



Program: Doctor of Veterinary Medicine
Course title: Clinical Small Animal Surgery
Course code: VSCL 450

Academic degree level ☒ Bachelor ☐ Graduate Diploma ☐ Master
☐ Higher Graduate Diploma ☐ Doctor

Faculty of Veterinary Science
Department of clinical science and public health

TQF 3 Course Specification

Section 1 General Information

1. Course Code and Title

In Thai สพวค ๔๕๐ ศัลยกรรมศาสตร์สัตว์เล็ก
In English VSCL 450 Small Animal Surgery

2. Number of Credits

4(2-6-6)
(Theory 2 hrs. Practice 6 hrs. Self-Study 6 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 Assoc. Prof. Dr. Sukanya Maneein, Department of Clinical science and public health

Contact: 2216 E-mail address: sukanya.man@mahidol.ac.th

4.1.2 Dr. Grisnarong Wongbandue, Department of Clinical science and public health

Contact: 2237 E-mail address: grisnarong.won@mahidol.ac.th

4.2 Lecturers

4.2.1 Assoc. Prof. Dr. Sukanya Maneein (SM), Department of Clinical science and public health

Contact: 2216 E-mail address: sukanya.man@mahidol.ac.th

4.2.2 Asst. Prof. Dr. Phingphol Charoonrat (PC) Department of Clinical science and public health

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4.2.3 Lect. Dr. Grisnarong Wongbandue, Department of Clinical science and public health

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4.2.4 Lect. Dr. Ruangrat Buddhirongawat (RB) Department of Clinical science and public health

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4.2.5 Asst. Prof. Dr. Nawarus Prapaiwan (NP) Department of Clinical science and public health

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4.2.6 Lect. Dr. Somsak Wattananit (SW) Department of Clinical science and public health

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4.2.7 Lect. Dr. Panithi Sukho (PS) Department of Clinical science and public health

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4.2.8 Lect. Dr. Sekarian Ploypetch (SP) Department of Clinical science and public health

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4.2.9 Lect. Dr. Yada Akkhawattanakul (YA) Department of Clinical Science and Public Health

Contact: 2210 E-mail address: yada.akk@mahidol.edu

4.2.10 Lect. Dr. Yada Janhira (YJ) Department of Clinical Science and Public Health

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5. Semester/Class Level

5.1 Semester 2 / Year 4

5.2 Number of Students Allowed 80 Students

6. Pre-requisite

VSCL 441 Principles of Veterinary Anesthesia and Surgery

VSCL 443 Clinical Skill in Veterinary Science

7. Co-requisites

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

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

3rd March 2020

Section 2 Aims and Objectives

1. Course Goals

The students recognize, diseases and abnormalities in dogs and cats which required surgical treatment, diagnostic techniques, surgical procedures, complications and post-operative care. In addition, students are able to perform general anesthesia and standard surgical operations under supervision with professional moral, ethics and animal welfare.

2. Objectives of Course Development/Revision

2.1 Course Objectives

This course aims to provide knowledge and abilities as follows:

- 2.1.1 Etiology and diagnostic techniques for hernia and common abnormalities of the specific body systems (reproductive system, urogenital system, respiratory system, digestive system, visual and integument systems)
- 2.1.2 Anesthetic process, surgical procedures and post-operative care for castration, ovariohysterectomy (OVH) and surgery of the specific body systems
- 2.1.3 Handling of surgical instrument for procedures in castration and ovariohysterectomy, and surgery of specific body systems
- 2.1.4 Recognition of moral and ethics and animal welfare during practices

2.2 Course-level Learning Outcomes: CLOs

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

1. CLO1 Define causes and problems of hernia, abnormalities of reproductive system, urogenital system, respiratory system, digestive system, visual and integument systems which required surgical treatment
2. CLO2 Select diagnostic techniques and surgical approaches related to clinical signs and abnormalities of animals
3. CLO3 Clearly describe to perioperative-, intraoperative-, postoperative and methods for prevention and correction of complications in each surgical procedure
4. CLO4 Effectively use surgical instruments for surgical procedures
5. CLO5 Perform castration and OVH in dogs or cats, surgery of gastrointestinal tract, urogenital organs, eyelid abnormality and skin flap reconstruction
6. CLO6 Evaluate animal physical status and monitoring during premedication and intraoperation periods
7. CLO7 Select anesthetic agents and techniques by the status and animal welfare
8. CLO8 Manipulate post-operative monitoring and care for individual patient

