



Program: Doctor of Veterinary Medicine
Course title Zoo, Exotic and Wildlife Medicine
Course code VSCL 552

Academic degree level ☒ Bachelor ☐ Graduate Diploma ☐ Master
☐ Higher Graduate Diploma ☐ Doctor
Faculty / College / Institute: Faculty of Veterinary Science
Department of Clinical Sciences and Public Health

TQF 3 Course Specification

Section 1 General Information

1. Course Code and Title

In Thai สพวค ๕๕๒ เวชศาสตร์สัตว์สวนสัตว์ สัตวเลี้ยงชนิดพิเศษและสัตว์ป่า
In English VSCL 552 Zoo, Exotic and Wildlife Medicine

2. Number of Credits

4 (3-3-7)
(Theory 3 hrs. Practice 3 hrs. Self-Study 7 hrs./week)

3. Curriculum and Course Type

3.1 Curriculum Bachelor Degree Program (Thai)
3.2 Course Type Specific Course ☒ Compulsory Course ☐ Electives

4. Course Coordinator and Lecturer

4.1 Course Responsible Lecturers

4.1.1 Dr. Roschong Boonyarittichaikij	Department of Clinical Science and Public health
Phone number 02 441 5245-6	E-mail: roschong.boo@mahidol.edu
4.1.2 Dr. Podjana Wattananit	Department of Clinical Science and Public health
Phone number 02 441 5245-6	E-mail: podjana.wat@mahidol.edu

4.2 Lecturers

4.2.1 Dr. Roschong Boonyarittichaikij	Department of Clinical Science and Public health
Phone number 02 441 5245-6	E-mail: roschong.boo@mahidol.edu
4.2.2 Dr. Podjana Wattananit	Department of Clinical Science and Public health
Phone number 02 441 5245-6	E-mail: podjana.wat@mahidol.edu
4.2.3 Dr. Nae Tanpradit	Department of Clinical Science and Public health
Phone number 02 441 5245-6	E-mail: nae.tan@mahidol.edu

4.3 Guest lecturers

4.3.1 Dr. Panithi Laongbua	Snake Farm, Queen Saovabha Memorial Institute
Phone number 084-6465625	E-mail: panithivet@gmail.com
4.3.2 Dr. Nawarat Suriyakhun	Exotic pet clinic, Prasu-arthorn Animal hospital
Phone number 081-9531471	E-mail: s.nawarat@gmail.com

4.3.3. Dr. Visit Arsaithammakul

Phone number 086-5493964

Zoological Park Organization of Thailand

E-mail: visit.vet47@gmail.com

4.3.4. Ms. Nuntanit Kulcharoen

Phone number 051-5500914

Zoological Park Organization of Thailand

E-mail: nuntanit_k@hotmail.com

4.4 Practical instructors

4.4.1 Dr. Nicharee Income

Thai National Wildlife Health Center

4.4.2 Dr. Pemika Kaenchan

Pasupalan Livestock and Wildlife Hospital

4.4.3 Dr. Nattapol Maneepairoj

Pasupalan Livestock and Wildlife Hospital

4.4.4 Mr. Pairat Suebkiang

Pasupalan Livestock and Wildlife Hospital

4.4.5 Mr. Satit Tanunchai

Pasupalan Livestock and Wildlife Hospital

4.4.6 Mr. Noppanun Horsuwan

Pasupalan Livestock and Wildlife Hospital

4.4.7 Mr. Ekkaluck Kehachan

Pasupalan Livestock and Wildlife Hospital

4.4.8 Mr. Anuporn Ditnilpong

Pasupalan Livestock and Wildlife Hospital

4.4.9 Dr. Nareerat Sangkachai

Monitoring and Surveillance Center for Zoonotic Diseases in Wildlife

and Exotic Animals (MoZWE)

4.4.10 Dr. Peerawat Wongluechai

Monitoring and Surveillance Center for Zoonotic Diseases in Wildlife

and Exotic Animals (MoZWE)

4.3.11 Dr. Choenkwan Pabutta

Monitoring and Surveillance Center for Zoonotic Diseases in Wildlife

and Exotic Animals (MoZWE)

4.3.12 Ms. Punyapat Setwisai

Monitoring and Surveillance Center for Zoonotic Diseases in Wildlife

and Exotic Animals (MoZWE)

4.3.13 Ms. Tatiyanuch Chamsai

Monitoring and Surveillance Center for Zoonotic Diseases in Wildlife and Exotic

Animals (MoZWE)

