

## Specification for milk and their products, oils, fats and eggs hygiene and control course 2019/2020

### A-Affiliation

1.	Relevant program	Bachelor of Veterinary Medical Science (BVMSc)
2.	Department offering the course	Food hygiene and control

**Date of specification approval:** ministerial decree No. 1727 on 26/4/2017  
(Approved in this template by the department council on 1/10/2019)

### B-Basic information

1.	Course title	Milk and their products, oils, fats and eggs hygiene and control
2.	Course code	305 (A) I
3.	Level	3 <sup>rd</sup> year
4.	Semester	First semester
5.	Total hours	4
6.	Lecture hours	2
7.	Practical hours	2

### C-Professional Information

#### 1- Course learning objectives

By the end of this course students should have gained the principles knowledge, concepts as well as the testing skills related to physical properties, composition and microbiological quality of milk

#### 2- Intended learning outcomes of the course (ILOs):

##### a- Knowledge and understanding

After successful completion of the course the students should be able to:

- a1- Recall the composition and physical properties of milk.
- a2- Outline microbial infection and intoxication, toxicology of the study food items regarding source of contamination, products defects, public health hazards and their control.
- a3- Discuss milk biosynthesis and principles of clean milk production
- a4- Summarize the steps of manufacture of heat treated milk
- a5- Discuss the detection of milk adulteration.
- a6- Describe briefly the methods of milk adulteration
- a7- Draw a HACCP diagram for milk
- a8- Recall specific criteria for evaluation of milk

##### b- Intellectual skills

After successful completion of the course the students should be able to:

- b1- Interpret laboratory and sensory findings correctly for the evaluation of fluid milk.
- b2- Categorize types of food poisoning according to etiology, public health hazards and control measures.
- b3- Develop a systemic approach for tracing source of contamination and spoilage in milk
- b4- Integrate GMP, the HACCP principles and QA systems in fluid milk
- b5- Concise hot milk hygiene issues to educate the general community

### c- Professional and practical skills

After successful completion of the course the students should be able to:

- c1- Obtain representative samples of fluid milk for sensory, chemical and microbiological examination.
- c2- Prepare samples of fluid milk examinations safety
- c3- Examine milk organoleptically, chemically and microbiologically by different devices and equipment carefully.
- c4- Apply GMP programs on dairy farm and plant basis to sustain and improve milk quality
- c5- Write reports professionally in milk hygiene

### d- General and transferable skills

After successful completion of the course the students should have the following skills

- d1- Demonstrate communication, teamwork and problem solving skills.
- d2- Use information technology, e.g. PC and internet.
- d3- Organize tasks and resources.

### 3- Course contribution in the program ILOs:

Course ILOS	Program ILOS
A <b>Knowledge and understanding</b>	a <sup>13</sup>
B <b>Intellectual skills</b>	b <sup>10</sup>
C <b>Professional and practical skills</b>	c <sup>6</sup>
D <b>General and transferable skills</b>	d <sup>1,3,4, 6</sup>

#### 3.1- Course contents:

Topic	Lecture hours	Practical hours
Introduction and course specification	6	
Properties of milk		
Sources of adulteration of milk	6	
Dairy microbiology	8	
Heat treatment and clean milk production	4	
Criteria for evaluation of milk and hazard analysis	4	
Sampling of milk	-	4
Physical and chemical examination of milk	-	4

Preservatives and adulteration of milk	-	<b>6</b>
Sanitary and keeping quality tests	-	<b>6</b>
Microbiological examination of milk	-	<b>6</b>
Testing for efficiency of heat treatment and sterilization	-	<b>4</b>
Quality assurance & safety of milk	<b>2</b>	<b>0</b>
<b>Total hours</b>	<b>30</b>	<b>30</b>

