



# **SEMESTER 4 LEARNING AND FOCUS GROUP DISCUSSION GUIDELINES**

**STUDENT BOOK**



**UNIVERSITAS GADJAH MADA  
FACULTY OF VETERINARY MEDICINE**

Address: Jl. Fauna No. 2, Karangmalang, Yogyakarta 55281, Indonesia

Telp. 0274-560862, Fax. 0274-560861

e-mail: [fkf@ugm.ac.id](mailto:fkf@ugm.ac.id)

Learning and Focus Group Discussion Guidelines Semester 4  
Fourth Edition  
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# FGD Book for Student

Semester 4

# Scenario 1-4

## **Integration and Synergy Courses:**

- Veterinary Clinical Nutrition
- Veterinary Bacteriology and Mycology
  - Veterinary Pathology
- Veterinary Epidemiology and Economics
  - Basic Pharmacology
- Reproductive Science and Technology

**Fourth Edition  
Year 2018**

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Adress: Jl. Fauna No. 2, Karangmalang,  
Yogyakarta 55281, Indonesia  
Telp. 0274-560862, Fax. 0274-560861  
e-mail: [fkf@ugm.ac.id](mailto:fkf@ugm.ac.id)

## COMPILER TEAM

Coordinator:	drh. Agung Budiyanto, M.P., Ph.D.
Vice Coordinator:	Dr. drh. Tri Wahyu Pangestiningih, MP. Dr. drh. Yatri Drastini, M.Sc.
Secretaries:	<ul style="list-style-type: none"><li>• Dr. drh. Rr. Amelia Hana, M.P.</li><li>• drh. Christin Marganingsih Santosa, M.Si.</li><li>• drh. Woro Danur Wendo, M.Sc.</li></ul>
Members:	<ul style="list-style-type: none"><li>• Prof. drh. Hastari Wuryastuty, M.Sc., Ph.D.</li><li>• Prof. Dr. drh. Bambang Sumiarto, SU., M.Sc.</li><li>• Prof. Dr. drh. AETH Wahyuni, M.Si.</li><li>• drh. Sitarina Widyarani, M.P., Ph.D.</li><li>• drh. Sri Gustari, M.P.</li><li>• Dr. drh. Agustina Dwi Wijayanti, MP.</li></ul>
Technical Practitioners:	<ul style="list-style-type: none"><li>• Heru Dwiatma. S.Pt., M.Si.</li><li>• R. Muh. Arif Masruri, A.Md.</li></ul>
Facilitators:	<ul style="list-style-type: none"><li>• Dr. drh. Agustina Dwi Wijayanti, M.P.</li><li>• drh. Dwi Cahyo Budi Setiawan, M.Sc.</li><li>• Ida Fitriana, S.Farm., A.Pt., M.Sc.</li><li>• drh. Anggi Muhtar Pratama, M.Sc.</li><li>• drh. Sri Gustari, M.P.</li><li>• Dr. drh. Asmarani Kusumawati, M.P.</li><li>• drh. Agung Budiyanto, M.P., Ph.D.</li><li>• Dr. drh. Surya Agus Prihatno, MP.</li><li>• drh. Sitarina Widyarani, MP., Ph.D.</li><li>• Prof. drh. Kurniasih, MV.Sc., Ph.D.</li><li>• Prof. drh. R. Wasito, M.Sc., Ph.D.</li><li>• Dr. drh. Bambang Sutrisno, MP.</li><li>• Dr. drh. Yuli Purwandari K., M.P.</li><li>• drh. Sugiyono, M.Sc.</li><li>• Prof. drh. Hastari Wuryastuty, M.Sc., Ph.D.</li><li>• Dr. drh. Yanuartono, MP.</li><li>• drh. Hari Purnamaningsih, M.P.</li><li>• Dr. drh. Guntari Titik Mulyani, M.P.</li><li>• Prof. Dr. drh. Ida Tjahajati, MP.</li><li>• Prof. Dr. drh. Sri Hartati, SU.</li><li>• Dr. drh. S Indarjulianto</li><li>• Dr. drh. Yuriadi, MP.</li><li>• Dr. drh. Irkham Widiyono</li><li>• drh. Slamet Raharjo, MP.</li><li>• drh. Alfarisa Nururrozi, M.Sc.</li><li>• Prof. Dr. drh. AETH. Wahyuni, M.Si.</li><li>• Prof. drh. Widya Asmara, SU., Ph.D.</li><li>• Dr. drh. Tri Untari, M.Si.</li><li>• Dr. drh. M. Haryadi Wibowo, M.P.</li><li>• drh. Sidna Artanto, M.Biotech.</li><li>• Prof. Dr. drh. Bambang Sumiarto, SU., M.Sc.</li><li>• drh. Heru Susetya, M.P., Ph.D.</li><li>• Dr. drh. Widagdo Sri Nugroho, M.P.</li><li>• Dr. drh. Doddi Yudhabuntara</li><li>• Dr. drh. Yatri Drastini, M.Sc.</li><li>• drh. Dyah Ayu Widiasih, Ph.D.</li><li>• Roza Azizah, S.Si., M.Si.</li><li>• drh. M.Th. Khrisdiana Putri, M.P., Ph.D.</li></ul>

