intended learning outcomes of course (ILOs)

a) KNOWLEDGE AND UNDERSTANDING

By the end of this course, the graduate should be able to:

- a.1. Identify the different sources of milk contamination and ways to control them.
- a.2. Describe the grading of milk and its products.
- a.3. Be aware with the assessment of egg quality, method of preservation and processing of eggs and eggs product.
- a.4. Know the physical, chemical analytical constants of edible fats and oils.
- a.5. Recognize the types of rancidity and the mechanism of its occurrence.
- a.6. Understand the principles of physical and chemical examination of milk, Eggs, fat and oils.
- a.7. Describe microbial and sanitary quality of milk and eggs.
- a.8. Be aware with the effect of drug residues and the toxins present in milk, eggs and its products on the human health.

b) INTELLECTUAL SKILLS

By the end of this course, the student should be able to:

- b.1. Evaluate the hygienic status of milk, dairy product and Eggs.
- b.2. Analyze the available results of examination of milk, egg and fats & oils and interpret of the obtained results according to Egyptian standards.
- b.3. Judging the quality of fat and oils.
- b.4. Write professional analytical reports.

c) PROFESSIONAL AND PRACTICAL SKILLS

By the end of this course, the student should be able to:

- c.1. Collection of samples from milk, dairy products and eggs.
- c.2. Preparation of the samples for chemical and microbial examination using advanced techniques
- c.3. Grading of eggs, milk and its products according to the result of physical, chemical and microbiological examination.
- c.4. Determination the physical and chemical analytical constants of different fats and oils.
- c.5. Detection of the rancid fat and oils.

c.6. Detection of residues and toxins in milk.

d) **GENERAL AND TRANSFERABLE SKILL**

By the end of this course, the student should be able to:

- d.1. Utilize the electronic and digital instruments for analysis, monitoring and reporting data in the modern dairy farms and factories.
- d.2. Build up suitable presentations for his results and the obtained data.
- d.3. Communicate effectively.
- d.4. Utilize different sources of knowledge and information.
- d.5. Demonstrate an ability to learn independently for a career of lifelong learning.
- d.6. Use information technology to serve the professional practice.
- d.7. Manage time efficiently.
- d.8. Set tools and indicators for assessment of the performance of others.

3) Topics and contents

Topic	No. of hours		
	Lect.	Pract.	Total
Basic principles	4	-	4
Sources of milk contamination	6	-	6
Hygiene of milk and its products	6	-	6
Assessment the quality of egg	4	-	4
Preservation and Processing of egg and egg products	6	-	6
Fat and oils physical characteristics	4	-	4
Fat and oils chemical characteristics	6	-	6
Rancidity of fat and oils	4	-	4
Drug residues and toxins in milk and egg and their products	4	-	8
		-	
Total	44	-	44
Practical application			
Sampling of Milk and its products	-	6	8
Preparation of collected samples for chemical and microbial examination	-	10	8
Physical examination of Milk and its products	-	8	8
Chemical examination of Milk and its products using milk scan	-	12	12
Microbial and sanitary examination of milk and its product	-	12	12
Sampling of eggs and its products	-	8	8
Assessment the quality of the eggs	-	8	8
Detection of residue and toxins in food	-	10	10
Examination of fat and oils:	-	14	14

<ul style="list-style-type: none">) Sampling of fat and oils) Physical analytical constant) Chemical analytical constant) Detection of rancidity 			
Total No of hours	-	88	88
Total	44	88	132

4) Teaching and learning methods

- 4.1. Lectures.
- 4.2. Practical.
- 4.3. Self-learning activities.

5) Student assessment

a. METHODS:

1- Written examination	For assessment of knowledge, back calling and Intellectual skills
2- Practical examination	For assessment of practical and professional skill.
3- Oral examination	For assessment of knowledge and Intellectual skills
4- Student activities	For assessment of knowledge and general and transferable skills

b. MATRIX ALIGNMENT OF THE MEASURED ILOs/ ASSESSMENTS METHODS:

	K.U (a)	I.S (b)	P.P.S (c)	G.S (d)
Written exam	1,2,3,4,5,6,7,8	1,2		-
Practical exam	-	2,3,4	1,2,3,4,5,6	-
Oral exam	1,2,3,4,5,8	1,2	-	-
Student activities (assay, seminar, etc.)	-	-	-	1-8

c. WEIGHT OF ASSESSMENTS:

Assessment	Allocated Mark	Evidence
Final written exam	50%	Marked and signed written paper
Practical exam	20%	Marked and signed practical exam paper
Oral exam	20%	Signed list of oral exam marks

Student assignments	10%	Representative samples of presented materials
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6) List of references

6.1. Essential textbooks

James M Jay. 2005. Modern Food Microbiology. IVth Edition. CBS publishers and Distributors, New Delhi.

