



Program: Doctor of Veterinary Medicine
Course title Swine Medicine II
Course code VSCL557

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 ๕๕๗	เวชศาสตร์สุกร ๒
In English	VSCL 557	Swine Medicine II

2. Number of Credits 3 (2-3-5)

(Theory 2 hrs. Practice 3 hrs. Self-Study 5 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 Asst.Prof.Dr. Dusit laohasinnarong (DL)	Department of Clinical Sciences and public health
Telephone Number 1511	E-mail: dusit.lao@mahidol.edu
4.1.2 Siriporn Tantawet (ST)	Department of Clinical Sciences and public health
Telephone Number 2208	E-mail: siriporn.tan@mahidol.edu

4.2 Lecturers

4.2.1 Asst.Prof.Dr. Dusit laohasinnarong	Department of Clinical Sciences and public health
Telephone Number 1511	E-mail: dusit.lao@mahidol.edu
4.2.2 Siriporn Tantawet	Department of Clinical Sciences and public health
Telephone Number 2208	E-mail: siriporn.tan@mahidol.edu
4.2.3 Assoc.Prof.Dr. Kampon Kaeoket (KK)	Department of Clinical Sciences and public health
Telephone Number 1526	E-mail: kampon.kae@mahidol.edu
4.2.4 Assoc.Prof.Dr. Panida Chanapiwat (PC)	Department of Clinical Sciences and public health
Telephone Number 2229	E-mail: panida.chn@mahidol.edu
4.2.5 Rapee Panyathong (RP)	Charoen Pokphand Foods Public Company Limited (CPF)
Telephone Number 08-9200-2064	E-mail: rpanyathong@yahoo.com
4.2.6 Dr. Phirom Prompiram (PP)	
The Monitoring and Surveillance Center for Zoonotic Diseases in Wildlife and Exotic Animals (MoZWE)	
Telephone Number 1907	E-mail: phirom.prm@mahidol.ac.th



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4.2.6 Kanaporn Pollathep (KP)

The Monitoring and Surveillance Center for Zoonotic Diseases in Wildlife and Exotic Animals (MoZWE)

Telephone Number 1907

E-mail: kanaporn.pol@mahidol.ac.th

5. Semester/Class Level

5.1 Semester 1 / Class Level 5

5.2 Number of Students Allowed Approximately 80 Students

6. Pre-requisite

VSPA 436, VSCL 456

7. Co-requisites

None

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

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

11th July 2020

Section 2 Aims and Objectives

1. Course Goals

To organize learning course that help students to understand common pig health problems and infectious diseases. Disease, itself is an economically important in Thailand pig industry. While, students can describe good practice in health management and core vaccination programs in commercial pig farm. At last, students able to diagnose and choose appropriate treatment for pigs.

2. Objectives of Course Development/Revision

2.1 Course Objectives

This course aims to provide knowledge and abilities as follows:

Student learn and understand pig common diseases including infectious and non- infectious diseases, herd health management and vaccination program, history taking and differential diagnosis, proper treatment and disease control, necropsy and investigate herd health problems wisely, eligible medication treatment under control of experience lecturers and staffs, in line with veterinary standard.



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2.2 Course-level Learning Outcomes: CLOs

On completion of the course, the students will be able to (CLOs)

1. CLO1 Explain infectious and non-infectious disease in pig correctly
2. CLO2 Describe herd health management in pig farm correctly.
3. CLO3 Diagnose and choose treatment for illness pigs properly.
4. CLO4 Plan suitable pig herd vaccination programs and modify it wisely in each situation.
5. CLO5 Organize treatment plan and control pig common diseases rightly.

