Module Descriptions “Compulsory BAS”

Module designation	*PTK62119 Science and Technology of Beef Cattle Production*
Semester(s) in which the module is taught	*4*
Person responsible for the module	1. *Prof.Dr.Ir. Salam N. Aritonang, MS* 2. *Prof.Dr.Ir. Khasrad, M.Si* 3. *Rusdimansyah, SPt, M.Si* 4. *Dr. Ferry Lismanto, S.Pt., MP* 5. *Dr. Yetmanely, S.Pt., MP* 6. *Dr. Reswati, S.Pt., MP*
Language	*Indonesia and English*
Relation to curriculum	*Compulsory*
Teaching methods	*Lecture, slef direct learning, and project based learning*
Workload (incl. contact hours, self-study hours)	*(Estimated) Total workload: 136.01 hours* *Contact hours: 39.97 hours (lecture)* *Private study including examination preparation, specified in hours: 96.04 hours*

Credit points	*4.53 ECTS*
Required and recommended prerequisites for joining the module	-

Module objectives/intended learning outcomes	*ILO 1 : Demonstrate a responsible attitude toward work in the field of Science and Technology of Meat Livestock Production independently.* *PI 4. Able to demonstrate a full sense of responsibility for the assigned tasks.* *ILO 2 : Able to demonstrate independent, high-quality, and measurable performance in the field of Science and Technology of Meat Livestock Production.* *PI 1. Master the basic concepts in the field of livestock production technology.* *ILO 3 : Master the concept of solving livestock problems based on scientific knowledge using scientific methods in the field of Science and Technology of Meat Livestock Production.* *PI 3. Able to apply solutions to problems in the field of animal husbandry.* *ILO 4 : Able to apply logical, critical, systematic, innovative, high-quality, and measurable thinking in performing types of work in the field of animal husbandry in accordance with work competency standards in the field of Science and Technology of Meat Livestock Production.* *PI 1. Master technical and management skills in the livestock production industry.* *Course Learning Outcomes:* 1. *Students are able to explain the importance of the science and technology of meat livestock production.* 2. *Students are able to explain the origin of meat livestock and the breeds of meat livestock.*

	3. *Students are able to explain meat livestock management systems.* 4. *Students are able to explain the functions, models, and equipment of livestock housing.* 5. *Students are able to explain the forms of growth and the factors that influence growth.* 6. *Students are able to explain muscle structure and meat composition.* 7. *Students are able to explain and be skilled in livestock identification.* 8. *Students are able to explain and be skilled in conducting external livestock evaluation, including body measurements, determination of body condition, and determination of livestock age.* 9. *Students are able and skilled in handling livestock before, during, and after slaughter.* 10. *Students are able to explain and be skilled in carcass evaluation.* 11. *Students are able to explain about meat and be skilled in evaluating meat quality.*
Content	*The Science and Technology of Meat Livestock Production course studies the origin and breeds of meat livestock, meat livestock management systems, the functions and models of housing and housing equipment, forms of growth and factors affecting growth, muscle structure and meat composition, livestock identification, body measurements of livestock, determination of body condition and age of livestock, handling of livestock before, during, and after slaughter, carcass evaluation, and meat quality assessment.*

Examination forms	*Progress report, mid test semester, final report, and final test semester.*
Study and examination requirements	1. *Progress report: 30%* 2. *Mid test semester: 20%* 3. *Final report: 30%* 4. *Final test semester: 20%*
Reading list	1. *Berg RT, Butterfield RM. 1976. New Concepts of Cattle Growth. Sydney: University Press.* 2. *Quinn, T. 1980. Dairy Farm Management, Delmar Publisher. INC, Canada* 3. *Soeparno. 2005. Ilmu dan Teknologi Daging. Yogyakarta: Gadjah Mada University Press.* 4. *Aberle ED, Forrest JC, Gerrard DE, Mills EW. 2001. Principles of Meat Science. Ed ke-4. Iowa: Kendall/Hunt Publishing Company.* 5. *Forrest, G.J., Aberle, H.B. Hendrick, M.D. Judge dan R.A. Merkel. 1975. Principles of Meat Science. W.H. Freeman and Company, San Francisco*

Module Description/Course Syllabi

Study Programme : Bachelor Animal Sciences Faculty of Animal Sciences Universitas Andalas