5. Semester/Class Level

5.1 Semester

1 / Class Level5

5.2 Number of Students Allowed

Approximately 80 Students

6. Pre-requisite

VSPA 212, VSCL 449

7. Co-requisites

No

8. Study Site Location Faculty of Veterinary Science, Mahidol University

9. Date of Preparation/Latest Revision of the Course Specifications

24 June 2022

Section 2 Aims and Objectives

1. Course Goals

Organize experiences for students to gain knowledge and understanding of the management, diagnosis, and treatment of Exotic pets, zoo animals and wildlife. As well as the role of veterinarians in wildlife conservation and developing skills in restraining and hand-skill for exotic pets, zoo animals, and wildlife medicine and surgery to meet professional standards

Objectives /Goals of Course Management:

1. Explain from an instructor's intention in a broad perspective of principles, knowledge and skills related to the field of study and consider what skills the course responsible person aims to develop so that the learners can apply those skills for further studies and further careers (in correspondence with requirements at the program level).
2. Course goals will determine the course description accordingly.

2. Objectives of Course Development/Revision

2.1 Course Objectives

This course aims to provide knowledge and abilities as follows

- 2.1.1 Management of exotic pets and zoo animals including the health consequences of mismanagement.
- 2.1.2 Causes, mechanisms, pathophysiology, diagnosis, treatment, and prevention of common diseases according to the taxonomic group in exotic pets. zoo animals and wildlife
- 2.1.3 Basic skills in restraining exotic pets. zoo animals and wildlife according to their taxonomic group
- 2.1.4 Hand-skills in exotic pets, zoo animals, and wildlife medicine.
- 2.1.5 The roles of veterinarian in wildlife conservation
- 2.1.6 Occupational health related to exotic pets, zoo animals, and wildlife medicine.
- 2.1.7 Morality, ethics, and animal welfare principles

2.2 Course-level Learning Outcomes: CLOs

On completion of the course, the students will be able to

1. CLO1 Explain the management of exotic pets, zoo animals and the health consequences of mismanagement
2. CLO2 Explain causes, pathophysiology, clinical manifestations, diagnosis, treatment, and prevention of common diseases according to the taxonomic group in exotic pets. zoo animals and wildlife according to their taxonomic group.
3. CLO3 Restraint exotic pets. zoo animals and wildlife according to their taxonomic group
4. CLO4 Practice hand skills in exotic pets, zoo animals, and wildlife medicine.
5. CLO5 Explain the roles of veterinarian in wildlife conservation
6. CLO6 Explain occupational health related to exotic pets, zoo animals, and wildlife medicine

Section 3 Course Description and Implementation

1. Course Description

สัตว์ป่า สัตว์สวนสัตว์ สัตว์เลี้ยงชนิดพิเศษ การจับบังคับ การเลี้ยง การตรวจวินิจฉัย การวางแผนการรักษา หัตถการ การจัดการสวนสัตว์ การจัดการพิเศษ พฤติกรรม การส่งเสริมพฤติกรรม ความหลากหลายทางชีวภาพ การวิจัยสัตว์ป่า นิเวศวิทยา การฟื้นฟูพฤติกรรม การคืนสู่ธรรมชาติ สุขภาพหนึ่งเดียว

Wild, zoo, and exotic animals; restraint, husbandry, diagnostic procedures, therapeutic plans, clinical skills, zoo management, special management, behavior enrichment, biodiversity; wildlife research, ecology, rehabilitation, reintroduction, and one health

The course description should reflect the course goals, and it is a concept-based description instead of a teaching topic to facilitate the flexibility of adjusting the lesson plan to keep pace with changes.

2. Number of hours per semester

Theory (hours)	Practice (hours)	Self-study (hours)
45 (15*3)	45 (15*3)	105 (15*7)

3. Number of Hours per Week for Individual Advice

1 hour per week.

Section 4: Development of the expected learning outcomes

1. A brief summary of the knowledge or skills expected to develop in students; the course-level expected learning outcomes (CLOs)

On completion of the course, students will be able to:

1. CLO1 Explain the management of exotic pets, zoo animals and the health consequences of mismanagement.
2. CLO2 Explain causes, pathophysiology, clinical manifestations, diagnosis, treatment, and prevention of common diseases according to the taxonomic group in exotic pets, zoo animals and wildlife according to their taxonomic group.
3. CLO3 Restraint exotic pets, zoo animals and wildlife according to their taxonomic group.
4. CLO4 Practice hand-skills in exotic pets, zoo animals, and wildlife medicine.
5. CLO5 Explain the roles of veterinarian in wildlife conservation.
6. CLO6 Explain occupational health related to exotic pets, zoo animals, and wildlife medicine.

