**Course: Meat Processing and Technology**

1. **Type**          **:** Specialization's Elective
2. **Code**          **:** PTH 6409
3. **Credit**         **:** 2/0
4. **Semester**      **:** Even
5. **Description**    **:**

This course discusses the various meat processing, chemical ingredients on meat processing, food safety on meat processing, meat product quality, meat processing quality and also the meat industry business development and also the processing technology with meat industry.

6. **Course Outcomes (CO)**

| | | |
|---|---|---|
| CO 1 | : | Able to comprehend the various meat processing technology and also its influence towards nutritional value and composition of meat and meat product |
| CO 2 | : | Able to comprehend the development of industry business of meat processing and the relation between the meat processing technologies with the meat processing industry. |

7. **The Alignment Between CO and ELO**

| CO* | ELO** | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | | | | B | | | C | | | | D | | | | | |
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 5 | 6 |
| CO 1 | | | | | | ✓ | | | | | ✓ | | | | | | |
| CO 2 | | | | | | ✓ | | | | | ✓ | | | | | | |

   *CO refers to point 6.

   **Expected Learning Outcomes (ELO) are written below,

| A. Attitudes and Behaviors | |
|---|---|
| The graduates are able to behave well, correctly, and culturally as the result of internalization and actualization of values and norms, which is reflected in a spiritual and social life through learning process, experience, research, and/or community development in the animal husbandry. | |
| 1 | Piety to God and be able to show religious attitude and maintain the humanity values in carrying the task, which is based on religion, moral, and ethics. |
| 2 | Be proud and love the homeland show nationalism, and contribute to the improvement of the life quality in the community, nation and country, and the advancement of civilization according to Pancasila. |
| 3 | Showing the social sensitivity and attention to the community and environment by respecting the culture diversity, view, religious, beliefs, and other people's opinion, and also obey the rules. |
| 4 | Be accountable in carrying the professional practice that includes ability to accept accountability towards decision and professional action. It shall be according to the scope of the practice under their responsibility and laws. |
| **B. Mastery in Sciences** | |
| Master the theory of the current science in the animal husbandry and its application. | |
| 1 | Able to master the current animal science and its application theory. |
| 2 | Able to master the livestock production science, animal nutrition and fed science, animal products technology, and the livestock social economics in relation to food security and environment. |
| 3 | Able to master the design, management, and development of livestock research. |
| **C. Special Skills** | |

| | The graduates are able to develop science, technology, and arts in the animal husbandry through interdisciplinary/multidisciplinary innovative and tested research. |
|---|---|
| 1 | Able to make innovation in the animal husbandry based on the development of science and technology. |
| 2 | Able to design interdisciplinary and multidisciplinary research in the animal husbandry. |
| 3 | Able to formulate and solve problems in the national development especially in terms of animal husbandry. |
| 4 | Able to solve problems and anticipate issues in the development of animal science and industry. |

**D. General Skills**

| | The graduates are able to manage resources by utilizing science, technology, and arts to solve problems in the animal husbandry with current science and also conduct research with accountability and full responsibility. |
|---|---|
| 1 | Able to develop logical, critical, systematic, and creative thought through scientific research, creation of design in the science and technology, which pays attention and applies humanity values according to their expertise. The graduates are able to arrange scientific concept and the study result based on the principles, procedures, and scientific ethics. |
| 2 | Able to identify the science that becomes their research object and position it to a research map by using information technology in the context of science development and expertise implementation developed through interdisciplinary or multidisciplinary approaches. |
| 3 | Able to make a decision in the context of solving problems in the development of science and technology, which pays attention and applies humanity values based on analysis study or experiment towards information and data. |
| 4 | Able to communicate the result of reasoning and scientific research in form of thesis and scientific writing responsibly based on academic ethics in the accredited national journal. |
| 5 | Able to maintain the academic integrity generally and avoid the plagiarism practice. |
| 6 | Able to communicate spoken and written English effectively by using the information technology for the development of animal science and its implementation. |