## PREFACE

Education goals of Faculty of Veterinary Medicine Universitas Gadjah Mada (FKH UGM) which has been set in Renstra FKH UGM 2013-2017 are generating competent veterinarian in handling animal diseases and harmonizing animal health, human and its environment health, as problem solver pioneer of animal health problem, and ready to carry technical duties that fulfill standard competency of veterinary profession. Therefore it needs Higher Education curriculum that adjusted and harmonized to existing needs and developments, assessed periodically minimum once in 5 (five) years so that it fits to needs and demands of Higher Education graduates public user. Faculty of Veterinary Medicine hereafter, develops new curriculum with competency basis with SK Rektor (Rector Decree) No: 484/SK/HT/2013 on 24 July 2013, starting effectively since academic year of 2013/2014.

Main competency of Program Study FKH UGM graduates that develops in that curriculum is adjusted with mutual agreement in Provisions of Professional Education of Veterinary Assembly of Indonesian Veterinary Association (9 competencies), added with 9 supporting competencies that are development and characterization of Faculty of Veterinary Medicine UGM competencies.

Learning method applied is Student Teacher Aesthetic Rolesharing (STAR) or Student Centered Learning plus (SCL+) that combine Teacher Centered

Learning (TCL) and Student Centered Learning (SCL) proportionally according to learning outcome that will be achieved in learning. STAR principle is existence of harmonious relationship between lecturers and students, enhancement of reciprocal learning partners between students and lecturer, so *Patrap Triloka* is created, *ing ngarsa sung tulada, ing madya mangun karsa, tut wuri handayani*, lecturers properly becomes an example in front of students, motivates in the middle, gives supports behind with lecturers authority so that the students will develop. Harmonious relationship between lecturers and students is created since the beginning of the lectures through interaction in class and more focus through tutorial in Forum Group Discussion (FGD), and added with guidance to students to be long life learner.

Lecture delivery method in class is done by cooperative learning method, lecturers deliver materials and discussion, deliver what will be learn and why it needs to be learned by the students. On the inaugural lecture, coordinator of the Course (MK) deliver learning contract to students, learning contract content is suitable with Plan of Semester Learning Activities Program (RPKPS) that has compiled by lecturers team, introducing all lectures with each of their expertise with goal that the students know the lecturers and their expert since the beginning of the lecture, so that the lecturers are expected to be a role model for their students. After lectures in class are done, it is followed by tutorial activities in small classes through FGD for SCL application. Delivery method in FGD at the beginning of the semester is done with collaborative learning method, while for the next semester it can be done using

competitive learning, case-based learning, research-based learning, problem-based learning, and other way used according to learning objective.

