Beni Suef University
Faculty of Veterinary Medicine
Department of Food hygiene

Program Specification for Master Degree
2017-2018

A-Basic information:

1- Program title: Master degree in Hygiene and Control of Milk and milk products and eggs
2- Program type: *Single*
3- Department offering program: *Food Hygiene*
4-Academic year: *2017-2018*
5-Approval date of Department Council:
6-Approval date of Faculty Council:
7-External evaluator: Prof. Dr. Mustafa Khalil

B-Professional information:

1- Overall aims of the program:

1. Provide graduates the opportunity to develop communication skills.
2. Enable graduates to achieve competency in modern laboratory technology used in assessing the quality and safety of milk and its products.
3. Allow graduates to develop practical research project.
4. Develop the ability of graduate to engage critically with scientific literature and to critically review and present their own research data.
5. To participate in the research design according to the different available tools.
6. To acquire life-long habits of reading, literature searches, consultation with colleagues, attendance at scientific meetings, and the presentation of scientific work those are essential for continuing professional development (CPD).
7. Enable candidate to "start professional careers as specialists of milk hygiene, pursue higher studies and subspecialties and understand and get the best of published scientific research and do their own".

2- Intended learning outcomes of course (ILOs):

a- Knowledge and understanding:

On successful completion of this program the graduate should be able to :

a1- Acquire the advanced concepts in dairy microbiology and its relation to public health.

a2-demonstrate sufficient essential knowledge of the main subjects related to food hygiene e.g microbiology and biochemistry.

a3- give the recent and update developments in the most important themes related to milk hygiene.

a4- mention the basics of quality assurance to ensure production of safe milk and its impact on public health.

a5- Recall the ethical and scientific principles of medical research .

b- Intellectual skills:

On successful completion of master program the graduate should be able to:

b1- Identify , conceptualize and define research problems and questions regarding milk quality.

b2- critically evaluate their own research data and develop new approach to solving their research questions

b3- develop creative approaches to solving technical problems or issues associate with running and researches project.

b4-Formulate management plans and alternative decisions in different situations in the field of milk hygiene.

b5- Demonstrate an investigatory and analytic thinking approach (problem solving) to common situations related to milk hygiene

c- Professional and practical skills:

On successful completion of this program the graduate should be able to:

c1- Apply the principles of good experimental design and analysis to their own research project .

c2- Select and perform relevant statistical analysis on data obtained for their own research .

c3- Write competently all forms of professional reports related to milk hygiene

C4- perform effectively all types of relevant research work related to his master.

C5- carry out all steps of writing and criticism.

d- General and transferable skills:

On successful completion of this program the graduate should be able to:

d1 Work effectively with others as a member of team or other professional group.

d2 Utilize different available resources for efficient obtaining of knowledge and

information.

d3 Have continuous self-learning, own Self-evaluation and mange time efficiently.

d4 Perform practice-based improvement activities using a systematic methodology (share in audits and risk management activities and use logbooks).

3- Academic standers:

* The faculty mission, vision and strategic objective are confirmed to the academic standard. The learning outcomes are inline with the department and the faculty mission.

* Postgraduates NARS (March 2009) Master degree chapter issued by national authority for quality assurance and accreditation of education (NAQAAE) and Veterinary medicine post graduate academic standards (ARS) for the faculty of veterinary medicine, Beni-Suef University, Beni-Suef, Egypt are selected to confirm the appropriateness of the academic standards .

4- Program Structure and Contents

A- Program duration: At least two academic years from the approval of registration by the Faculty Council and maximum four years. The faculty council has the right to give the applicant another period not exceed two years according to the supervisor request

The first year for preliminary courses study, while the second year for researches and preparation of the Master Thesis.

B- Program structure: Hours/ week:

Basic course:-

Theoretical	4	Practical	7	Total	11

Subsidiary courses:-

Theoretical	4-8	Practical	6-8	Total	10-16

☒ **Master Thesis: completed during the second academic year.**

C- Program courses:

1- basic courses

Code	Course title	Hours /week		Academic year	Teaching duration
		theoritical	practical		
	Master Principal course	3	4	Preliminary year	36 weeks
	Research methods	1	3	Preliminary year	36 weeks

2-subsidiary courses

Code	Course title	Hours /week		Academic year	Semester
		theoritical	practical		
	Selected (3-5) courses depending on the thesis title from the various Faculty Master courses other than specialty of the Master.	5-6	6-9	Preliminary year	36 weeks

D- Courses contents

See master courses specification

5- Program Admission Requirements

a- According to the Faculty of Veterinary Medicine, Beni-Suef University Bylaws for Post Graduate Programs, applicants should have BVSc., from an Egyptian University or equivalent degree from any approved university, with at least general grade (Good) and (Very Good) in the specialized subject.

b- Also if the student has postgraduate diploma in one specialization of total (3 hours) at least with general grade (Good) and (Very good) in the specialized subject.

c- According to Beni-Suef University requirements, all applicants for postgraduate studies should fulfill preliminary courses on the following subjects:

I- English language (Toefl or equivalent degree)

2- Computer skills (ICDL) or equivalent computer course.

d- Admission to the program is open during March and September annually after at least one year from the BVSc degree.

6. Regulations for Progression and Program Completion

After finishing the preliminary courses, the graduate student will be eligible to sit for the examination according to the following roles:

No. of course teaching hours/ week	Allowed time for written exam.	Degree	
		Theoretical	Practical and oral exam
≥ 3 hours	3 hours	50	50
≤ 3 hours	2 hours	25	25

- It is mandatory to pass all the courses each chance except biostatic (212)
-The passing mark in each exam is ⩾ 60%.
-The faculty council has the right to deprive the applicant from entering the exams if his attendance courses is less than 75% .

Qualification grades:

Excellent	≥ 90
Very good	≥80
Good	≥70
Pass	≥60
Failed	45 to less than 60 weak
	Less than 45 Very weak

-After passing, the graduate starts research for Master Thesis at the beginning of the second year.
-The candidate will receive his degree after evaluating and approving the thesis by a committee according to University regulations.
-The applicant should publish at least two scientific papers from the thesis in local or international journals

7-Graduate student assessment

A: Assessment Tools

According the Faculty of Veterinary Medicine, Beni-Suef University Bylaws for Post Graduate, students should be assessed at the end of preliminary year and the thesis should be evaluated and approved by a committee according to University regulations.

