Beni-Suef University
Faculty of Veterinary Medicine
Food Hygiene Department

Postgraduate programme specification for Diploma of Food Control 2017-2018

Programme Specification
University: Beni-Suef
Faculty: Veterinary Medicine
Department: Food Hygiene and Control

A- Administrative Information

1. Programme title: Diploma of Food Control
2. Award/degree: Diploma 3-Code:
4. Department responsible: Food Hygiene and control
5. Coordinator: **Dr. Abdel-Rahim H.A. Hassan**
6. External evaluator(s):
7. Approval date: 12-9-2017

B- Professional Information

1. Programme aims: The diploma programme supports the postgraduate student competences to:

a) Apply acquired scientific knowledge in the field of food Hygiene and control.
b) Detect the current problems facing food Hygiene and control and suggest the appropriate solutions.
c) Apply all professional skills and use the appropriate technological means in the field of food Hygiene and control.
d) Communicate effectively and lead teamwork efficiently.
e) Take decisions using the available information.
f) Effectively use the available facilities and resources.
g) Be aware of his/her role in community development and environmental conservation in the area of food Hygiene and control.
h) Commit the moral and legal rules of food hygienist.
i) Be aware the importance of self development and continuous learning in the field of food hygiene and control.

2. Intended learning outcomes (ILOs) for programme

a- Knowledge and understanding:

By the end of the Diploma program, the postgraduate should be able to:

a.1- Outline specialized theories and knowledge in the field of food Hygiene and control and related sciences

a.2- Identify the legal and moral rules in food Hygiene practices

a.3- Specify the different quality management systems in food Hygiene practices

a.4- Recognize the role of his/her professional practices in community development and environmental conservation.

b- Intellectual skills

By the end of the Diploma program, the postgraduate must be able to:

b.1-Detect and analyze problems of food hygiene and control and arrange them according to their priorities

b.2- Suggest the appropriate solutions for problems related to food Hygiene and control

b.3- Make scientific reading and analysis of research papers in topics related to food Hygiene and control

b.4- Asses different risk factors for each practice related to food industry

b.5-Take decisions using the available information.

c- Professional and practical skills

By the end of the Diploma program, the postgraduate must be able to:

c1-Apply different professional skills and techniques in the field of food Hygiene and control

c2-. Write specialized reports related to food samples examination

d- General and transferable skills

By the end of the Diploma program, the postgraduate must be able to:

d1-Communicate effectively using different means

d2- Properly use the information technologies for development of his/her professional abilities

d3-Assess him/herself and learn how to detect his/her learning requirements

d4- Use different facilities for gaining knowledge and information

d5- Learn how to work effectively as part of a team and properly manage the time

d6- Lead teamwork effectively

d7- Understand the significance and means of continuous self learning

3- Academic standards

* 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.

* Generic standards (March 2009), Diploma degree chapter issued by national authority for quality assurance and accreditation of education (NAQAAE) and Veterinary medicine postgraduate 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 – Curriculum structure and content.

4.1) Programme duration: 1 year

4.2) Programme structure:

Course	Lecture	Practical	Total
Milk and Milk Products Hygiene	2	2	4
Meat and Meat Products Hygiene	2	2	4
Food Microbiology	1	2	3
Food Analysis	1	1	2
Food Technology and preservation	1	2	3
Total	7	9	16

5- Programme – course ILOS Matrix

Courses	K. &U. skills				I. skills					P. & P. skills		G. &T. skills						
	a 1	a 2	a 3	a 4	b 1	b 2	b 3	b4	b 5	c1	c2	d1	d2	d3	d4	d5	d6	d7
1-Milk and Milk Products Hygiene	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2-Meat and Meat Products Hygiene	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
3-Food Microbiology	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
4-Food Analysis	x	x	x	x	x	x	x	x	x	x	x	X	x	x	x	x	x	x
5-Food Technology and preservation	x	x	x	x	x	x	x	x	x	x	x	X	x	x	x	x	x	x

6- Programme admission requirement:

1- Obtaining a bachelor degree in veterinary medicine sciences from one of the Egyptian universities or equivalent degree from another recognized scientific institute with any grade

2- The bachelor degree must be obtained at least one year prior to registration

3- The applicant must have regular attendance in his courses according to the schedule of the faculty.

4- Registration will be during September of each year.

7 - Regulations for progression and programme completion.

1- Registration period is one year for diploma and the applicant not exceed a period of registration for two year.
2- The exams of the diploma are 2 times / year in December & April.
3- The faculty council has the right to deprive the applicant from the exam if his attendance during the courses is less than 75%.
4- in case of failure, the exams will be hold 2 times / year and reexamination in all courses each time.

8-The system of exam for postgraduate diploma is as follow:

Time of written exams, 3 hours for each curriculum have 3 hours or more for theoretical / practical hours/ week. If the curriculum less than 3 hours / week, the time of exam is 2 hours only.

The final mark of each curriculum which have 3 hours (theoretical & practical) per week is 100 , while that less than 3 hours is 50 degree ,50 % for written exam and 50 % for practical and oral exam.

9-Grades of graduation are as follow:

Excellent	**> 90**
Very good	**> 80 -≤90**
Good	**>70- ≤ 80**
Pass	**>60 - ≤ 70**
Failed	**45 to less than 60 weak**
	Less than 45 very weak

The programme specification should have attached to it all course specifications listed in the matrix.