This learning and FGD guidelines book is used for guiding the student during the FGD process and doing FGD program. We wish that output result in this learning and education process in Faculty of Veterinary Medicine UGM is able to prioritize intellectual ability for sharpening hard skills and improving soft skills based on moral and veterinary Ethics, can conduct its students to achieve competencies that have set.

February, 2018  
Dean

## **INTRODUCTION**

Focus Group Discussion is done through discussion inside small classes to discuss existing tasks in a designed scenario so that students can understand significantly, deeply, not only in the form of theory but more realistic in the form of scenario through synergy and integration of Veterinary Clinical Nutrition, Veterinary Bacteriology and Mycology, Veterinary Pathology, Veterinary Epidemiology and Economics, Basic Pharmacology, and Reproductive Science and Technology Courses. Integral discussion from various course aims to support achievement of curriculum learning competency of Faculty of Veterinary Medicine.

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## LEARNING OBJECTIVES

### **General Instructional Goal**

Students are able to understand MK that learned through implementation of integration and synergy among courses to complete/ improve/ sharpen each other and share scientific, skill, and behavior concepts.

### **Specific Instructional Goal**

Students are able to understand significantly of Veterinary Clinical Nutrition, Veterinary Bacteriology and Mycology, Veterinary Pathology, Veterinary Epidemiology and Economics, Basic Pharmacology, and Reproductive Science and Technology courses that mutually synergized and integrated in a scenario to be discussed.

# LEARNING SCHEME

FGD  
Semester 4

Veterinary  
Clinical  
Nutrition

Veterinary  
Bacteriology  
and  
Mycology

Veterinary  
Pathology

Veterinary  
Epidemiology  
and  
Economics

Basic  
Pharmacology

Reproductive  
Science and  
Technology

Synergy and integration among courses to build deeply and comprehensively understanding to reach competency

**Scenario 1:**  
Understanding the regulation and qualitative nutritional requirements of pigs and piglets, circulatory disorder mechanism, inflammation principles, feed additives, vitamins, and minerals administration principles in holistic and integrated context.

**Scenario 2:**  
Understanding the mastitis caused agents, agents identification, diseases analyzed based on the mechanism of pathogenesis infection, how drugs works and their effect, understanding the veterinary epidemiology and economics concept, in holistic and integrated context.

**Scenario 3:**  
Understanding the reproduction cycle including estrus cycle, folliculogenesis, pregnancy, reproductive hormones and their mechanism including for synchronization, estrus induction, ovulation, understanding the requirements of qualitative nutrition, identified the main feed ingredients, and balanced ruminant food formulation.

**Scenario 4:**  
Understanding reproductive disorders, diseases agent identification, diseases analyzed based on the mechanism of pathogenesis infection, understanding the concept of epidemic and endemic diseases investigation in holistic and integrated context.

## LEARNING OUTCOME

Integral discussion from various courses through scenario in FGD aims to support curriculum competency learning achievement of Faculty of Veterinary Medicine.

### **Learning Outcome of Veterinary Clinical Nutrition Course:**

Students are able to obtain knowledge about all qualitative nutritional requirements of each species; to identify the main feed ingredients and describe the nutritional strengths and weaknesses for each species; to understand the relationship between digestive anatomy, nutritional needs, and natural dietary habits of each species; to make balanced animal foods using nutritional charts; to get a better understanding of the principle in the nutritional formulations ratio for each species; to formulate a simple feed formulation manually and with computer help; to obtain knowledge about nutritional needs in various disease cases; to understanding and be able to explain the food processing methods.

### **Learning Outcome of Veterinary Bacteriology and Mycology Course:**

Students are able to identify several diseases caused by bacterial and fungal, able to explain some diseases that considered important caused by bacterial and fungal, able to analyze diseases.