WC Frazier & DC Westhoff. 2006. Food Microbiology. IVth edition. Tata McGraw Hill Publishing Co.

Bibek Ray. 2000. Fundamental Food Microbiology. CRC Press, New York.

. H. Michael Wehr, Joseph F. Frank.2004. APHA Standard Methods for the Examination of Dairy Products. 17Th Edition. American Public Health Association.

6.2. Recommended books

) MR Adams and MO Moss. 2000. Food Microbiology. New Age International (P) Ltd, Publishers.

) F. P. Downes, Keith Ito. 2001. Compendium of Methods for the Microbiological Examination of Foods. IVth Edition. American Public Health Association

) James M. Jay, Martin J. Loessner ,David A. Golden, Modern Food Microbiology (Food Science Text Series) ,2006

) Bibek Ray , Arun Bhunia: Fundamental Food Microbiology, Fourth Edition,2007 ,CRC Press

) Thomas J. Montville, Karl R. Matthews, Kalmia E. Kniel: Food Microbiology: An Introduction,2012 ,ASM Press

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6.3. Periodicals

) J. of food science

) J. of milk and food technology.

) J. of Food Protection

) J. Food Microbiology

) J. of Dairy Science

6.4. Web sites

) www.who.org

) www.idf.org
) www.fao.org
) www.fda.org

7) Facilities required for teaching and learning

- 7.1 Data-show.
- 7.2 .Different medi foe isolation and identification od M.Os
- 7.3 Network for technology transfer.
- 7.4 Milk scan for analysis of milk
- 7.5 Computer.

	Course coordinators	Head of department
Name	Prof .Dr. Abdel Rahman El Bagoury	Prof. Dr. Abdel Rahman El Bagoury
Signature		

Matrix alignment of course topics and ILOs

Topic	No. of hours /week		Total hours	Hours for Lect.	Hours for Pract.	ILOs			
	Lect.	Pract.				K.U	I.S	P.P.S	G.T.S
						(a)	(b)	(c)	(d)
Basic concepts	4	-	4	4	-	1			1-8
Sources of milk contamination	6	-	6	6	-	1			1-8
Hygiene of milk and its products	6	-	6	6	-	2	1		1-8
Assessment the quality of egg	4	-	4	4	-	3	1		1-8
Preservation and Processing of egg and egg products	6	-	6	6	-	3			1-8
Fat and oils physical characteristics	4	-	4	4	-	4			1-8
Fat and oils chemical characteristics	6	-	6	6	-	4			1-8
Rancidity of fat and oils	4	-	4	4	-	5	3		1-8
Drug residues and toxins in milk and egg and their products	4	-	4	4	-	8			1-8
Sampling of Milk and its products	-	8	8	-	8			1	1-8
Preparation of collected samples for chemical and microbial examination	-	8	8	-	8			2	1-8
Physical examination of Milk and its products	-	8	8	-	8	6	2,4	3	1-8
Chemical examination of Milk and its products	-	12	12	-	12	6	2,4	3	1-8
Microbial and sanitary examination of milk and its product	-	12	12	-	12	7	2,4	3	1-8
Sampling of eggs and its products	-	8	8	-	8			1	1-8
Assessment the quality of the eggs	-	8	8	-	8			3	1-8
Detection of residue and toxins in food	-	10	10	-	10			6	1-8

Topic	No. of hours /week		Total hours	Hours for Lect.	Hours for Pract.	ILOs			
	Lect.	Pract.				K.U (a)	I.S (b)	P.P.S (c)	G.T.S (d)
Examination of fat and oils:	-			-		6			
) Sampling of fat and oils									
) Physical analytical constant		14	14		14		4	1,4,5	1-8
) Chemical analytical constant									
) Detection of rancidity									
total	44	88	132	44	88				