Hokkaido University

Syllabus 2016

Advanced Seminar in Veterinary Clinics：Small Animals

Advanced Seminar in Veterinary Clinics：Large Animals and Clinical Pathology

Advanced Seminar in Research Laboratory Rotation

Course Title	Advanced Seminar in Veterinary Clinics : Small Animals				
Type	Exercise, Elective	Number of credits	2	Hours	-

Course Title	Companion Animal Medicine Clinic I
Course Instructor	Mitsuyoshi TAKIGUCHI, Kensuke NAKAMURA, Noboru SASAKI, Kiwamu HANAZONO

Course Overview:
Through communication with owners and clinical activities at the Veterinary Teaching Hospital, students cultivate problem-solving abilities required for caring for companion animals especially with neck and thoracic diseases.

Course Goals:
1. To be able to conduct a medical interview with an owner
2. To be able to design a diagnostic scheme
3. To be able to make a differential diagnosis based on examination findings
4. To be able to design a treatment plan and evaluate therapeutic effectiveness

For internal diseases of companion animals with especially neck and thoracic lesions, Students learn high knowledge and skills in making diagnostic schemes, treatment plans, and evaluating therapeutic effectiveness through at least one week clinical activities.

Remarks:
Maximum of 5 students

Course Title	Companion Animal Medicine Clinic II
Course Instructor	Mitsuyoshi TAKIGUCHI, Hiroshi OHTA, Keitaro MORISHITA

Course Overview:
Through communication with owners and clinical activities at the Veterinary Teaching Hospital, students cultivate problem-solving abilities required for caring for companion animals especially with abdominal diseases.

Course Goals:
1. To be able to conduct a medical interview with an owner
2. To be able to design a diagnostic scheme
3. To be able to make a differential diagnosis based on examination findings
4. To be able to design a treatment plan and evaluate therapeutic effectiveness

For internal diseases of companion animals with especially abdominal lesions, Students learn high knowledge and skills in making diagnostic schemes, treatment plans, and evaluating therapeutic effectiveness through at least one week clinical activities.

Remarks:
Maximum of 5 students

Course Title	Companion Animal Surgery I
Course Instructor	Masahiro OKUMURA, Ryosuke ECHIGO, Takaharu ITAMI, Tomohito ISHIZUKA

Course Overview:
Through communication with owners and clinical activities at the Veterinary Teaching Hospital, students cultivate problem-solving abilities required for caring for companion animals especially with orthopedic and neurological diseases.

Course Goals:

1. To be able to conduct a medical interview with an owner
2. To be able to make a differential diagnosis based on examination findings
3. To be able to design a treatment plan and evaluate therapeutic effectiveness
4. To be able to make decision to choose appropriate surgical procedures to respective pathological conditions and to estimate possible prognostic situations
5. To be able to plan entire course of pain management and peri-operational anesthesia for surgical interventions for respective cases

For companion animals with orthopedic and neurological disorders, students learn highly sophisticated knowledge and skills in making diagnostic schemes, treatment plans including surgical or non-surgical interventions and anesthesia, and evaluating therapeutic effectiveness through at least one week clinical activities.

Remarks:
Maximum of 5 students

Course Title	Companion Animal Surgery II
Course Instructor	Kenji HOSOYA, Satoshi TAKAGI, Yuki HOSHINO, Takaharu ITAMI, Tomohito ISHIZUKA

Course Overview:
Through communication with owners and clinical activities at the Veterinary Teaching Hospital, students cultivate problem-solving abilities required for caring for companion animals especially with surgical disorders in soft tissues.

Course Goals:

1. To be able to conduct a medical interview with an owner
2. To be able to make a differential diagnosis based on examination findings
3. To be able to design a treatment plan and evaluate therapeutic effectiveness
4. To be able to make decision to choose appropriate surgical procedures to respective pathological conditions and to estimate possible prognostic situations
5. To be able to plan entire course of pain management and peri-operational anesthesia for surgical interventions for respective cases

For companion animals with pathologies in soft tissues, students learn highly sophisticated knowledge and skills in making diagnostic schemes, treatment plans including surgical or non-surgical interventions and anesthesia, and evaluating therapeutic effectiveness through at least one week clinical activities.

Remarks:
Maximum of 5 students

Course Title	Companion Animal Oncology
Course Instructor	Kenji HOSOYA, Satoshi TAKAGI, Yuki HOSHINO, Takaharu ITAMI, Tomohito ISHIZUKA

Course Overview:

Through communication with owners and clinical activities at the Veterinary Teaching Hospital, students cultivate problem-solving abilities required for caring for companion animals especially with tumorous diseases.

