



Department of ...Animal Hygiene

College of Shaqlawa Technical

University of Erbil polytechnic

Subject: Food Hygiene

Course Book (for one year)

Lecturer's name PhD. Assist prof.Dr. Hasan Abdullah Mohammed

Practical teacher. MSc. Kaefy Jabar Hasan

Academic Year: 2022-2023

### Course Book

1. Course name	Food Hygiene
2. Lecturer in charge	Assist prof. Dr,Hassan Abdulla Mohammed

3. Department/ College	Shaqlawat technical college
4. Contact	e-mail: <a href="mailto:mohammedhassan335@gmail.com">mohammedhassan335@gmail.com</a> <a href="mailto:hassanabdulla@epu.edu.iq">hassanabdulla@epu.edu.iq</a> Tel: (07504654962)
5. Time (in hours) per week	For example Theory: 1 Practical: 3 for each group
6. Office hours	Availability of the lecturer to the student during the week
7. Course code	
8. Teacher's academic profile	<ol style="list-style-type: none"> <li>1. As Agricultural Engineer in Animal Production Field (Private Field of broiler breeding in Erbil/ from 1982-1985 and from end 1996 till starter 2001.</li> <li>2. As extension teacher in Latifia agriculture secondary school from September of 1985 till April of 1996.</li> <li>3. Head of animal resources department in Latifia agriculture secondary school from 1986 till 1992.</li> <li>4. Member of teachers in animal hygiene in shaqlawa technical institute from 2001 till 2003.</li> <li>5. M.sc student from 2003 till end of 2005 in animal resources department Salahaddin- University -Erbil, Iraq. Library manager of Shaqlawa technical institute from 2006 till September of 2009 and at the same time member of teachers in animal Hygiene department.</li> <li>6. From 25<sup>th</sup> September till 15<sup>TH</sup> July Ph.D Student at Slovak University of Agriculture in Nitra.</li> <li>7. Throughout the service period in Institute: <ol style="list-style-type: none"> <li>a. Produce many of video scientific film in the actual field of cow breeding and poultry farms.</li> <li>b. Head of Sectoral Committee for student researches exam in animal hygiene department - Shaqlawa technical institute-Erbil.</li> <li>c. Head of Procurement Committee over 3 years.</li> <li>d. Head of Occupational Safety Committee.</li> <li>e. Head of animal hygiene department from September 2012 till yet.</li> </ol> </li> </ol>

