



Program: Bachelor program in veterinary science

Course title: Clinical Clerkship in Small Animal Surgery I

Course code: VSCL 671

Academic degree level ☒ Bachelor ☐ Graduate Diploma ☐ Master

☐ Higher Graduate Diploma ☐ Doctor

Faculty of veterinary science

TQF 3 Course Specification

Section 1 General Information

1. Course Code and Title

In Thai	สพวค ๖๗๑ คลินิกปฏิบัติศัลยกรรมศาสตร์สัตว์เล็ก ๑
In English	VSCL 671 Clinical Clerkship in Small Animal Surgery I

2. Number of Credits

3 (0-9-3) (Theory-Practice-Self-study)
(Theory- hrs. Practice 9 hrs. Self-Study 3 hrs./week)

3. Curriculum and Course Type

3.1 Curriculum	Ungraduated Program in Clinical Veterinary Science
3.2 Course Type	Specific Course ☒ Compulsory Course ☐ Electives

4. Course Coordinator and Lecturers

4.1 Course Coordinator

4.1.1 Lect. Dr. Panithi Sukho (PS)	Dept. of Clinical Science and Public Health
Contact: 2256	E-mail: panithi.suk@mahidol.edu
4.1.2 Lect. Dr. Sekkarin Ploypecth (SP)	Dept. of Clinical Science and Public Health
Contact: 2212	E-mail: sekkarin.plo@mahidol.edu

4.2 Lecturers

4.2.1 Assist. Prof. Phingphol Charoonrat (PC)	Dept. of Clinical Science and Public Health
Contact: 2222	E-mail: phingphol.cha@mahidol.edu
4.2.2 Assoc. Prof. Dr. Sukanya Manee-In (SM)	Dept. of Clinical Science and Public Health
Contact: 2216	E-mail: sukanya.man@mahidol.edu
4.2.3 Lect. Dr. Grisnarong Wongbandue (GW)	Dept. of Clinical Science and Public Health
Contact: 2237	E-mail: grisnarong.won@mahidol.edu
4.2.4 Assist. Prof. Dr. Nawarus Prapaiwan (NP)	Dept. of Clinical Science and Public Health
Contact: 2213	E-mail: nawarus.pra@mahidol.edu
4.2.5 Lect. Somsak Wattananit (SWT)	Dept. of Clinical Science and Public Health
Contact: 2217	E-mail: somsak.wat@mahidol.edu
4.2.6 Lect. Dr. Panithi Sukho (PSK)	Dept. of Clinical Science and Public Health
Contact: 2256	E-mail: panithi.suk@mahidol.edu



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4.2.7 Lect. Dr. Ruangrat Budtironkawat (RBD)	Dept. of Clinical Science and Public Health
Contact: 2210	E-mail: ruangrat.bud@mahidol.ac.th
4.2.8 Lect. Dr. Sekkarin Ploypetch (SP)	Dept. of Clinical Science and Public Health
Contact: 2212	E-mail: sekkarin.plo@mahidol.edu
4.2.9 Lect. Dr. Kewwaree Hommuang (KH)	Dept. of Clinical Science and Public Health
Contact: 2210	E-mail: kewwaree.hom@mahidol.ac.th
4.2.10 Lect. Dr. Yada Janhira (YJ)	Dept. of Clinical Science and Public Health
Contact: 2210	E-mail: yada.jan@mahidol.ac.th

5. Semester/Class Level

5.1 Semester 1-2/ 2022

5.2 Number of Students Allowed Approximately 80 Students

6. Pre-requisite): VSCL 450

7. Co-requisites: Not requested

8. Study Site Location Prasun-arthorn animal hospital, Faculty of veterinary science

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

22 April 2022

Section 2 Aims and Objectives

1. Course Goals

1.1 Development of learners in basic skills for veterinary surgery in particular fields of integument system, urinary system, gastrointestinal system, reproductive system, bone surgery and dental surgery as well as up-to-date post-operative management based on the professional ethics and morals.

1.2 Development of learners in basic skills for veterinary anesthesia in particular fields of general and local anesthesia, pain assessment and management, anesthesia monitoring, pre- and intraoperative evaluation, and postoperative care based on the professional ethics and morals.



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2. Objectives of Course Development/Revision

2.1 Course-level Learning Outcomes: CLOs

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

1. CLO1 Select the appropriate surgical techniques for systemic abnormalities in small animal patients.
2. CLO2 Provide the correction of pain assessment and select the appropriate analgesic drugs in pre-, intra-, and postoperative surgeries.
3. CLO3 Understand to monitoring the critical signs in pre-, intra-, and postoperative surgeries.
4. CLO4 Correctly perform surgical procedures in drug administration, sterile techniques, surgical instrument handling, wound suturing and ligation.
5. CLO 5 Correctly perform surgical assistant.
6. CLO 6 Manage surgical wounds eligibly to prevent post-operative complication.
7. CLO 7 Provide the correction of post operative management.
8. CLO 8 Effectively communicate the complications with colleagues, surgical staff, and pet owners.