Course Goals:

1. To be able to conduct a medical interview with an owner
2. To be able to make a differential diagnosis based on examination findings
3. To be able to design a treatment plan and evaluate therapeutic effectiveness
4. To be able to make decision to choose appropriate surgical procedures to respective pathological conditions and to estimate possible prognostic situations
5. To be able to plan entire course of pain management and peri-operational anesthesia for surgical interventions for respective cases

For companion animals with pathologies in oncology, students learn highly sophisticated knowledge and skills in making diagnostic schemes, treatment plans including chemotherapy, radiotherapy and surgical resection, including pain management and anesthesia, and evaluating therapeutic effectiveness through at least one week clinical activities.

Remarks:

Maximum of 5 students

Course Title	Advanced Seminar in Veterinary Clinics : Large Animals and Clinical Pathology				
Type	Exercise, Elective	Number of credits	2	Hours	90

Course Title	Large Animals
Course Instructor	Seiji KATAGIRI, Masashi NAGANO, Yojiro YANAGAWA,

Course Overview:
Through the practices, students understand and become able to treat dairy cattle from estrus to parturition, and also understand the points of in vitro production of embryos.

Course Goals:
1. To be able to monitor the estrous cycle and detect the estrus
2. To be able to perform the artificial insemination and also can explain the reproductive physiology lying on the basis
3. To be able to explain fetal development and processes of parturition, and to perform the appropriate assist for parturition
4. To be able to produce bovine embryo in vitro

For managing dairy cattle, several practices in the experimental farm of Hokkaido University will be performed.
1. Examination of genital organ by rectal palpation and ultrasonography
2. Monitoring estrous cycle and estrus detection
3. Artificial insemination
4. Pregnancy diagnosis
5. Management of peripartum period

For producing bovine embryos in vitro, laboratory works will be also performed
1. In vitro maturation of oocytes
2. In vitro fertilization of oocytes
3. In vitro developmental culture of presumptive zygotes
4. Semen handling for in vitro insemination

Remarks:
Maximum of 5 students

Course Title	Clinical Pathology
Course Instructor	Mutsumi INABA, Jumpei YAMAZAKI

Course Overview:
Students learn and experience several advanced procedures for the diagnosis of metabolic and neoplastic diseases in animals.

Course Goals:
1. To learn several advanced tests in diagnostic laboratories required for the diagnoses of some metabolic and neoplastic diseases.
2. To be able to plan the differential diagnosis using the clinical laboratory tests learned for some typical diseases.

Course Schedule:
1. Advanced clinical diagnostic tests for metabolic and neoplastic diseases
2. Cytology for neoplastic diseases (2 periods)
3. Laboratory tests for lipid metabolism (2 periods)
4. Laboratory tests for hemostasis (2 periods)
5. Laboratory tests for inherited diseases

Remarks:
Maximum of 5 students for an academic year

Course Title Advanced Seminar in Research Laboratory Rotation

Type	Exercise, Elective	Number of credits	2	Hours	-
Course Instructor	-				

Course Overview:

Students experience laboratory practices, research seminars, lectures, and other activities, to learn basic/advanced skills/methodology in the research on microbiology and infectious diseases, and also in the different fields of veterinary science, through the rotation of research laboratories. Through the rotation of research laboratories, students also acquire basic and professional knowledge on research activities in the field of veterinary medicine.

Course Goals:

1. To learn basic skills/techniques/methodology in the research on microbiology and infectious diseases
2. To learn basic skills/techniques/methodology in each of the research laboratories
3. To understand the details of research projects/themes in each of the research laboratories

Course Schedule:

1. Students will spend 10 days (2 weeks) for research laboratory rotation (Parts I and II).
2. Part I: student will choose one of the 5 laboratories (Laboratories of Microbiology, Parasitology, Infectious Diseases, Public Health, and Veterinary Hygiene; 2 students for each of the laboratories), and do modern laboratory practices, including lectures, experiments, and research seminars/discussion, *etc*, in the research on microbiology and infectious diseases.
3. Part II: student will choose one of the 3 courses (Courses A, B, C); maximum of 4 students for each of the courses), and do modern laboratory practices, including lectures, experiments, and research seminars/discussion, *etc* (see Table below).
4. This course also includes a seminar in advanced immunology (all students).
5. Students can not transfer to other courses during the rotation.
6. Spoken language of the courses is English.
7. Courses are open twice (5-6th and 11-12th weeks) each academic year, and students take either one of the two.