### **Learning Outcome of Veterinary Pathology Course:**

Students are able to understand and explain the processes that occur in the body after exposed by destructive agents (physical agent, chemical agent, infectious agent, parasites, and other agents).

### **Learning Outcome of Veterinary Epidemiology and Economics Course:**

Students are able to understand, appreciate the concept and application of veterinary epidemiology and economics including population data, samples and sampling, diagnostic testing, prevalence and incidence of observational studies, field trials, epidemic diseases investigation, endemic diseases investigation, monitoring and surveillance of diseases control, and risk analyze of economic diseases and calculating method of losses caused by disease.

### **Learning Outcome of Basic Pharmacology Course:**

Students are able to understand pharmacological scientific concepts (pharmacodynamics, pharmacokinetics, pharmacognosy, pharmacogenetics, pharmacoepidemiology/ pharmacoconomics); able to understand the receptor concepts, agonist-antagonist, interaction and drugs pathway in the body; able to understand the mechanism of drug actions in the body (especially drugs that work on nerves); able to explain the occurrence of several drugs interaction (synergy and antagonism); able to explain the effect of several body condition to drugs ADME; able to estimate drugs effect on the body based on its mechanism of action.

**Learning Outcome of Reproductive Science and Technology Course:**

Students are able to explain about animal reproduction and reproductive technology methods, and improve the efficiency of livestock reproduction.

## LEARNING ACTIVITIES

This learning activities series is prepared to direct the students reach learning objectives:

### **1. Learning method**

Learning method used is through Student Teacher Aesthetic Rolesharing (STAR), by combining proportionally between teacher centered learning (TCL) and student centered learning (SCL) according to learning outcome that will be achieved. STAR principle is harmonious relationship between lecturers and students, enhancement of reciprocal learning partners between students and lecturer, so *Patrap Triloka* is created, *ing ngarsa sung tulada, ing madya mangun karsa, tut wuri handayani*, lecturers properly becomes an example in front of students, motivates in the middle, gives supports behind with lecturers authority so that the students will develop. Harmonious relationship between lecturers and students is created since the beginning of the lectures through interaction in class and more focus through discussion activities in forum group discussion (FGD), and students guidance to be a long life learner.

### **2. Lectures**

Lectures method is used by lecturers delivering/presenting materials and discussion, delivering what will be learned by the students and

why should it be learned. On the inaugural lecture, coordinator of the Course (MK) deliver learning contract to students, learning contract content is suitable with Plan of Semester Learning Activities Program (RPKPS) that has compiled by lecturers team, introducing all lectures with each of their expertise with goal that the students know the lecturers and their expert since the beginning of the lecture, so that the lecturers are expected to be a role model for their students. Plan of Semester Learning Activities Program (RPKPS) and teaching materials must be given to students to be copied (or given to Library as narration/ reference/ students learning materials). Coordinator of MK introduces all of lecturer team and facilitators involved from each division with each expertise.

In applying curriculum competency basis, lectures are held by combining with group discussion in small classes, aim to make students obtain enough lecture materials and followed by self study time addition. Lectures are held based on specified learning outcome in reaching competencies. Integration and synergy among courses are held through FGD that discuss certain scenario, to increase and sharpen students understanding. Lectures can be held between FGD schedule, to give chance to student for clarifying and discussing unanswered students question in group discussion.

### **3. Group discussion in FGD with facilitator mentoring**

FGD is scheduled twice a week. If facilitator could not come because of certain reasons, it should be substitute by other facilitator. If at the fixed schedule the facilitator has not come yet, relevant students group should inform academic as soon as possible. During discussion process, all of the groups should bring relevant learning sources that might be needed during tutorial.

To reach learning objective in the first semester, collaborative learning method is used, that held in twice discussion meeting in discussing one same scenario. Basic questions that should be underlined are: What have we known? What else that we expected to know?