2. How to organize learning experiences to develop the knowledge or skills stated in number 1 and how to measure the learning outcomes

CLOs	Teaching and learning experience management					Learning outcomes measurements		
	Lecture	Presentation	Field study	Demonstration	Practice	MCQ	Presen- tation	OSCE
CLO1	/	/	/	/		/	/	
CLO2	/	/				/	/	
CLO3	/			/	/	/		/
CLO4	/			/	/	/		/
CLO5	/	/			/	/		
CLO6	/				/	/		

SECTION 5 LESSON PLAN AND EVALUATION

1. Lesson Plan

Teaching Period	Topics/Details	Number of hours		Methods: Teaching Media	Lecturer
		Theory*	Practice**		
1	Small mammal medicine	6	0	Lecture: ppt	RB
2	Reptile medicine	6	0	Lecture: ppt	PW, PL
3	Avian medicine	6	0	Lecture: ppt	RB
4	Exotic pet analgesia, anesthesia, and surgery	3	0	Lecture: ppt	NS
	Carnivore medicine	3	0	Lecture: ppt	NT
5	Elephant medicine	3	0	Lecture: ppt	PW
	Ungulate medicine	3	0	Lecture: ppt	PW
6	Primate medicine	3	0	Lecture: ppt	NT
	Conservation medicine	3	0	Lecture: ppt	RB
7	Zoo animal welfare and standards	3	0	Lecture: ppt	VA
	Zoo animal feed and feeding	3	0	Lecture: ppt	NK

Teaching Period	Topics/Details	Number of hours		Methods: Teaching Media	Lecturer
		Theory*	Practice**		
8	Avian and reptile medicine practice	0	6	Demonstration/Practice	NT, RB, PW, PL
9	Small mammal medicine practice	0	6	Demonstration/Practice	NT, RB, PW
10	Carnivore medicine practice	0	6	Demonstration/Practice	NT, RB, PW, PSPL
11	Primate and elephant medicine practice	0	6	Demonstration/Practice	NT, RB, PW, PSPL
12	Ungulate medicine practice	0	6	Demonstration/Practice	NT, RB, PW, PSPL
13	Wildlife trapping and sampling practice	0	6	Demonstration/Practice	NT, RB, PW,, MoZWE
14	Zoo visit	0	6	Field study	NT, RB, PW,
15	Topics on Zoo, Exotic and Wildlife Medicine	0	5	Presentation	NT, RB, PW,
	Total hours of the entire semester	45	45		

Note:

NT= Dr. Nae Tanpradit

RB = Dr. Roschong Boonyarittichaikij

PW = Dr. Podjana Wattananit

NS = Dr. Nawarat Suriyakhun

VA = Dr. Visit Arsaithammakul

PL = Dr. Panithi Laongbua

NK = Ms. Nuntanit Kulcharoen

PSPL = Staffs of Pasupalan Livestock and Wildlife Hospital

MoZWE = Staffs of Monitoring and Surveillance Center for Zoonotic Diseases in Wildlife and Exotic Animals

2. Plan for Assessment of Expected Course-Level Learning Outcomes (CLOs)

2.1 Measurement and Evaluation of learning achievement

A. Formative Assessment

The assessment is performed during the course to measure the progress and development of students' learning by observing the behavior change and improvement of students' behavior and performance. The assessment results will be notified to the students (feedback) so that the students are constantly able to improve themselves. The assessment results are not included with the test scores at the end of the course.

B. Summative Assessment

(1) Tool and weight for measurement and evaluation

Learning Outcomes	Evaluation Method*			Weight (Percentage)
	MCQ	Presentation	OSCE	
CLO1 Explain the management of exotic pets, zoo animals and the health consequences of mismanagement	10	4	-	14
CLO2 Explain causes, pathophysiology, clinical manifestations, diagnosis, treatment, and prevention of common diseases according to the taxonomic group in exotic pets, zoo animals and wildlife according to their taxonomic group	35	3	-	38
CLO3 Restraint exotic pets, zoo animals and wildlife according to their taxonomic group	10	-	10	20
CLO4 Practice hand skills in exotic pets, zoo animals, and wildlife medicine	5	-	10	15
CLO5 Explain the roles of veterinarian in wildlife conservation	5	3	-	8
CLO6 Explain occupational health related to exotic pets, zoo animals, and wildlife medicine	5	-	-	5
รวม	70	10	20	100

(2) Measurement and evaluation

The measurement and evaluation use either the criteria-based or group-based system, according to the conditions and methods for academic results evaluation of the Faculty of Veterinary Science, Mahidol University. The grading symbols are: A, B+, B, C+, C, D+, D, and F. Students must receive a 'D' grade or above to pass the criteria.

(3) Re-examination (if the course allows any.)

In case that students received an 'F' grade, the course coordinator and the program's Teaching and Learning Development Committee should, altogether, agreed to allow the students to take the re-examination or extra-course work to pass the course with the following conditions.

For the course with the mean score is higher than 75.00 and the minimum score is not less than 45.00. Students must receive the score higher than 47.50 to take to re-examination or extra-course work.