Courses for Part II

	Course A (Maximum of 4 students)	Course B (Maximum of 4 students)	Course C (Maximum of 4 students)
Lab 1	Anatomy	Physiology	Pharmacology
Lab 2	Biochemistry	Comparative Pathology	Laboratory Animal Science and Medicine
Lab 3	Toxicology	Radiation Biology	Wildlife Biology and Medicine

Remarks:

Part I: 2 students for each of the laboratories

Part II: Maximum of 4 students for each of the courses

Rakuno Gakuen University

Syllabus 2016

Advanced Hygiene and Environmental Science I

Clinical Rotation (Livestock Animals)

Veterinary Hospital Training Course

Course Title	Advanced Hygiene and Environmental Science I

Type	Practice, Elective	Number of credits	1	Hours	15
Course Instructor	Katsuro HAGIWARA, Shin OIKAWA, Yutaka TAMURA, Ken NAKADA, Hidetoshi HIGUCHI, Yasukazu MURAMATSU, Jun NODA, Kohei MAKITA, Masaru USUI, Hidetomo IWANO, Masami KANEKO, Buho HOSHINO, Yuko TAKAHASHI				

Course Overview:

Through a combination of laboratory training for basic/advanced diagnostic skills and seminars on 'one health' issues, students understand technology and administration related to safety and sustainable food delivery.

Course Goals:

- To learn advanced procedures for the diagnosis of diseases and risk of health problems
- To learn advanced procedures for the diagnosis of food and environmental safety
- To be able to explain how the safety of foods from different sources is guaranteed in both aspects on technology and administration

Seminar for International Veterinary Teaching Program (2016):
Farm to Table- Safe and Sustainable food delivery

Summary: More than 60% of Japanese food products depend on the foreign countries. Livestock products imported from Asia accounts for approximately 25% of the imports; in particular, many imported livestock products come from Thailand. Food safety is an important concept in food import and export between countries. In this program, Japanese and Thai students learn concepts in the following seven themes, through which they can deepen their understanding and discuss the issues related to safe and sustainable food delivery.

1) Food safety risk assessment

Associate Professor Kohei Makita DVM, Ph.D.

Risk assessment is a part of Codex Alimentarius Commission risk analysis. Risk assessment quantifies the risks of food poisoning or food-borne zoonotic diseases due to food consumption. It can also present the magnitude of effects of the relevant factors at each step of the food chain and food processing. In this talk, risk assessment, which is a great tool in improving food safety, will be discussed using examples from Africa.

2) Animal Quarantine Service in Japan

Professor Katsuro Hagiwara, DVM, Ph.D.

A quarantine system is implemented worldwide to prevent the incursion of animal diseases. Japan conducts both import and export inspections for livestock and other animals, as well as products and goods manufactured or derived from these animals. This program is intended to help students study the quarantine system in Japan. Students from Japan and Thailand can observe the animal quarantine inspection system at work through a visit.

3) Food safety program in Japan-public health issue and inspection control

Zoonotic Disease

Professor Yasukazu Muramatsu DVM, Ph.D.

Milk is a superior food item containing a well-balanced variety of nutrients. Apart from milk, various dairy products are consumed by people every day. Meanwhile, milk and dairy products are perfect growth sources for pathogenic microorganisms. This class aims to provide knowledge on hygiene control for ensuring safety in food supply through visits to sites of dairy manufacturing. Further, this class will employ previous cases to encourage students to think and learn of the kind of measures required for the prevention of food poisoning caused by dairy products.

4) Antimicrobial resistance in bacteria as a risk factor in food

Professor Yutaka Tamura, DVM, Ph.D / Lecturer Masaru Usui, DVM, Ph.D.

A global concern in the food industry is that drug-resistant bacteria are selected by the use of antimicrobial agents for treating or promoting the growth of edible animals. These bacteria influence human health through the food chain. In this lecture, the definition of drug-resistant bacteria, mechanisms through which drug-resistant bacteria become prevalent, and measures for drug-resistant bacteria will be discussed. Testing of drug resistance and detection of resistance genes will be practiced.

5) Basic skills for dairy herd health management

Professor Shin Oikawa DVM, Ph.D / Professor Ken Nakata DVM, Ph.D

This program aims to provide the fundamental concept of herd health and the basic skills required to enhance the clinical practice of dairy cattle herd health.

6) Bovine mastitis and milk quality control on dairy production

Professor Hajime Nagahata DVM, Ph.D. / Professor Hidetoshi Higuchi DVM, Ph.D.

Controlling mastitis and producing high-quality and safe raw milk are important issues in the dairy industry. This lecture aims to provide students with relevant knowledge and training in techniques required for the production of high-quality and safe raw milk through the control of mastitis. The HACCP will be explored as well.

7) Sustainable Farm management with Environmental conscious approach

Associate Professor Jun Noda Ph.D.

In livestock farming, care for the control of livestock waste and drug use, geared toward reducing environmental burden, has become an increasingly important issue. This lecture will cover previous cases and related information to help students understand the importance of farming management that prioritizes the environment for the promotion of sustainable livestock businesses.

8) Veterinary biochemistry

Professor Iwano Hidetomo DVM, Ph.D.

-PCR for examination of SNP in ALDH2 gene Preparation of your intraoral epithelial cells. Examin the one point mutaion of your ALDH2 gene by PCR. Learn influence on phenotype by one base change of DNA.

