



Course Syllabus
ICBI 310 – Mammalian Physiology 4 (3-2-7)
ICBI 311 – Human Physiology 4 (3-2-7)
Trimester II, 2022-2023

Course lecturer and lab instructor:

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Office hours

Off-campus, please email

Lab instructor and course coordinator

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Pre-requisites:

As ICBI 310 Mammalian Physiology	ICBI 215 General Biochemistry
As ICBI 311 Human Physiology	ICBI 215 General Biochemistry

Course description:

Function and control mechanisms of nervous, muscular, circulatory, respiratory, excretory, digestive, endocrine and reproductive systems; their interrelationships in homeostasis; demonstration and practical exercise included.

Course learning objectives (CLOs):

By the end of the course, a successful student will be able to demonstrate the ability to:

- CLO1 – Possess knowledge in physiology by understanding the principles underlying the how body work.
(Program Learning Outcome (PLO) 1.1)
- CLO2 – Apply knowledge in physiology in various scenario (PLO 1.2)
- CLO3 – Draw meaningful conclusions based on the scientific data/materials available (quantitative and qualitative) (PLO 2.2)
- CLO4 – Demonstrate proficiency in written communication of physiology (PLO 3.2)

Lectures:

Tuesday, 13-16:00, Room TBA

Laboratories:

Thursday, 13:00-15:00, Room TBA

Laboratories and requirement:

All students are expected to **complete MU Lab Pass** and **supply their own lab gown and safety goggle**. Students are expected to uphold lab safety and code of conduct when in laboratory classes. Lab safety is **expected**, and will be taken seriously to prevent any potential laboratory accident.

Texts:

- Fox, SI. Human physiology. 15th Edition. New York: McGraw Hill; 2018.
- Martin, TR. Laboratory Manual for Human Anatomy & Physiology. 4th Edition. USA: McGraw Hill, 2018.
- Carroll RG. Problem-base physiology. Philadelphia, PA, USA: Sauders Elsevier, 2010.
- Laboratory manuals
- Lecture hand-outs
- Online resource: McGraw-Hill CONNECT
- Research publications and case studies

Evaluation/Assessment:

Performance criteria	Assessment of CLOs	Weight distribution
Mid-term assessment I	CLO1, 2, 3	25
Mid-term assessment II	CLO1, 2, 3	25

Final assessment	CLO1, 2, 3	25
Study Q and Assignment	CLO1, 2, 3	5
Lab reports	CLO2, 3, 4	20

Assignment submission and course communication:

Submission of assignments Jan. either be via email to your instructor, in hard copy, or via learning management system. Course communication will be through three channels:

- 1) University email <your.name@student.mahidol.ac.th (.edu)>
- 2) Learning management system – MUIC E-Learning
- 3) McGraw Hill CONNECT

Student course evaluation:

In course evaluation and improvement, students will be asked to provide feedbacks at mid- and post-course. For mid-course evaluation, Start-Stop-Continue technique will be employed. For post-course evaluation, assessment will be conducted through MUIC Sky System. In addition, one-minute paper, which aims to ask the students to reflect on their learning gap will be employed.

Academic misconduct:

Academic dishonesty is prohibited, and is taken very seriously. It includes cheating, fabrication, falsification, and plagiarism. Students should be aware of the rules, policies and disciplinary procedures for academic dishonesty stated in the Mahidol University International College Student Handbook 2022-2023. Students who committed a severe breach of the university rules and regulations Jan. be dismissed from MUIC.

Classroom, Building, and Examination Policies and Code of Student Conduct:

Students are expected to be aware of the classroom and building policies with regard to proper attire while at MUIC. Examination policies follow that stated in the Mahidol University International College Student Handbook 2022-2023. Student attire and code of student conduct are expected to promote and preserve the educational environment on campus.