Programme coordinator **Head of the Department**

Dr. Abdel-Rahim H.A. Hassan **Prof. Fathy Ahmed Khalafalla**

Signature: **Date:**

Beni-Suef University
Faculty of Veterinary Medicine

Postgraduate course specification

1-Basic information

Course Code:	
Course title :	Meat and Meat Products Hygiene
Program title:	Postgraduate Diploma of Food Control
Contact hours/ week	Lecture:2 practical:2 total:4
Approval Date	12-9-2017

2-Professional information

Overall aims of course:

This course aims to:

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

Appreciate of the importance of the interrelationships of microorganisms with foods and the role of microorganisms in food safety, food spoilage and food production

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

a1. Recognize the steps of carcass preparation inside the slaughterhouse.
a2: Understand factors affecting the growth of microorganisms in food.
a3. Identify food borne diseases and food poisoning microorganisms.
a4. Explain the sources of meat contamination inside the abattoirs.
a5. Recognize the forms of meat and fat deterioration.
a6. Recognize the factors affecting meat quality.
a7: Enumerate the bacterial, viral and parasitic diseases those could be diagnosed inside the slaughterhouses.

b- Intellectual skills:

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

b1. Expect the causative agent of food poisoning outbreaks.
b2. Interpret the results of microbiological examination of meat and meat products.
b3. Take decisions regarding the ante-mortem and postmortem examination of carcasses
b4. Evaluate the keeping quality of meat and meat products.
b5. Estimate the main causes of meat spoilage.
b6: Interpret the results of bacteriological and parasitological examination of carcasses.
b7: Give judgment regarding the bacterial, viral and parasitic diseases detected by PM examination.

C- Professional and practical skills:

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

c1. Grossly examine spoiled meat samples.
c2. Apply the microbiological and chemical methods of meat analysis.

c3. Interpret the results of laboratory examinations of suspected meat and its products.
c4. Diagnose a case of food poisoning and expect the causative agent.
c5. Do the antemortem and postmortem examination of carcasses
c6: Use the sanitizers efficiently for abattoir cleaning and disinfection.

d- General and transferable skills:
By the end of studying the course, the student should be able to:
d1. Work in group teams
d2. Properly use computer and internet
d3. Properly communicate with the others
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. 2 h./week, Pract 2 h./week)	Abattoir	36	18	18
	Bacterial diseases	14	7	7
	Viral Disease	12	6	6
	Parasitic diseases	10	5	5
	Identification of Animal species	10	5	5
	Meat Microbiology	12	6	6
	Bacterial food poisoning	16	8	8
	Bacteriological examination of carcasses	10	5	5
	Evaluation of carcass bleeding	12	12	-
	Determination of Meat freshness	12	12	-
	Student activities: - Abattoir and food plants visits - Writing assays - Internet search	-	-	-
	Total	144	72	72

5-Teaching and learning methods

- **Lectures:** depending on the sharing efforts of the students and supported with macromedia and multimedia aids.
- **Training visits**: to abattoirs of animals and poultry as well as meat processing plants.

- **Practical sections:** Laboratory diagnosis of suspected meat, fish, poultry and meat products by chemical and microbiological methods, identification of meat species by laboratory methods.
- **Self learning:** Electronic learning, Seminars, scientific search on related websites, international, national and local journals, related books in faculty library.
- **Summer training course**
- **Assays and reviews**
- **Discussion groups**

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
Final Exam	**a1 to a7**	**b1 to b7**		
Practical Exam			**c1 to c6**	
Oral Exam	**a1 to a7**	**b1 to b7**	**c1 to c6**	**d1 to d5**

7.2. Assessment schedules

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

7.3. Weight of assessments

Assessment	Weight of assessment	
Writing exam	**50**	**50%**
Practical exam	**15**	**25%**
Oral exam	**10**	**25%**
Total	100%	

8- List of references

8.1. Notes and books

- Text book of Meat Hygiene, Professor/ Fathy Ahmed Khalafalla, 2004.
- Practical Meat Hygiene, Professor/ Fathy Ahmed Khalafalla and ass. Professor/Fatma Hassan Mohammed, 2004.

8.2. Essential books:

- Meat Hygiene (J.F. Gracey and D.S. Collins) , ninth edition, 1992.

8.3. Recommended texts

- The microbiology of safe food (Stephen J. Forsythe), rst published 2000

8.4. Journals, Websites ……..etc

Journals:

- Journal of Food Microbiology

Websites:

- cms.nelc.edu.eg
- www.meatscience.org

www.inspection.gc.ca

Course Coordinators **Head of Department**

Dr. Abdel-Rahim H.A. Hassan **Prof. Fathy A. Khalafalla**

	Topics	Week	Intended learning outcomes of course (ILOs)			
			K and U (a)	I.S (b)	P.P.S. (c)	G.T.S (d)
1	Abattoir	1-6	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
2	Bacterial diseases	7-9	1,2,3	1,3	1,2,3,4	
3	Viral Disease	10-12	1,2	1,2,3	1,2,3	
4	Parasitic diseases	13-16	1,2	1,2,3	1,2,3	
5	Identification of Animal species	17-20	1,2,3	1,2,3	1,2,3,4	
6	Meat Microbiology	21-26	1,2,3	1,3	1,2,3,4	
7	Bacterial food poisoning	27-30	1,2	1,2,3	1,2,3	
8	Bacteriological examination of carcasses	31-36	1,2	1,2,3	1,2,3	
9	Student activities: - Abattoir and food plants visits - Writing assays - Internet search	During the year				1,2,3,4,5

Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

1-Basic information

Course Code:	
Course title :	Milk and Milk Products Hygiene
Academic year:	First year
Program title:	Postgraduate Diploma of Food Control
Contact hours/ week	Lecture: 2hrs/week Practical: 2hrs/week
Approval Date	12-9-2017

2-Professional information

Overall aims of course:

This course aims to:

1. Prepare qualified postgraduates for the requirements of the public health labor market related to milk, dairy products, fats, oils and egg hygiene.
2. Apply specialized knowledge acquired by the postgraduate to professional practice.
3. Develop the communication skills and work in a team of milk , fat, oil and egg examination.
4. Develop the skills for identification of milk samples and solving food borne problems occurred due to consumption of milk and related products.
5. Consider the need for self-development and engagement in continuous learning.
6. Be qualified for admission to further postgraduate programmes (Master in Veterinary Medical Sciences).

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

a.1. Acquire specialized principles in fluid milk, dairy products, fats, oils and egg hygiene.

a.2. Describe advanced research techniques used in Milk , dairy products, fats, oils and egg examination.

a.3. Identify milk quality principles and basics in milk, dairy products, fats, oils and egg hygiene practices.

a.4. Discuss the application HACCP system in production of milk , dairy products, fats, oils and egg.

b-Intellectual skills

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

b.1. develop creative approaches to solve public health problems resulted from food borne pathogens.

b.2. Identify the suitable methods to control milk borne disease.

b.3. Evaluate the defects related to milk , dairy products, fats, oils and egg attributed to public

Course specification of postgraduate

health risks.
b.4. Make a decision based on available information from milk, dairy products, fats, oils and egg examination reports.

C- Professional and practical skills

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

c.1. Collect milk , dairy products, fats, oils and egg samples for physical and chemical examinations.
c.2. Prepare different milk , dairy products, fats, oils and egg samples
c. 3. Examine the prepared milk , dairy products, fats, oils and egg samples
c.4. Assess the quality of milk, milk products, fat, oil and eggs.
c.5. Detect residues in milk , dairy products, fats, oils and egg.
c.6. Write efficiently the milk, dairy products, fats, oils and egg examination reports.

d- General and transferable skills

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

d1. Work in group teams
d2. Properly use computer and internet
d3. Properly communicate with the others
d4. Manage scientific meetings and time.
d5. Enhance of his/her e ective presentation skills.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. 2h./week, Pract 2h./week)	Introduction and biosynthesis of milk	8	4	4
	Chemical composition	12	6	6
	Sanitary tests	12	6	6
	Fermentation	12	6	6
	Milk borne diseases	12	6	6
	Residues	12	6	6
	Clean milk production	8	4	4
	Detergent and sanitizers	4	2	2
	Milking machine	4	2	2
	Mastitis	8	4	4
	Defects of dairy products	12	6	6
	Egg composition and formation	8	4	4
	Changes in egg after laying	8	4	4
	Egg defects	8	4	4

Course specification of postgraduate

	Grading of egg& relation to public health	8	4	4
	Quality assurance and HACCP	8	4	4
	Total	144	72	72

5-Teaching and learning methods

5.1. Lectures: depending on the sharing efforts of the students and supported with macromedia and multimedia aids.

5.2. Training visits: to dairy farms as well as milk processing plants.

5.3. Practical sections: Laboratory examination of milk, milk products, Fat & Oils and Eggs by chemical and microbiological methods.

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

5.5. Summer training course

5.6. Assays and reviews

5.7. Discussion groups

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**
Final Exam	a1- - a3- a4	b1- b2- b3-b4	c4- c5-c6	
Practical Exam	a2- a3- a4	b2- b4.	c1- c2- c3- c4-c5-c6	
Oral Exam	a1- a3- a4	b1- b2- b3- b4.	C4-c6.	d1-d2-d3- d4.

7.2. Assessment schedules

Method	Week(s)
Writing exam	**44th w-48th w**
Practical exam	**44th w-48th w**
Oral exam	**44th w-48th w**

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	**50%**
Practical exam	**25%**
Oral exam	**25%**
total	100%

Course specification of postgraduate

8- List of references

8.1. Notes and books

- Text book of Milk hygiene (edited by Professors El-Kholy, A.M. & El-Shinawy , S.H.H).
- Practical Milk hygiene (edited by Professors El-Kholy, A.M. & El-Shinawy , S.H.H).

8.2. Essential books:

- Milk and milk products, 1997 (Sutherland & Varnam).