2.2 Course-level Learning Outcomes: CLOs)

1. CLO1 Select the appropriate surgical techniques for systemic abnormalities in small animal patients.
2. CLO2 Provide the correction of pain assessment and select the appropriate analgesic drugs in pre-, intra-, and postoperative surgeries.
3. CLO3 Understand to monitoring the critical signs in pre-, intra-, and postoperative surgeries.
4. CLO4 Correctly perform surgical procedures in drug administration, sterile techniques, surgical instrument handling, wound suturing and ligation.
5. CLO 5 Correctly perform surgical assistant.
6. CLO 6 Manage surgical wounds eligibly to prevent post-operative complication.
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Section 3 Course Description and Implementation

1. Course Description

Surgical practices in soft tissue of dogs and cats, diagnosis, surgical instruments, preanesthetic evaluation, anesthetic monitoring, post-operative care, complications and client communication

2. Number of hours per semester

Theory (hours)	Practice (hours)	Self-study (hours)
-	135	45

3. Number of Hours per Week for Individual Advice

Not less than 2 h./week (if need, private appointment with lecturers)

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 Select the appropriate surgical techniques for systemic abnormalities in small animal patients.
2. CLO2 Provide the correction of pain assessment and select the appropriate analgesic drugs in pre-, intra-, and postoperative surgeries.
3. CLO3 Understand to monitoring the critical signs in pre-, intra-, and postoperative surgeries.
4. CLO4 Correctly perform surgical procedures in drug administration, sterile techniques, surgical instrument handling, wound suturing and ligation.
5. CLO 5 Correctly perform surgical assistant.
6. CLO 6 Manage surgical wounds eligibly to prevent post-operative complication.
7. CLO 7 Provide the correction of post operative management.
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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		
	Demonstrate	Practice	discussion	Seminar	MCQ	Rubrics	Practical exam
CLO1		x	x	x		x	
CLO2		x	x	x		x	x
CLO3		x	x	x		x	x
CLO4	x	x				x	x
CLO5	x	x	x	x		x	x
CLO6	x	x	x	x			x
CLO7		x	x	x			x
CLO8		x	x				x

SECTION 5 LESSON PLAN AND EVALUATION

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

Weeks	Topics/ Description	studies (hours).		Learning programs and techniques	Lecturers
		In class Activity	Practice		
1	Anesthesia, Soft tissue surgery, Orthopedic surgery, Dentistry, and Ophthalmologic surgery		9	Practice	Lecturers
	Anesthesia, Soft tissue surgery, Orthopedic surgery, Dentistry, and Ophthalmologic surgery		9	Practice	Lecturers
	Anesthesia, Soft tissue surgery, Orthopedic surgery, Dentistry, and Ophthalmologic surgery		9	Practice	Lecturers



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	Anesthesia, Soft tissue surgery, Orthopedic surgery, Dentistry, and Ophthalmologic surgery		9	Practice, Discuss and Presentation	Lecturers
	Anesthesia, Soft tissue surgery, Orthopedic surgery, Dentistry, and Ophthalmologic surgery		9	Practice	Lecturers
2	Anesthesia, Soft tissue surgery, Orthopedic surgery, Dentistry, and Ophthalmologic surgery		9	Practice	Lecturers
	Anesthesia, Soft tissue surgery, Orthopedic surgery, Dentistry, and Ophthalmologic surgery		9	Practice	Lecturers
	Anesthesia, Soft tissue surgery, Orthopedic surgery, Dentistry, and Ophthalmologic surgery		9	Practice	Lecturers
	Anesthesia, Soft tissue surgery, Orthopedic surgery, Dentistry, and Ophthalmologic surgery		9	Practice	Lecturers
	Anesthesia, Soft tissue surgery, Orthopedic surgery, Dentistry, and Ophthalmologic surgery		9	Practice, Discuss and Presentation	Lecturers
3	Anesthesia, Soft tissue surgery, Orthopedic surgery, Dentistry, and Ophthalmologic surgery		9	Practice	Lecturers
	Anesthesia, Soft tissue surgery, Orthopedic surgery, Dentistry, and Ophthalmologic surgery		9	Practice	Lecturers
	Anesthesia, Soft tissue surgery, Orthopedic surgery, Dentistry, and Ophthalmologic surgery		9	Practice	Lecturers
	Anesthesia, Soft tissue surgery,		9	Practice	Lecturers



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	Orthopedic surgery, Dentistry, and Ophthalmologic surgery				
	Anesthesia, Soft tissue surgery, Orthopedic surgery, Dentistry, and Ophthalmologic surgery		9	Practice, Discuss and Presentation (Grand round)	Lecturers
	Total		135		

