

**SCBM 304**  
**Biological Science of Aging**

**Semester 2/2018**

**Department of Pathobiology**  
**Faculty of Science**  
**Mahidol University**

# Course Syllabus

(Lecture-Lab-Self study)

## **SCBM 304 Biological Science of Aging**

**2(2-0-4)**

### **Course description**

Biological Science of Aging is senescence aims to highlight the importance of research on aging and give an overview of current knowledge on the biology and genetics of aging, including anti-aging therapies, models and theories of aging. The most ambitious, even if distant, goal of gerontological research is to make aging optional, to develop a cure for aging, and the social implications of a radical increase in human lifespan due to scientific breakthroughs are also discussed.

**Prerequisite:** SCID 102 Cell and Molecular Biology

**Type of Course:** Required Course

**Session:** 2<sup>nd</sup> Semester, 3<sup>rd</sup> year student

**Course** class size: None

### **Course objectives**

By the end of this course the students are able to understand the basic concepts to theory of Aging and aging process in each major system including common diseases associated aging and therapeutic procedure for aging prevention including nutrition, homeopathy and alternative medicine

## Course Outline

Date	Time	Topic		Room	Instructor
Wed 16 Jan	9.00-12.00	Introduction, theory of aging (Biology and genetic of aging)	L1	K136	WP
Thu 17 Jan	9.00-12.00	Aging of nervous system	L2	K136	PD
Fri 18 Jan	9.00-12.00	Aging of Musculoskeletal system and rehabilitation	L3	K136	SV
Wed 23 Jan	9.00-12.00	Aging of circulatory system	L4	K136	TB
Thu 24 Jan	9.00-12.00	Aging of skin system	L5	K122	SN
<b>Wed 30 Jan</b>	<b>9.00-12.00</b>	<b>Midterm Examination (L1-L5)</b>			
Thu 31 Jan	9.00-12.00	Diet nutrition for aging and the future and Caloric restriction	L8	K136	WJ
Fri 1 Feb	9.00-12.00	Immune system and aging	L7	K136	WP
Wed 6 Feb	9.00-12.00	Aging of endocrine	L6	K136	NK
Thu 7 Feb	9.00-12.00	Homeopathy and alternative medicine, Longevity, health and functioning	L9	K136	AS
Fri 8 Feb	9.00-12.00	Stem cell therapy and aging	L10	K136	PC
<b>Wed 13 Feb</b>	<b>9.00-12.00</b>	<b>Final Examination (L6-L10)</b>			
			30 hr		

## Teaching Method

Lectures in class 30 hours

## Teaching Media

1. Class handouts, Powerpoint presentation
2. Textbooks

## Measurement and Evaluation of Students Achievement

1. Participation 20%
2. Written Examination 80%
3. Student Examination Grade = A, B+, B, C+, C, D+, D, F

## **References**

1. Nicolas Peter and Hornsby. Handbook of the Biology of Aging. 8<sup>th</sup> ed. Academic Press, 2015.
2. Goldsmith LA, Katz SI, Gilchrest BA, Paller AS, Leffell DJ, Wolff K. Fitzpatrick's Dermatology in General Medicine, vol.1. 8<sup>th</sup> ed. McGraw Hill, 2012.

## **Instructors**

1. AS = Ariya Sarikaphuti, Pharm, Ph.D
2. NK = Niwat Kangwanrangsang, Ph.D
3. PC = Pornthip Chaichompoo, Ph.D
4. PD = Associate Professor Permphan Dharmasaroja, M.D., Ph.D
5. SN = Somphong Narkpinit, M.D.
6. SV = Sivaporn Vongpipatana, M.D.
7. TB = Associate Professor Tepmanas Bupha-intr, M.D.
8. WP = Witchuda Payuhakrit, Ph.D
9. WJ = Associate Professor Wannee Jiraungkoorskul, Ph.D

## **Course Coordinator:**

Somphong Narkpinit, M.D.

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## **Requesting an appeal:**

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2. Niwat Kangwanrangsang, Ph.D (Program Director)

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