



Chemical Analysis of Food

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:	905
Course title:	Chemical Analysis of Food
Lecture (hr/week):	1
Practical (hr/week):	1
Course coordinator:	Dr. Heba Hussein

B. PROFESSIONAL INFORMATION

1) Overall aims of course

At the end of this course, student should understand the basic Specific practical knowledge about chemical analysis of milk, meat, poultry, fish and their products

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. Describe the composition of milk, meat, poultry and fish.
- a.2. Explain how to collect and prepare food sample for examination. .
- a.3. Describe Sensory evaluation and grading of milk, meat, poultry, fish and their products.
- a.4. Recognize chemical examination of milk, meat, poultry, fish and their products.
- a.5. Recognize type of residues in food.
- a.6. Recognize the different types of toxin in food.

b) INTELLECTUAL SKILLS

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

- b.1. Investigate the physical proprieties of milk, meat, poultry, fish and their products.
- b.2. Assess the quality and grading of milk, meat, poultry, fish and their products.
- b.3. Judge sensory evaluation and grading of meat, poultry, fish and their products.
- b.4. Judge the chemical examination of milk, meat, poultry, fish and their products.

c) PROFESSIONAL AND PRACTICAL SKILLS

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

- c.1. Carry out chemical examination of milk, meat and their products
- c.2. Preparing and handling of milk, meat, poultry and fish samples for analysis.
- c.3. Write reports of milk, meat, poultry and fish analysis and judgment.
- c.4. Compare the result of hygiene and management with Egyptian and International standers.

d) GENERAL AND TRANSFERABLE SKILL

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

- d.1. How to take the decision.
- d.2. Communicate with the community.
- d.3. Be a successful member in hygiene team
- d.4. Presentation of a scientific study and writing reports.

3) Topics and contents

Topic	No. of hours		
	Lect.	Pract.	Total
Composition of (meat, Milk , poultry, fish and their products)	5	5	10
Sampling of food Meat, meat products ,milk ,milk products and poultry Fish ,fish products	5	5	10
Preparation of collected samples for chemical examination	5	5	10
Sensory evaluation and grading of milk, meat, poultry and fish.	7	7	14
Physical and Chemical examination of Meat, meat products , Poultry, poultry products. Fish ,fish products Milk and its products	10	10	20
Detection of residues in food(heavy metal, antibiotics)	7	7	14
Detection of toxin in food	5	5	10
Total	44	44	88

4) Teaching and learning methods

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

5) 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:

	K.U (a)	I.S (b)	P.P.S (c)	G.S (d)
Written exam	1-6	1, 2	-	-
Oral exam	1-4	1, 2	-	-
Practical exam	-	3, 4	1-4	-
Student activities (assay, seminar, etc.)	2,5	1-4	-	1-4

c. WEIGHT OF ASSESSMENTS:

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

v) List of references

6.1. Essential textbooks

-) Food chemistry Lillian Hoagland MEYE1987
-) Thomas J. Montville , Karl R. Matthews , Kalmia E. Kniel :Food Microbiology: An Introduction,2012.
-) Harry T. Lawless ,Hildegard Heymann :,Sensory Evaluation of Food: Principles and Practices (Food Science Text Series),2010.
-) S. Suzanne Nielsen, Food Analysis (Food Science Text Series), 4th ed. 2010.
-) Morten C. Meilgaard, B. Thomas Carr, Gail Vance Civille : Sensory Evaluation Techniques, Fourth Edition,2006.
-) N.A.Michael Eskin, F. P. Downes, Keith Ito. 2001. Compendium of Methods for the Microbiological Examination of Foods. IVth Edition. American Public Health Association.
-) Dairy Chemistry and Biochemistry, Pearsons Chemical Analysis of food Harold Egan 19 Biochemistry of Food.
-) Recent Advances In The Chemistry of food Alleen J.Baily1984.Diary products, Lampert.

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

-) J. of food science
-) J. of meat and food technology.
-) J.of Food Protection
-) J. Food Microbiology
-) J. of meat Science
-) Bulletin of the international Dairy Federation
-) www.meat.science.com
-) [www. Pubmed com.](http://www.Pubmed.com)

v) Facilities required for teaching and learning

- v, v Data-show.

- √, ٢ Basic laboratory equipment and devices for microbiological procedures
- √, ٣ Network for technology transfer.
- √, ٤ Computer.

	Course coordinators	Head of department
Name	Dr. Heba Hussein	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)
Composition of (meat, Milk , poultry, fish and their products)	1	1	10	5	5	a.1		-	1-4
Sampling of food, meat, meat products ,milk ,milk products poultry, fish and fish products	1	1	10	5	5	a.2		c.2	1-4
Preparation of collected samples for chemical examination	1	1	10	5	5	a.2	b.2	c.2	1-4
Sensory evaluation and grading of milk, meat, poultry and fish.	1	1	14	7	7	a.3	b.2,b3	-	1-4
Physical and Chemical examination of Meat, meat products , Poultry, poultry products. Fish ,fish products, Milk and its products.	1	1	20	10	10	a.4	b1,b.4	c.1,3,4	1-4
Detection of residues in food(heavy metal, antibiotics)	1	1	14	7	7	a.5	b2	c.4	1-4
Detection of toxin in food	1	1	10	5	5	a.6	b2	c.4	1-4
Total			88	44	44				