Section 3 Course Description and Implementation

1. Course Description

โรคทางระบบที่สำคัญ โรคติดเชื้อที่สำคัญ การจัดการสุขภาพและโปรแกรมวัคซีน การตรวจ การวินิจฉัย การรักษาและการป้องกันโรคทางอายุรกรรม การจับบังคับสุกรอายุต่างๆ ศัลยกรรม การชันสูตร และกรณีศึกษา

Systemic and infectious diseases; prevention, health management, and vaccination programs, diagnostic procedures and treatment, medication programs; restraint and handling, surgery, necropsy and case studies

2. Number of hours per semester

Theory (hours)	Practice (hours)	Self-study (hours)
30	45	75

3. Number of Hours per Week for Individual Advice

Student can consult lecturer by making an appointment via email as 1 hour per week period.



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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 infectious and non-infectious disease in pig correctly
2. CLO2 Describe herd health management in pig farm correctly.
3. CLO3 Diagnose and choose treatment for illness pigs properly.
4. CLO4 Plan suitable pig herd vaccination programs and modify it wisely in each situation.
5. CLO5 Organize treatment plan and control pig common diseases rightly

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			
	Lec- ture	Group work	Presen- tation	Demon- stration	Prac tice	Written exams	Group assign- ments/ presentation	Practice skill evalu- ation	In-class ob- servation
CLO1	/	/	/			/	/		/
CLO2	/	/	/			/	/		/
CLO3	/	/	/	/	/	/	/	/	/
CLO4	/	/	/	/	/	/	/	/	/
CLO5	/	/	/	/	/	/	/	/	/



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SECTION 5 LESSON PLAN AND EVALUATION

1. Lesson Plan

Teaching Period	Topics/Details	Number of hours		Methods: Teaching Media	Lecturer
		Theory*	Practice**		
1	Introduction Physical examination (individual basis and herd level)	1:00	1:30	Lecture/Practice	PC
	Porcine Respiratory Disease Complex 1	1:00	1:30		KK
2	Porcine Respiratory Disease Complex 2	1:00	1:30	Lecture: ppt and textbook	DL
		1:00	1:30	Group discussion: 2 Cases	
3	Gut Health in pigs and Gastrointestinal diseases 1	2:00	3:00	Lecture/Practice	PC
4	Gastrointestinal diseases 2	0:30	1:00	Lecture: online lessons	ST
		1:00	1:00	Case study analysis: 2 cases	
		0:30	1:00	Reflection: discussion	
5	Gastrointestinal diseases 3 - Coccidiosis and other protozoan diseases - External parasites diseases e.g. Ring worm, Erysipelas, Greasy pig	1	1:30	Lecture: ppt	ST
		1	1:30	Demonstration and Laboratory practice: 1. Coccidiosis – floatation 2. Mite – skin scraping	
6	Therapeutic considerations: Post-mortem examination, sample collection and preparation	1:00	1:30	Lecture/Practice	DL
	Post-mortem examination, sample collection and preparation	1:00	1:30	Lecture/Practice	ST
7	Diagnostic methods for swine diseases - Serological monitoring and interpretation Other diagnostic methods for swine diseases	2:00	3:00	Lecture/Practice	RP



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Teaching Period	Topics/Details	Number of hours		Methods: Teaching Media	Lecturer
		Theory*	Practice**		
8	Field practice in pig farm 1	2:00	3:00	Work practice in the workplace	KK/DL/ST/PC
9	Field practice in pig farm 2	2:00	3:00	Work practice in the workplace	KK/DL/ST/PC
10	Field practice in pig farm 3	2:00	3:00	Work practice in the workplace	KK/DL/ST/PC
11	Field practice in pig farm 4	2:00	3:00	Work practice in the workplace	KK/DL/ST/PC
12	Field practice in pig farm 5	2:00	3:00	Work practice in the workplace	KK/DL/ST/PC
13	Swine disease diagnostic practice: ELISAs	2:00	3:00	Demonstration and Laboratory practice	DL/ST/PP/KP
14	Swine disease diagnostic practice: PCR	2:00	3:00	Demonstration and Laboratory practice	DL/ST/PC
15	Case study presentation	2:00	3:00	Group project presentation: ppt	KK/DL/ST/PC
	Total hours of the entire semester	30	45		

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.



