



**Jordan University of Science and Technology**  
**Faculty of Agriculture**  
**Animal Production Department**

AP446 Meat Science

Second Semester 2023-2024

**Course Catalog**

3 Credit Hours. The origin of meat animals, growth and development of meat animals, factors affecting animal growth and meat production. Chemical and physiological structure of muscular and associated tissues, conversion of muscles to meat. Slaughtering methods and factors affecting production, meat quality and treatments affecting meat quality. Carcass classification and grading, meat inspection, cutting methods, meat nutritive value. (Prerequisite: AP 321).

**Teaching Method:** On Campus

**Text Book**

<b>Title</b>	Meat Science
<b>Author(s)</b>	Lawrie R. A.
<b>Edition</b>	4th Edition
<b>Short Name</b>	Ref #1
<b>Other Information</b>	

**Course References**

Short name	Book name	Author(s)	Edition	Other Information
Ref #2	Advances in Meat Research	Pearson A. M. and Dutson T. R.	1st Edition	

**Instructor**

Name	<b>Prof. Abdullah Mohammad Al-Yousef</b>
Office Location	C4L3
Office Hours	Sun : 10:30 - 12:30 Tue : 10:30 - 12:30 Tue : 13:30 - 15:30 Wed : 10:00 - 12:30 Thu : 10:30 - 13:30
Email	abdullah@just.edu.jo

<b>Class Schedule &amp; Room</b>
Section 1: Lecture Time: Sun, Tue, Thu : 09:30 - 10:30 Room: G2120

<b>Prerequisites</b>		
<b>Line Number</b>	<b>Course Name</b>	<b>Prerequisite Type</b>
613212	AP321 Animal Physiology	Prerequisite / Study

<b>Tentative List of Topics Covered</b>		
<b>Weeks</b>	<b>Topic</b>	<b>References</b>
Week 1	Introduction and an overview of the meat industry General Overview	
Week 2	Meat and human nutrition World meat production The red and the white meat and its role in the diet The main products and the by-products from meat animals	
Week 3	The muscle structure. The muscle fiber and the associated connective tissue. Muscle Function and the differences between muscle type	
Week 4	Factors reflected in specialized muscle function and Constitution. All related topics with different type of meat animals.	
Week 5	Normal and abnormal growth of muscle	
Week 6	Chemical and Biochemical constitution of muscle, muscle proteins, Intramuscular fat.	
Week 7	The conversion of muscle to meat. Rigor mortis, Conditioning, Ageing Dealing with surrounding environment	
Weeks 8, 9	The spoilage of meat by infection Organisms. To have a basic knowledge on meat spoilage by different organisms Storage And Preservation of Meat ? Temperature control	
Weeks 10, 11	The Eating Quality of Meat. Describe all meat quality characteristic Describe how the eating quality measured Describe all the factors affecting meat quality Describe all the techniques used to increased meat quality	

<b>Mapping of Course Outcomes to Program Outcomes</b>	<b>Course Outcome Weight (Out of 100%)</b>	<b>Assessment method</b>
1. To assess the nutrient value of meat and its role in the diet. [1SLO 1, 1SLO 2]	15%	
2. To provide an understanding of the relationship between muscle anatomy, muscle composition, muscle structure, and the ultimate quality of meat [1SLO 2]	15%	
3. To be familiar with meat processing technologies [1SLO 2, 1SLO 3]	20%	
4. To introduce and be familiar with the storage and preservation techniques of meat and meat by-product. [1SLO 2, 1SLO 3]	20%	

5. To learn the biochemical change of meat that happened during the conversion of muscle to meat and the physiological basis of meat quality characteristics. [1SLO 2, 1SLO 3]	20%	
6. To know and study the pre-slaughter and the post-slaughter treatments that can have an effect on meat quality characteristics [1SLO 3]	10%	

Relationship to Program Student Outcomes (Out of 100%)			
SLO 1	SLO 2	SLO 3	SLO 4
7.5	52.5	40	

Evaluation	
Assessment Tool	Weight
First Exam	30%
Second Exam	30%
Final Exam	40%

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