Grading Scheme and Academic Standing:

Grade	Achievement	Final score (% range)	GPA
A	Excellent	>85	4.0
B+	Very good	84.99 - 80	3.5
B	Good	79.99 - 70	3.0
C+	Fairly good	69.99 - 65	2.5
C	Fair	64.99 - 60	2.0
D+	Poor	59.99 - 55	1.5
D	Very poor	54.99 - 50	1.0
F	Fail	<50	0.0

*Other letter grades, without credit points, are assigned as follows: I – Incomplete (awaiting evaluation); T – Transfer of credit; X – No report from the instructor; P – In progress (the study is incomplete); S – Satisfactory; U – Unsatisfactory; AU – Audit (study which leads to no credit); W – Withdrawal

**Assignment of other letter grades will follow the policies and rules set forth in Mahidol University International College Student Handbook 2022-2023.

Course outline & schedule:

Wk	Date	Time	Topic	Interactive lecture (hr)	Lab/Activities (hr)	Remark
1	Tuesday, 10 Jan. 2023	13-16:00	Introduction to physiology and homeostasis	3 (by ST)		
	Thursday, 12 Jan. 2023	14-16:00	Introduction to PBL in physiology		2 (by TC)	PBL
2	Tuesday, 17 Jan. 2023	13-16:00	Nervous system functions	3 (by ST)		
	Thursday, 19 Jan. 2023	14-16:00	Blood cells, diffusion, osmosis, and tonicity		2 (by TC)	Proper lab attire, 1506
3	Tuesday, 24 Jan. 2023	13-16:00	Sensory physiology	3 (by ST)		
	Thursday, 26 Jan. 2023	14-16:00	Sensory function: Cutaneous senses, vision, hearing		2 (by TC)	1506
4	Tuesday, 31 Jan. 2023	13-16:00	Mechanisms of muscle contraction and neural control	3 (by ST)		
	Thursday, 2 Feb. 2023	14-16:00	Reflex and nerve conduction study		2 (by TC)	1506
5	Tuesday, 7 Feb. 2023	13-16:00	Endocrine system	3 (by ST)		
	Thursday, 9 Feb. 2023	14-16:00	Formative assessment: Mid-term assessment I		2 (by TC)	TBA for room
6	Tuesday, 14 Feb. 2023	13-16:00	Heart and circulation	3 (by ST)		
	Thursday, 16 Feb. 2023	14-16:00	ECG, blood pressure regulation		2* (by ST)	At MUSI
7	Tuesday, 21 Feb. 2023	13-16:00	Blood flow and blood pressure regulation	3 (by ST)		
	Thursday, 23 Feb. 2023	14-16:00	Problem-based learning in physiology (heart and blood)		2 (by ST)	TBA for room
8	Tuesday, 28 Feb. 2023	13-16:00	Respiratory system	3 (by ST)		
	Thursday, 2 Mar. 2023	14-16:00	Respiratory functions		2* (by ST)	At MUSI
9	Tuesday, 7 Mar. 2023	13-16:00	Physiology of the kidneys	3 (by ST)		
	Thursday, 9 Mar. 2023	14-16:00	Formative assessment: Mid-term assessment II		2 (by TC)	TBA for room
10	Tuesday, 14 Mar. 2023	13-16:00	Digestive system	3 (by ST)		
	Thursday, 16 Mar. 2023	14-16:00	Problem-based learning in physiology (digestive functions)		2 (by TC)	
11	Tuesday, 21 Mar. 2023	13-16:00	Reproductive system	3 (by ST)		
	Thursday, 23 Mar. 2023	14-16:00	Urine analysis and urine test		2 (by TC)	Proper lab attire, 1506
12	Tuesday, 28 Mar. 2023	13-16:00	Regulation of metabolism	3 (by ST)		
	Thursday, 30 Mar. 2023	14-16:00	Exercise physiology		2 (by TC)	TBC for field trip
			Summative assessment: Final assessment			Cumulative content
Total				36	24	

*TBC – to be confirmed; **Field trip – TBC