	<p>8. From 2006 till 2008 External lecturer in animal resources department – agriculture college - Salahaddin-University-Erbil, Iraq. –Erbil and Kirkuk city at the same time.</p> <p><u>EDUCATION</u></p> <ol style="list-style-type: none"> <li>1. B.sc: 1981-1982 – Animal resources department- Agricultural Extension- Agriculture College –Baghdad University.</li> <li>2. M.sc.2005-2006 (The effect of utilization vegetable fat and oil of sunflower seeds and marketing age on production performance and chemical composition of broiler carcass</li> <li>3. Animal resources department-Agriculture College – University of Salahaddin-Erbil, Iraq.( Topic in poultry nutrition)</li> <li>4. Ph.D., 2012 (Utilization of Different Lipids in Broiler's (Ross-308)Feeding . Animal resources department Nitra agriculture university –Slovakia. (Topic in poultry nutrition- accuracy in utilization lipids in broiler feeding).</li> </ol> <p><u>PUBLISHED RESEARCH &amp; AUTHORESS, TRAINING, CONFERENCES AND WORKSHOPS:</u></p> <p><u>BEFORE PHD PERIOD STUDY</u></p> <ol style="list-style-type: none"> <li>1. Mohammed et al., 2007.Performance and slaughter trails of effect feeding vegetable fat and sunflower oil and their mixture. In Egyptian poultry science journal volume 27 number 111 September 2007.</li> <li>2. Mohammed et al., 2007.Chemical composition of main carcass parts of effect feeding vegetable fat and sunflower oil and their mixture. In Egyptian poultry science journal volume 27 number 111 September 2007.</li> </ol> <p><u>AT PHD PERIOD STUDY</u></p>
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	<ol style="list-style-type: none"> <li>1. Mohammed.H.A.2010.COMPOSITION OF THE MOISTURE, FAT AND PROTEIN PERCENTAGE FOR VARIOUSANIMAL MEATS. In normal PhD student conference on 26.November 2010. Attatch of book ISSBN. 978-80-552-0471-0.</li> <li>2. Horniaková.E.-Mohammed.H.A.2011 USING OF NATURAL FEED ADDITIVES AND DIFFERENT FAT'S KIND IN THE POULTRY FEEDING. IN INTERNATIONAL WORKSHOP 30-31AUGUSET 2011 (COOPER LINK-CHH10TL68L).</li> <li>3. Mohammed et al., 2012.PERFORMANCE OF BROILER CHICKENS FED DIETS CONTAINING DIFFERENT TYPES OF FAT. In Archiva Zootechnica Journal. AZ vol. 15-1, 2012. (ISSN 1016-4855).</li> <li>4. Mohammed et al., 2012. EFFECT OF FEEDING VEGETABLE FAT, SUN FLOWER OIL AND THEIR MIXTUER ON BROILER PERFORMANCE. In doctored conference/ Nitra doctored conference/ Nitra p. 110-112. ISBN 978-80-552-0693-6.</li> <li>5. Mohammed.H.A., Horniaková.E.2012 .EFFECT OF USING DIFFERENT LIPIDS TYPE ON SECOUNDARY AND EDIBLES CARCASSES PARTS OF BROILER (COOB-500). In Journal of Microbiology, Biotechnology and Food Sciences, Hassan et al. 2012: 1 (4) 1152-1167. ISSN: 1338-5178.</li> <li>6. Mohammed.H.A., Horniaková.E.2012 .EFFECT OF USING SATURATED AND UNSATURATED FAT WITH MIXING THEM IN BROILER DIET ON BLOOD PARAMETER. In Journal of Microbiology, Biotechnology and Food Sciences, Mohammed and Horniaková 2011/12 : 1 (3) 309-322. ISSN: 1338-5178.</li> <li>7. Mohammed.H.A., Horniaková.E.2012. EFFECT OF UTILIZATION OF DIFFERENT TYPES OF LIPIDS ON AMINO ACID PROFILE IN MUSCLES AND LIVER OF ROSS- 308. In Journal of Revista Cientifica UDO. Agricola, vol.12, no.2. 2012. ISSN 1317-9152</li> </ol>
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	<ol style="list-style-type: none"> <li>8. Mohammed.H.A., Horniaková.E.2012 .EFFECT OF USING SATURATED AND UNSATURATED FATS IN BROILER DIET ON CARCASS PERFORMANCE. In Slovak Journal of Animal Science ,vol.45, no.1.2012,P21-29.ISSN1337-9984.</li> <li>9. Mohammed.H.A., Horniaková.E.2012 .THE EFFECT OF DIFFERENT TYPE OF FATS UTILIZATION IN BROILER (308) FEEDING ON THE PERFORMANCE PARAMETERS. In journal Acta fytotechnica etzootechnica vol. 4. 2011 ISBN 1336-9245</li> <li>10. Mohammed.H.A., Horniaková.E.2012 .EFFECT OF USING PACKED FAT, RAPESEED AND SUNFLOWER OIL IN BROILER DIET ON ORGANIC CHEMICAL COMPOSITION OF MUSCLES AND LIVER. Accepted on turn press in Journal of Microbiology, Biotechnology and Food Sciences Food Sciences vol.2 ,no.1.2012</li> <li>11. Mohammed.H.A., Horniaková.E.2012 .REFLECT OF UTILIZATION DIFFERENT LIPIDS LEVEL ON AMINO AND FATTY ACIDS PROFILE OF BROILER'S (ROSS-308) LIVER In Journal of Microbiology, Biotechnology and Food Sciences Food Sciences vol. 1, no. 6,p. 1462-1475. 2012.</li> <li>12. Mohammed.H.A., Horniaková.E.2012 .EFFECT OF USING DIFFERENT TYPE OF FAT ON FATTY ACIDS PROFILE OF FEMALE BROILER (ROSS-308) MUSCLES, In conference of 18.5.2012 in Czech Republic. ISBN: 978-80-213-22851.</li> <li>13. Mohammed.H.A., Horniaková.E.2012 . EFFECT OF DIETRY FAT TYPE ON FATTY ACIDS PROFILE OF MUSCLES AND LIVER IN FEMALE AND MALE BROILER (ROSS-308). In Archiva Zootechnica Journal vol. 15-1, 2012. (ISSN 1016-4855).</li> <li>14. Impact of bee pollen as feed supplements on the body weight of broiler Ross 308 in African Journal of Biotechnology Vol. 11(89), pp. 15596-15599, 6 November, 2012 ,Available online at <a href="http://www.academicjournals.org/AJB">http://www.academicjournals.org/AJB</a> ,DOI:</li> </ol>