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B. Summative Assessment

(1) Tool and weight for measurement and evaluation

Learning Outcomes	Evaluation Method*				Weight (Percentage)
	Written exams	Group assignments/presentation	Practice skill evaluation	In-class observation	
CLO1 To explain infectious and non-infectious disease in pig correctly	15	-	10	-	25
CLO2 To describe herd health management in pig farm correctly.	10	-	-	5	15
CLO3 To diagnose and choose treatment for illness pigs properly.	10	10	-	5	25
CLO4 To plan suitable pig herd vaccination programs and modify it wisely in each situation.	5	-	5	-	10
CLO5 To organize treatment plan and control pig common diseases rightly.	10	5	5	5	25
Total	50	15	20	15	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.



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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) กิจจา อุไรรงค์ 2535. แนวทางการวินิจฉัย รักษา และควบคุมโรคสุกร. โรงพิมพ์สหมิตรออฟเซต กรุงเทพฯ. 348 หน้า
- 2) กิจจา อุไรรงค์ วรวิทย์ วัชวัลคุ ธีระพล ศิริณฤมิตร พิชัย จิรพัฒนานางค์ สุวิชา เกษมสุวรรณ ณัฐวุฒิ รัตนวนิชย์โรจน์ อลงกต บุญสูงเนิน นันทพงษ์ พิบูลย์ 2544. โรคทางเดินหายใจซับซ้อนในสุกร (Porcine Respiratory Disease Complex, PRDC). โรงพิมพ์ ดาต้า เปเปอร์ แอนด์ พรีน กรุงเทพฯ. 131 หน้า
- 3) เดชฤทธิ์ นิลอุบล แบรด แครเกอร์ 2545. การนำสุกรสาวที่ปลอดโรค พี อาร์ อาร์ เอส เข้าฝูงที่เป็นโรค พี อาร์ อาร์ เอส. เวชสาร สัตวแพทย์ 32, ฉบับพิเศษ, 107-112.
- 4) ดวงใจ สุวรรณเจริญ อรรถนพ คุณวณิชกุล 2543. ปัญหาการระบาดของโรคเลปโตสไปโรซิสในฟาร์มพ่อแม่พันธุ์สุกร: การชันสูตร การรักษาและผลกระทบทางเศรษฐกิจ. เวชสารสัตวแพทย์ 30, 25-32.
- 5) บุญมี สัญญสุจจารี มงคล เตชะกำพุ 2545. โรค Porcine Intestinal Adenomatosis (PIA) Complex และ Porcine Proliferative Enteropathy (PPE) ในสุกร. เวชสารสัตวแพทย์ 32, ฉบับพิเศษ, 113-124.
- 6) ณัฏวีร์ ประภัสสรกุล 2545. โรคบิดมูกเลือด: แนวทางการวินิจฉัยแยกแยะจากเชื้อ. เวชสารสัตวแพทย์ 32, ฉบับพิเศษ, 149-162.
- 7) รุ่งโรจน์ ธนาวงษ์เวช 2544. บทบาทของไวรัส พี อาร์ อาร์ เอส ต่อการติดเชื้อแทรกซ้อนระบบทางเดินหายใจของสุกร. เวชสาร สัตวแพทย์ 31, 13-20.
- 8) สุพล เลื่องยศสื่อชากุล 2534. โรคของสุกร เล่ม 1: โรคและความผิดปกติของสุกร. โรงพิมพ์จุฬาลงกรณ์มหาวิทยาลัย กรุงเทพฯ. 261 หน้า



Program: Doctor of Veterinary Medicine
Course title Swine Medicine II
Course code VSCL557

