

Course Specification
Diploma Program in Clinical Veterinary Science
(International Program)

Section 1 General Information

1. Course Code and Title

In Thai	สพวค ๗๒๖	ทักษะปฏิบัติทางอายุรศาสตร์สัตว์เล็กชั้นสูง
In English	VSCL 763	Clinical Problem Solving in Small Animal Internal Medicine and Surgery

2. Number of Credits 2 (2-0-4)

(Theory2.... hrs. Practice ...0..... hrs. Self-Study ...4..... hrs./week)

3. Curriculum and Course Type

3.1	Program	Diploma Program in Clinical Veterinary Science (International Program)
3.2	Course Type	Specific Course ☒ Compulsory Course ☐ Elective Course

4. Course Coordinator and Instructor

4.1 Course Responsible Instructor

Dr. Paitoon Srimontri (PS)	E-mail: paitoon.sri@mahidol.ac.th
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4.2 Instructors

Asst. Prof. Phingphol Charoonrut (PC)	E-mail: phingphol.cha@mahidol.ac.th
Assoc. Prof. Dr. Sukanya Manee-in (SM)	E-mail: sukanya.man@mahidol.ac.th
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5. Semester/Class Level

5.1 Semester 1

5.2 Number of Students Allowed Approximately 6 Students

6. Prerequisites

-

7. Co-requisites

-

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

Day....1.....Month.....April.....Year..2025.....

Section 2 Course Goals and Course Description

1. Course Goals

Design learning experiences that enable students to analyze physical examination findings in conjunction with laboratory results to plan appropriate diagnostic approaches and treatments using medical and/or surgical methods. The learning experiences should also help students develop communication plans for discussing cases with animal owners whose pets present abnormalities related to the cardiovascular and hematological disorders, immunological disorders, respiratory disorders, digestive disorders, endocrinological and metabolic disorders, urological and nephrological disorders, neurological and muscular disorders, and neoplastic disorders.

2. Course Description

(In Thai) การแก้ไขปัญหาทางคลินิก การตรวจร่างกาย การสื่อสารกับเจ้าของ แนวทางการจัดการปัญหาจากอาการทางคลินิก พยาธิสรีรวิทยา การวินิจฉัยโรค การรักษาทางอายุรกรรมและศัลยกรรมในสัตว์ป่วยที่มีความผิดปกติของระบบหัวใจ เลือด และหลอดเลือด ระบบภูมิคุ้มกัน ระบบทางเดินหายใจ ระบบทางเดินอาหาร ระบบต่อมไร้ท่อและเมแทบอลิซึม ระบบทางเดินปัสสาวะและไต ระบบประสาทและกล้ามเนื้อ และมะเร็งและเนื้องอก

(In English) Clinical problem solving; physical examination; client communication; problem-oriented approach from clinical manifestations, pathophysiology, diagnostic methods; medical and surgical management of cardiovascular and hematological disorders, immunological disorders, respiratory disorders, digestive disorders, endocrinological and metabolic disorders, urological and nephrological disorders, neurological and muscular disorders, and neoplastic disorders

Section 3

Course Objectives, Course-level Learning Outcomes and Course Implementation

1. Course Objectives

1) Analyze physical examination findings in conjunction with laboratory results in animals with abnormalities of the cardiovascular and hematological disorders, immunological disorders, respiratory disorders, digestive disorders, endocrinological and metabolic disorders, urological and nephrological disorders, neurological and muscular disorders, and neoplastic disorders, accurately.

2) Develop appropriate diagnostic and treatment plans using medical and/or surgical methods for pets with cardiovascular and hematological disorders, immunological disorders, respiratory disorders, digestive disorders, endocrinological and metabolic disorders, urological and nephrological disorders, neurological and muscular disorders, and neoplastic disorders.

3) Plan and deliver accurate and effective communication with animal owners.

2. Course-level Learning Outcomes: CLOs

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

1) CLO 1 Analyze physical examination findings of animals with abnormalities of the cardiovascular and hematological disorders, immunological disorders, respiratory

disorders, digestive disorders, endocrinological and metabolic disorders, urological and nephrological disorders, neurological and muscular disorders, and neoplastic disorders accurately, under professional standards.