8.3. Recommended texts

Principles of dairy science (G.H. Schmidt. 1988)

8.4. Journals, Websites ……..etc

Journals:

- - Journal of food protection
- Journal of dairy science

Websites:

- cms.nelc.edu.eg

www.directscience.com

Course Coordinators	Head of Department
Dr. Mohamed Maaroof	Prof. Fathy A. Khalafalla

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Milk and Milk Products Hygiene		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	Introduction and biosynthesis of milk	1-2	1,3	4	1,2	1,2,3,4,5
2	Chemical composition	3-5	1,2,3	1,2,3,4	2,3,4	1,2,3,4,5
3	Sanitary tests	6-8	1,2,4	1,2,3,4	1,2,3,6	1,2,3,4,5
4	Fermentation	9-11	2,4	1,2,3,4	4,6	1,2,3,4,5
5	Milk borne diseases	12-14	4	2,3	4	1,2,3,4,5
6	Residues	15-17	1,3	3,4	1,2,3,4	1,2,3,4,5
7	Clean milk production	18-19	1,3,4	1,2,3,4	4,5,6	1,2,3,4,5
8	Detergent and sanitizers	20	1,3	3,4	1,2,3,4	1,2,3,4,5
9	Milking machine	21	4	2,3	1,4	1,2,3,4,5
10	Mastitis	22-23	1,3	3,4	1,2,3,4	1,2,3,4,5
11	Defects of dairy products	24-26	2,4	1,2,3,4	4,6	1,2,3,4,5
12	Egg composition and formation	27-28	1,2,3	1,2,3,4	1,2	1,2,3,4,5
13	Changes in egg after laying	29-30	2,4	1,2,3,4	4,6	1,2,3,4,5

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14	Egg defects	31-32	2,4	1,2,3,4	4,6	1,2,3,4,5
15	Grading of egg& relation to public health	33-34	2,4	1,2,3,4	4,6	1,2,3,4,5
16	Quality assurance and HACCP	35-36	2,3, 4	1,2	1,2,3,6	1,2,3,4,5

Beni-Suef University
Faculty of Veterinary Medicine

Postgraduatecourse specification

1-Basic information

Course Code:	
Course title:	Food analysis
Program title:	Postgraduate Diploma of Food Control
Contact hours/ week	Lecture:1 practical:1 total:2
Approval Date	12-9-2017

2-Professional information

Overall aims of course:

This course aims to:

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

1- understand the academic and practical knowledge relatedto chemical and microbiological analysis of meat, poultry and their products
2- acquire knowledge and skills related to sensory, physical and chemical analysis of milk and milk products.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

al- Understand techniques of sensory, chemical and microbiological examination of meat and meat products.
a2- Identify food borne pathogens and their methods of detection.
a3-Define chemistry of meat.
a4- Recognize meat cuts and meat grading.
a5-Conclude methods of residues determination in meat and meat products.
a6- Enumerate the different methods of identification of animal species.
a7- Define the milk composition and its nutritive value.
a8- Outline the relationship between the milk production and the sources of contamination.
a9- Summarize the methods used to detect egg freshness.
a10- Identify the quality and safety of milk and its products.
a11- Understand fat & oils and eggs hygiene.
a12- Define the chemical residues in milk & milk products.
a13- Discuss the application HACCP system in production of food

b-Intellectual skills

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

b1- Integrate the results of sensory, chemical and microbiological analysis of meat and meat products.
b2- Assess of meat spoilage.
b3- Interpret the results of chemical and microbiological analysis of meat and meat

products
b4- Explain different methods of animal species identification.
b5- Distinguish anatomical and morphological structure of animal carcasses.
b6- Take decisions regarding the composition of good milk.
b7- Differentiate between abnormal &adulterated milk.
b8- Examine the milk & milk products, fat &oils and eggs with the judgment on obtained result.
b9- evaluate chemical pollutants & suitable control measures.

C- Professional and practical skills

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

c1- Apply the sensory examination of meat and meat products.
c2- Examinemeat and meat products chemically and microbiologically.
c3- Differentiate between carcasses and muscle samples of various animal species by physical, chemical and biological means.
c4- Assess spoiled meat and animal fat.
c5- Evaluate the butcher joints and meat grading.
c6- Collect milk and dairy products samples for physical and chemical examination of milk &dairy products.
c7- Assess the quality of milk, dairy products, fat, oil and eggs..
c8- Determine the residues in milk and dairy products.
c9-Detect the adulteration of milk and dairy products.
c10- Detect subclinical mastitis early.

d- General and transferable skills

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

d1-Properly use computer and internet skills.
d2- Work in teams and appreciate the importance of cooperation.
d3-Properly communicate with others.
d4- Enhance his/her effective presentation skills.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. 1 h./week, Pract 1 h./week)	Introduction	1	1	-
	Meat grading and cuts	3	2	1
	Anatomical and morphological structures of carcasses of meat animals	5	2	3
	Chemical and biochemical constitution of muscle and fat	4	2	2
	Examination for additives	2	1	1

	Detection of residues	3	1	2
	Detection of adulteration and falsification of meat and fat	2	1	1
	Identification of animal species	3	2	1
	Assessment of meat spoilage	2	1	1
	Sensory evaluation of meat	3	2	1
	Determination of: 1. Moisture content 2. Fat 3. Protein 4. Ash 5. Salt	4	-	4
	Assessment of fat spoilage	3	2	1
	legalizations and limits	1	1	-
	Physical properties of milk	4	2	2
	Chemical examination of milk	4	2	2
	Detection of preservatives in milk	2	1	1
	Detection of milk adulteration	2	1	1
	Detection of milk acidity	2	1	1
	Detection of heat treatment of milk	2	1	1
	Detection of inhibitory substances	2	1	1
	Chemical examination of dairy products	4	2	2
	Sanitary tests of dairy products	4	2	2
	Fat and oils	4	2	2
	Detection of egg freshness	2	1	1
	Detection of butter adulteration with margarine	4	2	2
	Student activities: - Abattoir and food plants visits. - Dairy farms and plants visits - Writing assays - Internet search			
	Total	72	36	36

