Kafrelsheikh University
Faculty of Veterinary Medicine

COURSE SPECIFICATION

(2016 / 2017)

1- Basic Information:

Code number…….

Course title: Milk, eggs and their products hygiene and fats & oils (A,B)

Academic Year: fourth year *of B. V. Sc.* Programme

Total teaching hours: 150 hrs

- Lectures: **90 hr**

- Practical: **60 hr**

2- OVERALL AIMS OF THE COURSE:

To provide students with basic knowledge of hygienic production of milk and dairy products ; to gain the skills to analyze milk samples, dairy products, fats, oils and eggs: and to write a report about the suitability of each sample for human consumption.

3- INTENDED LEARNING OUTCOMES (I. L. Os.):

3-A: KNOWLEDGE and UNDERSTANDING:

By the end of the course, students should be able to:

A1- Discuss the basis of milk hygiene, composition, physical ,chemical and microbiological analysis of milk

A2- Identify the clean milk .

A3- Estimate the dangerous residues in milk and abnormal milk.

A4- Explain the international organizations dealing with food, and laws and ethical codes relevant to milk.

A5- Remmember Knowledge about milk-borne pathogens and spoilage organisms

A6- Estimate the methods of manufacturing of dairy products

A7- Outline the chemical composition and microbiology of dairy products.

A8- Identify physical and chemical criteria of milk fat and other types of fats and oils.

A9- Infer and define the normal structure of eggs and egg faults.

3-B: INTELLECTUAL SKILLS:

By the end of the course, students should be able to:

B.1- Assess the important problem from case interaction.

B.2- Design appropriate quantitative and qualitative advanced methodologies.

B.3- Originate the HACCP system at the dairy plants and revise the methods to confirm its correct application

B4- Design the methods to improve the quality of milk, dairy products and eggs.

3- C: PRACTICAL AND PROFESSIONAL SKILLS:

By the end of the course, students should be able to:

C.1- Apply ideal methods to collect and transfere the samples.

C.2- Sketch the method to minimize the risks of contamination and cross infection.

C.3- Examine and report milk samples (physically, chemically, microbiologically and for residues).

C.4- Examine and report dairy products samples (physically, chemically, microbiologically and for residues) and fats & oils(physically and chemically).

C.5- Examine and report eggs samples (physically, microbiologically and for residues).

3- D: GENERAL SKILLS:

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

D.1- Draw the way by which he should be able to work effectively as a member of a team in the delivery of services to community.

D.2- Prioritize effective communication with the public, colleagues and appropriate authorities.

D.3- Apply the skills to be able to have access to the internet and retrieve information.

D.4- Write reports in a form that is satisfactory and understandable.

D.5- Apply primary research techniques and critical evaluation.

D.6- Originate the ethical behaviors between students and staff members as well as among the students themselves.

4- COURSE CONTENTS:

4.A:- First semester topics (A):-

TOPIC	Total hours (Semester)	Hours for lecture	Hours for practical
Sampling and physical properties of milk	14	4	10
Milk composition and its chemical analysis	18	12	6
Dairy microbiology	8	6	2
Fermentation	4	3	1
Milk quality and keeping quality tests	10	6	4
Clean milk production, detergent and sanitizer	6	6	-
Pathogens in milk	5	2	3
Diseases transmitted through milk	5	3	2
Residues and contaminants	5	3	2
Total	75	45	30

4. B: Second semester topics (B):

TOPIC	Total hours (Semester)	Hours for lecture	Hours for practical
Food poisoning	5	5	-
Mastitis and milk quality	5	3	2
HACCP system in dairy plants	5	3	2
Heat treatment of milk	6	4	2
Food processing technologies	2	2	-
Dairy products and functional foods	30	14	16
Edible fats and oils	9	5	4
Table eggs	13	9	4
Total	75	45	30

5- TEACHING & LEARNING METHODS:

***Lectures**

- (using data show, white board, overhead projector and brain storming)

***Practical and small group sessions:**

- 1: Practical training.
- (Practical demonstrations, practice of skills, and discussions)

*** Site visits**

- one visits to the dairy to the dairy plant in the second term for practical application

*** Self learning**

- **Computer researches and faculty library visits to prepare essays and presentations.**
  - Library researches.
  - Internet researches.
  - Discussion in the researches.
  - Preparation of posters
  - Preparation of scientific reports.

*** Audiovisual**

- Video show.

6. METHODS FOR STUDENTS WITH LIMITED CAPABILITIES:-

- **No disabled students until now, but if present the methods are:**
  - Activation of office hours.
  - Discussion with them during practical session.

