



Food Technology and Preservation

DIPLOMA COURSE SPECIFICATION

A. BASIC INFORMATION

University:	University of Sadat City
Faculty:	Veterinary Medicine
Program on which the course is given:	Diploma of Food Hygiene and Control
Department offering the Course:	Food hygiene and control
Course code:	906
Course title:	Food Technology and Preservation
Lecture (hr/week):	1
Practical (hr/week):	2
Course coordinator:	Dr. Ahmed Moustafa Hammad

B. PROFESSIONAL INFORMATION

1) Overall aims of course

Upon successful completion of the course, the student will be able to recognize specific knowledge of food technology including

-) Manufacturing of dairy products, meat products, egg products and margarine.*
-) Manufacturing defects in dairy products, meat products, egg products and margarine.*
-) Methods of preservation of dairy products, meat products, egg products and margarine.*

2) Intended learning outcomes of course (ILOs)

a) KNOWLEDGE AND UNDERSTANDING

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

- a.1.** Recognize the concepts of food technology.
- a.2.** Define the basic concepts of Hazard analysis and Critical Control Point System (HACCP) and its involvement in processing and manufacturing of milk and meat products.
- a.3.** Outline the modern technologies in food processing, packaging, canning and preservation of dairy products, meat products, egg products and fat and oils.
- a.4.** Categorize the manufacturing defects in milk, meat and their products.
- a.5.** Describe labeling and international legalizations of food products.

b) INTELLECTUAL SKILLS

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

- b.1.** Identify and solve the problems facing the correct application of Hazard Analysis and
- b.2.** Critical Control Points System (HACCP) during processing of dairy and meat products.
- b.3.** Plan for improving and monitoring the quality of the processed products.
- b.4.** Track the source of manufacturing defects in dairy and meat products.
- b.5.** Grading milk, dairy products, meat, meat products, egg, fat and oil in accordance to national and international standards.

c) PROFESSIONAL AND PRACTICAL SKILLS

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

- c.1.** Test meat and milk at the receiving station of factories for their suitability for further processing.
- c.2.** Employ the tests required for detection of heat treatment of milk and dairy products.
- c.3.** Train on cleaning and disinfection programs in dairy and meat factories.
- c.4.** Examine the quality of milk, meat and their products according to international standards.

- c.5. Examine the manufacturing defects of dairy products, meat products, egg products and margarine.
- c.6. Apply the sensory tests for evaluation of dairy products, meat products, egg products and margarine.

D) GENERAL AND TRANSFERABLE SKILL

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

- d.1. Utilize the electronic and digital instruments for analysis, monitoring and reporting data in the modern dairy farms and factories.
- d.2. Work in a team.
- d.3. Identify his educational needs.
- d.4. Communicate with others effectively.
- d.5. Discuss with the general public the risk of consumption of raw egg, milk and dairy products.

३) Topics and contents

Topic	No. of hours		
	Lect.	Pract.	Total
Basic and modern technologies in food processing	1	-	1
Preparation of milk ,meat, egg, fat and oil for processing	1	-	1
The principles of an HACCP plan	3	-	3
Implementation and maintenance of the HACCP program	5	-	5
Determination of CCPs during manufacture of dairy and meat products	4	-	4
Manufacture of meat products	7	-	7
Manufacture of dairy products	7	-	7
Manufacture of fat and oils	3	-	3
Manufacturing defects of meat and meat products	3	-	3
Manufacturing defects of milk and milk products	3	-	3
Labeling and international legalizations of food products	3	-	3
Packaging and canning of food products	4	-	4
Detection the suitability of milk and meat for further processing	-	5	5
Detection of efficiency of heat treatment of milk farms	-	3	3
Cleaning and sanitization program for dairy utensils and equipment in dairy	-	15	15
Assessment of cleaning efficiency using sterility tests	-	5	5
Detection of quality of milk, meat and their products according to the international standards	-	18	18
Detection of the manufacturing defects of cheese,	-	22	22

butter, cream, concentrated milk, evaporated milk products, fermented milks, dried milk products			
Sensory tests for detection of abnormal milk, dairy products, meat products, fat and oil	-	20	20
Total	44	88	132