5-Teaching and learning methods

- **Lectures:** depending on the sharing efforts of the students,discussion, brain storming and supported with macromedia and multimedia aids.
- **Training visits**: to abattoirs of animals and poultry as well as meat processing plants.
- To dairy farms as well as milk processing plants.
- **Practical sections:** Laboratory diagnosis of suspected meat, fish, poultry and meat products by chemical and microbiological methods, identification of meat species by laboratory methods.
- Laboratory examination of milk, milk products, Fat &Oils and Eggs by chemical and microbiological methods.

- **Self learning:** Electronic learning, Seminars, scientific search on related websites, international, national and local journals, related books in faculty library.
- **Assays and reviews**
- **Discussion groups**

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
Final Exam	**a1 to a13**	**b1 to b9**		
Practical Exam			**c1 to c10**	
Oral Exam	**a1 to a13**	**b1 to b9**	**c1 to c10**	**d1 to d4**

7.2. Assessment schedules

Method	Week(s)
Written exam	**53,54,55**
Practical exam	**52**
Oral exam	53,54,55

7.3. Weight of assessments

Assessment	Weight of assessment	
Written exam	**25**	**50%**
Practical exam	**15**	**25%**
Oral exam	**10**	**25%**
total		100%

8- List of references

8.1. Notes and books

- Text book of Meat Hygiene, Professor/FathyAhmedKhalafalla, 2004.
- Text book of Milk hygiene (edited by Professors El-Kholy, A.M. & El-Shinawy , S.H.H).
- Practical Meat Hygiene, professor/ FathyAhmedKhalafalla and ass. Professor/FatmaHassanMohammed, 2004.
- Practical Milk hygiene (edited by Professors El-Kholy, A.M. & El-Shinawy , S.H.H).

8.2. Essential books:

- Meat Hygiene (J.F. Gracey and D.S.Collins) , ninth edition, 1992
- Milk and milk products, 1997 (Sutherland &Varnam)

8.3. Recommended books

- -The microbiology of safe food (StephenJ. Forsythe), rst published 2000.
- Milk composition, production and biotechnology (1997).
- Manuals of food quality (FAO, 1997)

Journals:

- Journal of food science
- Journal of food safety
- International journal of food science and technology
- Journal of dairy science

Websites:

- cms.nelc.edu.eg
- www.meatscience.org
-www.**inspection.gc.ca**
-WWW.FAO.com
- www.sciencedirect.com

Course Coordinators **Head of Department**

Dr. Mohammed M.A. ZeinhomProf. Fathy A. Khalafalla

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	Introduction	1	a1	-	-	-
2	Meat grading and cuts	2-3	a4	-	c5	-
3	Anatomical and morphological structures of carcasses of meat animals	4-5	-	b5	-	-
4	Chemical and biochemical constitution of muscle and fat	6-7	a3	b1, b3	-	-
5	Examination for additives	8	a1	-	c2	-
6.	Detection of residues	9	a5	-	-	-
7.	Detection of adulteration and falsification of meat and fat	10	a1	b1	c2	-
8.	Identification of animal species	11-12	a6	b4	c3	-
9.	Assessment of meat spoilage	13	-	b2	c4	-
10	Sensory evaluation of meat	14-15	a1	b1	c1	-
11	Determination of: 6. Moisture content 7. Fat 8. Protein 9. Ash 10. Salt	13-16	a1, a3	B1	c2	-
12	Assessment of fat spoilage	16-17	-	-	c4	-
1	legalizations and limits	18	a2	b3	c2	-
1	Physical properties of milk	19-20	a7	b6,b7	C7,c10	-
1	Chemical examination of milk	21-22	a8	b6,b8	C6	-

Course specification

1	Detection of preservatives in milk	23	**a10**	**b6,b9**	**C8**	-
1	Detection of milk adulteration	24	**a10**	**b6,b7**	**C9**	-
1	Detection of milk acidity	25	**a10**	**b7,b8,b9**	**C6,c10**	-
1	Detection of heat treatment of milk	26	**a13**	**b6,b7,b9**	**C8**	-
2	Detection of inhibitory substances	27	**a12**	**b6,b7**	**C6,c8**	-
2	Chemical examination of dairy products	28-29	**a10**	**b6,b7**	**C6,c9**	-
2	Sanitary tests of dairy products	30-31	**a10**	**b8**	**C7**	-
2	Fat and oils	32-33	**a11**	**b8**	**C7**	-
2	Detection of egg freshness	34	**a9,a11**	**b8**	**C7**	-
2	Detection of butter adulteration with margarine	35-36	**a11**		**C7,c9**	-
2	Student activities: - Abattoir and food plants visits - Dairy farms and plants visits - Writing assays - Internet search		**-**		**-**	**d1-d4**