7. STUDENT ASSESSMENT:

7.a Used methods	Written examination	Oral examination	Practical examination	Activities
7.b time	After the 15th week in the first and second term	After the 15th week in the first term and second term	Within the15th week in the first and second term	5th week 8th week (include MCQ exam, research paper, ppt,video show preparation)
7.c grads in each term	50 (50%)	20 (20%)	20 (20%)	10 (10%)

8. LEARNING AND REFERENCE MATERIALS:

8-1: BASIC MATERIALS:

- **Department notes:** available for students to purchase from the department.
- White board, overhead projector and data show presentations used during teaching.

8-2: Recmonded books:

82.a- Wilkie F. Harrigan: Laboratory methods in food microbiology. Academic press limited

8.2.b- Alan, H. Varnam, Jane P. and Sutherland: Milk and milk products. Chapman & Hall.

8.2.c- -Pesticides residues in food evaluations. FAO(1990).

8.2.d- Sara Martimore and Carole Wallace: HACCP A practical approach.

8.2.e- A.H.Varnam: Food borne pathogens. Wolfe publishing Ltd.

8.2.f- RK. Robinson: Modern dairy technology. Library of congress.

8-3: SUGGESTED books:

- Laboratory , apparatus
- Chemicals, glasses reagents and media
- Kits
- Data show

8.4: web sites and jouranls …..and so on

- WWW.PubMed.com
- Intrnational of veterinary information services (IVIS)
- www.Vet.net.com
- journal of food protection
- Science Direct web site
- Journal of Dairy science

Course content ILOs Matrex:

TOPIC	K.U (a)	I.S (b)	P.P.S (c)	G.T.S (d)
1st Semister				
Sampling and physical properties of milk	A1-A4	B1-B2-B4	C1-C2-C3	D1-D2-D3-D4-D5-D6
Milk composition and its chemical analysis	A1- A4	B1-B2-B4	C1-C2-C3	D1-D2-D3-D4-D5-D6
Dairy microbiology	A1-A2-A4-A5	B1- B3-B4	C1-C2-C3	D1-D2-D3-D4-D5-D6
Fermentation	A1-A2-A4-A5	B1- B3-B4	C1-C2-C3	D1-D2-D3-D4-D5-D6
Milk quality and keeping quality tests	A1-A2- A4-A5	B1-B2-B3-B4	C1-C2-C3	D1-D2-D3-D4-D5-D6
Clean milk production, detergent and sanitizer	A1-A2- A3-A4	B1-B2-B3-B4	C1-C2-C3	D1-D2-D3-D4-D5-D6
Pathogens in milk	A1-A2- A4-A5	B1-B2-B3-B4	C1-C2-C3	D1-D2-D3-D4-D5-D6
Diseases transmitted through milk	A1-A2- A4-A5	B1-B2-B3-B4	C1-C2-C3	D1-D2-D3-D4-D5-D6
Residues and contaminants	A1 -A3-A4	B1-B2-B3-B4	C1-C2-C3 C4C5	D1-D2-D3-D4-D5-D6
2nd Semister				
Food poisoning	A1-A2-A3-A4-A5	B1-B2-B3-B4	C1-C2-C3-C4-C5	D1-D2-D3-D4-D5-D6
Mastitis and milk quality	A1-A2-A3-A4-A5	B1-B2-B3-B4	C1-C2-C3	D1-D2-D3-D4-D5-D6
HACCP system in dairy plants	A1-A2-A3-A4-A6	B1-B2-B3-B4	C1-C2-C3-C4	D1-D2-D3-D4-D5-D6
Heat treatment of milk	A1-A4-A6-A7	B1-B2-B3-B4	C1-C2-C3-C4	D1-D2-D3-D4-D5-D6
Food processing technologies	A4-A5-A6-A7	B1-B2-B3-B4	C1-C2-C3-C4-C5	D1-D2-D3-D4-D5-D6
Dairy products and functional foods	A1-A2-A3-A4-A5-A6-A7	B1-B2-B3-B4	C1-C2-C3-C4	D1-D2-D3-D4-D5-D6
Edible fats and oils	A1-A4-A6-	B1-B2-B3-	C1-C2-C3-	D1-D2-D3-

	A7-A8	B4	C4	D4-D5-D6
Table eggs	A9 A4	B1-B2-B4	C1-C2-C5	D1-D2-D3-D4-D5-D6

Assessment ILOs Matrix:

Methods	I.L.O.S Evaluation				Marks allocated
	Knowledge	Intellectual	Practical	general	
Written examination	A1.A2.A3.A4. A5.A6.A7.A8. A9	B1.B2.B3.B4			50
Oral examination	A1.A2.A3.A4. A5.A6.A7.A8. A9	B1.B2.B3.B4			20
Practical examination			C1.C2.C3.C4. C5	D4.	20
Activities	A1.A4.A5.A6. A7.A8.	B1.B.3B4		D1.D2.D3.D4. D5. D6	10

Course Coordinator — **Prof. Dr. Azza sobeeh**

Head of Department — **Prof. Dr. Azza M.M. Deeb**