2) CLO 2 Interpret laboratory test results of animals with abnormalities of the cardiovascular and hematological disorders, immunological disorders, respiratory disorders, digestive disorders, endocrinological and metabolic disorders, urological and nephrological disorders, neurological and muscular disorders, and neoplastic disorders accurately, under professional standards.

3) CLO 3 Develop appropriate diagnostic plans for pets with cardiovascular and hematological disorders, immunological disorders, respiratory disorders, digestive disorders, endocrinological and metabolic disorders, urological and nephrological disorders, neurological and muscular disorders, and neoplastic disorders, under professional standards.

4) CLO 4 Develop appropriate treatment plans using medical and/or surgical methods for pets with cardiovascular and hematological disorders, immunological disorders, respiratory disorders, digestive disorders, endocrinological and metabolic disorders, urological and nephrological disorders, neurological and muscular disorders, and neoplastic disorders, under professional standards.

5) CLO 5 Plan effective communication with animal owners under professional ethics.

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

CLOs	Teaching and learning experience management		Learning outcomes measurements		
	Lecture	Group discussion	MEQ	Assignment	Participation
CLO1	/	/	x	x	x
CLO2	/	/	x	x	x
CLO3	/	/	x	x	x
CLO4	/	/	x	x	x
CLO5	/	/	x	x	x

Section 4 Lesson Plan and Evaluation

1. Lesson Plan

Teaching Period	Topics/Details	Number of hours		Methods: Teaching Media	Lecturer
		Theory*	Practice**		
1	Gastrointestinal, Hepatobiliary, Pancreas (Med)	1:00		Lecture	JS
		1:00		Group discussion	
2	Gastrointestinal tract (Sur)	1:00		Lecture	PC
		1:00		Group discussion	
3	Neurology 1 (Med)	1:00		Lecture	DC
		1:00		Group discussion	
4	Neurology 2 (Sur)	1:00		Lecture	DC
		1:00		Group discussion	
5	Urology and Nephrology (Med)	1:00		Lecture	TK
		1:00		Group discussion	
6	Urology and Nephrology (Sur)	1:00		Lecture	SM
		1:00		Group discussion	
7	Immunology, Hematology and Transfusion 1 (Med)	1:00		Lecture	PS
		1:00		Group discussion	
8	Immunology, Hematology and Transfusion 2 (Med)	1:00		Lecture	PS
		1:00		Group discussion	
9	Oncology (Med)	1:00		Lecture	PS
		1:00		Group discussion	
10	Oncology (Sur)	1:00		Lecture	SP
		1:00		Group discussion	
11	Cardiovascular 1 (Med)	1:00		Lecture	RO
		1:00		Group discussion	
12	Cardiovascular 2 (Med)	1:00		Lecture	RO
		1:00		Group discussion	

Teaching Period	Topics/Details	Number of hours		Methods: Teaching Media	Lecturer
		Theory*	Practice**		
13	Respiratory (Med)	1:00		Lecture	RO
		1:00		Group discussion	
14	Respiratory (Sur)	1:00		Lecture	PC
		1:00		Group discussion	
15	Musculoskeletal (Sur)	1:00		Lecture	PC
		1:00		Group discussion	
	Total hours of the entire semester	30			

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

Course Learning Outcome	Evaluation Method*			Weight (%)
	MEQ	Assignment	Participation	
CLO1 Analyze physical examination findings of animals with abnormalities of the cardiovascular and hematological disorders, immunological disorders, respiratory disorders, digestive disorders, endocrinological and metabolic disorders, urological and nephrological disorders, neurological and muscular	10	10	2	22