**First FGD:**

- All students are divided into 12 classes, each of class consist of 12-16 students.
- Facilitator explains the discussion process and scenario for discussion
- Facilitator divides the class into small groups of 5-6 students
- Facilitator asks each students to read the scenario relevant to materials learned
- Facilitator asks the students to do task relevant with perception and solution towards cases/problems in scenario
- Facilitator asks students to discuss their work results in each of their small groups, led by one of the students (as chairman) helped by one other students (as secretary)

- Facilitator asks each of small groups discuss the group agreement
- Facilitator asks each of the students to make report of discussion results with by searching reference sources as wide as possible. Contents of the report are: discussion topic, learning objective, learning scheme, analysis, conclusion, learning outcome (explaining student ability after discussing topic in scenario), references.
- Facilitator asks every small groups prepare their discussion results in the form of power point that presented by one of the group representatives in the second FGD meeting.

### **Second FGD:**

- Facilitator asks every students to submit complete report
- Facilitator asks each of the group to present group discussion result
- Facilitator asks other groups to give feedback to presentation result

### **Facilitator Job:**

- Facilitator must be present on schedule. The facilitator's delay in attending is a maximum of 10 minutes (the rest will be replaced by a substitute facilitator).
- Directing and facilitating the discussion, lecturers put themselves as trend setter applying *patrap triloka ing ngarsa sung tulada, ing madya mangun karsa, tut wuri handayani* (in front becomes example, in the middle motivates, at behind gives

support with lecturers authority so that students can develop).

- Giving assessment to students activities during discussion in the first and second FGD, with assessment through 3 aspects:
  1. A = Attitude (mental and manner) = affective
  2. S = Skill (competent, expert, adaptable to positive competency) = psychomotor
  3. K = Knowledge (building intellectual capital) = cognitive

#### **4. Group discussion without facilitator mentoring**

According to group needs, students can held a meeting without facilitator. Aims of this discussion are varies, for example, identificate theoretical questions, identificate group learning objective, ensure that group have already submitted all of the information needed, and identificate practical questions.

#### **5. Practice**

Held by Laboratorium in Division to enrich students understanding about discussed concept related to science development. Exercise to improve skills that needed by veterinarians to fulfill their competencies also given intensively (such as communication with clients skill, clinical skill, etc.)

#### **6. Expert consultation**

This activity is held based on needs and held by groups of students, by directly contacting the relevant competent lecturer. It is very recommended for the

chairman of the group make an appointment before with the relevant experts.

## **7. Self study**

As mature learner, students are expected to be able to apply self study, a kind of important skill for developing personality and career in the future. This skill includes the ability to find personal interest, find more information from various learning sources, decide the appropriate learning style, and identify further learning needs. Students will not feel enough to study only from lecture notes or text books. Self study is the most important character of the SCL approach, and in the certain level, study will be an unlimited journey.

## **8. Class discussion**

Class discussion can be held through lectures between FGD schedules. The aims of this discussion are to give explanation and compare learning process among groups to prevent wrong direction groups in the discussion. All of the groups can propose certain issues to be discussed, and facilitator or lecturers will answer questions based on their own competencies.

## GENERAL ASSESSMENT

Some assessments to evaluate students learning results achievement:

### **1. Formative Exam**

Students will be given series of pre-test or post-test during lectures. This test is unscheduled, so that will force students to learn the materials since the beginning of learning. This test gives contribution to student final grade. So that, if there is a students disturbed in their final tests, this tests will help the final grade result.

### **2. Summative Exam**

This exam is done in the mid-semester (mid-semester exam/UTS) and semester final exam (UAS). Students should prepare themselves to take summative exam. A mature learner can achive better result because s/he can utilize time effectively to achieve goals.

### **3. Remedial Exam**

Students are possible to tak eremidial exam to improve grades of certain MK that failed. This exam is held at the end of final semester exam.

