# Course Specification

**Name of Institution** Mahidol University

**Campus/Faculty/Department** Faculty of Veterinary Science

## Section 1 General Information

1. **Course Code and Title**

   VSCL 788 Care and Management of Zoo and Exotic Animal

   สพวค ๗๘๘ การดูแลและจัดการสัตว์ในสวนสัตว์และสัตว์เลี้ยงชนิดพิเศษ

2. **Number of Credits**

   3(2-3-5) Credits (lecture – laboratory – self-study)

3. **Curriculum and Course Type**

   Program of Study Master of Science Program in Veterinary Biomedical Sciences

   Course Type ☐ Core ☐ Required ☐ Electives

4. **Faculty Member in Charge of this Course and Advisor of Internship**

   **4.1 Faculty Member in Charge of this Course**

   1. Asst.Prof.Dr.Roschong Boonyarittichaikij (RB)

      Department of Clinical Science and Public Health

      phone number 02 441 5242-6 E-mail: roschong.boo@mahidol.edu

   **4.2 Lecturers**

   . 1. Asst.Prof.Dr.Roschong Boonyarittichaikij (RB)

      Department of Clinical Science and Public Health

      phone number 02 441 5242-6 E-mail: roschong.boo@mahidol.edu

   2. Dr.Podajana Wattananit (PW)

      Department of Clinical Science and Public Health

      phone number 02 441 5242-6 E-mail: podjana.wat@mahidol.edu

   3. Dr.Nae Tanpradit (NT)

      Department of Clinical Science and Public Health

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4. Dr.Poommate Chomchat (PC)

Department of Clinical Science and Public Health

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5. Dr.Boripat Siriaroonrat (BS)

Faculty of Environment and Resources Studies

Phone number 02415000 E-mail: boripat.sir@mahidol.ac.th

6. Assoc.Prof.Dr.Attawit Kovitvadhi (AK)

Department of physiology, Faculty of Veterinary Medicine, Kasetsart University

phone number - E-mail: fvetawk@ku.ac.th

5. Dr.Neel Aziz (NA)

Department of Wildlife Health Sciences Smithsonian National Zoological &Conservation Biology Institute

phone number - E-mail: -

6. Dr. Victoria Hall (VH)

The Raptor Center, College of Veterinary Medicine | University of Minnesota

phone number - E-mail: -

5. **Semester/The training experience required in the curriculum**

Semester 2 / Year 2

6. **Pre-requisite**

none

7. **Co-requisite**

none

8. **Venue of Study**

Faculty of Veterinary Science, Mahidol University

9. **Date of Latest Revision**

21 December 2023

## Section 2 Goals and Objectives

1. **Course Goals**

This course aims to provide knowledge and abilities as follows:

1) Understanding and able to discuss updated knowledge of biology and natural behavior of exotic pets and zoo animals
2) Understanding and able to discuss updated knowledge of the principle of animal enclosure management, environmental enrichment in exotic pets and zoo animals
3) Understanding and able to discuss updated knowledge of nutrition and feeding for zoo and exotic animals
4) Understanding and able to discuss updated knowledge of preventive care in exotic pets and zoo animals
5) Understanding and able to discuss updated knowledge of ethical issues in exotic pets and zoo animals

2. **Objectives of Course Development/Revision Field Experience Course**

Update the curriculum to raise student achievement

3. **Course-level Learning Outcomes: CLOs**

This course aims to provide knowledge and abilities as follows:

1) CLO1 Understanding and able to discuss updated knowledge of biology and natural behavior of exotic pets and zoo animals
2) CLO2 Understanding and able to discuss updated knowledge of the principle of animal enclosure management, environmental enrichment in exotic pets and zoo animals
3) CLO3 Understanding and able to discuss updated knowledge of nutrition and feeding for zoo and exotic animals
4) CLO4 Understanding and able to discuss updated knowledge of preventive care in exotic pets and zoo animals
5) CLO5 Understanding and able to discuss updated knowledge of ethical issues in exotic pets and zoo animals

## Section 3 Course Management

**1. Course Description**

(Thai) สพวค ๗๘๘ การดูแลและจัดการสัตว์ในสวนสัตว์และสัตว์เลี้ยงชนิดพิเศษ

(English) VSCL 788 Care and Management of Zoo and Exotic Animal

**2. Credit Hours per Semester**

| | | |
|---|---|---|
| Lecture | 2 | Hour |
| Laboratory/Field Trip/Internship | 3 | Hour |
| Laboratory | - | Hour |
| Self Study | 5 | Hour |

**3. Number of hours that lecturers provide counseling and guidance to individual student**

3

## Section 4 Development of Students' Learning Outcome

**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 Understanding and able to discuss updated knowledge of biology and natural behavior of exotic pets and zoo animals

2) CLO2 Understanding and able to discuss updated knowledge of the principle of animal enclosure management, environmental enrichment in exotic pets and zoo animals

3) CLO3 Understanding and able to discuss updated knowledge of nutrition and feeding for zoo and exotic animals