1. *Course number and name*

PTK 235 Science and Technology of Beef Cattle Production

2. *Credits and contact hours/Number of ECTS credits allocated*

3 sks / 4,53 ECTS

3. *Instructors and course coordinator*

1. Prof.Dr.Ir. Salam N. Aritonang, MS; 2. Prof.Dr.Ir. Khasrad, MSi; 3. Rusdimansyah, SPt, M.Si; 4. Dr. Ferry Lismanto, S.Pt., MP; 5. Dr. Yetmanely, S.Pt., MP; 6. Dr. Reswati, S.Pt., MP

4. *Text book, title, author, and year*

1. Berg RT, Butterfield RM. 1976. New Concepts of Cattle Growth. Sydney: University Press.

5. *Recommended reading and other learning resources/tools*

2. Quinn, T. 1980. Dairy Farm Management, Delmar Publisher. INC, Canada
3. Soeparno. 2005. Ilmu dan Teknologi Daging. Yogyakarta: Gadjah Mada University Press.
4. Aberle ED, Forrest JC, Gerrard DE, Mills EW. 2001. Principles of Meat Science. Ed ke-4. Iowa: Kendall/Hunt Publishing Company.
5. Forrest, G.J., Aberle, H.B. Hendrick, M.D. Judge dan R.A. Merkel. 1975. Principles of Meat Science. W.H. Freeman and Company, San Francisco

6. *Specific course information*

A. Brief description of the content of the course (catalog description)

The Science and Technology of Meat Livestock Production course studies the origin and breeds of meat livestock, meat livestock management systems, the functions and models of housing and housing equipment, forms of growth and factors affecting growth, muscle structure and meat composition, livestock identification, body measurements of livestock, determination of body condition and age of livestock, handling of livestock before, during, and after slaughter, carcass evaluation, and meat quality assessment.

B. Prerequisites or co-requisites
-
C. Indicate whether a required or elective course in the program
Required
D. Level of course unit (according to EQF: first cycle Bachelor, second cycle Master)
first cycle Bachelor
E. Year of study when the course unit is delivered (if applicable)
2st years
F. Semester when the course unit is delivered
even Semester

G. Mode of delivery (face-to-face, distance learning)
Face-to-face
7. *Intended Learning Outcomes*
ILO 1 : Demonstrate a responsible attitude toward work in the field of Science and Technology of Meat Livestock Production independently. PI 4. Able to demonstrate a full sense of responsibility for the assigned tasks. ILO 2 : Able to demonstrate independent, high-quality, and measurable performance in the field of Science and Technology of Meat Livestock Production. PI 1. Master the basic concepts in the field of livestock production technology. ILO 3 : Master the concept of solving livestock problems based on scientific knowledge using scientific methods in the field of Science and Technology of Meat Livestock Production. PI 3. Able to apply solutions to problems in the field of animal husbandry. ILO 4 : Able to apply logical, critical, systematic, innovative, high-quality, and measurable thinking in performing types of work in the field of animal husbandry in accordance with work competency standards in the field of Science and Technology of Meat Livestock Production. PI 1. Master technical and management skills in the livestock production industry.
8. *Course Learning Outcomes* *ex. The student will be able to explain the significance of current research about a particular topic.*

1. Students are able to explain the importance of the science and technology of meat livestock production.
2. Students are able to explain the origin of meat livestock and the breeds of meat livestock.
3. Students are able to explain meat livestock management systems.
4. Students are able to explain the functions, models, and equipment of livestock housing.
5. Students are able to explain the forms of growth and the factors that influence growth.
6. Students are able to explain muscle structure and meat composition.
7. Students are able to explain and be skilled in livestock identification.
8. Students are able to explain and be skilled in conducting external livestock evaluation, including body measurements, determination of body condition, and determination of livestock age.
9. Students are able and skilled in handling livestock before, during, and after slaughter.
10. Students are able to explain and be skilled in carcass evaluation.
11. Students are able to explain about meat and be skilled in evaluating meat quality.

9. *Brief list of topics to be covered*

Definition of the Science and Technology of Meat Livestock Production, Explanation of several terms, The origin of various meat livestock, Breeds of *Bos taurus* cattle, Breeds of *Bos indicus* cattle, Characteristics of good meat livestock according to breed, Meat livestock management systems, Functions of livestock housing, Housing models, Housing equipment, Growth and development of livestock, Muscle structure and meat, Livestock identification, External evaluation of livestock, Livestock Slaughter Management, Carcass evaluation discusses, External evaluation of livestock.

10. Learning and teaching methods

self direct learning dan project based learning.

11. Language of instruction

Bahasa Indonesia and English

12. Assessment methods and criteria

Summative Assessment :
1. Laporan Progres/Kemajuan : 30%
2. UTS : 20%
3. Laporan Akhir : 30%
4. UAS : 20%

Formative Assessment : -