1-Preliminary year

Assessments methods for each course	practical exam	Oral exam	Written exam
Time of Assessments	By the end of the year	By the end of the year	By the end of the year
Marks	25	25	50

2-Master Thesis:

All master-degree students should prepare a thesis in **Milk Hygiene**. The department council must approve the protocol (plan) of the research. The thesis is supervised by one or more staff members and may include other specialties according to the nature of the research. The thesis should be evaluated and approved by a committee according to University regulations. The applicant should publish at least one scientific paper from the thesis in local or international journals

B- Matrix alignment of the measured ILOs

Assessments methods	Matrix alignment of the measured ILOs			
	K&U (a)	I.S (b)	P&P. S (c)	G&T. S (d)
written exam	a3, a4	b3	c1,c2,c4	d2
Practical exam	a1	b1,b2,b3,b4	c1,c2,c3	d1,d2
Oral exam	a1,a2	b1,b3	c2	

Course coordinator **Head of the Department**

Prof. Dr. Arafa Meshref

Master Program Specification Matrix (Program Courses with ILOS)

Program ILOs		courses
Knowledge and understanding	a1	Principle,113, 114, 115,117,118,119
	a2	Principle, 113, 114,115,116,117,118
	a3	113,117,118
	a4	Principle, 114,116,119
	a5	115
Intellectual skills	b1	Principle, 113, 114,115,116,117,118,thesis
	b2	thesis
	b3	thesis
	b4	Principle, 114,115,116,118,119
	b5	Principle,117,thesis
Professional and practical skills	c1	Principle, 113, 114, 115,116,117,118,119
	c2	principle
	c3	113, 114, 115,116,117,118,119
	c4	Principle, 113, 114,115,117,118,119
	c5	principle
General and transferable skills	**d1**	Principle, 113,115,116,117,118,119
	d2	114,115,116,117,118,119
	d3	Principle, 114,115,116,117,118,119
	d4	Principle,115

Program aims – ILOS Matrix for the Master Degree

مصفوفة اهداف البرنامج مع مخرجات التعلم المستهدفة

Program ILOS		Program aims	
		a- Provide the students with a profound cutting-edge education in the field of veterinary medicine to serve their community by solving problems	b-Boast the students' knowledge and skills to b efficient and productive members in the field of veterinary medicine
Knowledge and understanding	al- Acquire the advanced concepts in dairy microbiology and its relation to public health.	√	
	a2-demonstrate sufficient essential knowledge of the main subjects related to food hygiene e.g microbiology and biochemistry.	√	
	a3- give the recent and update developments in the most important themes related to milk hygiene.	√	
	a4- mention the basics of quality assurance to ensure production of safe milk and its impact on public health.	√	
	a5- Recall the ethical and scientific principles of medical research .	√	
	a6- Familiarize the principle of welfare, production and health maintenance of food producing animals.	√	
	a7- Recognize the public health importance including food hygiene of animal origin and zoonotic diseases that are transmitted from animals to human.	√	
	a8- Realize the basics of laws and ethical codes relevant to animals and food hygiene.	√	
Intellectual skills	b1- Identify , conceptualize and define research problems and questions regarding milk quality.	√	√
	b2- critically evaluate their own research data and develop new approach to solving their research questions		√
	b3- develop creative approaches to solving technical problems or issues associate with running and researches		√

Program ILOS		Program aims	
		a- Provide the students with a profound cutting-edge education in the field of veterinary medicine to serve their community by solving problems	b-Boast the students' knowledge and skills to b efficient and productive members in the field of veterinary medicine
	project.		
	b4-Formulate management plans and alternative decisions in different situations in the field of milk hygiene.		√
	b5- Demonstrate an investigatory and analytic thinking approach		√
	B6 Interpret the quality of meat, egg, milk and their products and their fitness for consumption.		√
	B7- Interpret different environmental pollutants and suggest measures for their control.		√
	b8- Adapt programs of hazard analysis and critical control points (HACCP) on meat, poultry, fish and dairy processing plants.		√
	B9- Utilize the information acquired in the basic sciences for development of career.		√
Practical and professional skills	c1- Apply the principles of good experimental design and analysis to their own research project .		√
	c2- Select and perform relevant statistical analysis on data obtained for their own research .		
	c3- Write competently all forms of professional reports related to milk hygiene		√
	C4- perform effectively all types of relevant research work related to his master.		√
	C5- carry out all steps of writing and criticism.		√
	C6-Conduct evidence-based problems solving of field–presented problems tasks.		√
	C7-Use appropriate safety procedures		√

Program ILOS		Program aims	
		a- Provide the students with a profound cutting-edge education in the field of veterinary medicine to serve their community by solving problems	b-Boast the students' knowledge and skills to b efficient and productive members in the field of veterinary medicine
	to protect clients and co-workers.		
	C8-Manage procedures related to food hygiene, public health issues		√
General and transferable skills	d1- Work under pressure and / or contradictory conditions.		
	d2- Function in a multidisciplinary team.		
	d3-Communicate appropriately verbally and non-verbally.		
	d4-Organize and control tasks and resources.		
	d5- Search for new information and technology as well as adopting life–long self learning ethics.		

Master Program Specification Matrix (Program ILOS with Academic standers ARS)

Academic standers / **Program ILOs**		**Knowledge and understanding**						**Intellectual skills**							**Professional and practical skills**						**General and transferable skills**						
		a1	a2	**a 3**	**a 4**	**a5**	**a6**	**b1**	**b 2**	**b 3**	**b4**	**b 5**	**b6**	**b 7**	**c1**	**c2**	**c3**	**c4**			**d 1**	**d2**	**d3**	**d4**	**d 5**	**d 6**	**d 7**
Knowledge and understanding	a1	√																									
	a2		√																								
	a3			√																							
	a4					√																					
	a5						√																				
Intellectual skills	b1										√																
	b2								√																		
	b3							√					√														
	b4											√															
	b5									√				√													
Professional and practical skills	c1																√										
	c2																√										
	c3															√											
	c4														√												
	c5																	√									
General and transferable skills	**d1**																								√		
	d2																						√				
	d3																					√					√
	d4																				√					√	

Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

1-Basic information

Course Code:	**MPC-MIHG**
Course title :	**Principle Master Course (Hygiene and Control of Milk, milk products, fat &oils and eggs)**
Program title:	**Master degree in Hygiene and Control of Milk, milk products, fat &oils and eggs.**
Contact hours/ week	**Lecture: 3 – Practical: 4 - Total: 7 hours/ week**
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

1. Employ the acquired knowledge in milk hygiene and control together with other related sciences in his/her professional practices.
2. Show awareness of current problems and recent theories in the field of Milk and milk products hygiene.
3. Identify the practical problems related to milk and milk products hygiene and their solutions.
4. Master different professional skills and techniques in the field of milk and milk products Hygiene.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

a1. Summarize the production and biosynthesis of milk.
a2. Discuss the milk composition and its nutritive value.
a3. Recognize the Physico-chemical properties of milk and its products, Fats & Oils and Eggs.
a4. describe the relationship between the milk production and its products, Fats & Oils and Eggs.
a5. Explain the Lab. examination of the quality and safety of milk and its products, Fats & Oils and Eggs.
a6. Discuss the technology of milk and its products, Fats & Oils and Egg products.
a7. Describe the different forms of milk spoilage.
a8. identify microbial ecology and preservation.

b-Intellectual skills

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

b1. Take decisions regarding the quality of good milk.
b2. Apply differential diagnosis between normal and abnormal milk.
b3. Evaluate the used laboratory methods for the examination of milk and its products, Fats & Oils.
b4. Interpret different laboratory methods used for examination of milk and its products,

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Fats & Oils and Eggs.

b5. Recall the ethical and scientific principles of medical research.

b6. Perform the research plan of his/her MD thesis.

