

## FST-243 Poultry and Egg Processing 3 (2-1)

### **Educational objectives:**

This course aimed to explain different techniques involve in the processing of poultry meat and eggs. Demonstrate the effect of diet and environmental conditions on the nutritional profile of poultry meat and eggs. Deliver information on different biochemical and microbial quality indicators of meat and eggs. Find out the current issues in the processing and preservation of poultry meat and eggs. Identify the importance of different food quality and safety standards for the safe production of poultry meat and egg products.

### **Course Outcomes**

1. Students will be easily understanding the different techniques used for the processing and preservation of the meat and their effect on the quality of the meat.
2. Students are expected to know about the techniques to understand the composition of the different food products and responsible factors which lowers the quality of the meat.
3. Students must be able to explain the physical, chemical, and biological properties of food and their effects on food safety, and sensory and nutritional quality.
4. Students will be able to explain the effects of food processing, engineering, preservation, packaging, and storage on food safety and quality.

### **Theory:**

- Poultry industry in Pakistan. F
- actors affecting poultry quality: breed, age, sex, genotype, rearing conditions and practices. Bird selection: weight, quality.
- Ante-mortem and Post-mortem examination of poultry birds- principles of judgment.
- Primary poultry processing: pre-slaughter care, live-bird supply, stunning, slaughtering, scalding, plucking, evisceration, giblet harvesting, whole-carcass and cuts packaging. Portioning and deboning operations.
- Preservation: canning, freezing, drying, chemical treatments, irradiation.
- Packaging: materials, selection
- Quality assurance: parameters, drug and feed residues.

- Eggs: Structure, inspection, grading, composition: proteins of egg white, yolk proteins, and lipids and nutritive value, quality characteristics, handling, storage.
- Egg processing: cleaning, drying, freezing - whole, white, yolk.
- Functional properties and applications in food processing. Quality control during processing.

**Practical:**

Slaughtering and dressing of poultry. Poultry cuts. Tests for freshness of poultry and eggs. Grading of poultry meat and eggs. Preparation of poultry and egg products. Preservation of poultry and egg products. Visit to poultry and egg processing plants.

**Recommended Books:**

1. Berlow, A. and Grandin, T. 2013. The mobile poultry slaughterhouse: building a humane chicken-processing unit to strengthen your local food system. Storey Publishing, LLC., USA.
2. Owens, C.M., C. Z. Alvarado and A. R. Sams. 2010. Poultry meat processing. CRC Press, Taylor & Francis Group, Boca Raton, Florida, USA.
3. Mead, G.C. 2004. Poultry meat processing and quality. Woodhead Pub. Ltd., Abington, Cambridge, England.
4. Barbut, S. 2002. Poultry products processing; An industry guide. CRC Press, Taylor & Francis Group, Boca Raton, Florida, USA.
5. Sim, J.S., Nakai, S. and Guenter, W. 2000. Egg nutrition and biotechnology. CABI Publishing, New York, USA.
6. Pearson, A.M. and Gillett, T.A. 1996. Processed meats. Chapman & Hall, New York, USA.
7. Yamamoto, T. 1996. Hen eggs: basic and applied science. Woodhead Pub. Ltd., Abington, Cambridge, England.
8. Sim, J. S. and S. Nakai. 1994. Egg uses and processing technologies. CABI Publishing, New York, USA.