4) CLO4 Understanding and able to discuss updated knowledge of preventive care in exotic pets and zoo animals

5) CLO5 Understanding and able to discuss updated knowledge of ethical issues in exotic pets and zoo animals

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 | Group discussion | Field practice | Assignments | Reports | Presentation |
| CLO1 | X | X | X | X | X | X |
| CLO2 | X | X | X | | X | X |
| CLO3 | X | X | X | | X | X |
| CLO4 | X | X | X | | X | X |
| CLO5 | X | X | | | X | X |

## Section 5 Teaching and Evaluation Plans

1. Teaching Plan

| Week or No. | Topic | Hours | | | Teaching Methods / Media | CLOs | Lecturers |
|---|---|---|---|---|---|---|---|
| | | Lecture | Laboratory | Self Study | | | |
| 1 | Zoo and exotic animal husbandry I | 3 | - | 5 | - Lecture<br>- Discussion | CLO 2,4 | RB |
| 2 | Zoo and exotic animal husbandry II | 3 | - | 5 | - Lecture<br>- Discussion | CLO 2,4 | RB |
| 3 | Avian rescue and rehab | 3 | - | 5 | - Lecture<br>- Discussion | CLO 1,2,4 | NA, VH |
| 4 | Zoo design and enclosure management | 3 | - | 5 | - Lecture<br>- Discussion | CLO1, 2 | NT |
| 5 | Nutrition management in zoo and exotics I | 3 | - | 5 | - Lecture<br>- Discussion | CLO 3 | AK |
| 6 | Nutrition management in zoo and exotics Ii | 3 | - | 5 | - Lecture<br>- Discussion | CLO 3 | AK |
| 7 | Behavior and Enrichment | 3 | - | 5 | - Lecture<br>- Discussion | CLO1, 2 | PW |
| 8 | Animal Training | 3 | - | 5 | - Lecture<br>- Discussion | CLO1, 2 | PC |
| 9 | Reproductive strategies in captive breeding programs | 3 | - | 5 | - Lecture<br>- Discussion | CLO 2 | BS |
| 10 | Ethical issues in zoo | 3 | - | 5 | - Lecture<br>- Discussion | CLO 5 | NT |
| 11 | Zoo shows training trip | - | 7 | 5 | - Filed study<br>- Assignment | CLO 1,2,5 | RB, PC |
| 12 | Animal rescue management and macaque enclosure and enrichment management trip | - | 8 | 5 | - Filed study<br>- Assignment | CLO 1-5 | PW |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 13 | Workshop on macaque enrichment and behavior trip | - | 8 | 5 | - Filed study<br>- Assignment | CLO 1,2 | PW |
| 14 | Animal rescue management trip | - | 8 | 5 | - Filed study<br>- Assignment | CLO 1-5 | NT |
| 15 | Home zoo/Exotic cafe trip | - | 7 | 5 | - Filed study<br>- Assignment | CLO 1-5 | RB |
| 16 | Presentation | - | 7 | | - Presentation | CLO 1-5 | ALL |
| **รวมจำนวนชั่วโมงตลอดภาคการศึกษา** | | 30 | 45 | 75 | | | |

2. Evaluation Plan

| Learning Outcomes | Evaluation method | | | |
|---|---|---|---|---|
| | Assignment | Report | Presentation | Weight (Percentage) |
| CLO1 Understanding and able to discuss updated knowledge of biology and natural behavior of exotic pets and zoo animals | 15 | 5 | 5 | 25 |
| CLO2 Understanding and able to discuss updated knowledge of the principle of animal enclosure management, environmental enrichment in exotic pets and zoo animals | | 15 | 10 | 25 |
| CLO3 Understanding and able to discuss updated | | 10 | 10 | 20 |

| Learning Outcomes | Evaluation method | | | |
|---|---|---|---|---|
| | Assignment | Report | Presentation | Weight (Percentage) |
| knowledge of nutrition and feeding for zoo and exotic animals | | | | |
| CLO4 Understanding and able to discuss updated knowledge of preventive care in exotic pets and zoo animals | | 10 | 5 | 15 |
| CLO5 Understanding and able to discuss updated knowledge of ethical issues in exotic pets and zoo animals | | 10 | 5 | 15 |
| Total | 15 | 50 | 35 | 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.

**3. Measurement and evaluation**

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.

**4. 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 Materials and Resources

### 1. Textbooks and Main Documents

1. Rees, P.A., 2011. *An introduction to zoo biology and management*. John Wiley & Sons.
2. Hosey, G., Melfi, V. and Pankhurst, S., 2013. *Zoo animals: behaviour, management, and welfare*. Oxford University Press, USA.
3. Hediger, H., 2013. *Wild animals in captivity*. butterworth-heinemann.
4. Melfi, V.A., Dorey, N.R. and Ward, S.J., 2020. Zoo Animal Learning and Training.

### 2. Documents and Important Information

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### 3. Documents and Recommended Information

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## Section 7 Evaluation and Improvement of Course Management

### 1. Strategies for Evaluation of Course Effectiveness 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. Strategies for Evaluation of Teaching Methods**

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. Improvement of Teaching Methods**

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 Students' Learning Outcome**

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.