2. Measurement and evaluation (CLOs)

2.1 Learning assessment

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

Results of Learning course	Measurement	Assessment Score (Percent)	
CLO1 Select the appropriate surgical techniques for systemic abnormalities in small animal patients.	In class activity	0.25	17.875
	Learning activity	5	
	Oral examination	2	
	OSCE	10	
	Homework	0.625	
CLO2 Provide the correction of pain assessment and select the appropriate analgesic drugs in pre-, intra-, and postoperative surgeries.	In class activity	0.25	12.875
	Learning activity	7.7	
	Oral examination	3.3	
	Presentation	1	
	Homework	0.625	
	In class activity	0.25	12.875



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Results of Learning course	Measurement	Assessment Score (Percent)	
CLO3 Understand to monitoring the critical signs in pre-, intra-, and postoperative surgeries.	Learning activity	7.7	
	Oral examination	3.3	
	Presentation	1	
	Homework	0.625	
CLO4 Correctly perform surgical procedures in drug administration, sterile techniques, surgical instrument handling, wound suturing and ligation.	In class activity	0.25	12.875
	Learning activity	7.7	
	Oral examination	3.3	
	Presentation	1	
	Homework	0.625	
CLO 5 Correctly perform surgical assistant.	In class activity	0.25	7.875
	Learning activity	5	
	Oral examination	2	
	Homework	0.625	
CLO 6 Manage surgical wounds eligibly to prevent post-operative complication.	In class activity	0.25	7.875
	Learning activity	5	
	Oral examination	2	
	Homework	0.625	
CLO 7 Provide the correction of post operative management.	In class activity	0.25	13.875
	Learning activity	5	
	Oral examination	2	
	Presentation	6	
	Homework	0.625	
CLO 8 Effectively communicate the complications with colleagues, surgical staff, and pet owners.	In class activity	0.625	13.875
	Learning activity	0.25	
	Oral examination	5	
	Presentation	2	
	Homework	6	
Total			100



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(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.



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Section 6 Teaching Resources

1. Required Texts

- 1) Slatter DH. Textbook of small animal surgery. 3rd ed. Philadelphia: W. B. Saunders, Philadelphia; 2003
- 2) Fossum TW, et al., Small Animal Surgery. 4th revised ed., St Louis, United States: Mosby; 2016
- 3) Tobias K and Johnson S., Veterinary Surgery: Small animal 1 and 2. 1st ed. W. B. Saunders, Philadelphia; 2011
- 4) Kurt A. Grimm et al., Veterinary Anesthesia and Analgesia: The Fifth Edition of Lumb and Jones. Wiley-Blackwell; 2015
- 5) Brinker, Piermattei, and Flo's. Handbook of Small Animal Orthopedics and Fracture Repair 4th ed., W. B. Saunders, Philadelphia; 2006
- 6) Johnson K. Piermattei's Atlas of Surgical Approaches to the Bones and Joints of the Dog and Cat 5th ed., W. B. Saunders, Philadelphia; 2013

2. Suggested Materials

- 1) Clinical Clerkship in Small Animal Surgery Rotational introduction booklet
- 2) Journal of Veterinary Surgery. Online ISSN: 1532-950X, ©American College of Veterinary Surgeons.
- 3) Journal of Veterinary Anaesthesia and Analgesia. ISSN: 1467-2987, Elsevier.
- 4) Journal of American Veterinary Medical Association. ISSN: 0003-1488, ©American Veterinary Medical Association.
- 5) Journal of American Animal Hospital Association. ISSN: 0587-2871, ©American Animal Hospital Association

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.



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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.



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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: Clinical Clerkship in Small Animal Surgery I	PLOs							
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8
VSCL 671	R, P	P					P	M

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 671	(PLOs)							
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8
1. CLO1 Select the appropriate surgical techniques for systemic abnormalities in small animal patients.		2.3						8.1 8.2
2. CLO2 Provide the correction of pain assessment and select the appropriate analgesic drugs in pre-, intra-, and postoperative surgeries.		2.3						8.1 8.2
3. CLO3 Understand to monitoring the critical signs in pre-,		2.3						



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intra-, and postoperative surgeries.								
4. CLO4 Correctly perform surgical procedures in drug administration, sterile techniques, surgical instrument handling, wound suturing and ligation.	1.1	2.2 2.3					7.2	
5. CLO 5 Correctly perform surgical assistant.	1.1	2.1 2.2 2.3 2.4 2.6					7.2	8.1 8.2
6. CLO 6 Manage surgical wounds eligibly to prevent post-operative complication.	1.2	2.1 2.2 2.3 2.4					7.2 7.3	8.1 8.2
7. CLO 7 Provide the correction of post operative management.	1.1 1.2	2.2 2.6					7.2 7.3	8.1 8.2
8. CLO 8 Effectively communicate the complications with colleagues, surgical staff, and pet owners.	1.1 1.2	2.6					7.2 7.3	8.1 8.2



