Course Syllabus

SIPS 528

Academic Year 2025

Department of Physiology

Faculty of Medicine Siriraj Hospital, Mahidol University

Course ID and name:	SIPS 528: Research Rotation in Medical Physiology
Course coordinator:	Assoc. Prof. Narawut Pakaprot, MD, PhD
Instructors:	Assoc. Prof. Narawut Pakaprot, MD, PhD
	Assoc. Prof. Wattana Watanapa, MD, PhD
	Assoc. Prof. Chailerd Pichitpornchai, MD, PhD
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	Assoc. Prof. Sorachai Srisuma, MD, PhD
	Assoc. Prof. Panapat Uawithya, MD, PhD
	Assoc. Prof. Reawika Chaikomin, MD, PhD
	Assoc. Prof. Chantacha Sitticharoon, MD, PhD
	Assist. Prof. Sompol Tapechum, MD, PhD
	Assist. Prof. Yodying Dangprapai, MD, PhD
	Dr. Leucha Boontaveekul, MD
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	Dr. Thaksaon Kittipassorn, MD, PhD
	Dr. Patamat Nitiwaranggoon, MD, PhD
	Dr. Thanus Teeratitayang-gool, MD
	Dr. Kanat Chanthongdee, MD PhD

Credits:	1 (0-2-1) (lecture – laboratory – self-study)
Curriculum:	Masters of Science Program in Medical Physiology
Course type:	☐ Core ☑ Required ☐ Electives
Semester offering:	01/2025
Prerequisite:	None
Date of Latest Revision:	30/07/2025

Course Description:

Scope and conceptualization of research in medical physiology; safety in research practice

Course-level Learning Outcomes (CLOs)

Upon completion of this course, students are able to:

1. Discuss the data from research articles that apply the physiological techniques of interest (ELO1,2)
2. Explain the concepts of physiological techniques of interest in the physiology department (ELO3,4)

Constructive Alignment of CLOs and Program's ELOs

CLOs	ELO1	ELO2	ELO3	ELO4
1. Discuss the data from research articles that apply the physiological techniques of interest	P	R	P	R
2. Explain the concepts of physiological techniques of interest in the physiology department	P	R	P	R

Remarks: Show the level of the course management with the symbols I, R, P, and M.

Program's Expected Learning Outcomes

1. Demonstrate the current medical physiological knowledge for common clinical application.
2. Evaluate the scientific research and major research developments.
3. Perform medical physiology research with a technique in an ethical way to test an idea or hypothesis in an area of interest.
4. Communicate knowledge and ideas of medical physiological research clearly to peers and the scientific community at national level.

Course Schedule and teaching/assessment plan

No.	Topic	Hours			CLOs	Teaching & learning strategy	Assessment (in-class)	Lecturers
		Lecture	Laboratory	Self-Study				
1	Presentation of experiments done by physiology faculties 1	1	-	2	1	Discussion (asynchronous clip lecture)	Q&A	Faculty
2	Presentation of experiments done by physiology faculties 2	1	-	2	1	Discussion (asynchronous clip lecture)	Q&A	Faculty
3	Presentation of experiments done by physiology faculties 3	1	-	2	1	Discussion (asynchronous clip lecture)	Q&A	Faculty
4	Laboratory safety techniques	-	-	2	2	MU labpass training (Asynchronous)	Quiz	MU labpass
5	Practicing research techniques 1	-	3	1.5	2	Practice (onsite lab)	Observation of behaviors	Faculty
6	Practicing research techniques 2	-	3	1.5	2	Practice (onsite lab)	Observation of behaviors	Faculty
7	Practicing research techniques 3	-	3	1.5	2	Practice (onsite lab)	Observation of behaviors	Faculty

8	Practicing research techniques 4	-	3	1.5	2	Practice (onsite lab)	Observation of behaviors	Faculty
9	Practicing research techniques 5	-	3	1.5	2	Practice (onsite lab)	Observation of behaviors	Faculty
10	Practicing research techniques 6	-	3	1.5	2	Practice (onsite lab)	Observation of behaviors	Faculty
11	Practicing research techniques 7	-	3	1.5	2	Practice (onsite lab)	Observation of behaviors	Faculty
12	Practicing research techniques 8	-	3	1.5	2	Practice (onsite lab)	Observation of behaviors	Faculty
13	Presentation about what students have learned	2	-	4	2	Presentation (live lecture)	Q&A	Faculty
14	Conclusion remarks	1	-	2	1,2	Discussion (live lecture)	Q&A	Faculty
Total hours of the study		**6**	**24**	**24**				

Course Assignments

Read the assigned articles

Present what the students have learned such as concepts of learned techniques (1 time)

Assessment Criteria

- Submit MU LabPass Certificate (must have)
- Attend the assigned activities not less than 80%
  Grading Criteria
- Assess the presentation with rubric score assessment (20%)
- Assess the discussion about the appraisal of scientific articles of interest, and research activities in the laboratory with rubric score assessment (80%)

Appeal Procedure