

**Course Syllabus**  
**SCPS 679: Advanced Topics in Physiology**  
**Credits: 3(1-4-4)**  
**Academic Year 2023**

- 1. Program:** Doctor of Philosophy Program in Physiology  
Master of Science Program in Physiology (Elective course)  
**Faculty:** Department of Physiology, Faculty of Science, Mahidol University
- 2. Course Code:** SCPS 679  
**Course Title:** Advanced Topics in Physiology
- 3. Number of Credits:** 3(1-4-4) Credits (Lecture-Lab-Self-study)
- 4. Prerequisite:** None
- 5. Type of Course:** Required course
- 6. Session/Academic year:** Second Semester / 2023

**7. Course Description:**

Advanced topics in cell physiology, neurophysiology, musculoskeletal system, cardiovascular system, respiratory system, renal system, gastrointestinal system, endocrine system, reproductive system, and integrative physiology, application, and integration of physiology knowledge with other disciplines, current topics in physiology, new technologies in physiological and related fields.

**8. Course Learning Outcome (CLOs):**

- CLO-1: Explain the advanced concepts of physiology and their links to human health and disease
- CLO-2: Discuss the integration between concepts in physiology with other related disciplines
- CLO-3: Discuss the advanced techniques that have permitted the application of the scientific methodology to physiological problems

**9. Course Outline/Content:**

1. Advanced topics in Cell Physiology
2. Advanced topics in Neurophysiology
3. Advanced topics in Muscle Physiology
4. Advanced topics in Cardiovascular Physiology
5. Advanced topics in Respiratory Physiology
6. Advanced topics in Gastrointestinal Physiology
7. Advanced topics in Renal Physiology
8. Advanced topics in Endocrine Physiology
9. Advanced topics in Reproductive Physiology
10. Advanced topics in Imaging Technologies for Physiology
11. Advanced topics in Integrative Physiology I: Basic Aspects
12. Advanced topics in Integrative Physiology II: Interdisciplinary Aspects
13. Advanced topics in Integrative Physiology III: Interdisciplinary Aspects
14. Advanced topics in Integrative Physiology IV: Applied Aspects
15. Translational Physiology

## **10. Teaching Methods:** Lecture / Discussion

## **11. Teaching media:**

Suggested articles related to the lecture topic will be given prior to the lecture. Lists of up-to-date references will be assigned and provided by the instructor for each session.

## **12. Course assignment:**

1. Learn before lecture (LBL) assignments. Students are expected to read the assignment prior to attending the class discussion.
2. Prepare for group discussion/presentation
3. Write an essay report (integrative knowledge)

## **13. Assessment Criteria**

Apart from class discussion, each student must write a report (a summary of the research paper written in their own words) for the topic of each session. The format of a report is in a one-page A4 with single line spacing, 11-point Arial font, excluding references. Of note, 3 calendar days after the end of classes, a report must be submitted to the departmental secretary (Ms. Ranchida) no later than 4:00 p.m. (as reflected by a timestamp of submission). An overdue assignment submission will not be accepted unless you have a legitimate excuse. Importantly, plagiarism is unacceptable in any case of a written report. Therefore, whenever plagiarism is detected, a student will earn a grade of ZERO for the topic.

### **Grading Policy-Grading for this class is based on:**

1. Class participation & discussion	50 %
2. Written integrative report	50 %
<b>Total</b>	<b>100 %</b>

### **Grades:**

<b>A</b>	<b>80.00 – 100.00</b>
<b>B+</b>	<b>75.00 – 79.99</b>
<b>B</b>	<b>70.00 – 74.99</b>
<b>C+</b>	<b>65.00 – 69.99</b>
<b>C</b>	<b>60.00 – 64.99</b>
<b>F</b>	<b>0 - 59.99</b>

Students will be graded (A, B+, B, C+, C, D+, D, F) based on the student's score from the whole course. To pass this course students must receive a score equal to or above 70%. A grade of B is the minimum required passing grade for a graduate course.

## **14. References:**

Lists of up-to-date references will be assigned and provided by the instructor for each session.

## 15. Instructors:

	<b>Name</b>	<b>Email</b>
1.	Prof. Dr. Jonggonnee Wattanapermpool	jonggonnee.wat@mahidol.ac.th
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## 16. Course Coordinator:

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