C- Professional and practical skills

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

c1. Apply different investigations for milk and its products, Fats & Oils and Eggs.

c2. Demonstrate methods of sampling for examination of milk and its products, Fats & Oils and Eggs.

c3. Prepare final judgment report.

c4. Use different laboratory techniques.

c5. Perform statistical analysis for data and write efficiently scientific paper and dissertation

d- General and transferable skills

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

d1- Enhancement of his/her computer and internet skills.

d2- Appreciate the importance of group working and cooperation.

d3- Enhancement of his/her communication skills.

d4- Manage scientific meetings and time.

d5- Enhancement of his/her effective presentation skills.

4-Topics and contents

Course	Topic	weeks	No. of hours	Lectures	Practical
(Lec. 3h./week, Pract 4h./week)		**Fluid milk Hygiene:-**			
	Production and Biosynthesis of milk	1	7	3	4
	Milk composition	2-3	14	6	8
	Sampling and physical properties	4	7	3	4
	Chemical examination of milk	5	7	3	4
	Sanitary tests on milk	6	7	3	4
	Microbiology of milk	7-8	14	6	8
	Detection of preservatives	9	7	3	4
	Milk fermentation	10	7	3	4
	Detection of abnormal milk (Mastitis)	11	7	3	4
	Clean milk production	12	7	3	4
	Milk borne diseases	13-14	14	6	8
	Food poisoning	15	7	3	4
	Residues in milk	16	7	3	4
	Milk processing	17	7	3	4
	Detergents and Chemical sterilizers	18	7	3	4
		19-20			

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	Cream and its products	19-20	14	6	8
	Butter and related products	21-22	14	6	8
	Cheese	23-24	14	6	8
	Fermented milk	25	7	3	4
	Concentrated milk	26-27	14	6	8
	Milk powder	28	7	3	4
	Ice cream	29-30	14	6	8
	Food preservation	31	7	3	4
	Quality assurance and HACCP	32	7	3	4
	Fats & Oils	33-34	14	6	8
	Table eggs	35	7	3	4
	Students activities	36	7	3	4

5-Teaching and learning methods

5.1- Lectures (brain storm, discussion) using board, data shows
5.2- Self learning by preparing essays and presentations (computer researches and library)
5.3- Practical (models, samples of food and data show).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	**I.S**	**P&P.S**	**G.S**
Written Exam	a1 to a8	b1 to b6		
Practical Exam			c1 to c4	
Oral Exam	a1 to a8	b1 to b6	c1 to c4	d1 to d5

7.2. Assessment schedules

Method	Week(s)
Writing exam	Week:52, 53, 54,55
Practical exam	Week:52, 53, 54,55
Oral exam	Week:52, 53, 54,55

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	**50%**
Practical exam	**30%**

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Oral exam	**20%**
total	100%

8- List of references

8.1. Notes and books

- Text book of milk Hygiene, Professor/ Adel El-Kholy and prof/ Saadia El-Shinawy.
- Practical milk Hygiene, professor/ Professor/ Adel El-Kholy and prof/ Saadia El-Shinawy

8.2. Essential books:

- - Milk and milk products, 1997 (Sutherland & Varnam).
- Dairy microbiology Vol. I, 2nd , 1990edition, (Robinson, R.K).
- Dairy microbiology Vol. II, 2nd, 1990edition, (Robinson, R.K).

8.3. Recommended texts

- The science of providing milk for man 1st edition(Campbell And Marshall, 1975)
- Microbial food poisoning (A.R. Eley, 1992)
- Manuals of food quality (FAO, 1997)

8.4. Journals, Websites ……..etc

Journals:

- Journal of food protection

- Journal of applied bacteriology

- International journal of food microbiology

Websites:

- www.pubmed.com

- www.dairyfact.com

- www.foodprotection.org

Course Coordinators **Head of Department**

Beni Suef University
Faculty of Veterinary Medicine

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
			K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	Production and Biosynthesis of milk	1	**a1**	**b1**	**c4**	
2	Milk composition	2-3	**a2**	**b4**	**c1**	
3	Sampling and physical properties	4	**a3**	**b4**		
4	Chemical examination of milk	5	**a3**			
5	Sanitary tests on milk	6	**a7**			
6	Microbiology of milk	7-8	**a7**	**b1**	**c1, c4**	
7	Detection of preservatives	9	**a8**	**b4**		
8	Milk fermentation	10	**a6**			
9	Detection of abnormal milk (Mastitis)	11	**a7**			
10	Clean milk production	12	**a4**			
11	Milk borne diseases	13-14			**c2, c3**	
12	Food poisoning	15	**a6**	**b3, b4**	**c4**	
13	Residues in milk	16	**a6**	**b4**		
14	Milk processing	17	**a6**			

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15	Detergents and Chemical sterilizers	18	**a6**			
16	Cream and its products	19-20	**a8**		**c4**	
17	Butter and related products	21-22			**c2, c4**	
18	Cheese	23-24	**a5**	**b3**		
19	Fermented milk	25		**b4**	**c3, c4**	
20	Concentrated milk	26-27	**a7**			
21	Milk powder	28	**a6**		**c4**	
22	Ice cream	29-30	**a6**		**c2, c4**	
23	Food preservation	31				
24	Quality assurance and HACCP	32				
25	Fats & Oils	33-34				
26	Table eggs	35				
27	Student activities: - Food plants visits - Writing assays - Internet search	36	**a1-a4**	**b2, b6**	**C5**	**d1-d5**

Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

1-Basic information

Course Code:	**M-113**
Course title :	**Milk and Milk products hygiene**
Program title:	**Master degree in Hygiene and Control of Milk and milk products and eggs**
Contact hours/ week	**4**
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