Section 3 Course Description and Implementation

1. Course Description

การซักประวัติ การตรวจวินิจฉัย การวางแผนการรักษา การฝึกปฏิบัติหัตถการ และการดูแลสัตว์ภาวะแทรกซ้อนหลังการผ่าตัดเนื้อเยื่ออ่อนในสุนัขและแมว

History taking, diagnostic procedures, therapeutic plans, surgical skills, post-operative care and complications of the soft tissue surgery in dogs and cats

2. Number of hours per semester

Theory (hours)	Practice (hours)	Self-study (hours)
30	90	90

3. Number of Hours per Week for Individual Advice

An individual appointment is available for 1 h/week by advance appointment with personal or email contact

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 Define causes and problems of hernia, abnormalities of reproductive system, urogenital system, respiratory system, digestive system, visual and integument systems which required surgical treatment
2. CLO2 Select diagnostic techniques and surgical approaches related to clinical signs and abnormalities of animals
3. CLO3 Clearly describe to perioperative-, intraoperative-, postoperative and methods for prevention and correction of complications in each surgical procedure
4. CLO4 Effectively use surgical instruments for surgical procedures
5. CLO5 Perform castration and OVH in dogs or cats, surgery of gastrointestinal tract, urogenital organs, eyelid abnormality and skin flap reconstruction
6. CLO6 Evaluate animal physical status and monitoring during premedication and intraoperation periods
7. CLO7 Select anesthetic agents and techniques by the status and animal welfare
8. CLO8 Manipulate post-operative monitoring and care for individual patient

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	Demonstrate	Lab	MCQ	Short answer	Practice
CLO1	✓			✓		
CLO2	✓			✓		
CLO3	✓			✓		
CLO4	✓	✓	✓	✓	✓	✓
CLO5	✓	✓	✓	✓	✓	✓
CLO6	✓	✓	✓	✓	✓	✓
CLO7	✓					
CLO8	✓	✓	✓	✓	✓	✓

- Specify the methods for management of learning experience and the methods or tools used to measure the learning outcomes used for course management in the table:
 - The methods for managing learning experience including lectures, group discussion, demonstration, group work, etc.
 - The methods for measuring learning outcomes including written exams (specify types of exam papers: MCQ, MEQ, short answer, etc.), practice exams, behavior assessment in group work, group reports, individual report, etc.
- In each CLO, put a sign/or X in the table to specify the methods for managing learning experience and the tools for measuring learning outcomes.
- This table shows information to support the course design in compliance with the constructive alignment principles at the course level.
- Move the information specified in Section 4 to show in Sections 5 accordingly.

SECTION 5 LESSON PLAN AND EVALUATION

1. Lesson Plan

Teaching Period	Topics/Details	Number of hours		Methods: Teaching Media	Lecturer
		Theory*	Practice**		
1	Castration and surgery of male reproductive organs	2	6	Lecture: ppt	GW
				Lab: Demonstration, practice live animals (Dogs and cats)	
2	Ovariohysterectomy (OVH) and surgery of female reproductive organs 1	2	6	Lecture: ppt	GW
				Lab: Demonstration, practice live animals (Dogs)	
3	Surgery of female reproductive organs 2	2	6	Lecture: ppt	GW
				Lab: Demonstration, practice live animals (cats)	
4	Surgery of the visual apparatus	2	6	Lecture: ppt	RB
				Lab: Demonstration, practice (cadaveric)	
5	Surgery of ear canal and pinna	2	6	Lecture: ppt	RB
				Lab: Demonstration, practice (cadaveric)	
6	Surgery of urinary tract	2	6	Lecture: ppt	SM
				Lab: Demonstration, practice (Pig organs)	
7	Surgery of skin1	2	6	Lecture: ppt	SW
				Lab: Demonstration, practice (cadaveric)	
8	Surgery of skin2	2	6	Lecture: ppt	SW
				Lab: Demonstration, practice (cadaveric)	
9	Hernia and hiorrhaphy	2	6	Lecture: ppt	PC
				Lab: Demonstration, practice (cadaveric)	
10	Surgery of upper respiratory tract	2	6	Lecture: ppt	PC
				Lab: VDO demonstration	
11	Oral surgery	2	6	Lecture: ppt	PS
				Lab: VDO demonstration	
12	Surgery of apparatus	2	6	Lecture: ppt	SW
				Lab: VDO demonstration	
13	Surgery of GI tract 1	2	6	Lecture: ppt	PS
				Lab: Demonstration, practice (Pig organs)	
14	Surgery of GI tract 2	2	6	Lecture: ppt	PS, SP
				Lab: Demonstration, practice (Pig organs)	
15	Surgery of GI tract 3	2	6	Lecture: ppt	PS