-Amplification of Plasmid DNA from Bacteria by PCR (Understand a principle of the PCR / Discriminate the bacteria by PCR)

9) Veterinary Ethics

Associate Professor Yuko Takahashi

This course introduces veterinary ethics and examines the religious and cultural background to human treatment of animals. The philosophical foundation of Western veterinary ethics is explained and compared to Japanese view of humans and animals. Discussion will apply the lecture content to Thai view of humans and animals. Students will write a report summarizing lecture content including their ideas of Thai veterinary ethics.

10) Conservation GIS

Professor, Kaneko Masami / Professor Buho Hoshino Ph.D.

Practical training of GIS and Remort sensing.

11) Team Based Learning (group discussion)

Coordinator: Professor Katsuro Hagiwara, DVM, Ph.D.

Team-based learning (TBL) is a structured form of small-group learning that emphasizes student preparation outside the class and application of knowledge in class. Students are organized strategically into diverse teams of five to seven students working together throughout the class. Before each course unit or module, students prepare by reading on the topics beforehand.

Remarks:

Course Title	Clinical Rotation (Livestock Animals)

Type	Practice	Number of credits	6	Hours	270
Course Instructor	Motoshi TAJIMA, Masateru KOIWA, Satoshi KAWAMOTO, Kiyoshi TAGUCHI, Kazuyuki SUZUKI, Masaharu MORIYOSHI, Hiromichi OHTSUKA				

Course Overview:

Through a combination of clinical seminars, training for basic clinical skills and practice at the Veterinary Teaching Hospital, students gain clinical skills and problem-solving abilities required for practitioners of production animals.

Course Goals:

- To be able to design a diagnostic scheme and explain it to the owner
- To be able to make a differential diagnosis based on examination findings
- To be able to design a treatment plan and explain it to the owner
- To be able to explain an overview of feeding management and reproduction management to the owner, with the objective of preventing major diseases.

1. Clinical seminars

Students participate in clinical seminars and workshops sponsored by the division or other sponsored organizations, and learn case studies, the latest theories, and practical skills. In the case of participation in seminars outside the Veterinary Teaching Hospital, the submission of a report will be requested.

2. Practice at teaching hospital

1) Production animal internal medicine I

Along with livestock handling methods, techniques for vital observation and clinical pathology examinations that form the basics of diagnosis, and methods for analyzing these, students grasp basic techniques such as medication administration from the treatment side.

2) Production animal internal medicine II

Through house-call examinations and treatments, students learn the techniques of medical interview, examination, diagnosis, and treatment required for primary medical care of production animals. Further, students learn examination methods and therapeutic techniques for differential diagnosis through the examination and treatment of hospitalized livestock (secondary medical care).

3) Production animal surgery

Along with learning the correct diagnosis, treatment and techniques, and hospitalization management methods for surgical diseases of production animals, students learn about the causes of the diseases and methods to prevent them. Students will visit farms as necessary and perform hands-on learning of diagnostic and disease-prevention methods for cattle herds.

4) Theriogenology

Along with learning techniques for making diagnostic schemes and treatment plans and evaluating therapeutic effectiveness for reproductive disorders of production animals, students learn the examination techniques, data collection, and analysis methods necessary for reproduction management.

Remarks:

Course Title	Veterinary Hospital Training Course

Type	Exercise, Elective	Number of credits	1	Hours	45
Course Instructor	Seiya MAEHARA, Tetsuya NAKADE, Kazuto YAMASHITA, Tsuyoshi KADOSAWA, Tsuyoshi UCHIDE, Hiroshi UENO, Mitsuhiro ISAKA, Yoshifumi ENDO, Kenjiro MIYOSHI, Takashi TAMAMOTO, Tadashi SANO				

Course Overview:

Students gain the problem-solving abilities required for small animal practice through participation in the clinical activities at the Veterinary Teaching Hospital that include communications with owners.

Course Goals:

- To be able to design a diagnostic scheme
- To be able to make a differential diagnosis based on examination findings
- To be able to design a treatment plan

Practice at teaching hospital

1）Ophthalmology（Maehara）: practice basic clinical skills that include interview with owners, diagnosis, treatment and evaluation of treatment outcomes with patients having eye problems

2）Small Animal Internal Medicine（Isaka, Tamamoto）: practice basic clinical skills that include interview with owners, diagnosis, treatment and evaluation of treatment outcomes using clinical cases of internal medicine

3）Small Animal Surgery（Ueno）: practice basic clinical skills that include interview with owners, diagnosis, treatment and evaluation of treatment outcomes using clinical cases of orthopaedic surgery

4）Oncology（Kadosawa, Endo）: practice basic clinical skills that include interview with owners, diagnosis, treatment and evaluation of treatment outcomes using clinical cases of tumors.