Academic degree level ☒ Bachelor ☐ Graduate Diploma ☐ Master
☐ Higher Graduate Diploma ☐ Doctor
Faculty / College / Institute: Faculty of Veterinary Science
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- 9) สุกุล เลื่องยศสื่อชากุล 2534. โรคของสุกร เล่ม 2: โรคติดต่อที่สำคัญของสุกร. โรงพิมพ์จุฬาลงกรณ์มหาวิทยาลัย กรุงเทพฯ. 258 หน้า
- 10) ไอลิน แดคเกอร์ รุ่งโรจน์ ธนาวงษ์เวช 2545. โรคระบบทางเดินหายใจซับซ้อนในสุกร. เวชสารสัตวแพทย์ 32, ฉบับพิเศษ, 125-134.
- 11) Allan, G., McNeilly, Meehan, B., Ellis, J., Krakowka, S., Charreyre, C., 2002. Porcine Circovirus 2: Virology, field disease and experimental infections. In Proceeding of Veterinary Meeting, Uppsala, Sweden. 205-210.
- 12) Allan, G., Ellis J.A., 2000. Porcine circovirus: a review. J. Vet. Diagn. Invest. 12, 3-14.
- 13) Christianson, W.T., Joo. H.S., 1994. Porcine reproductive and respiratory syndrome: A review. Swine Health Prod. 2, 10-28.
- 14) Ferguson, J., 1995. The Good Health Manual for Pigs. Pirie Printer, Canberra. 204 pp.
- 15) Janke, B.H., 2000. Diagnosis of swine influenza. Swine Health Prod. 8, 79-84.
- 16) Leman, A.D., Straw, B.E., Mengeling, W.L., D'Allaire, S., and Taylor, D.J., 1996. Diseases of Swine. 7th Edition, Iowa State University press, Iowa. 1021 pp. 1
- 17) Marsteller, T.A., Fenwick, B., 1999. Actinobacillus pleuropneumoniae disease and serology. Swine Health Prod. 7, 161-165.
- 18) Mengeling, W.L., Lager, K.M., Vorwald, A.C., Koehler, K.J., 2003. Strain specific of the immune response of pigs following vaccination with various strains of porcine reproductive and respiratory syndrome virus. Vet. Microbiol. 93, 13-24.
- 19) Mengeling, W.L., Lager, K.M., Vorwald, A.C., Clouser, D.F., 2003. Comparative safety and efficacy of attenuated single-strain and multi-strain vaccines for porcine reproductive and respiratory syndrome. Vet. Microbiol. 93, 25-38.
- 20) Muirhead, M.R., Alexander, T.J.L., 1997. Managing pig health and the treatment of disease. 5M Enterprise Ltd., Sheffield, United Kingdom. 608 pp.
- 21) Royer, R.L., Nawagitgul, P., Halbur, R.G., Paul, P.S., 2001. Susceptibility of porcine circovirus type 2 to commercial and laboratory disinfectants. Swine Health Prod. 9, 281-284.
- 22) Sims, L.D., Glastonbury, J.R.W., 1996. Pathology of the Pig: A Diagnostic Guide. D.G. Walker Pty Ltd., Victoria, 456 pp.

2. Suggested Materials

Swine medicine I document and materials

3. Other

None

Section 7 Evaluation and Improvement of Course Implementation

1. Strategy for Course Effectiveness Evaluation by Students



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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.



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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 Swine Medicine II	PLOs							
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8
Course Code VSCL 557	R	P	R, P	R, P		R	R, P	R

Table 2 Relations between CLOs and PLOs

(Course Code) VSCL557	PLOs							
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8
CLO1 To explain infectious and non-infectious disease in pig correctly	X						X	
CLO2 To describe herd health management in pig farm correctly.	X		X	X		X	X	X
CLO3 To diagnose and choose treatment for illness pigs properly.	X	X	X				X	X
CLO4 To plan suitable pig herd vaccination programs and modify it wisely in each situation.	X		X				X	X
CLO5 To organize treatment plan and	X	X	X	X			X	X



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control pig common diseases rightly.								
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