1. Acquire the academic background and practical experience about the production of good quality milk and its products, Fats & Oils and Table eggs.
2. Recognize the chemical composition of milk, milk products and Fats & Oils and Table eggs and their nutritive value.
3. Explain the quality and safety of milk and its products.
4. **Understand** the basis for hygiene of milk and its products, Fats & Oils and Table eggs with the judgment on different defects which present.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

a1- Explain the importance of study of hygiene of milk, milk products, Fats & Oils and Table eggs

a2- Discuss the milk composition and its nutritive value.

a3- Recognize the chemical properties of milk and its products, Fats & Oils and Table eggs.

a4- Describe the relationship between the milk production and its products.

a5- Summarize the keeping quality tests milk, milk products, Fats & Oils and Table eggs.

a6- Identify milk borne disease.

b-Intellectual skills

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

b1- Take decisions regarding the quality of good milk.

b2- Apply differential diagnosis between normal and abnormal milk.

b3- Interpret different keeping quality tests used for examination of milk, milk products, Fats & Oils and Table eggs

b4- Integrate with codex alimentarius

b5- Perform the research plan of his/her MD thesis.

C- Professional and practical skills

Course specification of postgraduate

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

c1- Apply different investigations for milk, milk products, Fats & Oils and Table eggs hygiene.
c2- Demonstrate the methods of keeping quality tests.
c3- Prepare final judgment report.
C4- Use different laboratory techniques.

d- General and transferable skills

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

d1- Enhance his/her computer and internet skills.
d2- Appreciate the importance of group working and cooperation.
d3- Enhance his/her communication skills.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week)	Milk composition	8	4	4
	Sanitary and keeping quality tests	8	4	4
	Milk borne diseases	8	4	4
	Detection of abnormal milk	8	4	4
	Residues in milk	12	6	6
	Clean milk production	8	4	4
	Detergents and Chemical sterilizers	8	4	4
	Milking machine	8	4	4
	Hygiene of fats, oils &eggs	16	8	8
	Hygiene of cream and butter	16	8	8
	Hygiene of cheese and fermented milk	16	8	8
	Hygiene of milk powder and concentrated milk	12	6	6
	Hygiene of ice cream	8	4	4
	Quality assurance and HACCP	8	4	4
	Total	144	72	72

5-Teaching and learning methods

5.1- Lectures (brain storm, discussion) using board, data shows

5.2- Self learning by Electronic learning, Seminars, scientific search on related websites, international, national and local journals, related books in faculty library.

5.3- Practical (Laboratory diagnosis of milk and milk products by chemical and microbiological methods, identification of dairy product samples by laboratory methods).

7-Student assessment

Course specification of postgraduate

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Written Exam	a1- a2- a3- a4-a5-a6	b1- b2- b3- b4-b5		
Practical Exam	a1- a2- a3	b1- b2- b3-	c1- c2- c3- c4	
Oral Exam	a1- a2- a3-a4-a5-a6	b1- b2- b3- b4-b5	c1- c2- c3- c4	d1-d2-d3

7.2. Assessment schedules

Method	Week(s)
Writing exam	**Week:45,46**
Practical exam	**Week:43,44**
Oral exam	**Week: 45,46**

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	**50%**
Practical exam	**30%**
Oral exam	**20%**
total	100%

8- List of references

8.1. Notes and books

8.2. Essential books:

- Milk and milk products, 1997 (Sutherland & Varnam).
- Dairy microbiology Vol. I, 2nd , 1990edition, (Robinson, R.K)
- Dairy microbiology Vol. II, 2nd, 1990edition, (Robinson, R.K)

8.3. Recommended texts

- The science of providing milk for man 1st edition(Campbell And Marshall, 1975)
- Microbial food poisoning (A.R. Eley, 1992)
- Manuals of food quality (FAO, 1997)

8.4. Journals, Websites ……..etc

Journals:

- Journal of food protection
- Journal of applied bacteriology

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- International journal of food microbiology

Websites:

- www.pubmed.com
- www.dairyfact.com
- www.foodprotection.org

Course Coordinators **Head of Department**

Beni Suef University
Faculty of Veterinary Medicine

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
			K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	Milk composition	1-2	**a1, a2**	**b1**	**c1**	d1-d3
2	Sanitary and keeping quality tests	3-5	**a5**	**b2**		
3	Milk borne diseases	6-7	**a6**	**b3**	**c2**	
4	Detection of abnormal milk	8-9	**a1**	**b4**		
	Residues in milk	10-12	**a4**		**c3**	
	Clean milk production	13-14	**a3**			
	Detergents and Chemical sterilizers	15-16	**-**		**c4**	
	Milking machine	17-18	**-**			
	Hygiene of fats, oils &eggs	19-22	**a4**	**b4**		
	Hygiene of cream and butter	23-26	**a5**	**b2**	**c2**	
	Hygiene of cheese and fermented milk	27-30	**a4**			
	Hygiene of milk powder and concentrated milk	31-33	**a4**	**b3**	**c3**	
	Hygiene of ice cream	34-35	**a4**	**b4**		
	Quality assurance and HACCP	36	**a2**	**b2**	**c4**	

Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

1-Basic information

Course Code:	**M-114**
Course title :	**Dairy Microbiology**
Program title:	**Master degree in Hygiene and Control of Milk and milk products and eggs**
Contact hours/ week	**4**
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

1. Identify the sources and impact of microorganisms on milk, milk products, fats and oils and eggs safety.
2. Acquire skills to analyze, create and modify some diagnostic techniques for isolation of different microorganisms.
3. Understand the basis for the microbiological examination of milk, milk products, Fats & Oils and Table eggs.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

a1. Identify the different sources of microorganism in milk, milk products, Fats & Oils and Table eggs.

a2. Explain the microbiological examination of the milk, milk products, Fats & Oils and Table eggs.

a3. Describe the effect of microorganism on safety and quality of milk, milk products, Fats & Oils and Table eggs

a4. Identify microbial ecology.

b-Intellectual skills

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

b1. Take decisions regarding the quality of good milk.

b2. Apply differential diagnosis between normal and abnormal milk.

b3. Evaluate the used laboratory methods for the examination of milk and its products, Fats & Oils.

b4. Interpret different laboratory methods used for examination of milk and its products, Fats & Oils and Table eggs.

b5. Integrate with codex alimentarius.

b6. Perform the research plan of his/her MD thesis.