5）Diagnostic Imaging（Nakade, Miyoshi）: practice designing diagnosis, interpretation of images and preparation of reports to practitioners using clinical cases taken X-ray, ultrasonography, endoscopy, CT and MRI.

6）Anesthesia and Analgesia（Yamashita, Sano）: practice basic clinical skills in anesthetic management, perioperative pain management and perioperative nutrition administration using clinical anesthesia cases.

Remarks:

The University of Tokyo

Syllabus 2016

Practice of Pathology (Diagnostic Pathology)

Practice of Virology and Immunology

Practice of Veterinary Public Health

Practice of Food Hygiene

Rotated Practice of Small Animal Surgery

Rotated Practice of Small Animal Internal Medicine

Course Title	Practice of Pathology (Diagnostic Pathology)

Type	Exercise	Number of credits	2 (3.2)	Hours	-
Course Instructor	Hiroyuki NAKAYAMA, Kazuyuki UCHIDA, James K. CHAMBERS, Masaya TSUBOI				

Course Overview:

The practice course deals with diagnostic pathology in small animals, especially with neoplastic diseases. Skills for conducting necropsy, histopathology and cytology examinations as well as clinicopathological and morphological natures of tumors of neoplastic diseases are provided.

Course Goals:

1. To understand morphological characteristics of tumors in small animals
2. To understand principal protocols of necropsy, histopathology and cytology examinations

Course Schedule:

1. Principal techniques for necropsy, histopathology and cytology - Day 1
2. Description methods for necropsy, histopathology and cytology findings - Day 1
3. Learning through clinical cases - I - Day 2
4. Learning through clinical cases II - Day 3
5. Preparations and discussion for case report - Day 4
6. Special stainings and immunohistochemistry - Day 4
7. Case report presentation and discussion - Day 5

Remarks:

May have a maximum number of students

Course Title	Practice of Virology and Immunology

Type	Exercise	Number of credits	1 (1.6)	Hours	-
Course Instructor	Taisuke HORIMOTO, Shin MURAKAMI				

Course Overview:

In this practice, students can learn basic procedures for virus isolation from infected animals, and for serological, antigenic, and genetic diagnosis for viral infections.

Course Goals:

1. To understand the basic knowledge of viral infectious diseases
2. To understand the clinical diagnosis for viral infectious diseases

Course Schedule:

1. Virus isolation from infected animals
2. Serological method -1 (Virus-neutralization test)
3. Serological method -2 (Hemagglutination-inhibition test)
4. Serological method -3 (ELISA)
5. Antigenic diagnostic method (Immuno-chromatography test)
6. Genetic diagnostic method -1 (PCR)
7. Genetic diagnostic method -2 (LAMP)

Remarks:

Course Title	Practice of Veterinary Public Health

Type	Exercise	Number of credits	0.5 (0.8)	Hours	-
Course Instructor	Katsuaki SUGIURA, Kazuhiro HIRAYAMA				

Course Overview:

In this course, students learn basic and applied epidemiological techniques for analysis of surveillance data and risk assessment for animal health and food safety. Students exercise with actual or mock data.

Course Goals:

1. To understand basic epidemiological procedures to analyze data
2. To learn how to use software for statistics
3. To run epidemiological exercise with actual or mock data

Course Schedule:

1. Lecture and exercise for statistic software
2. Analysis of actual or mock data with statistic software
3. Presentation and discussion of analyzed data

Remarks:

Course Title	Practice of Food Hygiene

Type	Exercise	Number of credits	1 (1.6)	Hours	-
Course Instructor	Akio YAMADA, Kazuhiro HIRAYAMA				

Course Overview:

In this course, students learn basic knowledge and procedures to assure food safety, mainly in Japan. Students visit important site(s) for food safety assurance such as meat hygiene inspection office at slaughterhouse. Students also learn and practice methods to presume the cause and situation in food poisoning cases and to deal and proceed veterinary public health problems through exercise and simulation.

Course Goals:

1. To understand principle and measures to assure food safety
2. To understand Japanese and Thai systems for food hygiene and veterinary public health
3. To understand and practice basic procedures to solve problems in veterinary public health and food hygiene
4. To learn how to discuss, conclude and communicate the results of analysis on the problems in veterinary public health and food poisoning cases

Course Schedule:

1. Visit important site(s) to assure food hygiene and safety such as meat hygiene inspection office at slaughterhouse
2. Discuss the differences in food hygiene and food safety measures between Thailand and Japan
3. Lecture for methods to solve basic food safety and veterinary public health problems
4. Simulation on the procedure for countermeasures against health hazard cases
5. Practice for communication with related sections about health hazard cases
6. Exercise on a case of food-borne health hazard to presume cause and situation
7. Practice for the skill to discuss, conclude and present the results

Remarks:

Kasetsart University

2016 Syllabus

Clinical Practice in Farm Animals

Clinical Practice in Farm Animals II

Clinical Practice in Microbiology II

Clinical Practice in Epidemiology

Clinical Practice in Large Animals

Clinical Practice in Ruminants and Wildlife

Special Clinical Practice in Small Animal

Course Title	Clinical Practice in Farm Animals

Type	Exercise, Clinical Practices	Number of credits	6	Hours	180
Course Instructor	Pariwat POOLPERM, Nattavut RATTANAVANIJROTE, Pichai JIRAWATTANAPONG, Narin UPRAGARIN, Kriangkrai WITOONSATHIEN, Visanu BOONYAWIWAT, Natthana THITICHAYAPONG				

Course Overview:

Practice in farm visiting, production and health monitoring, clinical examination, diagnosis, treatment and preventive medicine in farm animals, emphasizing on swine, poultry and aquatic animals.

Course Goals:

1. To be able to gather information from history taking from farm owners
2. To be able to plan a diagnostic scheme and further investigations
3. To be able to do necropsy and make differential diagnosis based on lesions
4. To be able to interpret laboratory results and make a conclusion of the clinical cases and explain to the owner
5. To be able to explain an overview of management and medical suggestions to the owner, in the sense of preventing diseases in the future

Course Schedule:

Week #:

1: Introduction to Clinical Practice in Farm Animals
2-5: Clinical practice in pigs: basic farm and health management, farm visit, necropsy and diagnosis
6-9: Clinical practice in poultry: basic farm and health management, farm visit, necropsy and diagnosis
10-11: Clinical practice in fishes: basic farm and health management, farm visit, necropsy and diagnosis
12-13: Clinical practice in shrimp: basic farm and health management, farm visit, necropsy and diagnosis
14-15: Practice Discussion and Presentation
15: Examination

Remarks:

Course Title	Clinical Practice in Farm Animals 2

Type	Exercise, ClinicalPractices	Number of credits	2	Hours	60
Course Instructor	Pariwat POOLPERM, Nattavut RATTANAVANIJROTE, Pichai JIRAWATTANAPONG, Narin UPRAGARIN, Kriangkrai WITOONSATHIEN, Visanu BOONYAWIWAT, Natthana THITICHAYAPONG				

Course Overview:

Practice in farm visiting, production and health monitoring, clinical examination, diagnosis, treatment and preventive medicine in farm animals, emphasizing on swine, poultry and aquatic animals.

Course Goals:

1. To be able to gather information from history taking from farm owners
2. To be able to plan a diagnostic scheme and further investigations
3. To be able to do necropsy and make differential diagnosis based on lesions
4. To be able to interpret laboratory results and make a conclusion of the clinical cases and explain to the owner
5. To be able to explain an overview of management and medical suggestions to the owner, in the sense of preventing diseases in the future

Course Schedule:

Week #:

1: Introduction to Clinical Practice in Farm Animals
2-5: Clinical practice in pigs: basic farm and health management, farm visit, necropsy and diagnosis
6-9: Clinical practice in poultry: basic farm and health management, farm visit, necropsy and diagnosis
10-11: Clinical practice in fishes: basic farm and health management, farm visit, necropsy and diagnosis
12-13: Clinical practice in shrimp: basic farm and health management, farm visit, necropsy and diagnosis
14-15: Practice Discussion and Presentation
15: Examination

Remarks:

Course Title	Clinical Practice in Microbiology II

Type	Exercise, Clinical Practices	Number of credits	1	Hours	-
Course Instructor	Porntippa LEKCHAROENSUK, Kunyarat THUENG-IN, Win SURACHETPONG				

Key words:

Sample collection and handling, diagnostic virology and serology, laboratory analysis and interpretation, human and animal health.

Course Overview:

Clinical practice in Microbiology. Knowledge integration of sample collection, sample handling, diagnostic virology, serology and molecular biology, laboratory analysis and interpretation for disease investigation. Using problem-based learning.

Course Goals:

1. Understand principle of diagnostic virology and serology
2. Understand how to apply virology and immunology to identify cause(s) of disease outbreaks
3. Integrate previous and current knowledge to set a diagnostic plan for a disease investigation
4. Conclude and interpret laboratory diagnostic data and results

Course Schedule:

Each group of student will receive at least two problems. The instructors will advise the students to go through the following steps to solve each problem.

1. Instructor outlining steps of the study using problem-based learning and providing a problem set
2. Opening the problem, setting objectives of learning and defining terminology
3. Group meeting and self-study to set the diagnostic plan
4. Student presentation: the tentative/differential diagnosis of the disease in the problem, present the diagnostic plan including sample collection and handling, possible diagnostic methods
5. Laboratory practice, self-study regarding the principle of the diagnostic method(s) and understand the causative pathogen(s), immune response to infection, pathogenesis, disease prevention and control
6. Student presentation: principle of the diagnostic method(s) and understand the causative pathogen(s), immune response to infection, pathogenesis, disease prevention and control
7. Instructor conclusions and problem closing

Remarks:

Course Title	Clinical Practice in Epidemiology

Type	Exercise, Clinical Practices	Number of credits	2	Hours	60
Course Instructor	Sirichai WONGNAKPETCH, Suwicha KASEMSUWAN, Suporn THONGYUAN, Chaithep POOLKHET				

Course Overview:

Practice in veterinary public health and epidemiology, survey and study design, statistical analysis, determination of risk and tabletop exercise.