Beni-Suef University
Faculty of Veterinary Medicine

Postgraduate course specification

1-Basic information

Course Code:	
Course title :	Food Microbiology
Program title:	Postgraduate Diploma of Food Control
Contact hours/ week	3 hrs/week
Approval Date	12-9-2017

2-Professional information

Overall aims of course:

This course aims to:

1- Appreciate of the importance of the interrelationships of microorganisms with foods

2- Determine the role of microorganisms in food safety, food spoilage and food production

3- Acquire knowledge and skills related to microbiological status of milk, dairy products and 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. Understand the factors affecting growth of microorganisms in food.
a2. Identify food borne diseases and food poisoning microorganisms
a3. Explain the sources of meat contamination.
a4. Recognize forms of meat and fat deterioration.
a5. Explain the factors a ecting meat quality.
a6. Outline the relationship between the milk production and the sources of contamination.
a7. Recognize the production of clean milk, milk farm and dairy products.
a8. Know the microbial quality and safety of milk, its products and eggs.
a9. Identify the different forms of milk spoilage.
a10. Recognize microbial ecology and preservation.
a11. Recall the dairy microbiological classification.

b-Intellectual skills

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

b1. Expect the causative agent of food poisoning outbreaks.
b2. Interpret the results of microbiological examination of meat and meat products.
b3. Take decisions regarding a degree of meat deterioration.
b4. Evaluate the keeping quality of meat and meat products.
b5. Discuss the main causes of meat spoilage.
b6. Take decisions regarding the microbial quality of good milk.
b7. Examine the milk & milk products and eggs with the judgment on different defects which

present.
b8. Demonstrate milk & milk borne disease, food poisoning and suitable control measures.

C- Professional and practical skills

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

c1. Grossly examine the spoiled meat samples.
c2. Professionally analyze meat microbiologically and chemically.
c3. Interpret the results of laboratory examinations of suspected meat and its products.
c4. Diagnose a case of food poisoning and expect the causative agent.
c5. Develop his/her experiences in how to protect meat from spoilage and consumers from food poisoning.
c6. Collect milk and milk products samples for microbiological examination of milk & milk products.
c7. Assess the microbial quality of milk, dairy products, fat, oil and eggs.
c8. Assess the critical points during milk and dairy products processing.
c9. Detect and isolate the contaminating and food poisoning microorganism in milk, dairy products and table egg.
c10. Detect the causes of subclinical mastitis early.

d- General and transferable skills

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

d1. Work in group teams
d2. Properly use computer and internet
d3. Properly communicate with others
d4. Manage scientific meetings and time.
d5. Enhance his/her e ective presentation skills

4-Topics and contents

Course	Topics	No. of hours	Lectures	Practical
(Lec 2 h./week, Pract 1 h./week)	Introduction	1	1	-
	Sources of contamination	6	2	4
	Factors influencing the bacterial development	4	2	2
	Spoilage of meat and fat: • Signs of meat and fat spoilage • Forms of meat spoilage	5	3	2
	Microorganisms of importance in foods	4	2	2
	Bacterial food poisoning	8	6	2
	Bacteriological examination of carcasses	10	2	8
	Examination of meat for microbial contaminants:	16	-	16

	1. Total colony count 2. Coliforms (MPN) 3. Faecal coliforms (MPN) 4. E.coli (MPN) and isolation 5. Isolation of Salmonellae 6. Staph. aureus count 7. Isolation of Listeria monocytogenes Mould and yeast count			
	Sources of milk contamination	6	2	4
	Factors affecting microbial growth	6	2	4
	Food poisoning	6	2	4
	Indicator microorganisms	6	2	4
	Microbiological examination of milk	6	2	4
	Fecal pollution	3	1	2
	Microbiological examination of dairy products	6	2	4
	Isolation of some pathogenic microorganisms	6	2	4
	Microbiology of eggs	3	1	2
	Microbiological examination of egg	6	2	4
	- Student activities: - Abattoir and food plants visit. - Dairy farms and plants visits. - Writing assays - Internet search			
	Total	108	36	72

5-Teaching and learning methods

5.1- **Lectures:** depending on the sharing efforts of the students and supported with macromedia and multimedia aids.

5.2- Training visits: to abattoirs of animals and poultry as well as meat processing plants.

-To dairy farms as well as milk processing plants.

5.3- Practical sections: Laboratory diagnosis of suspected meat, fish, poultry and meat products by chemical and microbiological methods, identification of meat species by laboratory methods.

-Laboratory examination of milk, dairy products, Fat & Oils and Eggs by chemical and microbiological methods.

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

5.5- Summer training course, **assays and reviews**, **discussion groups**

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 a11**	**b1 to b8**	-	-
Practical Exam	-	-	**c1 to c10**	-
Oral Exam	**a1 to a11**	**b1 to b8**	-	**d1 to d5**

7.2. Assessment schedules

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

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

- Text book of Meat Hygiene, Professor/ Fathy Ahmed Khalafalla, 2004.
- Text book of Milk hygiene (edited by Professors El-Kholy, A.M. & El-Shinawy , S.H.H).
- Practical Meat Hygiene, professor/ Fathy Ahmed Khalafalla and Professor/Fatma Hassan Mohammed, 2004.
- Practical Milk hygiene (edited by Professors El-Kholy, A.M. & El-Shinawy , S.H.H).