**5. Review and Plan to Improve Course Effectiveness**

After the course evaluation and verification, the course effectiveness will be improved through the following:

(1) The course is revised every 3 years according to the evaluation and verification.

(2) Rotation or changing of instructors so students get different research points of view.

## Appendix

### Relations between the course and the program

**Table 1 Relations between the course and the PLOs**

| Code/Name/Credits | PLOs | | | | | |
|---|---|---|---|---|---|---|
| | PLO1 | PLO2 | PLO3 | PLO4 | PLO5 | PLO6 |
| VSCL 788/ Care and Management of Zoo and Exotic Animal / 3 (2-3-5) | M | M | R | R | R | P |

**Program Learning Outcomes (TQF.2)**

**PLO 1** Manage ethical and moral problems in field practice with evidence-base approaches and leadership together with appropriate logic and value.

**PLO 2** Prioritize scientific information in biomedical veterinary science and apply the beneficial output to develop laboratory practice and research study.

**PLO 3** Integrate the theory and experiences together with scientific evidences to develop the new knowledge in veterinary science through research study.

**PLO 4** Communicate efficiently with multidisciplinary academic colleagues and staff by using the communicate appropriately with the individual groups, both in academic and professional

**PLO 5** Utilize digital and information technology (IT) to encourage working network communication, data analysis together with presentation and research publication.

**PLO 6** Evaluate principles, purposes, strong critical-thinking with problem-solving skills, to utilizing veterinary science literacy as integral part of the thought process.

**Table 2 Relations between CLOs and PLOs**

| CLOs | PLOs | | | | | |
|---|---|---|---|---|---|---|
| | PLO1 | PLO2 | PLO3 | PLO4 | PLO5 | PLO6 |
| CLO1 Understanding and able to discuss updated knowledge of biology and natural behavior of exotic pets and zoo animals | | M | | | | P |
| CLO2 Understanding and able to discuss updated knowledge of the principle of animal enclosure management, environmental enrichment in exotic pets and zoo animals | | M | | R | R | |
| CLO3 Understanding and able to discuss updated knowledge of nutrition and feeding for zoo and exotic animals | | | R | | | |
| CLO4 Understanding and able to discuss updated knowledge of preventive care in exotic pets and zoo animals | | M | | | | |
| CLO5 Understanding and able to discuss updated knowledge of ethical issues in exotic pets and zoo animals | M | | | | | |

Course schedule

| ครั้งที่ | วันที่ | เวลา | หัวข้อ | ผู้สอน |
|---|---|---|---|---|
| 1 | Thu 11 Jan 2024 | 13.00 -16.00 | Zoo and exotic animal husbandry I | RB |
| 2 | Thu 18 Jan 2024 | 13.00 -16.00 | Zoo and exotic animal husbandry II | RB |
| 3 | Wed 24 Jan 2024 | 9.00 - 12.00 | Guest speaker: Avian rescue and rehab | Dr. Neel et al. |
| 4 | Thu 1 Feb 2024 | 13.00 -16.00 | Zoo design and enclosure management | NT |
| 5 | Thu 8 Feb 2024 | 13.00 -16.00 | Nutrition management in zoo and exotics I | AK |
| 6 | Thu 15 Feb 2024 | 13.00 -16.00 | Nutrition management in zoo and exotics II | AK |
| 7 | Thu 22 Feb 2024 | 13.00- 16.00 | Behavior and Enrichment | PW |
| 8 | FRI 1 Mar 2024 | 13.00 -16.00 | Animal Training | PC |
| 9 | Thu 7 Mar 2024 | 13.00 -16.00 | Reproductive strategies in captive breeding programs | BS |
| 10 | Thu 14 Mar 2024 | 13.00 -16.00 | Ethical issues in zoo | NT |
| 11 | FRI 15 Mar 2024 | 8.30- 15.30 | Lab: Zoo shows training trip | RB,PC |
| 12 | Thu 28 Mar 2024 | 8.30- 15.30 | Lab: Wrap-up and discussion on zoo show | RB,PC |
| 13 | Fri 29 Mar 2024 | 8.30 - 16.30 | Lab: Animal rescue management and macaque enclosure and enrichment management: WFFT trip | PW |
| 14 | Fri 12 Apr 2024 | 8.30- 14.30 | Lab: Workshop on macaque enrichment and behavior at SaiYoke I | PW |

| | | | | |
|---|---|---|---|---|
| 15 | Fri 19 Apr 2024 | 9.00 - 16.00 | Lab: Home zoo/Exotic cafe trip | RB |
| 16 | Fri 26 Apr 2024 | 8.30-15.30 | Lab: Animal rescue management at Bang Pra (DNP) | NT |
| 17 | Fri 3 May 2024 | 8.30-14.30 | Lab: Workshop on macaque enrichment and behavior at SaiYoke II (Plus Presentation and discussion) | PW |
| 18 | Thu 9 May 2024 | 13.00-15.00 | Lab: Presentation | All |