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	<p>10.5897/AJB12.2239 ,ISSN 1684–5315 ©2012 Academic Journals</p> <p>15.THE INFLUENCE OF BEE POLLEN ON THE MEAT CHEMICAL COMPOSITION FOR BROILER´S ROSS 308 MUSCLES, IN Journal of Microbiology, Biotechnology and Čuboň et al. 2013 : 2 (Special issue on BQRMF) 1128-1137,Food Sciences 1128.</p> <p>16.Hassan.AbdullahMohammed et al., Effect of vitamin AD3E utilization at the pregnancy period and parturition on blood parameter for dairy cattle. International Journal of Advanced Research in Biological Sciences ISSN: 2348-8069 <a href="http://www.ijarbs.com">www.ijarbs.com</a> Volume 3, Issue 5 – 2016.</p> <p>17.Hasan.A.Mohammed Effect of utilization organic acid supplement on broiler (ROS-308) feeding at pre-starter and starter period breeding on basic performance parameters. International Journal of Advanced Research in Biological Sciences ISSN: 2348-8069 <a href="http://www.ijarbs.com">www.ijarbs.com</a> Volume 3, Issue 6 – 2016.</p> <p>18. Hasan.A.Mohammed Effect of utilization organic acid supplement on broiler (ROS-308) feeding at pre-starter and starter period breeding on chemical</p> <p>19.organic content of main, secondary carcass and edible parts Parameters. International Journal of Advanced Research in Biological Sciences ISSN: 2348-8069 <a href="http://www.ijarbs.com">www.ijarbs.com</a> Volume 3, Issue 6 – 2016.</p> <p>20. Hasan Abdullah Mohammed1*, Dhuha Qays Kamil1, Salam Adil Ahmed Effect of fenugreek (Trigonella foenum-graecum) seed aqueous extract on testes tissue of anabolic steroid treated adult mice Wudpecker Journal of Agricultural Research ISSN 2315-7259 Vol. 4(3), pp. xxx - xxx, May 2015 2015 Wudpecker Journals.</p> <p>ACTIVATE</p>
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	<ol style="list-style-type: none"> <li>1. Reviewer in UDO Agricola journal for article. (Venzaoulea).</li> <li>2. Reviewer in South African journal for two articles.</li> <li>3. Licencna for publishing from Slovakia Agriculture University3/4/2012.</li> <li>4. Teaching for Erasmus student in 2010-2012.</li> <li>5. Cooperation for advice MSc student from Spain.</li> <li>6. Cooperation for review in Slovak journal.</li> <li>7. Editorial board in <a href="http://wudpeckerresearchjournals.org/WJAR/WJAR.htm">wudpeckerresearchjournals.org/WJAR/WJAR.htm</a></li> </ol>
9. Keywords	Food , organic , diseases
<p>Food hygiene</p> <ul style="list-style-type: none"> <li>• Food is a potential source of infection and is liable to contamination by microbes, at any point during its journey from the producer to the consumer.</li> <li>• Food hygiene may be defined as the sanitary science which aims to produce food which is safe for the consumer and of good keeping quality.</li> <li>• It covers a wide field and includes the rearing, feeding, marketing and slaughter of animals as well as the sanitation procedures designed to prevent bacteria of human origin reaching food stuff.</li> <li>• Food hygiene in its widest sense, implies hygiene in the production, handling, distribution and serving.</li> <li>• WHO (1984) has defined food hygiene as all conditions and measures that are necessary during production, processing, storage, distribution and preparation of food to ensure that it is safe, wholesome and fit for human consumption.</li> <li>• The primary aim of food hygiene is to prevent food poisoning and other food borne illness.</li> </ul>	
<p>Objective</p> <ul style="list-style-type: none"> <li>• The objective of control has three aspects</li> <li>• 1. economic • 2. aesthetic • 3. public health</li> </ul> <p>Different branches of food hygiene include:</p> <ul style="list-style-type: none"> <li>• Milk hygiene • Meat hygiene • Fish hygiene • Egg hygiene • Hygiene of vegetables and fruits • Food handlers hygiene • Sanitation of eating place.</li> </ul>	

