



Academic degree level ☒ Bachelor ☐ Graduate Diploma ☐ Master

Program: Doctor of Veterinary Medicine

Course title Veterinary General Pathology

Course code VSPA334

☐ Higher Graduate Diploma ☐ Doctor

Faculty / College / Institute: Faculty of Veterinary Science

Department of Pre-clinic and Applied Animal Science

TQF 3 Course Specification

Section 1 General Information

1. Course Code and Title

In Thai สปปส ๓๓๔ พยาธิวิทยาทั่วไปทางสัตวแพทย์

In English VSPA334 Veterinary General Pathology

2. Number of Credits

4 (3-3-7)

(Theory 3 hrs. Practice 3 hrs. Self-Study 7 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 Assistant Prof. Dr. Nlin Arya Department of Pre-Clinic and Applied Animal Science

Telephone: 1523 email: nlin.ary@mahidol.edu

4.1.2 Dr.Kripitch Sutummaporn Department of Pre-Clinic and Applied Animal Science

Telephone: 1513 email: nlin.ary@mahidol.edu

4.2 Lecturers

4.2.1 Assistant Prof. Dr. Nlin Arya Department of Pre-Clinic and Applied Animal Science

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4.2.2 Dr.Kripitch Sutummaporn Department of Pre-Clinic and Applied Animal Science

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4.2.3 Assistant Prof. Dr. Tawewan Issarankura Na Ayudhaya Department of Pre-Clinic and Applied Animal Science

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4.2.4 Assistant Prof.Dr. Parin Suwannaprapha Department of Pre-Clinic and Applied Animal Science

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4.2.5 Dr.Panop Wilainam Department of Pre-Clinic and Applied Animal Science

Telephone: 1532 email: panop.wil@mahidol.edu

4.2.5 Dr.Apsit Pornthummawat Department of Pre-Clinic and Applied Animal Science

Telephone: - email: apsit.por@mahidol.edu

5. Semester/Class Level

5.1 Semester 1 / Class Level year 3

5.2 Number of Students Allowed Approximately 80 Students

6. Pre-requisite

VSPA 222 and VSPA223

7. Co-requisites

None

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

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

Day 22 .Month July Year 2022

Section 2 Aims and Objectives

1. Course Goals

Student comprehensive and understand general pathology including terminology, pathogenesis, pathophysiology, identify the lesion and related causes. General topics covered include the nature and causes of cell injury and death; adaptive cellular changes; inflammation, healing and repair, thrombosis, infarction, and neoplasia.

2. Objectives of Course Development/Revision

2.1 Course Objectives

This course aims to provide knowledge and abilities as follows:

- 1.1.1 Student can explain the fundamental of disease development and progression such as pathology terms, causes and mechanisms of disease, structure, and functional abnormalities.

2.2 Course-level Learning Outcomes: CLOs

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

- 1. CLO1 Student can explain and define the pathology terms
- 2. CLO2 Student can explain the disease development and progression
- 3. CLO3 Student can identify the gross and microscopic lesions
- 4. CLO4 Student can explain the morphological and functional change related pathogenesis

Section 3 Course Description and Implementation

1. Course Description

ศัพท์ทางพยาธิวิทยาทางสัตวแพทย์ กลไกการบาดเจ็บ การเสื่อม การปรับตัวและการตายของเซลล์ การอักเสบและการซ่อมแซมของเนื้อเยื่อ พยาธิวิทยาภูมิคุ้มกัน การรบกวนการไหลเวียนเลือด พยาธิวิทยาของโรคติดเชื้อ พยาธิวิทยาสิ่งแวดล้อมและพิษวิทยา พยาธิวิทยาทางโภชนาการ การเจริญของเซลล์ที่ผิดปกติ และการเกิดมะเร็ง

Terminology in veterinary pathology, mechanism of cell injury, degeneration, adaptation and cell death, inflammation and tissue healing, immunopathology, circulatory disturbance, infectious diseases, environmental and toxicopathology, nutritional pathology, and neoplasia

2. Number of hours per semester

Theory (hours)	Practice (hours)	Self-study (hours)
45	45	105

3. Number of Hours per Week for Individual Advice

Two to three hour per week. Students can contact the course coordinators or lecturers via e-mail or other application such as line, Facebook messenger etc.