8.2. Essential books:

- Meat Hygiene (J.F. Gracey and D.S. Collins) , ninth edition, 1992.
- Dairy microbiology Vol. I, 2nd , 1990edition, (Robinson, R.K)
- Dairy microbiology Vol. II, 2nd , 1990edition, (Robinson, R.K)

8.3. Recommended texts

- The microbiology of safe food (Stephen J. Forsythe), rst published 2000.
- Microbial food poisoning (A.R. Eley, 1992).
- Fundamental food microbiology (B. Ray, 1996).
- Food microbiology (W.C. Frazier, 1978).

8.4. Journals, Websites ……..etc

Journals:

- Journal of Food Microbiology.
- Journal of food protection
- International journal of food microbiology

Websites:

- cms.nelc.edu.eg
- www.meatscience.org
- www.**inspection.gc.ca**
- www.pubmed.com
-www.foodprotection.org

Course Coordinators	Head of Department
Dr. Abdel-Rahim H.A. Hassan	**Dr Fathy A. Khalafalla**

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Histology of lab animal		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	Introduction	1	1	-	-	-
2	Sources of contamination	2-3	3	-	-	-
3	Factors influencing the bacterial development	4-5	1	-	-	-
	Spoilage of meat and fat: Signs of meat and fat spoilage Forms of meat spoilage	6-7	4	3, 5	1, 5	-
	Microorganisms of importance in foods	8-9	2	1	-	-
	Bacterial food poisoning	10-15	2		4, 5	-
	Bacteriological examination of carcasses	14-17	5	2,4	2	-
	Examination of meat for microbial contaminants: د- Total colony count ذ- Coliforms (MPN) ر- Faecal coliforms (MPN) ز- E.coli (MPN) and isolation س- Isolation of Salmonellae ش- Staph. aureus count ص- Isolation of Listeria monocytogenes ض- Mould and yeast count	14-18	4	2	-	-

Course specification

	Sources of milk contamination	19-20	7	6	6	-
	Factors affecting microbial growth	21-22	10	7	8	-
	Food poisoning	23-24	10	9	6	-
	Indicator microorganisms	25-26	9	7	8	-
	Microbiological examination of milk	27-28	11	6, 9	10	-
	Fecal pollution	29	10	8	7	-
	Microbiological examination of dairy products	30-31	9	6, 7	9, 10	-
	Isolation of some pathogenic microorganisms	32-33	8	6	6, 10	-
	Microbiology of eggs	34	8	7	7	-
	Microbiological examination of egg	35-36	**8**	**7**	**9**	**-**
	Student activities: ❖ Abattoir and food plants visit. ❖ Dairy farms and plants visits. ❖ Writing assays ❖ Internet search		**-**	**-**	-	**1,5**

Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

1-Basic information

Course Code:	
Course title :	**Food Technology**
Program title:	Postgraduate Diploma of Food Control
Contact hours/ week	Lecture:1 practical:2 total:3
Approval Date	12-9-2017

2-Professional information

Overall aims of course:

This course aims to:

By the end of this course, the graduate should understand the academic and apply the practical knowledge related to meat chemistry, processing technology of meat, poultry and fish and meat preservation and acquire knowledge and skills related to processing and preservation of milk, milk products fat & oils and 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-Understand principals to produce safe meat through proper construction of food processing plants.

a2-Recognize types and classification of different processing faults of meat, poultry and fish products.

a3-acquire knowledge about chemistry of meat, fish and poultry.

a4- Explain the technology of meat processing and different methods of preservation.

a5- Enumerate the different methods of food packaging.

a6-Summarize the technology of milk, milk products, fats &oils and eggs.

a7- Identify the technological problems in milk, milk products, fats &oils and eggs.

a8-Explain the Lab. examination of the quality and safety of milk and its products, Fats Oils and Eggs.

a9-Discuss the preservation methods of milk and its products, Fats Oils and Egg products.

a10-Understand fat & oils and eggs technology.

a11-Discuss the application HACCP system in production of milk & milk products.

b-Intellectual skills

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

b1- Integrate between the proper construction and overall layout of food plant and the product quality.

b2- Explain the main processing faults and their causes and how to avoid them.

b3- Evaluate the keeping quality of meat, fish and poultry products.

b4-Take decisions regarding the quality of good milk.

b5-Apply sensory evaluation of dairy products.

b6-Different investigations for milk and its products, Fats Oils and Eggs.

b7-Evaluate chemical pollutants & suitable control measures.

