



COURSE SCHEDULE

Course	Exercise Physiology		
Code	SCPS 362	Credit	2 (1-2-3)
Prerequisite	-		
Academic year	2025	Semester	2 nd
Course Organizer	Metaneeya Pilanthananond		
Room	B501/1, Department of Physiology, Faculty of Science, Mahidol University		
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Course Description

Physiological responses and adaptations to different modes of exercise and training, including muscular performance, cardiopulmonary function, metabolism, and energy transfer. Genetic influences on athletic performance and exercise as preventive medicine, with applications in body composition assessment, nutrition prescription for training goals, and exercise prescription. Practical laboratory experiences in muscular performance testing and aerobic capacity assessment. Field experiences in diverse professional exercise settings to explore facility management, administration, and diverse exercise environments.

Course Objectives

After completing this course, students should be able to

1. Explain physiological responses and adaptations to exercise, including muscular and cardiopulmonary function, metabolism, energy transfer, and genetic influences on athletic performance. Explain the impact of genetics on exercise and sport performances
2. Explain principles of exercise as preventive medicine, including body composition assessment, nutrition prescription for training goals, and exercise prescription.
3. Evaluate muscular performance and aerobic capacity through standardized laboratory testing protocols.
4. Describe the structure, administration, and operational practices of sports and exercise organizations in private and public sectors through field experiences.

Course Organization

The course consists of seven lectures and seven activities as presented in the table. The course begins with lecture on exercise physiology (Lec 1), followed by integrated lecture-laboratory sessions covering muscular performance testing (Lec 2+Lab 1), exercise as preventive medicine (Lec 3 + Lab 3), exercise genomics and genetics (Lec 4+ Lab 3), and aerobic capacity assessment (Lec 7+Lab 5). Additional lectures include seminar in sports and

exercise (Lec 5) and exercise prescription (Lec 6). Students will participate in three field trips to experience diverse exercise settings (Lab4, 6, 7). The course concludes with students presenting their public event proposals and implementing a community exercise event. The total lecture and activity hours are shown below:

	Hours
Lectures	6
Integrated Lecture + Lab	12
Activities	12
TOTAL	30

Teaching & Learning Methods

1. On-site lecture
2. Integrated lecture-laboratory sessions
3. Field experiences at sports and exercise facilities
4. Group project (event planning and implementation)
5. Self-study, assignments, and class participation

Teaching media

1. Textbooks: variety of exercise physiology textbooks and reading materials assigned for each study unit and are specified by the responsible instructor of the topic.

Classroom

PR 408 - for lecture-only

B501/1 (Exercise Physiology Laboratory) – for integrated lecture-lab sessions

Course Assessment

Component	Percentage
Post-lecture Quizzes (Lec1-7)	25%
Laboratory Assignments/ In-session discussions (Lab 1-7)	25%
Participation (all sessions)	50%
TOTAL	100%

Participation is evaluated in all sessions including lectures, integrated lecture-labs, field trips, even proposal presentation, and public event implementation using provided rubrics.

The score range for grading is set as follows:

Grade	Score
A	≥ 80
B+	≥ 75
B	≥ 70

C+	≥ 65
C	≥ 60
D+	≥ 50
F	< 50

List of Instructors

Lecturer	E-mail
Assoc. Prof. Tepmanas Bupha-Intr, DVM., PhD	tepmanas.bup@mahidol.ac.th
Assoc. Prof. Ratchakrit Srikuea, PhD	ratchakrit.sri@mahidol.ac.th
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Asst. Prof. Kanit Bhukhai, PhD	kanit.bhu@mahidol.ac.th
Chonlawan Saengjaroentharn, PhD	chonlawan.sae@mahidol.ac.th
Metaneeya Pilanthananond, PhD	metaneeya.pil@mahidol.ac.th

Class Schedule

Date	Act.#	Time	Topics	Instructor
8 Jan		13.00-15.00	Orientation and ice-breaking activity	MP, KB, CS
13 Jan	Lec 1	13.00-15.00	Exercise Physiology	MP
20 Jan	Lec 2 + Lab 1	13.00-16.00	Muscular performance testing	RS
27 Jan	Lec 3 + Lab 2	13.00-16.00	Exercise as a preventive medicine	IP
3 Feb	Lec 4 + Lab 3	13.00-16.00	Exercise genomics and genetic influences on athletic performance	IP
10 Feb	Lec 5	13.00-15.00	Seminar in sports and exercise	KJ
12 Feb	Lab 4	13.00-15.00	Field trip: Pilates Plus Bangkok Studio	MP
24 Feb	Lec 6	9.00-11.00	Exercise prescription	MP
3 Mar			Public holiday	
10 Mar	Lec 7 + Lab 5	13.00-16.00	Aerobic capacity assessment and exercise stress testing	TB
17 Mar	Lab 6	13.00-15.00	Field trip: Sports Club	MP
24 Mar	Lab 7	13.00-16.00	Field trip: Sports Authority of Thailand (SAT)	TB
31 Mar		13.00-15.00	Public event proposal presentation	MP, KB, CS
26 Apr		9.00-12.00	Public event day	MP, KB, CS

Assessment Rubric for Class Participation
SCPS 362: Exercise Physiology
Academic Year 2025

Student Name

Instructor

Date

Criteria of Performance Assessment	Inadequate (1 point)	Developing (below expectations) (2 point)	Accomplished (meets expectations) (3 points)	Exemplary (reflects leadership) (4 points)	SCORE (PQF)
Preparation (10%)	- Lack of preparation in advance for class	- Insufficient preparation for the assigned materials before class	- Sufficient preparation for the assigned materials before class	- Well preparation for class - Having questions or initiating discussion beyond the assignment	
Active Participation (30%)	- No contribution or engagement in any sessions	- Minimal contribution and limited engagement	- Regular contribution and active engagement in all sessions	- Proactive participation and initiates discussions across all activities	
Listener Skills (10%)	- Not listen to others - Non-responsive comment to discussion	- Seldom listens carefully - Limited responses	- Appropriate listener - Appropriate response to others	- Good listener without inappropriate interruption - Expand response to others	

Criteria	Weight Factor (WF)	PQF	WF x PQF (%)
Preparation	10%		
Active participation	30%		
Listener Skills	10%		

(sum of WF x PQF)/4 = ; *FINAL POINTS* = out of 5

INSTRUCTOR SIGNATURE

DATE OF SUBMISSION