For the course with the mean score between 60.00 – 74.99, students must receive the score higher than 40.00. However, when the mean score is less than 60.00, students, then, should receive the score higher than 40.00 in order to take the re-examination or extra-course work.

Once students took the re-examination (extra-course work) and the course coordinator had considered the students' re-examination/course work to pass the criteria, then the students will receive the 'D' grade. While waiting for the re-examination or extra-course work result, the students' score should be indicated as 'I' grade.

3. Students' Appeal

Should the students have any suspicion or appeals to the teaching and learning activities and the grade assessment, students could make the appeal by filling in the form at MUVS' Academic Affairs. The appeal will be proposed to the course coordinator to consider the request. If the appeal could not be addressed at this point, it will be further process by the program's Teaching and Learning Development Committee. In case that the committee suggested further investigation should be done, the appeal will be purposed to the faculty's appealing committee to address the issue.

Section 6 Teaching Resources

1. Required Texts

- 1) Fowler, M.E. and Miller R.E. Zoo and Wild Animal Medicine. Volume 7. Philadelphia, WB Sounder. 2012.
- 2) Divers, S.J. (ed). Mader's Reptile and Amphibian Medicine and Surgery. Elsevier. 2017.
- 3) Varga, M. Textbook of Rabbit Medicine. 2 nd edition. Elsevier. 2013.
- 4) Samour, J. Avian Medicine. 3 rd edition. Elsevier. 2015.
- 5) Fowler, Murray, and Susan K. Mikota, eds. Biology, medicine, and surgery of elephants. John

Wiley & Sons, 2008.

2. Suggested Materials

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3. Other Resources (if any)

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Section 7 Evaluation and Improvement of Course Implementation

1. Strategy for Course Effectiveness Evaluation by Students

At the end of each course, it is required for the students to assess the teaching of each instructor based on the following criteria: punctuality, good role model, application of morals and ethics for the instruction, ability to convey knowledge and encourage students to learn, giving opportunities for students to ask questions and to comment during the study.

The overall outcomes of each course will also be assessed by the students for the following issues: the instructor's knowledge and competency, the course's effectiveness, student's satisfaction with the study, and other comments from students. The evaluation is conducted through online platform.

2. Strategy for Teaching Evaluation

The instructors or the course coordinators are assigned to conduct the evaluation as follows.

2.1 the students' evaluation for the instruction and overall outcomes of the course in accordance to criteria mentioned in No. 1 – Strategy for Course Effectiveness by Students.

2.2 The instructors must perform self-assessment for the following criteria.

- (1) Appropriate time spent to prepare for the teaching.
- (2) The instructor's satisfaction with the teaching results.
- (3) Solutions or recommendations for the program's teaching improvement or self-improvement for the next class/academic year.

3. Teaching Improvement

Prior to each academic year, there are meetings/seminars for the instructors of each course to plan to improve the course's teaching and learning management based on the following information.

- (1) the students' academic performance
- (2) the students' evaluation results
- (3) the instructors' assessment results

4. Verification of Standard of Learning Outcome for the Course

The verification of the standard of the Learning Outcome for the Course is conducted by the course coordinators based on the following aspects.

1. The goals of the learning outcomes are clear and feasible.
2. The learning experience is aligned with the expected goals.
3. The learning experience encourages the students to research and practice self-learning skills.
4. The evaluation methods are appropriate to assess the expected goals and learning experience.
5. The program applied the educational theory and the results from the previous evaluation to plan for improvement.

At the end of each academic year, the course coordinators, instructors, the Program Committee, and the Teaching and Learning Development Committee will consider the assessment results and the Learning Outcome for the Course to plan for the improvement of the next academic year.

Appendix

Relations between the course and the program

Table 1 Relations between the course and the PLOs

Course Name Zoo, Exotic and Wildlife Medicine (Course Code) VSCL 552	PLOs							
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8
	R	P		R		R	R	R

Table 2 Relations between CLOs and PLOs

VSCL552	PLOs							
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8
CLO1 Explain the management of exotic pets, zoo animals and the health consequences of mismanagement	x					x	x	
CLO2 Explain causes, pathophysiology, clinical manifestations, diagnosis, treatment, and prevention of common diseases according to the taxonomic group in exotic pets. zoo animals and wildlife according to their taxonomic group	x					x	x	
CLO3 Restraint exotic pets. zoo animals and wildlife according to their taxonomic group		x						x
CLO4 Practice hand-skills in exotic pets, zoo animals, and wildlife medicine		x						x
CLO5 Explain the roles of veterinarian in wildlife conservation	x					x		
CLO6 Explain occupational health related to				x				

exotic pets, zoo animals, and wildlife medicine								
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