C- Professional and practical skills

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

Course specification of postgraduate

c1. Apply different microbiological investigations for milk and its products, Fats & Oils and Eggs.
c2. Demonstrate methods of sampling for examination of milk and its products, Fats & Oils and Eggs.
c3. Prepare final judgment report.
c4. Use different laboratory techniques.

d- General and transferable skills

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

d1- Enhance of his/her management skills.
d2- Appreciate the importance of group working and cooperation.
d3- Enhance of his/her communication skills.
d4- Properly manage of time.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week)	Sources of contamination	12	6	6
	Factors affecting microbial growth	12	6	6
	Microbiological examination of abnormal milk	12	6	6
	Food poisoning	12	6	6
	Indicators organisms	12	6	6
	Microbiology of cream and butter	12	6	6
	Microbiology of cheese and fermented milk	16	8	8
	Microbiology of milk powder and concentrated milk	16	8	8
	Microbiology of ice cream	12	6	6
	Microbiology of egg	12	6	6
	Microbiology of fats and oils	4	2	2
	Food safety of ready to eat food	4	2	2
	Isolation of microorganisms from food	8	4	4
	Total	144	72	72

5-Teaching and learning methods

5.1- Lectures (brain storm, discussion) using board, data shows
5.2- Self learning by Electronic learning, Seminars, scientific search on related websites, international, national and local journals, related books in faculty library.
5.3- Practical (Laboratory diagnosis of milk and milk products by chemical and microbiological methods, identification of dairy product samples by laboratory methods).

7-Student assessment

Course specification of postgraduate

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	**I.S**	**P&P.S**	**G.S**
Written Exam	a1- a2- a3- a4	b1- b2- b3- b4-b5-b6		
Practical Exam			c1- c2- c3- c4	
Oral Exam	a1- a2- a3-a4	b1- b2- b3- b4-b5-b6	c1- c2- c3- c4	d1-d2-d3- d4

7.2. Assessment schedules

Method	Week(s)
Writing exam	**Week:45,46**
Practical exam	**Week:43,44**
Oral exam	**Week: 45,46**

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	**50%**
Practical exam	**30%**
Oral exam	**20%**
total	100%

8- List of references

8.1. Notes and books

8.2. Essential books:

- Milk and milk products, 1997 (Sutherland & Varnam).
- Dairy microbiology Vol. I, 2nd , 1990edition, (Robinson, R.K)
- Dairy microbiology Vol. II, 2nd, 1990edition, (Robinson, R.K)

8.3. Recommended texts

- The science of providing milk for man 1st edition(Campbell And Marshall, 1975)
- Microbial food poisoning (A.R. Eley, 1992)
- Manuals of food quality (FAO, 1997)

8.4. Journals, Websites ……..etc

Journals:

- Journal of food protection
- Journal of applied bacteriology

Course specification of postgraduate

- International journal of food microbiology

Websites:

- www.pubmed.com
- www.dairyfact.com
- www.foodprotection.org

Course Coordinators **Head of Department**

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
			K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1.	Sources of contamination	1-3	**a1**	**b1**	**c1**	**d1-d4**
2.	Factors affecting microbial growth	4-6	**a2**	**b2**	**c2**	
3.	Microbiological examination of abnormal milk	7-9	**a2**	**b3**		
4.	Food poisoning	10-12	**a1**	**b4**		
5.	Indicators organisms	13-15	**a1-a3**			
6.	Microbiology of cream and butter	16-18	**a1-a3**			
7.	Microbiology of cheese and fermented milk	19-22	**a1-a3**			
8.	Microbiology of milk powder and concentrated milk	23-26	**a1-a3**			
9.	Microbiology of ice cream	27-29	**a1-a3**			
10.	Microbiology of egg	30-32	**a1-a3**			
11.	Microbiology of fats and oils	33	**a3**			
12.	Food safety of ready to eat food	34	**a3**	**b5**	**c3**	
13.	Isolation of microorganisms from food	35-36	**a4**	**b3**	**c4**	

Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

1-Basic information

Course Code:	**M-115**
Course title :	**Food technology and preservation**
Program title:	**Master degree in Hygiene and Control of Milk and milk products and eggs**
Contact hours/ week	**4**
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

1. Acquire the academic background and practical experience about the technology and Preservation of milk, milk products, Fats & Oils and Table eggs.
2. Acquire skills to recognize the application of HACCP system in production of milk and its products.
3. Understand the basis for examination of milk and its products, Fats & Oils and Eggs with the judgment on different defects which present.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

a1. Summarize the technology of milk, milk products, fats & oils and Table eggs.

a2. identify the technological problems in milk, milk products, fats & oils and Table eggs

a3. Explain the Lab. examination of the quality and safety of milk and its products, Fats & Oils and Table eggs.

a4. Discuss the preservation methods of milk and its products, Fats & Oils and Egg products.

a5. Recall scientific research principles and ethics

b-Intellectual skills

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

b1. Take decisions regarding the quality of good milk.

b2. Apply sensory evaluation of dairy products.

b3. Evaluate the used laboratory methods for the examination of milk and its products, Fats & Oils.

b4. Interpret different laboratory methods used for examination of milk and its products, Fats & Oils and Table eggs .

b5. Integrate with codex alimentarius.

b6. Perform the research plan of his/her MD thesis.

C- Professional and practical skills

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

Course specification of postgraduate

c1. Apply different investigations for milk and its products, Fats & Oils and Eggs.
c2. Demonstrate methods of sampling for examination of milk and its products, Fats & Oils and Eggs.
c3. Prepare final judgment report.
c4. Use different laboratory techniques.

d- General and transferable skills

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

d1- Enhance of his/her computer and internet skills.
d2- Appreciate the importance of group working and cooperation.
d3- Enhance of his/her communication skills.
d4- Manage scientific meetings and time.
d5- Enhance of his/her effective presentation skills

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week)	Milk processing	12	6	6
	Manufacture of cream	12	6	6
	Manufacture of butter	12	6	6
	Manufacture of cheese	12	6	6
	Manufacture of milk powder	12	6	6
	Manufacture of concentrated milk	12	6	6
	Manufacture of yoghurt	12	6	6
	Manufacture of ice cream	12	6	6
	Technology of fats and oils	12	6	6
	Technology of eggs	12	6	6
	Dairy products defects	12	6	6
	Food preservation methods	12	6	6
	Total	144	72	72

5-Teaching and learning methods

5.1- Lectures (brain storm, discussion) using board, data shows
5.2- Self learning by Electronic learning, Seminars, scientific search on related websites, international, national and local journals, related books in faculty library.
5.3- Practical (Laboratory diagnosis of milk and milk products by chemical and microbiological methods, identification of dairy product samples by laboratory methods).