disorders, and neoplastic disorders accurately, under professional standards.				
CLO2 Interpret laboratory test results of animals with abnormalities of the cardiovascular and hematological disorders, immunological disorders, respiratory disorders, digestive disorders, endocrinological and metabolic disorders, urological and nephrological disorders, neurological and muscular disorders, and neoplastic disorders accurately, under professional standards.	10	10	2	22
CLO3 Develop appropriate diagnostic plans for pets with cardiovascular and hematological disorders, immunological disorders, respiratory disorders, digestive disorders, endocrinological and metabolic disorders, urological and nephrological disorders, neurological and muscular disorders, and neoplastic disorders, under professional standards.	10	10	2	22
CLO4 Develop appropriate treatment plans using medical and/or surgical methods for pets with cardiovascular and hematological disorders, immunological disorders, respiratory disorders, digestive disorders, endocrinological and metabolic disorders, urological and nephrological disorders, neurological and muscular disorders, and neoplastic disorders, under professional standards.	10	10	2	22
CLO5 Plan effective communication with animal owners under professional ethics.	10	0	2	12
Total	50	40	10	100

(2) Grading Rules

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) Measurement and Evaluation

The measurement and evaluation use the criteria-based, according to the conditions and methods for academic results evaluation of the Faculty of Veterinary Science, Mahidol University.

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

In case that students received an 'F' grade, the course coordinator and the program's Teaching and the program administration 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. The minimum score is not less than 45.00. to take to 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 administration 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 5 Teaching Resources

1. Required Texts

- 1) Macintire DK, Drobatz KJ, Haskins SC, Saxon WD. Manual of small animal emergency and critical care medicine. Philadelphia: Lippincott Williams & Wilkins; 2005.
- 2) Cockcroft P. Handbook of Evidence-based Veterinary Medicine: Blackwell; 2003.

- 3) Nelson RW, Couto GC, editors. Small animal internal medicine. 5th ed. St. Louis: Elsevier; 2014.
- 4) Lorenz MD, Cornelius LM, editors. Small animal medical diagnosis. 2nd ed. New Jersey: Wiley-Blackwell; 1995.
- 5) Ettinger SJ, Feldman EC. Textbook of Veterinary Internal Medicine. 7th ed: W.B. Saunders: Philadelphia; 2010.
- 6) Muir WW, Hubbell AE. Handbook of Veterinary Anesthesia. 5th ed: Elsevier; 2012.
- 7) Seymore C, Duke-Novasovski T2. BSAVA manual of small animal anesthesia and analgesia. 2nd ed. Cheltenham: Blackwell; 2007
- 8) Carroll GL. In: Small Animal Anesthesia and Analgesia. Blackwell Publishing: Iowa; 2008.
- 9) Tranquilli WJ, Thurmon JC, Grimm KA. Lumb and Jones' Veterinary Anesthesia and Analgesia. 4th ed: Blackwell Publishing, Iowa; 2007.
- 10) Tranquilli WJ, Thurmon JC, Grimm KA. Lumb and Jones' Veterinary Anesthesia and Analgesia. 4th ed: Blackwell Publishing, Iowa; 2007.
2. Suggested Materials
- 1) Keating S, Kerr C, McDonnell W, Valverde A, Johnson R, Knych H, Edginton A. Effects of Acepromazine or Dexmedetomidine on Fentanyl Disposition in Dogs During Recovery from Isoflurane Anesthesia. Vet Anaesth Analg. 2015. (doi: 10.1111/vaa.12271)
- 2) Hansen B. Analgesia for the Critically Ill Dog or Cat: an update. Vet Clin North Am Small Anim Pract. 2008;38(6):1353-63.
3. Other Resources (if any)
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Section 6 Evaluation and Improvement of Course Implementation

1. Analysis and Evaluation of Course Implementation

A. Data for Analysis

Teaching and learning efficiency evaluation form

B. Course Effectiveness Evaluation

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. Revision Process and Improvement Plan for Course Effectiveness

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

3. The self-assessment report of the course

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

1. Relations between the course and the program

Table 1 Relations between the course and the PLOs

Course Title Clinical Problem Solving in Small Animal Internal Medicine and Surgery (Course Code) VSCL 763	Program-Level Learning Outcomes (PLOs)				
	PLO1	PLO2	PLO3	PLO4	PLO5
	R		R	R	

