



Program: Doctor of Veterinary Medicine
Course title: Swine Medicine I
Course code: VSCL 456

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 456 เวชศาสตร์สุกร ๑
In English VSCL 456 Swine Medicine I

2. Number of Credits 3 (3-0-6)

(Theory 3 hrs. Practice - 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 coordinators

Assoc.Prof.Dr. Panida Chanapiwat	Department of Clinical Sciences and Public Health
Tel. 2229	E-mail: panida.chn@mahidol.edu

Instructor Siriporn Tantawet	Department of Clinical Sciences and Public Health
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4.2 Lecturers

Assoc.Prof.Dr. Kampon Kaeoket (KK)	Department of Clinical Sciences and Public Health
Tel. 1526	E-mail: kampon.kae@mahidol.edu

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Instructor Siriporn Tantawet	Department of Clinical Sciences and Public Health
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5. Semester/Class Level

5.1 Semester 2 / Class Level 4

5.2 Number of Students Allowed Approximately 80 Students

6. Pre-requisite

VSPA 210, VSCL 444

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

24th February 202

Section 2 Aims and Objectives

1. Course Goals

To organize learning experience to gain knowledges and understanding about the pig production system in Thailand, the farm managements in each production units, pig farm standard according to Good Agricultural Practice for pig farm and the most common cases of pig farm mismanagements.

2. Objectives of Course Development/Revision

2.1 Course Objectives

This course aims to provide knowledge and abilities as follows:

The pig production system in Thailand, the farm managements in each production units, banned chemical substances in pig industry, important pig farm management to reduce the loss of pig production and have moral and ethics for veterinary practice.

2.2 Course-level Learning Outcomes: CLOs

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

1. CLO1 Explain the pig production system and pig farm standard in Thailand
2. CLO2 Explain the pig farm managements in production units
3. CLO3 Solve the problems correctly in case studies of pig farm mismanagements



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Section 3 Course Description and Implementation

1. Course Description

ระบบการผลิตสุกร การจัดการฟาร์มสุกร การจัดการโรงเรือน มาตรฐานฟาร์มสุกร สารต้องห้ามในอุตสาหกรรมการผลิตสุกร เทคนิคการฝากเลี้ยงเพื่อลดและตัดปัญหาการแพร่โรค ปัญหาที่เกิดจากการจัดการไม่เหมาะสม อาหารและน้ำ โภชนาการ สารพิษจากเชื้อราที่ปนเปื้อนในอาหาร ระบบความปลอดภัยทางชีวภาพในฟาร์มสุกร การกักกันโรคและการปรับสภาพสุกรในฟาร์ม การเฝ้าระวังและติดตามโรค การรักษาควบคุมและป้องกันโรคในฟาร์มสุกร

The pig production system, farm management, prohibiting substances, cross-fostering techniques; the inappropriate management of water and nutrition, mycotoxin, herd biosecurity, isolation and acclimatization; health monitoring program, treatment, prevention and control programs

2. Number of hours per semester

Theory (hours)	Practice (hours)	Self-study (hours)
45 (15x3)	-	90 (15x6)

3. Number of Hours per Week for Individual Advice

Make an appointment with the instructor through a course coordinator for 1 hour per week. (only Wednesday)

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 pig production system and pig farm standard in Thailand
2. CLO2 Explain the pig farm managements in production units
3. CLO3 Solve the problems correctly from case studies of pig farm mismanagements



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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			
	Lectures	Group assignment	Presentation	Written exams	Assignment quality	In-class observation	Presentation skill
CLO1	X			X			
CLO2	X	X	X	X	X	X	X
CLO3		X	X	X	X	X	X

SECTION 5 LESSON PLAN AND EVALUATION

1. Lesson Plan

Teaching Period	Topics/Details	Number of hours		Methods: Teaching Media	Lecturer
		Theory*	Practice**		
1	Introduction/Pig production system in Thailand	3:00	-	Lecture: ppt	PC
			-		
2	Economics in pig production	3:00	-	Lecture: ppt	DL
3	Housing and environment managements in pig farms	3:00	-	Lecture: ppt	KK
			-		
4	Effective management practices in pig farms	3:00	-	Lecture: ppt	PC
			-		
5	Nutritional management in pig farms and feed formulations	3:00	-	Lecture: ppt	DL
			-		
6	Feed contamination : importance, problems and solutions	3:00	-	Lecture: ppt	ST
			-	Case study analysis	
7	Disease prevention and control: biosecurity, acclimatization, immunization	3:00	-	Lecture: ppt	PC
			-	Laboratory practice	

