



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

AP416 Meat Science

Second Semester 2020-2021

**Course Catalog**

3 Credit Hours. The fundamentals of muscle structure and muscle growth, slaughter, processing, storage and merchandising of meat and meat products. Structure, composition, and function of muscle and its conversion to meat. Properties of fresh and processed meat, microbiology, preservation, nutritive value, and sanitation. The biochemical and physiological basis of meat quality characteristics, pre-slaughter and post-slaughter treatments that can have an effect on meat quality.

**Text Book**

|                          |                                 |
|--------------------------|---------------------------------|
| <b>Title</b>             | Meat Science                    |
| <b>Author(s)</b>         | R. A. Lawrie                    |
| <b>Edition</b>           | 4th Edition                     |
| <b>Short Name</b>        | Ref#1                           |
| <b>Other Information</b> | Lawrie Pergamon Press Ltd. 1985 |

**Course References**

| Short name | Book name                              | Author(s)                                | Edition      | Other Information  |
|------------|--|--|--------------|--|
| Ref#2      | Meat Production and Processing (1989), | R. W. Purchas, B. W. Hogg, A. S. Davies, | 11th Edition | New Zealand Society of Animal Production ? Occasional Publication No. 11. (1989) |
| Ref#3      | Agricultural Extension Services,       | University of Illinois                   | 1st Edition  | Interactive Lessons from   |

**Instructor**

|                 |                                   |
|-----------------|-----------------------------------|
| Name            | Prof. Abdullah Mohammad Al-Yousef |
| Office Location | C4L3                              |

|              |  |
|--------------|--|
| Office Hours | Sun : 09:30 - 11:30<br>Mon : 09:30 - 12:30<br>Tue : 09:30 - 11:30<br>Wed : 09:30 - 11:30 |
| Email        | abdullah@just.edu.jo   |

| Class Schedule & Room  |
|--|
| Section 1:<br>Lecture Time: Sun, Tue : 11:30 - 13:00<br>Room: منصة الكترونية |

| Tentative List of Topics Covered |  |  |
|----------------------------------|--|--|
| Weeks                            | Topic  | References                               |
| Week 1                           | Meat and human nutrition   | <b>Chapter 1, 11</b> From <b>Ref#1</b>   |
| Week 2                           | The structure and growth of muscle.  | <b>Chapter 1, 3</b> From <b>Ref#1</b>    |
| Week 3                           | The muscle fiber, Associated connective tissue.                                      | <b>Chapter 1, 3</b> From <b>Ref#1</b>    |
| Week 3                           | Normal and abnormal growth of muscle.  | <b>Chapter 1, 2, 3</b> From <b>Ref#1</b> |
| Week 4                           | Chemical and Biochemical constitution of muscle, muscle proteins, Intramuscular fat. | <b>Chapter 4</b> From <b>Ref#1</b>       |
| Week 5                           | Factors reflected in specialized muscle function and Constitution.                   | <b>Chapter 4</b> From <b>Ref#1</b>       |
| Weeks 6, 7                       | The conversion of muscle to meat.  | <b>Chapter 5</b> From <b>Ref#1</b>       |
| Weeks 8, 9, 10                   | The spoilage of meat by infection Organisms.   | <b>Chapter 6</b> From <b>Ref#1</b>       |
| Weeks 11, 12, 13                 | Storage And Preservation of Meat ? Temperature control.                              | <b>Chapter 7, 8, 9</b> From <b>Ref#1</b> |
| Weeks 14, 15, 16                 | The Eating Quality of Meat.  | <b>Chapter 10</b> From <b>Ref#1</b>      |

| Mapping of Course Outcomes to Program Student Outcomes  | Course Outcome Weight (Out of 100%) | Assessment method    |
|---|-------------------------------------|----------------------|
| To have some knowledge and to assess the nutrient value of meat and its role in the diet. [1SLO 1]  | 5%                                  | Mid exam, Final Exam |
| To understand the relationship between muscle anatomy, muscle composition, muscle structure, and the ultimate quality of meat. [2SLO 2]   | 15%                                 | Mid exam, Final Exam |
| To be familiar with animal growth, slaughter technologies, meat processing, storage and merchandising of meat and meat products. [3SLO 3] | 20%                                 | Mid exam, Final Exam |

|   |     |            |
|---|-----|------------|
| To Have some Knowledge of Storage And Preservation of Meat & Processing Meat Products. [4SLO 4]   | 20% | Final Exam |
| To learn, define and describe the structure, biochemical and physiological basis of meat quality characteristics [5SLO 4]   | 20% | Final Exam |
| Upon successful completion of this course the student will have an understanding of the pre-slaughter and post-slaughter treatments that can have an effect on meat quality. [6SLO 1] | 20% | Final Exam |

| Relationship to Program Student Outcomes (Out of 100%) |       |       |       |
|--|-------|-------|-------|
| SLO 1  | SLO 2 | SLO 3 | SLO 4 |
| 25   | 15    | 20    | 40    |

| Evaluation      |        |
|-----------------|--------|
| Assessment Tool | Weight |
| Mid exam        | 50%    |
| Final Exam      | 50%    |

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