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**Department of Food technology**

**College of Agriculture**

**University of Salahaddin**

**Subject:** **Meat and fish technology Theory**

**Course Book – *3RD* STAGE**

**Lecturer's name Dr, Ranjbar Shwan Abdulrahman**

**Academic Year: 2023/2022**

**Course Book**

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| **1. Course name** | **Meat and fish technology** |
| **2. Lecturer in charge** | **Ranjbar Shwan Abdulrahman**  |
| **3. Department/ College** | **Food technology- University of Salahaddin** |
| **4. Contact** | **e-mail:** **ranjbar.abdulrahman@su.edu.krd****Tel: (optional)** |
| **5. Time (in hours) per week**  | **Theory : 2**  |
| **6. Office hours** | **2** |
| **7. Course code** |  |
| **8. Teacher's academic profile**  | **I have over ten years experience in the food processing** **I have been organized more than six summer courses for introducing students to a practical field in real life by standing cooperation with public and private sectors by visiting factories in Erbil .** |
| **9. Keywords** | Meat, animal body and muscle structure pre- and post-slaughter,slaughtering animals, tenderness and palatability ,preservation meat .Meat processing - water binding, salt and phosphate, Fish and fish products Microbiological aspects |
| **10. Course overview:**This course is an introduction to the area of meat and meat processing. It aims to provide an understanding of the science surrounding the raw material, factors affecting its quality, its functional properties and some common processes. Other areas intrinsically related to the manufacture of meat products are also covered, e.g. legislation, microbiology, hygienic design and layout |
| **11. Course objective:*** The raw material - properties, structure pre- and post-slaughter, pH, cuts, factors affecting quality
* Key legislative
* Issues Islamic method and western method for slaughtering animals.
* Cutting of Meat
* Meat tenderness and Factors determining meat tenderness
* Methods of preservation meat
* Meat processing - water binding, salt and phosphate, marinating, emulsions, cooking loss, forming, curing, cooking
* Fish and fish products
* Microbiological aspects
* Hygiene considerations - especially high risk
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| **12. Student's obligation**"As well as being a product in its own right, meat in its many forms is now a core raw material in a vast industry that encompasses many forms of processing and preservation techniques. Yet it has complex properties which are affected pre and post-slaughter and during processing which ultimately affect end product quality. This course will benefit those who wish to gain a better understanding of meat technology." |
| **13. Forms of teaching****USING WITE BORD AND DATA SHOW** |
| **14. Assessment scheme**20 MARK FOR EXSAM +5 MARK STUDENT ACTIVITY LIKE COUISE TEST REPORT =25 MARK ‌ |
| **15. Student learning outcome:**Meat technology will be of interest to a wide array of people involved in the meat products industry. It will appeal to those involved in new product development, quality control and technical management as well as auditors and production staff. Non-technical delegates who wish to gain an understanding of meat and meat products are also welcome. |
| **16. Course Reading List and References‌:** ▪Key references: Al-Aswad,M.B.(1989).Meat Science and Technology . Higher Education Press in Mosul. (In Arabic) التجارب المختبرية في تكنولوجيا اللحوم. ماجد بشير الاسود.1984▪Useful references: 1-Handbook. meat product technology .M.D.Ranken. 20002-MEAT PROCESSING TECHNOLOGY . Gunter Heinz and Peter Hautzinger.20073- Kowale,B.N ., Kulkarni,V. and Kesava, R. V.(2008).Methods in meat science book.4- Lawrie, R. A. (1998). Lawrie's meat science (6th Ed). ▪Magazines and review (internet): Meat Sciencejournals  |
| **17. The Topics:** | **Lecturer's name** |
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| **No.** | **Title of the Subject** |
| **Week 1** | **Introduction .meat and major components of meat** |
| **Week 2-3** | **Knowing partition of animal body and muscle structure**  |
| **Week 4-5** | **structure pre- and post-slaughter, pH, cuts, factors affecting quality** |
| **Week 6** | **slaughtering animals** |
| **Week 7** | **Meat tenderness and palatability** |
| **Week 8** | **Exam**  |
| **Week 9-10** | **Methods of preservation meat** |
| **Week 11** | **Meat processing - water binding, salt and phosphate, marinating, emulsions, cooking loss, forming, curing, cooking** |
| **Week 12-13** | **Fish and fish products** |
| **Week 14** | **Microbiological aspects** |
| **Week 15** | **Hygiene considerations - especially high risk** |
| **Week 16** | **Exam**  |

 | ex:(2 hrs per week ) |
| **18. Practical Topics (If there is any)** |  |
|  |  (3 hrs) |
| **19. Examinations:**  |
| **20. Extra notes:**5 MARK STUDENT ACTIVITY LIKE COUISE TEST REPORT. |
| **21. Peer reviewپێداچوونه‌وه‌ی هاوه‌ڵ** This course book has to be reviewed and signed by a peer. The peer approves the contents of your course book by writing few sentences in this section.*(A peer is person who has enough knowledge about the subject you are teaching, he/she has to be a professor, assistant professor, a lecturer or an expert in the field of your subject).*ئه‌م کۆرسبووکه‌ ده‌بێت له‌لایه‌ن هاوه‌ڵێکی ئه‌کادیمیه‌وه‌ سه‌یر بکرێت و ناوه‌ڕۆکی بابه‌ته‌کانی کۆرسه‌که‌ په‌سه‌ند بکات و جه‌ند ووشه‌یه‌ک بنووسێت له‌سه‌ر شیاوی ناوه‌ڕۆکی کۆرسه‌که و واژووی له‌سه‌ر بکات.هاوه‌ڵ ئه‌و که‌سه‌یه‌ که‌ زانیاری هه‌بێت له‌سه‌ر کۆرسه‌که‌ و ده‌بیت پله‌ی زانستی له‌ مامۆستا که‌متر نه‌بێت.‌‌  |