## **BLUE PRINT OF ASSESSMENT**

### **STUDENTS ASSESSMENT COMPONENTS**

- ✓ FGD 15 %
- ✓ Practice 25%
- ✓ UTS+UAS 60 %

Types of question:

- MCQ with answer types of a, b, c, d, e
- Essay
- etc.

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### **Anemic in Piglet**

Mr. Sumino, a pig farmer in the Kadipiro area, consulted with the Veterinarian, Clinical Nutritionist in the Internal Medicine Department, Faculty of Veterinary Medicine UGM, because many of his piglets (genjik) were sick, weak, and there were some genjik who died. Mr. Sumino has been trying to give antibiotics treatments, and move the genjik to a cleaner and more modern cage (the floor is made of cement), but there is no change. Based on the report, it was known that after the sows were moved to a modern cage, the genjik who were born more than 2-3 weeks old had slow growth, weakness, coarse hair, wrinkled skin, and pale mucous membranes. Even some of them breathed hard and died suddenly. The results of piglet's necropsy brought to the Pathology Laboratory, macroscopically the liver and spleen appeared enlarged, fluid was found in the thoracic cavity of the abdomen, and the blood appeared bright and watery. Based on the results of the consultation, the likelihood of piglets experiencing nutritional disorders, need to be given feed additives, minerals and vitamins (supplements). The sows and cage also need to be considered because it has a role in the problems that arise in the pig farm.

**Key words:** modern cage, pale mucous membrane, enlarged liver and spleen, feed additive, supplement

**Learning objectives:**

1. Students understand the qualitative nutritional requirements of pigs and genjik, identify the main feed ingredients, balanced ration formulations, understanding the principles in the ratio of nutritional formulations, and understand nutritional needs in various disease situations, as well as external factors that affect genjik health status.
2. Students are able to explain the mechanism of circulatory disorders, hemorrhage, and fluid deposits in the body space.
3. Students are able to explain the types of feed additives, minerals and vitamins, how to administer and their applications
4. Students can collaborate with each other, share concepts, skills and behavior in discussion.

**Scenario 2**  
**(FGD Semester 4)**

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**Mastitis Milk**

Mr. Kardiman was disappointed after the milk that was deposited this morning was rejected by the "Milk Cooperative" officer. Besides, Mr. Kardiman had separated one of the dairy cows with mastitis whose udders had swelling, because they were being given treatment and the milk was not being deposited. The officer said that even though the paid milk looked normal and the cow looked healthy, the results of the Californian Mastitis Test (CMT) showed positive results. Officers said that the possibility of Mr. Kardiman's cow suffering from subclinical mastitis. To find out the causative agent, Mr. Kardiman sent his milk to the Microbiology Department of the Faculty of Veterinary Medicine UGM. The results of the examination found several bacteria genus *Staphylococcus*, *Streptococcus*, *Listeria*, and *Mycobacterium*. It was also conveyed that these bacteria exist are commensal, pathogens, and even zoonotic, which endanger human health.

Based on observational studies of mastitis in dairy cattle by drh. Supriyanto (2014), the prevalence of mastitis caused by the positive *Staphylococcus aureus* is 52.8%. Observational studies conducted by researchers only once in sampling, the researchers did not measure the incidence of mastitis. Factors that influence the incidence of mastitis are cement cage floors, udder blisters, and dirty water. The results of the study led to

several questions: How did the researchers prove the association, what observational studies did? Cross-sectional, case-control, or cohort studies? What statistical association is used as a measure? Is it  $\chi^2$ ? What about the strength of the epidemiological association? Odds ratio, relative risk, or both?