Table 2 Relation between CLOs and PLOs

(Course Code) VSCL 763	Program-Level Learning Outcomes (PLOs)				
	PLO1	PLO2	PLO3	PLO4	PLO5
CLO1 Analyze physical examination findings of animals with abnormalities of the cardiovascular and hematological disorders, immunological disorders, respiratory disorders, digestive disorders, endocrinological and metabolic disorders, urological and nephrological disorders, neurological and muscular disorders, and neoplastic disorders accurately, under professional standards.	✓			✓	
CLO2 Interpret laboratory test results of animals with abnormalities of the cardiovascular and hematological disorders, immunological disorders, respiratory disorders, digestive disorders, endocrinological and metabolic disorders, urological and nephrological disorders, neurological and muscular disorders, and neoplastic disorders accurately, under professional standards.	✓			✓	
CLO3 Develop appropriate diagnostic plans for pets with cardiovascular and hematological disorders, immunological disorders, respiratory disorders, digestive disorders, endocrinological and metabolic disorders, urological and nephrological disorders, neurological and muscular disorders, and neoplastic disorders, under professional standards.	✓			✓	
CLO4 Develop appropriate treatment plans using medical and/or surgical methods for pets with cardiovascular and hematological disorders, immunological disorders, respiratory disorders, digestive disorders, endocrinological and metabolic disorders, urological and	✓			✓	

nephrological disorders, neurological and muscular disorders, and neoplastic disorders, under professional standards.					
CLO5 Plan effective communication with animal owners under professional ethics.			✓	✓	

3. Relations between the course and Sustainable Development Goals (SDGs)

- ☐ SDG1 No poverty
- ☐ SDG2 Zero Hunger
- ☒ SDG3 Good Health and Well – being
- ☐ SDG4 Quality Education
- ☐ SDG5 Gender Equality
- ☐ SDG6 Clean Water and Sanitation
- ☐ SDG7 Affordable and Clean Energy
- ☐ SDG8 Decent Work and Economic Growth
- ☐ SDG9 Industry, Innovation and Infrastructure
- ☐ SDG10 Reduced Inequalities
- ☐ SDG11 Sustainable Cities and Communities
- ☐ SDG12 Responsible Consumption and Production
- ☐ SDG13 Climate Action
- ☐ SDG14 Life Below Water
- ☒ SDG15 Life on Land
- ☐ SDG16 Peace, Justice and Strong Institutions
- ☐ SDG17 Partnerships for the goals

Course Schedule

VSCL 763 Clinical Problem Solving in Small Animal Internal Medicine and Surgery

Semester 1 Academic Year 2026

No.	Date	Time	Topics/Details	Lecturer
1	6 July 2026	10.00 - 12.00	Gastrointestinal, Hepatobiliary, Pancreas (Med)	JS
2		13.00 – 15.00	Gastrointestinal tract (Sur)	PC
3	7 July 2026	10.00 - 12.00	Urology and Nephrology (Sur)	SM
4		13.00 – 15.00	Respiratory (Sur)	PC
5	8 July 2026	13.00 - 15.00	Oncology (Med)	PS
6	9 July 2026	10.00 – 12.00	Immunology, Hematology and Transfusion 1 (Med)	PS
7	10 July 2026	10.00 - 12.00	Musculoskeletal (Surgery)	PC
8	13 July 2026	13.00 – 15.00	Respiratory (Med)	RO
9	15 July 2026	10.00 - 12.00	Neurology 1 (Med)	DC
10		13.00 - 15.00	Neurology 2 (Sur)	DC
11	16 July 2026	13.00 – 15.00	Oncology (Sur)	SP
12	17 July 2026	10.00 - 12.00	Immunology, Hematology and Transfusion 2 (Med)	PS
13	20 July 2026	10.00 - 12.00	Urology (Med)	TK
14		13.00 – 15.00	Nephrology (Med)	TK
15	21 July 2026	10.00 - 12.00	Cardiovascular 1 (Med)	RO
16		13.00 – 15.00	Cardiovascular 2 (Med)	RO
17	30 Nov 2026	10.00 - 12.00	Examination	PS/NP

*** Lecture at MUVS Graduate Meeting Room (5th Floor)