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Teaching Period	Topics/Details	Number of hours		Methods: Teaching Media	Lecturer
		Theory*	Practice**		
8	Genetic application for disease prevention	3:00	-	Lecture: ppt	KK
9	Good Agricultural Practice in pig farms (Farm standard) / Role of vet in swine production	3:00	-	Lecture: ppt	ST
10	Common used Drugs, Feed additives and banned chemical drugs in pig farms	3:00	-	Lecture: ppt	ST
11	Common Problems in breeding and farrowing units	3:00	-	Lecture: ppt	PC
12	Common Problems in nursery units	3:00	-	Lecture: ppt	KK
13	Common Problems in growing-finishing units	3:00	-	Lecture: ppt	KK
14	Case study discussion	3:00	-	Lecture, group assignments: ppt	KK, DL, PC, ST
15	Case study presentation and discussion	3:00	-	Group assignments, presentation: ppt	KK, DL, PC, ST
Total hours of the entire semester		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 exam	Assign- ment quality	In-class observa- tion	Presentation skill	
CLO1 Explain the pig produc- tion system and pig farm standard in Thailand	40				40
CLO2 Explain the pig farm managements in production units	30	5			35
CLO3 Solve the problems correctly from case studies of pig farm mismanagements	10	5	5	5	25
total	80	10	5	5	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 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) Burkard, C., Lillico, S.G., Reid, E., Jackson, B., Mileham, A.J., Ait-Ali, T., et al. 2017. Precision engineering for PRRS resistance in pigs: Macrophages from genome edited pigs lacking CD163 SRCR5 domain are fully resistant to both PRRSV genotypes while maintaining biological function. Plos Pathogens. Doi: 10.1371/journal.ppat.1006206
- 2) Cromwell, G.L., Baker, D.H., Ewan, R.C., Kornegay, E.T., Lewis, A.J., Pettigrew, J.E., et al. 1998. Nutrient requirements of swine. 10th revised Edition, National Academy Press, Washington D.C. 210 pp.
- 3) Ferguson, J., 1995. The Good Health Manual for Pigs. Pirie Printer, Canberra. 204 pp
- 4) Fink-Gremmels J, editor. Animal feed contamination: effects on livestock and food safety. Elsevier; 2012 Jun 11. (page 1-10, 11-32)
- 5) Goddard, M.E. and Hayes, B.J. 2009. Mapping genes for complex traits in domestic animals and their use in breeding programmes. Genetics. 10; 381-391.
- 6) Leman, A.D., Straw, B.E., Mengeling, W.L., D'Allaire, S., and Taylor, D.J., 1996. Diseases of Swine. 10th Edition, Wiley-blackwell. 1136 pp.
- 7) Mello J.P. Contaminants and toxins in animal feeds. FAO ANIMAL PRODUCTION AND HEALTH PAPER. 2004:107-28.
- 8) Muirhead, M.R., Alexander, T.J.L., 1997. Managing pig health and the treatment of disease. 5M Enterprise Ltd., Sheffield, United Kingdom. 608 pp.
- 9) Reiner, G. 2016. Genetic resistance-an alternative for controlling PRRS? Porcine Health Manag. 2; 27.
- 10) Sims, L.D., Glastonbury, J.R.W., 1996. Pathology of the Pig: A Diagnostic Guide. D.G. Walker Pty Ltd., Victoria, 456 pp.



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- 11) Zimmermann, J.J., Karriker, L.A., Ramirez, A., Schwartz, K.J. and Stevenson, G.W. 2012. Diseases of Swine. 10th Edition, Wiley-blackwell, Iowa, 1136 pp.
- 12) Codex Alimentarius Commission. General Standard for Contaminants and Toxins in Food and Feed (CODEX STAN 193-1995).
- 13) Good Agricultural Practice for pig farm, Thai Agricultural Standard (TAS 6403-2009)

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.



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- (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 Swine Medicine I (Course Code) VSCL456	PLOs							
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8
	R		R	R				R



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Table 2 Relations between CLOs and PLOs

VSCL456	PLOs							
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8
CLO1 Explain the principles of accurate reproductive disorders diagnosis in pets and livestock.	X		X					X
CLO2 Evaluate reproductive performance in pets and livestock accurately.	X		X					X
CLO3 Plan the management of reproductive disorders in pets and livestock correctly.	X		X	X				X