



## COURSE SYLLABUS

<b>Course:</b>	Physiology of aging		
<b>Code:</b>	SCPS 361	<b>Credit:</b>	2 (2-0-4)
<b>Prerequisite:</b>	-		
<b>Academic year:</b>	2024	<b>Semester:</b>	2 <sup>nd</sup>

<b>Course Co-ordinator:</b>	Kanit Bhukhai PhD		
<b>Room:</b>	Pr408, Department of Physiology, Faculty of Science, Mahidol University		
<b>Phone:</b>	02-201-5614	<b>E-mail:</b>	kanit.bhu@mahidol.ac.th

### Course Description

Biological principles and theories that underlie the phenomena of human aging; Normal aging processes; Aged-related health conditions; Elderly nutrition guideline; research, innovation, and artificial intelligence for aging.

### Objectives

After completion of this course, students should be able to:

- 1) Apply knowledge acquired for physiology of aging and aged-related problems to protect and im-prove health span of aging individuals
- 2) Create the ideas of aging innovation to provide information about prevention, diagnosis, and treatment of age-related problems in accordance with international standard methodology
- 3) Communicate physiology of aging concepts, aged-related problems, and the ideas of aging innova-tion clearly and purposefully with target audiences in English, with appropriate information technologies in an organized manner

### Course Organization

There will be the 11 sessions of lectures, 3 sessions of special lectures, and 1 session of student presentation. The student performance will be evaluated by the responsible instructor based on an assessment rubric in the evaluation form attached to the syllabus. The student performance in the student presentation will be evaluated by instructors who attend on that day.

## Teaching & Learning Methods

1. On-site lectures
2. Tutorial sessions with instructors
3. Self-study
4. Presentation

## Teaching media

Research articles in various fields based on students' interests and guidance from instructors.

## Classroom

All lectures and activities will be held at room Pr408.

## Course Assessment

There are 2 parts of evaluation and as below and the weight score for each evaluation is detailed in the evaluation form and assessment rubric.

- |     |   |       |
|-----|---|-------|
| i.  | Class participation and discussion              | (20%) |
| ii. | Assignment (report/presentation/take home exam) | (80%) |

*\* 30-minute presentation and 10-minute question, students will work in a pair but will be evaluated individually.*

*\*\* Students are encouraged to seminar presentation by asking questions and initiating the discussion related to the presentation*

Student achievement will be graded according to the faculty and university standard using the symbols: A, B<sup>+</sup>, B, C<sup>+</sup>, C, D<sup>+</sup>, D, and F.

## List of Instructors

Lecturer	Affiliation
Chaniya Leepiyasakulchai, Ph.D. (CL)	Dept of Clinical Microbiology and Applied Technology, Faculty of Medical Technology, Mahidol University
Pimonrat Ketsawatsomkron, Ph.D. (PK)	Chakri Naruebodindra Medical Institute, Faculty of Medicine, Ramathibodi Hospital, Mahidol University
Utain Boonorana, M.D., FRCP (UB)	Neromarketing Page
Arthit Chairoungdua, Ph.D. (AC)	Dept of Physiology, Faculty of Science, Mahidol University, Mahidol University
Tepmanas Bupha-Intr, D.V.M., Ph.D. (TB)	Dept of Physiology, Faculty of Science, Mahidol University, Mahidol University
Ratchakrit Srikuea, Ph.D. (RS)	Dept of Physiology, Faculty of Science, Mahidol University, Mahidol University
Nittaya Boonmuen, Ph.D. (NB)	Dept of Physiology, Faculty of Science, Mahidol University, Mahidol University
Suwimol Tangtrongsup, Ph.D. (ST)	Dept of Physiology, Faculty of Science, Mahidol University, Mahidol University
Chonlawan Saengjaroentham (CS)	Dept of Physiology, Faculty of Science, Mahidol University, Mahidol University
Ratchaneevan Aeimlapa, Ph.D. (RA)	Dept of Physiology, Faculty of Science, Mahidol University, Mahidol University
Tai Chaiamarit, Ph.D. (TC)	Dept of Physiology, Faculty of Science, Mahidol University, Mahidol University
Benjamin Ongnok, Ph.D. (BO)	Dept of Physiology, Faculty of Science, Mahidol University, Mahidol University
Kanit Bhukhai, Ph.D. (KB)	Dept of Physiology, Faculty of Science, Mahidol University, Mahidol University

SCPS 361: Physiology of Aging (2/2024)2(2-0-4)

Academic Year 2024

Department of Physiology, Faculty of Science, Mahidol University

Course Coordinator: Kanit Bhukhai, Ph.D.

Date	Time	Subject	Lecturer
7 Jan 25	9.30-10.00	Course orientation (KB)	CS
	10.00-12.00	Aging and the Brain	
	14.00-16.00	Hallmarks of Aging and Longevity	TC
9 Jan 25	13.00-15.00	Aging and Sarcopenia	RS
21 Jan 25	9.00-12.00	The Aging Heart	BO
23 Jan 25	13.00-15.00	Special lecture I: Neuromarketing	UB
4 Feb 25	9.00-11.00	Gastrointestinal Physiology and Aging	ST
	11.00-12.00	Stem cell and Aging	
6 Feb 25	14.00-16.00	Aging and Bone Health	RA
18 Feb 25	9.00-11.00	Dietary Supplements for the Elderly	TB
3-7 Mar 25	-	Midterm examination week	-
11 Mar 25	9.00-11.00	The Physiology of Endocrine Systems with Aging	AC
13 Mar 25	13.00-15.00	Caloric Restriction and Longevity	NB
25 Mar 25	9.00-11.00	Special Lecture II: Aging and the Immune System	CL
1 April 25	9.00-11.00	Research and Business Opportunities for Age-Related Problems	KB
8 April 25	9.00-11.00	Special lecture III: Microphysiological Systems for Human Aging Research	PK
22 April 25	13.00-15.00	Pitching Ideas in Aging Innovation	KB/Staff