Teaching Period	Topics/Details	Number of hours		Methods: Teaching Media	Lecturer
		Theory*	Practice**		
				Lab: Demonstration, practice (Pig organs)	
	Total hours of the entire semester	30	90		

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 and writing	Laboratory practice	
CLO1 Define causes and problems of hernia, abnormalities of reproductive system, urogenital system, respiratory system, digestive system, visual and integument systems which required surgical treatment	10	-	10
CLO2 Select diagnostic techniques and surgical approaches related to clinical signs and abnormalities of animals	10	-	10
CLO3 Clearly describe to perioperative-, intraoperative-, postoperative and methods for prevention and correction of complications in each surgical procedure	10	-	10
CLO4 Effectively use surgical instruments for surgical procedures	10	8	18
CLO5 Perform castration and OVH in dogs or cats, surgery of gastrointestinal tract, urogenital organs, eyelid abnormality and skin flap reconstruction	-	16	16

CLO6 Evaluate animal physical status and monitoring during premedication and intraoperation periods	5	8	13
CLO7 Select anesthetic agents and techniques by the status and animal welfare	10	-	10
CLO8 Manipulate post-operative monitoring and care for individual patient	5	8	13
Total	60	40	100

Note*

1. Show the methods/tools and weight for measuring and evaluating each CLO.
2. Total the weight from every tool and CLO to 100
3. Verify the information to be consistent with the evaluation methods shown in Section 4 Table.

Also verify the consistency of the information in Section 5 with the evaluation methods specified in Section 4.

(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 processed 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) Banagura, JD., Kirk's Veterinary Therapy XIII: Small Animal Practice, Philadelphia: WB Saunders, 1999.
- 2) Betts CW and Crane WS., Manual of Small Animal Surgical Therapeutics. Philadelphia: WB Saunders, 1998.
- 3) Fossum TW. et al., Small Animal Surgery. 3rd ed., Texas: Mosby, 2007.
- 4) Tranquilli WJ. et al., Lumb and Jones: Veterinary Anesthesia and Analgesia. 4th ed., Iowa: Blackwell publishing, 2007.
- 5) Slatter, DK.(ed), Textbook of Small Surgery. 3rd ed, Philadelphia: WB Saunders.

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	PLOs							
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8
Small Animal Surgery								
VSCL 450	R	P					P	R

Remarks: Show the level of the course management with the symbols I, R, P, and M. This must correspond to the curriculum mapping written in the TQF2

Table 2 Relations between CLOs and PLOs

VSCL 450	PLOs							
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8
CLO1 Define causes and problems of hernia, abnormalities of reproductive system, urogenital system, respiratory system, digestive system, visual and integument systems which required surgical treatment	x							
CLO2 Select diagnostic techniques and surgical approaches related to clinical signs and abnormalities of animals	x							
CLO3 Clearly describe to perioperative-, intraoperative-, postoperative and methods for prevention and correction of complications in each surgical procedure	x							
CLO4 Effectively use surgical instruments for surgical procedures	x	x						

CLO5 Perform castration and OVH in dogs or cats, surgery of gastrointestinal tract, urogenital organs, eyelid abnormality and skin flap reconstruction		x					x	x
CLO6 Evaluate animal physical status and monitoring during premedication and intraoperation periods	x	x					x	
CLO7 Select anesthetic agents and techniques by the status and animal welfare	x							x
CLO8 Manipulate post-operative monitoring and care for individual patient		x					x	x