Course Goals:

1. To better understand the study design in epidemiological context
2. To practice the data analysis in epidemiology
3. To better understand the control measurement of Thai authorities in veterinary practices

Course Schedule:

Day #:

1: Design and planning on epidemiological study
2: Statistical analysis for qualitative data
3: Statistical analysis for quantitative data
4: Sampling and sample size determination
5: Tabletop exercise
6: Risk determination
7: Measurement of association
8-10: Design, planning, data collection and interpretation of survey study

Remarks:

Course Title	Clinical Practice in Large Animals

Type	Exercise, Clinical Practices	Number of credits	6	Hours	180
Course Instructor	Pipat ARUNVIPAS, Somchai SAJAPITAK, Anawat SAENGMALEE, Theera RUKWARMSUK, Adisorn YAWONGSA, Jaturong WONGSANIT, Tanu PINYOPUMMINTR, Anuchai PINYOPUMMINTR, Krittisak TANCHAROEN, Wandee TEINGTUM, Worakit CHEDCHOOTUM, Aree LAIKUL, Kanitha PETUDOMSINSUK, Pornchai SANTITISAREE, Nikorn THONGTIP				

Course Overview:

Combination of comprehensive lectures and clinical practices in medicine, surgery, theriogenology in ruminant, equine, and wildlife. Herd health management in ruminant species including dairy and beef cattle and small ruminants at veterinary teaching hospital and private farms. Wildlife ecology management practice in wildlife and exotic species practicing at veterinary teaching hospital and on wildlife national park.

Course Goals:

1. To be able to practice in physical and clinical examination, diagnosis, treatments, prevention and control disease related to medical, surgical, and theriogenological problems in ruminants at individual and herd level.
2. To be able to practice in physical and clinical examination, diagnosis, treatments, prevention and control disease related to medical, surgical, and theriogenological problems in horses.
3. To be able to practice in physical and clinical examination, diagnosis, treatments, prevention and control disease related to medical, surgical in wildlife and exotic pets.

Course Schedule:

Week #:

1: Introduction to Clinical Practice in Ruminants; infectious disease review, anesthesia review, hoof health and udder health review.
2-7: Clinical practice in ruminants; basic farm and health management, farm visit
8: Introduction to Clinical Practice in Equine; basic skill review (restraint and physical examination.
9-12: Clinical practice in equine; equine ward practice, farm visit, surgical cases.
13: Wildlife conservation medicine, anesthesia, drat practice, exotic pet medicine, rabbit medicine, and raptor medicine.
14: Post mortem technique and clinical related – Rabbit model, radiographic interpretation, comparative medicine.
15: Examination

Remarks:

Course Title	Clinical Practice in Ruminants and Wildlife

Type	Exercise, Clinical Practices	Number of credits	4	Hours	120
Course Instructor	Pipat ARUNVIPAS, Somchai SAJAPITAK, Anawat SAENGMALEE, Theera RUKWARMSUK, Adisorn YAWONGSA, Jaturong WONGSANIT, Tanu PINYOPUMMINTR, Anuchai PINYOPUMMINTR, Krittisak TANCHAROEN, Wandee TEINGTUM, Pornchai SANTITISAREE, Nikorn THONGTIP				

Course Overview:

Combination of comprehensive lectures and clinical practices in medicine, surgery, theriogenology in ruminant, and wildlife. Herd health management in ruminant species including dairy and beef cattle and small ruminants at veterinary teaching hospital and private farms. Wildlife ecology management practice in wildlife and exotic species practicing at veterinary teaching hospital and on wildlife national park.

Course Goals:

1. To be able to practice in physical and clinical examination, diagnosis, treatments, prevention and control disease related to medical, surgical, and theriogenological problems in ruminants at individual and herd level.
2. To be able to practice in physical and clinical examination, diagnosis, treatments, prevention and control disease related to medical, surgical in wildlife and exotic pets.

