

Course Syllabus

Physiology for Medical Sciences-III (SCBM-263)

Credit Hour: 3 (3-0-6)

Academic Year: 2024
February – May 2025

**SCBM 263: Physiology for Medical Sciences-III
Academic Year 2024/2**

Course Title Physiology for Medical Sciences-3

Course Code SCBM-263

Course Credit 3 (3-0-6)

Prerequisite None

Course Description

This course describes how organ systems in the bodywork. Emphasis is on understanding the basic mechanisms underlying the functions of the urinary, digestive, endocrine, and reproductive systems. Examples of how these systems coordinately work together towards homeostasis of the internal environment and in response to disturbances from the external environment are discussed.

Course Objectives

After completing this course, students should be able to:

1. Explain functional principles, regulation, co-ordination, and factors influencing the gastrointestinal system
2. Explain functional principles, regulation, co-ordination, and factors influencing the renal system
3. Explain functional principles, regulation, co-ordination, and factors influencing the endocrine system
4. Explain functional principles, regulation, co-ordination, and factors influencing the reproductive system
5. State the significance of physiology in the diagnosis of diseases and treatment of patients

Course Overview:

Physiology for Medical Sciences-III is organized for undergraduate students in programs related to medical science or biological science. The course provides the fundamental concepts and principles of gastrointestinal, urinary, endocrine, and reproductive systems in the aspects of functional principles, system regulation, coordination, and controls. Response to environmental changes and some clinical examples will be introduced to encourage the critical understanding of conceptual information. Active participation will be emphasized in the class for formative evaluation.

Course Organization:**1. Lectures**

There are total of 45 hr lectures to cover the concepts of the two systems.

2. Group Discussion Sessions

There are four group discussion sessions (3-hr for each session). The sessions involve examination and discussion questions related to the lectures. Individual discussions leading to the answer with the best explanation are the main focus.

Teaching Media:

1. PowerPoint presentation
2. Text-books

Student Assessment:**1. Examinations:**

Examinations will be conducted 3 times at the end of the gastrointestinal, urinary, and reproductive systems, respectively. The exam questions are multiple choices with 4 choices and/or the short essay exam.

Exam I: Gastrointestinal system

Exam II: Urinary system

Exam III: Endocrine, and reproductive systems

SUM 65% of Total

2. Discussion & Performance for Activities

The 35% the total weight of score has been set for discussion performance and post-discussion examination.

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

Recommended Textbooks:

1. Koeppen B.M. and Stanton B.A. (2008) *Berne & Levy Physiology*, 6th ed, MOSBY Elsevier, Philadelphia, PA, USA.
2. Boron W.F. and Boulpaep E.L. (2005) *Medical Physiology: A cellular and Molecular Approach*, Updated Edition, Elsevier Saunders, Philadelphia, PA, USA.

Course Management: Online and Onsite

Course Coordinator:

Asst. Prof. Nittaya Boonmuen, Ph.D. Room: B-518
 Tel: 0-2201-5513 E-mail: nittaya.bom@mahidol.ac.th

Lecturers:**Dept. of Physiology, Faculty of Science:**

	<u>Room</u>	<u>Phone No.</u>
Prof. Dr.Narattaphol Charoenphandhu, M.D.	-	0-2201-5610
Asst. Prof. Dr.Kanit Bhukhai	Pr405	0-2201-5614
Assoc. Prof. Dr.Sunhapas Soodvilai	Pr416	0-2201-5617
Dr.Suwimol Tangtrongsup	B520	0-2201-5514
Assoc. Prof. Dr. Arthit Chairoungdua	Pr414	0-2201-5619
Asst. Prof. Dr.Nittaya Boonmuen	B518	0-2201-5513

Physiology for Medical Sciences 3 (SCBM 263)
3 credits (3-0-6)
Academic Year 2024 Semester 2

Day	Date	Time	Topics	h	Lecturers
1	Tue, Feb 4	08.30–09.00	Course orientation	0.5	Nittaya
		09.00–12.00	Overview GI	3	Narattaphol
2	Tue, Feb 11	09.00–12.00	Gastrointestinal lecture 1	3	Narattaphol
3	Tue, Feb 18	09.00–12.00	Gastrointestinal lecture 2-3	3	Narattaphol
4	Tue, Feb 25	09.00–12.00	Conference 1: Gastrointestinal	3	Ratchaneevan Benjamin
	March 3-7	09.00–11.00	EXAM I: Gastrointestinal	2	SIM Staff
5	Tue, March 11	09.00–12.00	Renal lecture 1	3	Kanit
6	Thu, March 13	09.00–12.00	Renal lecture 2	3	Kanit
7	Tue, March 18	09.00–12.00	Renal lecture 3	3	Sunhapas
8	Thu, March 20	09.00–12.00	Conference 2: Renal	3	Kanit + TA
9	Tue, March 25	09.00–12.00	Review Renal	3	Kanit
	Thu, March 27	09.00–12.00	EXAM II: Renal	3	Nittaya + TA
10	Tue, April 1	09.00–12.00	Endocrine lecture 1	3	Suwimol
11	Thu, April 3	09.00–12.00	Endocrine lecture 2	3	Arthit
12	Tue, April 8	09.00–12.00	Conference 3: Endocrine	3	Arthit
13	Thu, April 10	09.00–12.00	Reproductive lecture	3	Nittaya
	Tue, April 15		Songkran Day (Public holiday)		
14	Tue, April 22	09.00–12.00	Conference 4: Body response to hemorrhage	3	Nittaya Suwimol
13	Thu, April 24	09.00–10.00	Review Endocrine 1	1	Suwimol
		10.00–11.00	Review Endocrine 2	1	Arthit
		11.00–12.00	Review Reproductive	1	Nittaya
14	April 28 – May 9	09.00–12.00	Exam III: Endocrine-Reproductive	3	SIM Staff
Total hour				45 hrs.	