ξ) Teaching and learning methods

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

ο) Student assessment

a. METHODS:

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

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

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

c. WEIGHT OF ASSESSMENTS:

Assessment	Allocated Mark	Evidence
Final written exam	50%	Marked and signed written paper
Practical exam	20% 20% 10%	Marked and signed practical exam paper
Oral exam		Signed list of oral exam marks
Student assignments		Representative samples of presented materials

٦) List of references

6.1. Essential textbooks

-) Varnam, A., Sutherland, Jane P. (2001): Milk and Milk Products: Technology, chemistry and microbiology Series: Food Products Series, Vol. 1. Aspen publication, New York.
-) Ceren Zeytinc, Handbook of Hygienic Design in Dairy Industry: Guide for food processing plants, 2014, AV Akademikerverlag.
-) Norman G. Marriott and Robert B. Gravani (2006) :Principles of Food Sanitation (Fifth Edition)

6.2. Journals, Websites, Periodicals.....etc

-) J. of food science
-) J. of milk and food technology.
-) J. of Food Protection
-) J. of Dairy Science
-) Bulletin of the international Dairy Federation
-) www.dairy science.com

٧) Facilities required for teaching and learning

- ٧,١ Data-show.
- ٧,٢ Basic laboratory equipment and devices for sanitization assessment.
- ٧,٣ Network for technology transfer.
- ٧,٤ Computer.

	Course coordinators	Head of department
Name	Dr. Ahmed Moustafa Hammad	Prof. Dr. A. M. Elbagory
Signature		

Matrix alignment of course topics and ILOs

Topic Lecture (Chapters/subchapters)	No. of hours /week		Total hours	Hours for Lect.	Hours for Pract.	ILOs			
	Lect.	Pract.				K.U (a)	I.S (b)	P.P.S (c)	G.T.S (d)
Basic and modern technologies in food processing	1		1	1	-	1	-	-	2-5
Preparation of milk ,meat, egg, fat and oil for processing	1		1	1	-	1	-	-	2, 3, 4
The principles of an HACCP plan	1		3	3	-	2	1	-	2, 3, 4
Implementation and maintenance of the HACCP program	1		5	5	-	2	1	-	2, 3, 4
Determination of CCPs during manufacture of dairy and meat products	1		4	4	-	2	1	-	2, 3, 4
Manufacture of meat products	1		7	7	-	3	2	-	2, 3, 4
Manufacture of dairy products	1		7	7	-	3	2	-	2, 3, 4
Manufacture of fat and oils	1		3	3	-	3	2	-	2, 3, 4
Manufacturing defects of meat and meat products	1		3	3	-	4	3	-	2, 3, 4
Manufacturing defects of milk and milk products	1		3	3	-	4	4	-	2, 3, 4
Labeling and international legalizations of food products	1		3	3	-	5	5	-	2, 3, 4
Packaging and canning of food products	1		4	4	-	3	-	-	2, 3, 4
Detection the suitability of milk and meat for further processing		2	5	-	5	-	-	1	1-4
Detection of efficiency of heat treatment of milk farms		2	3	-	3	-	-	2	1-4
Cleaning and sanitization program for dairy utensils and equipment in dairy		2	15	-	15	-	-	3	1-4
Assessment of cleaning efficiency using sterility tests		2	5	-	5	-	-	3	1-4
Detection of chemical composition of milk, meat and their products according to the international standards		2	18	-	18	-	-	4	1-4
Detection of the manufacturing defects of cheese, butter, cream, concentrated milk, evaporated milk products, fermented milks, dried milk products		2	22	-	22	-	-	5	1-4
Sensory tests for detection of abnormal milk, dairy products, meat products, fat and oil		2	20	-	20	-	-	6	5
Total			132	44	88				