## 8. Course Content

| Week | CO | Topic/Subtopic | Learning Activity | Assessment Tools | Allocated Time | Lecturer |
|---|---|---|---|---|---|---|
| 1 | CO 1 | Introduction | Tutorial lecture, discussion | Midterm, final exam, participation | 2 x 50 minutes | Edi Suryanro |
| 2 | CO 1 | Meat processing (wet method): meat ball, sausage, galantine | Tutorial lecture, discussion | Midterm, final exam, participation | 2 x 50 minutes | Edi Suryanto |
| 3 | CO 1 | Meat processing (wet method): burger, pizza | Tutorial lecture, discussion | Midterm, final exam, participation | 2 x 50 minutes | Setiyono |
| 4 | CO 1 | Meat processing (dried method): abon, dendeng | Tutorial lecture, discussion | Midterm, final exam, participation | 2 x 50 minutes | Setiyono |
| 5 | CO 1 | Meat processing (dried method): steak, satay | Tutorial lecture, discussion | Midterm, final exam, participation | 2 x 50 minutes | Rusman |

| | | | | | | |
|---|---|---|---|---|---|---|
| 6 | CO 1 | Chemical ingredients on meat processing | Tutorial lecture, discussion | Midterm, final exam, participation | 2 x 50 minutes | Rusman |
| 7 | CO 1 | Physical and chemical alteration on meat | Tutorial lecture, discussion | Midterm, final exam, participation | 2 x 50 minutes | Jamhari |
| **Midterm Examination** | | | | | | |
| 8 | CO 2 | Food safety on meat processing | Tutorial lecture, discussion | Midterm, final exam, participation | 2 x 50 minutes | Jamhari |
| 9 | CO 2 | Meat product quality according to SNI | Tutorial lecture, discussion | Midterm, final exam, participation | 2 x 50 minutes | Endy Triyannanto |
| 10 | CO 2 | Technological application of processed meat | Tutorial lecture, discussion | Midterm, final exam, participation | 2 x 50 minutes | Endy Triyannanto |
| 11 | CO 1 | Meat packaging and labelling | Tutorial lecture, discussion | Midterm, final exam, participation | 2 x 50 minutes | Rio Olympias |
| 12 | CO 2 | Business and meat industry development | Tutorial lecture, discussion | Midterm, final exam, participation | 2 x 50 minutes | Rio Olympias |
| 13 | CO 1 CO 2 | Paper presentation | Discussion | Participation | 2 x 50 minutes | Tim |
| 14 | CO 1 CO 2 | Paper presentation | Discussion | Participation | 2 x 50 minutes | Tim |
| **Final Examination** | | | | | | |

## 9. Assessment

| Component | CO | Percentage (%) for final grade | Minimum Satisfactory Level |
|---|---|---|---|
| Midterm | CO 1; CO 2 | 30 | 70 |
| Quiz | CO 1; CO 2 | 10 | 70 |
| Presentation | CO 1; CO 2 | 10 | 70 |
| Paper | CO 1; CO 2 | 20 | 70 |
| Final exam | CO 1; CO 2 | 30 | 70 |
| **Total** | | 100 | |

## 10. Lecturer
1. Ir. Edi Suryanto, M.Sc., Ph.D., IPU.

2. Dr. Ir. Jamhari, S.Pt., M.Agr.Sc., IPM.
3. Dr. Ir. Setiyono, SU.
4. Ir. Rusman, M.P., Ph.D.
5. Dr. Endy Triyannanto, S.Pt., M.Eng., IPM.
6. Dr. Rio Olympias Sujarwanta, S.Pt., M.Sc.

## 11. Reference

1. Aberle, E.D., J.C. Forrest, D.E. Gerrard, and E.W. Mills, 2001. Meat Science. 4th Edition, Kendall/Hunt Publishing Co., Dubuque, Iowa.
2. Soeparno, 2015. Ilmu dan Teknologi Daging. Edisi ke-2. Universitas Gadjah Mada Preess, Yogyakarta.
3. Lawrie, R.A., 2006. Meat Science. 7th Edition. Woodhead Publishing Co., Nottingham, UK.