Course specification of postgraduate

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Written Exam	a1- a2- a3- a4	b1- b2- b3- b4-b5-b6		
Practical Exam			c1- c2- c3- c4	
Oral Exam	a1- a2- a3-a4	b1- b2- b3- b4-b5-b6	c1- c2- c3- c4	d1-d2-d3- d4-d5

7.2. Assessment schedules

Method	Week(s)
Writing exam	**Week:45,46**
Practical exam	**Week:43,44**
Oral exam	**Week: 45,46**

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	**50%**
Practical exam	**30%**
Oral exam	**20%**
total	100%

8- List of references

8.1. Notes and books

8.2. Essential books:

- Milk and milk products, 1997 (Sutherland & Varnam).
- Dairy microbiology Vol. I, 2nd , 1990edition, (Robinson, R.K)
- Dairy microbiology Vol. II, 2nd, 1990edition, (Robinson, R.K)

8.3. Recommended texts

- The science of providing milk for man 1st edition(Campbell And Marshall, 1975)
- Microbial food poisoning (A.R. Eley, 1992)
- Manuals of food quality (FAO, 1997)

8.4. Journals, Websites ……..etc

Journals:

- Journal of food protection

Course specification of postgraduate

- Journal of applied bacteriology
- International journal of food microbiology

Websites:

- www.pubmed.com
- www.dairyfact.com
- www.foodprotection.org

Course Coordinators **Head of Department**

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
			K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1.	Milk processing	1-3	**a1**	**b1**	**c1**	**D1**
2.	Manufacture of cream	4-6	**a2**	**b3**	**-**	**D1**
3.	Manufacture of butter	7-9	**-**	**b2**	**-**	**D1**
4.	Manufacture of cheese	10-12	**a1, a4**	**-**	**-**	**D1**
5.	Manufacture of milk powder	13-15	**a4**	**b5**	**-**	**D1**
6.	Manufacture of concentrated milk	16-18	**-**	**b1**	**c4**	**D1-d5**
7.	Manufacture of yoghurt	19-21	**a4**	**-**	**-**	**D1**
8.	Manufacture of ice cream	22-24	**a1, a4**	**-**	**-**	**D1**
9.	Technology of fats and oils	25-27	**-**	**b2**	**c2**	**D1**
10.	Technology of eggs	28-30	**a3**	**b4**	**c4**	**D1**
11.	Dairy products defects	31-33	**a3, a4**	**b4, b5**	**-**	**D1**
12.	Food preservation methods	34-36	**a3, a4**	**-**	**-**	**D1-d3**

Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

1-Basic information

Course Code:	**M-116**
Course title :	**Food Analysis**
Program title:	**Master degree in Hygiene and Control of Milk and milk products and eggs**
Contact hours/ week	**4**
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

1. Acquire the academic background and practical experience about the technology and Preservation of milk, milk products, Fats & Oils and Table eggs.
2. Acquire skills to recognize the application of HACCP system in production of milk and its products.
3. Understand the basis for examination of milk and its products, Fats & Oils and Eggs with the judgment on different defects which present.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

a1. Summarize the physical and chemical analysis of milk, milk products, Fats & Oils and Table eggs.

a2. Describe the methods used for detection adulteration of milk, milk products, Fats & Oils and Table eggs.

a3. Explain the Lab. examination of the quality and safety of milk and its products, Fats & Oils and Table eggs.

a4. Discuss the physical properties of milk and its products, Fats & Oils and Egg products.

a5. Describe the efficiency of different heat treatment methods.

b-Intellectual skills

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

b1. Take decisions regarding the quality of good milk.

b2. Apply differential diagnosis between raw and heat treated milk.

b3. Evaluate the used laboratory methods for the examination of milk and its products, Fats & Oils.

b4. Interpret different laboratory methods used for examination of milk and its products, Fats & Oils and Table eggs .

b5. Integrate with codex alimentarius.

b6. Perform the research plan of his/her MD thesis.

Course specification of postgraduate

C- Professional and practical skills

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

c1. Apply different investigations for milk and its products, Fats & Oils and Table eggs.

c2. Demonstrate methods of sampling for examination of milk and its products, Fats & Oils and Table eggs.

c3. Prepare final judgment report.

c4. Use different laboratory techniques.

d- General and transferable skills

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

d1- Appreciate the importance of group working and cooperation.

d2- Enhance of his/her communication skills.

d3- Manage scientific meetings and time.

d4- Enhance of his/her effective presentation skills

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week)	Sampling and physical properties of milk and milk products	16	8	8
	Chemical examination of milk	20	10	10
	Chemical examination of milk products	20	10	10
	Chemical examination of fats and oils and eggs	16	8	8
	Detection of heat treated milk	16	8	8
	Detection of residues	16	8	8
	Detection of preservatives	20	10	10
	Microbiological examination of milk products and eggs	20	10	10
	Total	144	72	72

5-Teaching and learning methods

5.1- Lectures (brain storm, discussion) using board, data shows

5.2- Self learning by Electronic learning, Seminars, scientific search on related websites, international, national and local journals, related books in faculty library.

5.3- Practical (Laboratory diagnosis of milk and milk products by chemical and microbiological methods, identification of dairy product samples by laboratory methods).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods

Course specification of postgraduate

	K&U	I.S	P&P.S	G.S
Written Exam	a1- a2- a3- a4-a5	b1- b2- b3- b4-b5-b6		
Practical Exam			c1- c2- c3- c4	
Oral Exam	a1- a2- a3-a4-a5	b1- b2- b3- b4-b5-b6	c1- c2- c3- c4	d1-d2-d3- d4

7.2. Assessment schedules

Method	Week(s)
Writing exam	**Week:45,46**
Practical exam	**Week:43,44**
Oral exam	**Week: 45,46**

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	**50%**
Practical exam	**30%**
Oral exam	**20%**
total	100%

8- List of references

8.1. Notes and books

8.2. Essential books:

- Milk and milk products, 1997 (Sutherland & Varnam).
- Dairy microbiology Vol. I, 2nd , 1990edition, (Robinson, R.K)
- Dairy microbiology Vol. II, 2nd, 1990edition, (Robinson, R.K)

8.3. Recommended texts

- The science of providing milk for man 1st edition(Campbell And Marshall, 1975)
- Microbial food poisoning (A.R. Eley, 1992)
- Manuals of food quality (FAO, 1997)

8.4. Journals, Websites ……..etc

Journals:

- Journal of food protection
- Journal of applied bacteriology
- International journal of food microbiology

Websites:

Course specification of postgraduate

- www.pubmed.com
- www.dairyfact.com
- www.foodprotection.org

Course Coordinators **Head of Department**

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
			K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1.	Sampling and physical properties of milk and milk products	1-4	**a1**	**b1**	**c2**	D1-d2-
2.	Chemical examination of milk	5-9	**a1**	**b1, b4**	**c1**	D1-d2-d4
3.	Chemical examination of milk products	10-14	**a1, a5**	**-**	**-**	D1-d2-d4
4.	Chemical examination of fats and oils and eggs	15-18	**a1, a5**	**b2**	**-**	D1-d2-d4
5.	Detection of heat treated milk	19-22	**a1, a4**	**b1**	**c2**	D1-d2-d4
6.	Detection of residues	23-26	**a4**	**-**	**-**	D1-d2-d4
7.	Detection of preservatives	27-31	**a5**	**-**	**-**	D1-d2-d4-
8.	Microbiological examination of milk products and eggs	32-36	**a3**	**b3, b4, b5**	**c1, c4**	D1-d2-d4

Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

1-Basic information

Course Code:	**M-117**
Course title :	**Food poisoning**
Program title:	**Master degree in Hygiene and Control of Milk and milk products and eggs**
Contact hours/ week	**3**
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

1. Acquire the academic background and practical experience about the food poisoning.
2. Acquire skills to recognize the application of HACCP system in production of milk and its products.
3. Understand the basis of conditions associated with occurrence different forms of food poisoning.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

a1. Identify different forms of food poisoning.
a2. Summarize the food infection food poisoning.
a3. Summarize the food intoxication food poisoning..
a4. Summarize the potential food poisoning.
a5. Describe the condition inimical to food poisoning.
a6. Identify hygienic precaution to prevent food poisoning.

b-Intellectual skills

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

b1. Take decisions regarding the quality of good milk.
b2. Apply differential diagnosis between food infection and food intoxication.
b3. Evaluate the used laboratory methods for the examination of milk and its products, Fats & Oils.
b4. Interpret different laboratory methods used for examination of milk and its products, Fats & Oils and table eggs.
b5. Integrate with codex alimentarius.
b6. Perform the research plan of his/her MD thesis.

C- Professional and practical skills

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

c1. Apply different investigations for milk and its products, Fats & Oils and table eggs.
c2. Demonstrate methods of sampling for examination of milk and its products, Fats &

Course specification of postgraduate

Oils and table eggs.
c3. Prepare final judgment report.
c4. Use different laboratory techniques.

d- General and transferable skills

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

d1- Enhance his/her computer and internet skills.
d2- Enhance of his/her communication skills.
d3- Manage scientific meetings and time.
d4- Enhance of his/her effective presentation skills

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week)	Food infection type	21	7	14
	Food intoxication type	21	7	14
	Potential food poisoning	21	7	14
	Isolation of food poisoning organisms	24	8	16
	Prevention of food poisoning	21	7	14
	Total	108	36	72

5-Teaching and learning methods

5.1- Lectures (brain storm, discussion) using board, data shows
5.2- Self learning by Electronic learning, Seminars, scientific search on related websites, international, national and local journals, related books in faculty library.
5.3- Practical (Laboratory diagnosis of milk and milk products by chemical and microbiological methods, identification of dairy product samples by laboratory methods).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Written Exam	a1- a2- a3- a4-a5-a6	b1- b2- b3- b4-b5-b6		
Practical Exam			c1- c2- c3- c4	
Oral Exam	a1- a2- a3-a4-a5-a6	b1- b2- b3- b4-b5-b6	c1- c2- c3- c4	d1-d2-d3- d4

Course specification of postgraduate

7.2. Assessment schedules

Method	Week(s)
Writing exam	**Week:45,46**
Practical exam	**Week:43,44**
Oral exam	**Week: 45,46**

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	**50%**
Practical exam	**30%**
Oral exam	**20%**
total	100%

8- List of references

8.1. Notes and books

8.2. Essential books:

- Milk and milk products, 1997 (Sutherland & Varnam).
- Dairy microbiology Vol. I, 2nd , 1990edition, (Robinson, R.K)
- Dairy microbiology Vol. II, 2nd, 1990edition, (Robinson, R.K)

8.3. Recommended texts

- The science of providing milk for man 1st edition(Campbell And Marshall, 1975)
- Microbial food poisoning (A.R. Eley, 1992)
- Manuals of food quality (FAO, 1997)

8.4. Journals, Websites ……..etc

Journals:

- Journal of food protection
- Journal of applied bacteriology
- International journal of food microbiology

Websites:

- www.pubmed.com
- www.dairyfact.com
- www.foodprotection.org

Course Coordinators **Head of Department**

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
			K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1.	Food infection type	1-7	**a1, a2**	**b1,b2**	**c1**	D2-d4
2.	Food intoxication type	8-14	**a3**	**b2**	**-**	D2-d4
3.	Potential food poisoning	15-22	**a4**	**b3**	**-**	D2-d4
4.	Isolation of food poisoning organisms	23-29	**a5**	**b4**	**c4**	D2-d4
5.	Prevention of food poisoning	30-36	**a6**	**b1**	**c3**	D2-d4

Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

1-Basic information

Course Code:	**M-118**
Course title :	**Miscellaneous course (sources of milk contamination, mastitis, diseases, durability of fats and oils and eggs)**
Program title:	**Master degree in Hygiene and Control of Milk and milk products and eggs**
Contact hours/ week	**3**
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

1. Acquire the academic background and practical experience about sources of milk contamination.
2. Acquire skills to recognize the application of HACCP system in production of milk and its products.
3. Understand the basis for examination of milk and its products, Fats & Oils and Table eggs with the judgment on different defects which present.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

a1. Summarize the sources of milk contamination.
a2. Discuss the parameters control microbial growth.
a3. Explain the Lab. examination of the quality and safety of milk and its products.
a4. Discuss the problems associated with milk & milk products , edible fat &oils and eggs contamination.
a5. Identify the indicators microorganisms.
a6. Identify microbial ecology and preservation.

b-Intellectual skills

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

b1. Take decisions regarding the quality of good milk.
b2. Apply differential diagnosis between food infection and food intoxication.
b3. Evaluate the used laboratory methods for the examination of milk and its products, Fats & Oils.
b4. Interpret different laboratory methods used for examination of milk and its products, Fats & Oils and table eggs.
b5. Integrate with codex alimentarius.
b6. Perform the research plan of his/her MD thesis.