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 Student can explain and define the pathology terms
2. CLO2 Student can explain the disease development and progression
3. CLO3 Student can identify the gross and microscopic lesions
4. CLO4 Student can explain the morphological and functional change related pathogenesis

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	Gross lesion: demonstration	Glass slide: Demonstration and practice	Case study	MCQ	Short answers	Group presentation
CLO1 Student can explain and define the pathology terms	✓			✓			
CLO2 Student can explain the disease development and progression	✓			✓			
CLO3 Student can identify the gross and microscopic lesions	✓	✓	✓	✓			
CLO4 Student can explain the morphological and functional change related pathogenesis	✓	✓	✓	✓			

SECTION 5 LESSON PLAN AND EVALUATION

1. Lesson Plan

Teaching Period	Topics/Details	Number of hours		Methods: Teaching Media	Lecturer
		Theory*	Practice**		
1	Introduction the pathology	0:30	-	Lecture: ppt/online lessons	Panop
2	cell injury and death	2:30	3	Lecture: ppt/online lessons Glass slide: Demonstration and practice Gross: Demonstration	Panop
3	Inflammation	3	3	Lecture: ppt/online lessons Glass slide: Demonstration and practice Gross: Demonstration	Kripitch
4	Healing and repair	3	3	Lecture: ppt/online lessons Glass slide: Demonstration and practice Gross: Demonstration	Kripitch
5	Hemodynamic disorder	3	3	Lecture: ppt/online lessons Glass slide: Demonstration and practice Gross: Demonstration	Apisit
6	Infection (virus and prion)	3	3	Lecture: ppt/online lessons Glass slide: Demonstration and practice Gross: Demonstration	Tawewan
7	Infection (Bacteria)	3	3	Lecture: ppt/online lessons Glass slide: Demonstration and practice Gross: Demonstration	Tawewan
8	Infection (Protozoa, Helminth, Rickettsia, and Arthropods)	3	3	Lecture: ppt/online lessons Glass slide: Demonstration and practice Gross: Demonstration	Nlin
9	Neoplasia 1	3	3	Lecture: ppt/online lessons Glass slide: Demonstration and practice Gross: Demonstration	Parin
10	Neoplasia 2	3	3	Lecture: ppt/online lessons Glass slide: Demonstration and practice Gross: Demonstration	Parin
11	Tumor in domestic animal	3	3	Lecture: ppt/online lessons Glass slide: Demonstration and practice Gross: Demonstration	Apisit
12	Disease of the immune system	3	3	Lecture: ppt/online lessons Demonstration and case study	Apisit

13	Genetic and pediatric disease	3	3	Lecture: ppt/online lessons Demonstration and case study	Apisit
14	Environmental disease	3	3	Lecture: ppt/online lessons Demonstration and case study	Nlin
15	Nutritional disease	3	3	Lecture: ppt/online lessons Demonstration and case study	Nlin
Total of hours of the entire semester		45	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.

B. Summative Assessment

(1) Tool and weight for measurement and evaluation

Learning Outcomes	Evaluation Method*			Weight (Percentage)
	MCQ	Gross lesion quiz	Histological lesion quiz	
CLO1 Student can explain and define the pathology terms	10		5	25
CLO2 Student can explain the disease development and progression	30		-	30
CLO3 Student can identify the gross and microscopic lesions	-	10	10	20
CLO4 Student can explain the morphological and functional change related pathogenesis	20	5	10	35
total	60	15	25	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 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. Kumar V. et al. Pathologic Basic of Disease. 10th edition. Elsevier 2020.
2. Zachary JF. Pathologic Basic of Veterinary Disease. 6 th edition. Elsevier. 2017.

2. Suggested Materials

1. Journal of Veterinary Pathology. SAGE Journals. USA.

3. Other Resources (if any)

1. <https://davisthompsonfoundation.org>
2. <https://www.youtube.com/c/DavisThompsonFoundation>

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 Veterinary General Pathology (Course Code) VSPA334	PLOs							
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8
		I				I		

Table 2 Relations between CLOs and PLOs

(Course Code) VSPA334	PLOs							
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8
CLO1 Student can explain and define the pathology terms		I				I		
CLO2 Student can explain the disease development and progression		I				I		

CLO3 Student can identify the gross and microscopic lesions		I				I		
CLO4 Student can explain the morphological and functional change related pathogenesis		I				I		