

FST-401, Meat Technology 3(2-1)

Educational Objectives:

This course aims to produce qualified graduates for the meat sector. This course will give graduates practical experience in all aspects of meat science in order to prepare them in problem-solving abilities for meat-related challenges. After completion of the course, students will be able to build a basis for long-term professional development in the area of meat production, processing, and value addition. Once the course is completed students can concentrate on applied research in response to current needs and to problems faced by industry

Course Outcomes:

1. Recognize the fundamental principles and procedures involved in processing meat and animal products.
2. Be able to evaluate the basic quality parameters in processed meat
3. Understand federal food safety rules and safe food handling practices.
4. Achieve basic understanding of halal and its regulations in global meat industry

Course contents:

- Meat animals: Status in Pakistan,
- factors influencing growth and development.
- Halal and non-Halal species.
- Slaughtering processes: pre-slaughtering care and handling of meat animals, stunning methods, bleeding methods – modern,
- Islamic, Kosher and others.
- Meat carcass: dressing, post-mortem changes,
- carcass evaluation and meat cuts.
- Factors affecting quality of meat.
- Preservation of beef and lamb: chilling, freezing, canning, dehydration, curing, salting, smoking, irradiation.
- Properties of meat: physical, chemical, nutritional and microbiological.
- Quality assurance and safety systems compliance in meat industries.
- Global perspective of Halal meat industry.

Practical:

- Identification of meat cuts.
- Tests for freshness of meat.

- Meat inspection.
- Meat grading and quality testing.
- Preservation of meat: freezing, canning, dehydration, smoking, curing.
Preparation of meat products.
- Visit to abattoir and meat processing plants.

Recommended Books:

1. Feiner, G. 2006. Meat product handbook; practice science and technology. Woodhead Publishing Ltd., Abington, Cambridge, England.
2. Chatli, Manish Kumar; Sahoo, Jhari, 2016, Textbook on meat, poultry and fish technology, Daya Publishing House
3. Alaa El-Din A. Bekhit, 2016, Advances in meat processing technology, CRC Press.
4. Fidel Toldrá, Leo M. L. Nollet, 2016, Advanced technologies for meat processing, CRC Press
5. Fidel Toldrá, 2017, Lawrie's meat science, Woodhead publishing
6. Toldra, F. 2012. Handbook of Meat Processing. Wiley-Blackwell Publishing, London, UK.