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Group	Date (3 weeks/ group)	Lecturer
1	18 July - 5 August 2022	Staffs
2	8 August - 26 August 2022	Staffs
3	29 August - 16 September 2022	Staffs
4	31 October - 18 November 2022	Staffs
5	21 November – 9 December 2022	Staffs
6	9 – 27 January 2023	Staffs
7	30 January -17 February 2023	Staffs



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Note

8-9 students in each group will be assign to 4 different practice duty during the day

1. Surgery practice with lecturers (Ophthalmology, orthopedic, soft tissue, dentistry)
2. Anastasia with lecturers
3. Surgery practice with clinician in different operation room (OR)
4. Diagnosis pre operative case and follow up postoperative case (OPD)

1st Friday will be castration and neutering surgery from arrange case

2nd and 3rd Friday and some evening will be case discussion and communication

The training schedule example

ตารางฝึกปฏิบัติสัตว์เล็ก หน่วยศัลยกรรม สำหรับนักศึกษาชั้นปีที่ 6 (กรณีเด็ก 80 คน: 8-9 คน/กลุ่ม, 9 กลุ่ม)																							
WK	Time	Monday				Tuesday				Wednesday				Thursday				Friday	Saturday	Sunday			
1	8.30-12.00	RB (Ophth.)	OR	OPD	NP (Anes)	PC(Ortho)	OR	OPD	PS (Anes)	SM (Soft)	OR	OPD	SEK (Anes)	GW (Soft)	OR	OPD	YA (Anes)	ทำหมัน	OR	OPD	OR	OPD	
		ABC	DEF	G	HI	BCD	EF	G	IA	CDE	FGH	I	AB	FGH	IAB	C	DE		ABCD	E	FGH	I	
		SWT(Ortho)	OPD	OR	SM (Anes)	SEK (Soft/Oral)	OPD	OR	GW(Anes)	PS (Soft/Oral)	OPD	OR	PC (Anes)	YA (Anes)	OPD	OR	NP (Soft)						
	13.00-16.30	ABC	D	EF	HI	BCD	E	FGH	IA	CDE	F	GHI	AB	FGH	I	ABC	DE						
	16.30-18.30	Case discussion after class 15-30 min				Pre-test + case discussion /				Case discussion after class 15-30 min				Round case (คู่)									
2	8.30-12.00	RB (Ophth.)	OR	OPD	NP (Anes)	PC(Ortho)	OR	OPD	PS (Anes)	SM (Soft)	OR	OPD	SEK (Anes)	GW (Soft)	OR	OPD	YA (Anes)	ทั้งวัน Round case เดี่ยว	OR	OPD	OR	OPD	
		DEF	GHI	A	BC	EF	HIA	B	CD	FGH	IAB	C	DE	IAB	CDE	F	GH		BCDE	A	GH	F	
		SWT(Ortho)	OPD	OR	SM (Anes)	SEK (Soft/Oral)	OPD	OR	GW(Anes)	PS (Soft/Oral)	OPD	OR	PC (Anes)	YA (Anes)	OPD	OR	NP (Soft)						
	13.00-16.30	DEF	G	HIA	BC	EF	H	IAB	CD	FGH	I	ABC	DE	IAB	C	DEF	GH						
	16.30-18.30	Case discussion after class 15-30 min				Case discussion after class 15-30 min				Case discussion after class 15-30 min				Post-test + feed back									
3	8.30-12.00	RB (Ophth.)	OR	OPD	NP (Anes)	PC(Ortho)	OR	OPD	PS (Anes)	SM (Soft)	OR	OPD	SEK (Anes)	GW (Soft)	OR	OPD	YA (Anes)	Grand round	OR	OPD	OR	OPD	
		GHI	ABC	D	EF	HIA	BCD	E	FG	IAB	CDE	F	GH	CDE	FGH	I	AB		CDEA	B	HIF	G	
		SWT(Ortho)	OPD	OR	SM (Anes)	SEK (Soft/Oral)	OPD	OR	GW(Anes)	PS (Soft/Oral)	OPD	OR	PC (Anes)	YA (Anes)	OPD	OR	NP (Soft)						
	13.00-16.30	GHI	A	BCD	EF	HIA	B	CDE	FG	IAB	C	DEF	GH	CDE	F	GHI	AB						
	16.30-18.30	Case discussion after class 15-30 min				Case discussion after class 15-30 min				Prepare grand round				Rehearsal grand round									

Each student represent by each letter (A-I) and equally distribute to each duty