C- Professional and practical skills

Course specification of postgraduate

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

c1. Apply di erent investigations for milk and its products.
c2. Demonstrate methods of sampling for examination of milk and its products.
c3. Prepare nal judgment report.
c4. Use different laboratory techniques.

d- General and transferable skills

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

d1- Enhance of his/her computer and internet skills.
d2- Appreciate the importance of group working and cooperation.
d3- Enhance of his/her communication skills.
d4- Manage scientific meetings and time.
d5- Enhance of his/her effective presentation skills.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week)	Sources of milk contamination	6	3	3
	Factors affecting microbial growth	8	4	4
	Problems associated with dairy contamination	6	3	3
	Contaminants and public health	8	4	4
	Microbiological examination of milk, milk products	8	4	4
	Fat & oil quality	8	4	4
	Preventive measures	8	4	4
	Mastitis and milk quality	8	4	4
	Milk borne diseases	6	3	3
	Egg quality	6	3	3
	Total	72	36	36

5-Teaching and learning methods

5.1- Lectures (brain storm, discussion) using board, data shows
5.2- Self learning by Electronic learning, Seminars, scientific search on related websites, international, national and local journals, related books in faculty library.
5.3- Practical (Laboratory diagnosis of milk and milk products by chemical and microbiological methods, identification of dairy product samples by laboratory methods).

7-Student assessment

Course specification of postgraduate

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	**I.S**	**P&P.S**	**G.S**
Written Exam	a1- a2- a3- a4-a5-a6	b1- b2- b3- b4-b5-b6		
Practical Exam			c1- c2- c3- c4	
Oral Exam	a1- a2- a3-a4-a5-a6	b1- b2- b3- b4-b5-b6	c1- c2- c3- c4	d1-d2-d3- d4-d5

7.2. Assessment schedules

Method	Week(s)
Writing exam	**Week:45,46**
Practical exam	**Week:43,44**
Oral exam	**Week: 45,46**

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	**50%**
Practical exam	**30%**
Oral exam	**20%**
total	100%

8- List of references

8.1. Notes and books

8.2. Essential books:

- Milk and milk products, 1997 (Sutherland & Varnam).
- Dairy microbiology Vol. I, 2nd , 1990edition, (Robinson, R.K)
- Dairy microbiology Vol. II, 2nd, 1990edition, (Robinson, R.K)

8.3. Recommended texts

- The science of providing milk for man 1st edition(Campbell And Marshall, 1975)
- Microbial food poisoning (A.R. Eley, 1992)
- Manuals of food quality (FAO, 1997)

8.4. Journals, Websites ……..etc

Journals:

- Journal of food protection
- Journal of applied bacteriology

Course specification of postgraduate

- International journal of food microbiology

Websites:

- www.pubmed.com
- www.dairyfact.com
- www.foodprotection.org

Course Coordinators **Head of Department**

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
			K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1.	Sources of milk contamination	1-3	**a1**	**b1**	**c1**	D2-d3-d5
2.	Factors affecting microbial growth	4-7	**a2**	**b2**	**-**	D2-d3-d5
3.	Problems associated with dairy contamination	8-10	**a3**	**-**	**c2**	D2-d3-d5
4.	Contaminants and public health	11-14	**a4**	**b3**	**-**	D2-d3-d5
5.	Microbiological examination of milk, milk products	15-18	**a6**	**b4**	**c3**	D2-d3-d5
6.	Fat & oil quality	19-22	**a5**	**b5**	**-**	D2-d3-d5
7.	Preventive measures	23-26	**-**	**b1**	**-**	D2-d3-d5
8.	Mastitis and milk quality	27-30	**a3**	**b3**	**-**	D2-d3-d5
9.	Milk borne diseases	31-33	**-**	**b4**	**-**	D2-d3-d5
10.	Egg quality	34-36	**a2**	**-**	**c4**	D2-d3-d5

Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

1-Basic information

Course Code:	**M-119**
Course title :	**Milk processing plant hygiene**
Program title:	**Master degree in Hygiene and Control of Milk and milk products and eggs**
Contact hours/ week	**4**
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

1. Acquire the academic background and practical experience about the dairy plant construction and sanitation
2. Acquire skills to recognize the application of HACCP system in production of milk and its products.
3. Understand the basis for impact of plant sanitation on quality and safety.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

a1. Summarize the dairy plant construction.
a2. Discuss the plant sanitation.
a3. Explain the Lab. examination of the quality and safety of milk and its products, Fats & Oils and table eggs.
a4. Describe the different types of sanitizers.

b-Intellectual skills

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

b1. Take decisions regarding the sanitary measures of dairy plant.
b2. Apply comparison between different sanitizers.
b3. Evaluate the used laboratory methods for the examination of milk and its products, Fats & Oils.
b4. Interpret different laboratory methods used for examination of plant sanitation.
b5. Integrate with codex alimentarius.
b6. Perform the research plan of his/her MD thesis.

C- Professional and practical skills

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

c1. Apply different investigations for milk and its products, Fats & Oils and table eggs.
c2. Demonstrate methods of sampling for examination plants.
c3. Prepare final judgment report.
c4. Use different laboratory techniques.

Course specification of postgraduate

d- General and transferable skills

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

d1- Enhance of his/her computer and internet skills.
d2- Appreciate the importance of group working and cooperation.
d3- Enhance of his/her communication skills.
d4- Manage scientific meetings and time.
d5- Enhance of his/her effective presentation skills.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week)	Dairy plant construction	24	12	12
	Cleaning of dairy plants	24	12	12
	Dairy plant sanitation	24	12	12
	Different detergent and sanitizers	24	12	12
	Methods of sanitation	4	2	2
	Implant of HACCP system	4	2	2
	Total	144	72	72

5-Teaching and learning methods

5.1- Lectures (brain storm, discussion) using board, data shows

5.2- Self learning by Electronic learning, Seminars, scientific search on related websites, international, national and local journals, related books in faculty library.

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Practical Exam			c1- c2- c3- c4	
Oral Exam	a1- a2- a3-a4	b1- b2- b3- b4-b5-b6	c1- c2- c3- c4	d1-d2-d3- d4-d5

Course specification of postgraduate

7.2. Assessment schedules

Method	Week(s)
Writing exam	**Week:45,46**
Practical exam	**Week:43,44**
Oral exam	**Week: 45,46**

7.3. Weight of assessments

Assessment	Weight of assessment
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- Journal of food protection
- Journal of applied bacteriology
- International journal of food microbiology

Websites:

- www.pubmed.com
- www.dairyfact.com
- www.foodprotection.org

Course Coordinators **Head of Department**

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
			K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1.	Dairy plant construction	1-6	**a1**	**b1**	**c1**	D1, d2, d3, d4, d5
2.	Cleaning of dairy plants	7-12	**a3**	**b4**	**c2**	D3, d5
3.	Dairy plant sanitation	13-18	**a4**	**b1, b3**	**c4**	D2, d3, d5
4.	Different detergent and sanitizers	19-25	**a2**	**b2**	**c1, c3 , c4**	D5
5.	Methods of sanitation	26-361	**a3**	**-**		**D2, d5**
6.	Implant of HACCP system	32-36	**a3**	**b3**		**D2, D5**