Course specification of postgraduate

C- Professional and practical skills

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

c1-Grossly examine meat products and writing a report..

c2- Acquire experiences in microbiological and chemical methods of meat products analysis.

c3- Interpret the results of laboratory examinations of suspected meat products.

c4- Determine of the different processing faults of meat products.

c5-Collect milk and milk products samples for physical and chemical examination of milk & milk products.

c6-Assess the quality of milk, milk products, fat, oil and eggs.

c7-Assess the critical points during milk and milk products processing.

c8-Design the technology and processing of some dairy products.

c9-Get experience in detection the adulteration of milk and milk products.

d- General and transferable skills

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

d1-Properly use computer and internet skills.

d2- Appreciate the importance of group working and cooperation.

d3-Properly communicate with others.

d4- Enhance his/her effective presentation skills

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. 1 h./week, Pract 2 h./week)	Technological properties of meat protein	1	1	-
	Non-meat ingredients	1	1	-
	Meat fats - Characteristics and uses - Processing and antioxidants	3	1	2
	Processing technology 1. Sausages 2. Cured meat 3. Fermented meat products 4. Reconstituted meat products	15	5	10
	Deterioration of processed meat Examination of meat for spoilage	7	1	6
	Introduction to meat preservation	1	1	-
	Curing	3	1	2

Course specification of postgraduate

	Drying	3	1	2
	Smoking	5	1	4
	Canning	6	2	4
	Low temperature preservation	6	2	4
	Irradiation	3	1	2
	Milk processing	6	2	4
	Technology of dairy products	18	6	12
	Food preservation	6	2	4
	Handling and processing of eggs	3	1	2
	Egg preservation	6	2	4
	Egg processing & products	3	1	2
	Fat & oil products	6	2	4
	Defects of processing of dairy products	6	2	4
	Student activities: - Food plants visits - Dairy plants visits - Writing assays - Internet search	-	-	-
	Total	108	36	72

5-Teaching and learning methods

- **Lectures:** depending on the sharing efforts of the students and supported with macromedia and multimedia aids.
- **Training visits**: to abattoirs of animals and poultry as well as meat processing plants.
- To dairy farms as well as milk processing plants.
- **Practical sections:** Laboratory diagnosis of suspected meat, fish, poultry and meat products by chemical and microbiological methods, identification of meat species by laboratory methods.
- Laboratory examination of milk, milk products, Fat &Oils and Eggs by chemical and microbiological methods.
- **Self learning:** Electronic learning, Seminars, scientific search on related websites, international
- , national and local journals, related books in faculty library.
- **Summer training course**
- **Assays and reviews**
- **Discussion groups**

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**
Final Exam	**a1 to a11**	**b1 to b7**		

Course specification of postgraduate

Practical Exam			**c1 to c9**	
Oral Exam	**a1 to a11** -	**b1 to b7**	**c1 to c9**	**d1 to d4**

7.2. Assessment schedules

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

7.3. Weight of assessments

Assessment	Weight of assessment	
Writing exam	**50**	**50%**
Practical exam	**30**	**25%**
Oral exam	**20**	**25%**
Total	100%	

8- List of references

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- Text book of Milk hygiene (edited by Professors El-Kholy, A.M. & El-Shinawy , S.H.H).
- Practical Meat Hygiene, professor/ FathyAhmedKhalafalla and ass. Professor/FatmaHassanMohammed, 2004.

Practical Milk hygiene (edited by Professors El-Kholy, A.M. & El-Shinawy , S.H.H).

8.2. Essential books:

- Meat Hygiene (J.F. Gracey and D.S. Collins) , ninth edition, 1992.
- Milk and milk products, 1997 (Sutherland &Varnam)Meat Hygiene (J.F. Gracey and D.S. Collins) , ninth edition, 1992.

Milk and milk products, 1997 (Sutherland &Varnam)

8.3. Recommended texts

- The microbiology of safe food (StephenJ. Forsythe), rst published 2000.
- Technology of dairy products (J.V. Patikh)
- Principles of dairy science (G.H. Schmidt 1998)
- **Journals:**
- FSIS (Food science and inspection surface)
- FDA
- FAO
- International journal of food science and technology

Course specification of postgraduate

- Journal of food protection

Journal of dairy science

Websites:

- cms.nelc.edu.eg
- www.meatscience.org
- www.inspection.gc.ca

www.directscience.com

Course Coordinators **Head of Department**

Dr. Nasser Sayed Abdel-Atty **Prof. Fathy A. Khalafalla**

BeniSuefUniversity
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	Technological properties of meat protein	1	a1	-	-	-
2	Non-meat ingredients	2	a4	-	c5	-
3	Meat fats - Characteristics and uses - Processing and antioxidants	3	-	b5	-	-
4	Processing technology 5. Sausages 6. Cured meat 7. Fermented meat products 8. Reconstituted meat products	4-8	a3	b1, b3	-	-
5	Deterioration of processed meat Examination of meat for spoilage	9	a1	-	c4	-
6	Introduction to meat preservation	10	a5	-	C5	-
7	Curing	11	a1	b1	C9	-
8	Drying	12	a6	b4	C7	-
9	Smoking	13	-	b2	C6	-
1	Canning	14-15	a1	b1	C6	-
1	Low temperature preservation	16-17	a1, a3	B1	C6	-
1	Irradiation	18	-	-	C6	-
1	Milk processing	19-20	a6	B4	C8,c9	-
1	Technology of dairy products	21-26	a7	B5	c2	-
1	Food preservation	27-28	a9	B6		-
1	Handling and processing of eggs	29	A6,A10	B6		-
1	Egg preservation	30-31	A6,a10	B6		-

Course specification

1	Egg processing & products	32	**A9**	**B6**		-
1	Fat & oil products	33-34	**A7**	**B6**		-
2	Defects of processing of dairy products	35-36	**A8**	**B7**		-
2	Student activities: - Food plants visits - Dairy plants visits - Writing assays - Internet search		**a2**	**b3**		