**The midterm and practical exams are included during the semester**

### 3.2- ILOs matrix:

Topic	A) Knowledge and understanding	B) Intellectual skills	C) Professional and practical skills	D) General and transferable skills
Introduction and course specification	-	-	-	-
Properties of milk	a1,3,,6, 8	b1	-	d1,2
Sources of adulteration of milk	a2, ,6,7	b1	-	d1,2
Dairy microbiology	a2, 4,7,8	b 2,3, 5	-	d1,2
Heat treatment and clean milk production	a,3, 5,	b1, 4,	-	d1,2
Criteria for evaluation of milk and hazard analysis	a7,8	b4,	-	d1,2
Sampling of milk	-	-	c1, 4	d2,3
Physical and chemical examination of milk	-	-	c1,5	d2,3
Preservatives and adulteration of milk	-	-	c2,3, 5	d2,3
Sanitary and keeping quality tests	-	-	c2,3, 5	d2,3
Microbiological examination of milk	-	-	c 2,3,4,5	d2,3
Testing for efficiency of heat treatment and sterilization	-	-	c,3, ,5	d2,3
Quality assurance & safety of milk	a7,8	-		d2,3

#### 4- Teaching, learning and assessment methods:

ILOs	Teaching and Learning methods							assessment method					
	L	P&M	D	P	Ps	Bs	Fv	semester	midterm	oral	practical	written	
Knowledge and understanding	a1	x	x	0	0		0	0	x	x	x	0	x
	a2	x	x	0	0		x	0	x	x	x	0	x
	a3	x	x	x	0		0	0	x	x	x	0	x
	a4	x	x	0	0		0	0	x	x	x	0	x
	a5	x	x	x	0		0	0	x	0	x	0	x
	a6	x	x	0	0		0	0	x	0	x	0	x
	a7	x	x	0	0		0	0	x	0	x	0	x
	a8	x	x	0	0		x	0	x	0	x	0	x
Intellectual skills	b1	x	x	0	0	x	0	0	x	x	x	0	x
	b2	x	x	x	0	x	x	0	x	x	x	0	x
	b3	x	x	0	0	x	x	0	x	x	x	0	x
	b4	x	x	0	0	x	x	0	x	0	x	0	x
	b5	x	x	0	0	x	x	0	x	0	x	0	x
Professional and practical skills	c1		x	0	x	x	0	0	x	0	x	x	0
	c2		x	0	x	x	0	0	x	0	x	x	0
	c3		x	0	x	x	0	0	x	0	x	x	0
	c4		x	0	x	x	0	x	x	0	x	x	0
	c5		x	0	x	x	0	x	x	0	x	x	0
General skills	d1	x	x	x	x	x	x	x	x	0	x	0	x
	d2		x	0	0	x	0	0	x	0	x	0	0
	d3	x		0	0	x	0	0	x	0	x	0	0

L :Lecture, P&M: Presentations & Movies, D&S: Discussions & Seminars PT: Practical, Ps: Problem solving, Bs: Brain storming, Fv: field visit

#### 5- Assessment timing and grading:

Assessment method	timing	grade
Mid-term exam and semester work	6 <sup>th</sup> week	15
Practical exam	14 <sup>th</sup> week	20
oral exam	End of semester	15
Written exam	End of semester	50
total		100

#### 6- List of references

##### 6.1- Course notes:

Department notes on Milk hygiene (Staff members of milk Hygiene)

##### 6.2- Essential books (text books)

- Snmahindru, 2009: Milk and Milk Products. Aph Publishing Corporation, Dehi.
- Robert, W., 2006: Microbiology and Technology of Fermented Foods. Blackwell publishing, USA.

##### 6.3- Recommended books

- **Course note.**
- Tamime, AY. 2009: Milk Processing and Quality Management, First Edition, Wiley Blackwell publishing, UK.

#### 6.4- Periodicals, Web sites, . . . etc

- Journal of Dairy Science.
- Journal of Dairy technology.
- Benha veterinary medical journal
- [www.idf.org](http://www.idf.org)
- [www.ekb.eg](http://www.ekb.eg)
- [www.who.org](http://www.who.org)

#### 7- Facilities required for teaching and learning

- Data show
- White board
- Food control laboratory.
- Educational farm
- Central lab

**Course coordinator: Prof Dr. HAMDI ABDELSAMEI**

**Head of department Prof. Dr. MOHAMED AHMED HASSAN**

**Signature .....**

Date 1/10/2019