<p>13. Forms of teaching whiteboard, brochure with display of videos and field views awhrvient Datash and</p>
<p>14. Assessment scheme Breakdown of overall assessment and examination 1The style of seminars for students 2. Make periodic quizzes 3. Writing reports for each practical lesson 4. Doing globes for students to present the lecture</p>
<p>15. Student learning outcome: Milk hygiene • Milk is an efficient vehicle for a great variety of disease agents. • Milk get contaminated by various sources like udder, utensils, personal hygiene of the handlers, storage environment, water etc  Meat hygiene • The diseases which may be transmitted by eating unwholesome meat are: • Tapeworm infestations • Tinea saginata • Trichinella spiralis • Fasciola hepatica.  Fish hygiene • Fish deteriorates or loses its freshness because of autolysis which sets in after death and because of the bacteria with which they become infected. • Stale fish should be condemned. • The signs of fresh fish: 1) It is in a state of stiffness or rigor mortis 2) The gills are a bright red 3) The eyes are clear and prominent  practical part</p>



- Current statistics identify increasing numbers of reported food poisoning cases in Australia. A large majority of these cases stem from incorrect food handling and hygiene practices within the food industry.
- Every person working in the food industry has a responsibility to prepare food that is safe and suitable to eat.

This training presentation will assist you with this responsibility

### **Program objectives**

- **Food legislation**
- **Environmental Health Officers**
- **Food poisoning statistics**
- **Food hazards**
- **Bacterial food poisoning**
- **Potentially hazardous foods**
- **Causes of food poisoning**
- **Prevention of food poisoning**
- **Food handling controls**
- **Conclusion**
- **Assessment.**

### **16. Course Reading List and References:**

- Lectures prepared by teacher
- Book of feed and feeding
- Magazines and review (internet):

### **17. The Topics:**

Lecturer's name

<p>Date of lecture</p> <p>1. On Wednesday morning and</p>	<p>Lecturer's name/ assist proff.Dr Hasan Abdullah Mohammed ex: (3hrs for each group  ex: 14/10/2022</p>
<p>18. Practical Topics (If there is any)</p>	
<p>Food can be contaminated by the following three main hazard types:</p> <ul style="list-style-type: none"> <li>Physical hazards (foreign objects) – metal, wood, glass, plastic, etc.</li> <li>Chemical hazards – bleach, caustic soda, detergents, pesticides, etc.</li> <li>Microbiological – bacteria, viruses, moulds and parasites.</li> </ul> <p>Food that is contaminated with any of these hazards is unsafe and unsuitable to eat.</p>	<p>Me in Theory and practical by yaheia Abdulla and Gulnaz</p>
<p>19. Examinations:</p> <p>Examples of theoretical questions</p> <p>Note / Answer only three questions, and each question has 10 marks</p> <p>Q.1 / Complete the following blanks with the following phrases appropriate:</p> <p>----- 1Plays an important role in digestion and acting</p> <p>----- 2Insoluble in alkalis and light acids</p> <p>-3Human need less water when-----</p> <p>-4Mineral salts are necessary for-----</p> <p>-5The vitamins are of good quality at the stage-----</p>	

Q2 / talk the composition of a final meat with protein if you have the following:  
200 gram red meat  
120 gram chicks meat  
100 gram fish meat  
½ litter milk  
Q4 / what is the useful of breakfast by egg and milk

Examples of practical questions

Note, answer three questions only, and each question has a score of 10

Q.1 / Know the following briefly and the importance of each  
.1Suxolite 2. Microkeldal 3. Standard Error 4. ASH 5. SLICA

Q2 / Explain in the steps how to measure the total humidity of vegetable fodder, giving an example for each.

Q3 / what is the signal of poison food

20. Extra notes:

Conducting field tours on some of the food laboratories after the end of each chapter on their acceptance of the scientific material

#### 10. Peer review

The subject teacher, Assistant Professor Dr. Hassan Abdullah Muhammad

The subject teacher has been teaching this subject for more than eighteen years and every year we renew the method of lectures