Course Schedule:

Week #:

1: Introduction to Clinical Practice in Ruminants; infectious disease review, anesthesia review, hoof health and udder health review.
2-11: Clinical practice in ruminants; basic farm and health management, farm visit.
12: Wildlife conservation medicine, anesthesia, dart practice, exotic pet medicine, rabbit medicine, and raptor medicine.
13-14: Post mortem technique and clinical related – Rabbit model, radiographic interpretation, comparative medicine.
15: Examination

Remarks:

Course Title	Special Clinical Practice in Small Animal

Type	Exercise, Clinical Practices	Number of credits	3	Hours	90
Course Instructor	Chalermpol LEKCHAROENSUK, Nirut SUWANNA, Jedee TEMWICHITR, Amornrate SASTRAVAHA, Chayakirt SINTHUSINGHA, Jatuporn NOOSUD, Kanja KAEWMONGKOL, Tassanee JAROENSONG, Panpicha SATTASATUCHANA, Sirikul SUNTARARAK, Sunee KUNAKORNSAWAT, Aree THAYANANUPHA, Monchanok VIJARNSORN, Naris THENGCHAISIRI, Sirirat NIYOM, Chaiyakorn THITIYANAPORN, Waraporn AUMARM, Wuttiwong TEERAPAN				

Course Overview:

Student gains the clinical skills in small animal practice. The practice aims to obtain professional skills particularly on medicine, surgery and theriogenology in small animal.

Coruse Goals:

1. To assimilate between the theory, application, and skill of medicine and surgery
2. To increase the effectiveness of health evaluation, diagnosis and treatment of diseases
3. To understand how to work on the clinic in the real life with problem oriented approach
4. To practice and learn how to communicate with the clients effectively

Course Schedule:

1. How to take history and do physical examination effectively
2. How to think critically with problem oriented approach
3. How to calculate the useful number
   -Fluid therapy
   -Continuing rate infusion
   -Clinical nutrition (enteral and parenteral nutrient requirements)
4. Plan the diagnosis and treatment, and interpret the results efficiently and effectively
   -Complete blood count, blood chemistry, and urinalysis
   -Cytology
   -Imaging
   -Other tests
5. Plan the surgical procedure effectively Instructor conclusions and problem closing
   -Anesthesia
   -Soft tissue and orthopedic surgery
6. Client communicate skill and real life practitioner

Remarks:

Reading Materials

- DiBartola, S.P. 2012. Fluid therapy in small animal practice, 4th ed. St. Louis, Missouri, Elsevier Saunders
- Fossum, T.W. 2007. Small animal surgery, 3rd ed. Missouri, Mosby-Elservier, Inc.
- Feldman, E.C. 1996. Canine and feline endocrinology and reproduction. Philadelphia, W.B. Saunders
- Evans, H.E. 1993. Miller's anatomy of the dog. Philadelphia, WB Saunders Company

Course Title	Rotated Practice of Small Animal Surgery

Type	Exercise	Number of credits	4 (6.4)	Hours	-
Course Instructor	Ryohei NISHIMURA, Manabu MOCHIZUKI, Takayuki NAKAGAWA, Naoki FUJITA				

Course Overview:

Small animal surgical rotations utilize the case method approach. Under supervision the student records case histories, performs physical or orthopedic examinations as well as diagnostic and basic surgical and anesthetic procedures, and learns basic case and client management.

Course Goals:

1. To obtain basic skill of out patient clinic
2. To obtain basic techniques of surgery and anesthesia/analgesia

Course Schedule:

1. Preliminary practice（out patient service, surgery, anesthesia）for three days
2. Soft tissue surgery, out patient clinic for two days
3. Orthopedics & Neurosurgery, out patient clinic for two days
4. Soft tissue surgery, surgery and anesthesia/analgesia for two days
5. Orthopedics & Neurosurgery, surgery and anesthesia/analgesi for two days
6. Case presentation for one day

Remarks:
The student who doesn’t belong to School of Veterinary Medicine in Japan is not allowed to do any medical activity even under his/her supervisor’s surveillance by law.

Course Title	Rotated Practice of Small Animal Internal Medicine

Type	Exercise	Number of credits	4 (6.4)	Hours	-
Course Instructor	Hajime TSUJIMOTO, Naoaki MATSUKI, Koichi OHNO, Tomohiro YONEZAWA				

Course Overview:

The student records case histories, performs physical examinations of patients under the supervision of doctors. The student also learns diagnostic, basic medical procedures, basic treatments, and case and client management through discussion with members.

Course Goals:

1. To design a diagnostic scheme.
2. To make a differential diagnosis based on examination findings
3. To design a treatment plan and evaluate therapeutic effectiveness

Course Schedule:

- Guidance for clinical rotations in the Veterinary Medical Center
- Clinical rotations (around 8 weeks)
- Writing a report and give a presentation of one specific case

The student should have knowledge of the following:

1. Signs and symptoms of the condition
2. Differential diagnosis - what conditions may present in a similar fashion
3. Basic pathophysiology
4. Primary work up and treatment
5. Presentation techniques

Remarks:
The student who doesn't belong to School of Veterinary Medicine in Japan is not allowed to do any medical activity even under his/her supervisor's surveillance by law.