**Key words:** mastitis caused bacteria (Staphylococcus, Streptococcus, Listeria and Mycobacterium), subclinical mastitis, drugs pathway in the body, observational studies, epidemiology association

**Learning objectives:**

1. Students are able to recognize several diseases caused by bacteria, able to identify disease agents, able to analyze diseases based on infection mechanisms and their pathogenesis.
2. Students understand the basic concepts of pharmacokinetics and pharmacodynamics, able to explain about absorption, distribution, metabolism and excretion, receptors, agonists, antagonists and drug interactions, able to explain how drugs work and know the function of receptors, and explain the factors that influence the work of a drug.
3. Students are able to understand, appreciate the concepts and applications of epidemiology including population data, samples and sampling, diagnostic testing, prevalence and incidence of observational studies of field trials of epidemic and endemic disease investigations, monitoring and surveillance of disease control.

4. Students can collaborate with each other, share concepts, skills and behavior in discussion.

**Scenario 3**  
**(FGD Semester 4)**

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**Productive Cattle**

The government made a program that is every female cattle must be pregnant known as UPSUS SIWAB program in an effort to increase the population of cattle as meat producers. In addition to implementing a variety of assistive reproductive technologies, it is also done to prevent the cutting of productive female cattle. Every female cattle to be slaughtered in the slaughterhouse must be examined for the reproductive system to avoid cutting the productive female cattle. Examination is carried out by a Veterinarian or Reproductive Engineering Assistant (ATR) under supervision of a Veterinarian, including ovarian activity, estrus cycle, and pregnancy. The examiner must know the signs of an active ovary, estrus symptoms, and pregnancy. If the cattle is found pregnant, then the cattle is not allowed to be cut, and then maintained until parturition. Maintenance management of pregnant females is different from heifers and lactating cattles, moreover in terms of feeding. Other efforts carried out in the UPSUS SIWAB program are estrus and ovulation induction through hormone application. The PGF2 $\alpha$  hormone is used to induce estrus, and its administration is combined with GnRH with the aim of increasing the result.

**Key words:** ovarian activity, estrus cycle, pregnancy, PGF<sub>2α</sub>, GnRH, management, ration

**Learning objectives:**

1. Students understand the reproductive process which includes the estrous cycle, folliculogenesis, and pregnancy in various animals.
2. Students understand various reproductive hormones and their mechanism of action, including the use of hormones for the purpose of synchronization or induction of estrus and ovulation.
3. Students understand the qualitative nutritional requirements of animals, identify the main feed ingredients, balanced ruminant ration formulations.
4. Students can collaborate with each other, share concepts, skills and behavior in discussion.

**Scenario 4**  
**(FGD Semester 4)**

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**Abortus in Cattle**

Mr. Badi was shocked and disappointed because his seven-month pregnant cattle had keluron (miscarriage), even though on the previous day cattle showed no symptoms. Mr. Badi immediately reported to RSH Soeparwi. Co-assistance students with the supervisor are immediately come to the location. Based on clinical observations the cattle appear to discharge pus from the vagina. The removed placenta appears thick, with petechiae bleeding, and fibrinous exudate. The fetus has edema under the skin. Based on the isolation results, *Brucella abortus* is identified in the abortion fluid samples sent to the Microbiology Laboratory. Based on further observations it turned out that many cattles in the area experienced the same thing. The Veterinary Service takes into account that the losses caused by this disease are very large because they are endemic, involving almost the entire population. Brucellosis is a strategic infectious animal disease in Indonesia. The Veterinary Service requests assistance from the Faculty of Veterinary Medicine UGM, how to investigate this endemic disease in the population.

**Key words:** abortus, *Brucella abortus*, edema, endemic disease , endemic diseases investigation

**Learning objectives:**

1. Students are able to recognize several diseases caused by bacteria and fungi, especially those related to abortion cases, able to identify disease agents, be able to analyze diseases based on the mechanism of infection and pathogenesis.
2. Students are able to explain the processes that occur in the body after the body is exposed to infectious agents, understanding the mechanism of inflammation.
3. Students are able to understand, appreciate the concepts and applications of epidemiology including population data, samples and sampling, investigation of epidemic diseases and endemic diseases.
4. Students can collaborate with each other, share concepts, skills and behavior in discussion.