

Course Syllabus
SIPS 532
Academic Year 2026
Department of Physiology
Faculty of Medicine Siriraj Hospital, Mahidol University

Course ID and name:	SIPS 532 MEDICAL ENDOCRINE AND REPRODUCTIVE PHYSIOLOGY
Course coordinator:	Assoc. Prof. Suwattanee Kooptiwut, M.D., Ph.D.
Instructors:	Assoc. Prof. Suwattanee Kooptiwut, M.D., Ph.D. Assoc. Prof. Chantacha Sitticharoon, M.D., Ph.D.
Credits:	1 (1-0-2) (lecture – laboratory – self-study)
Curriculum:	Masters of Science Program in Medical Physiology
Course type:	☐ Core ☒ Required ☐ Electives
Semester offering:	01/2026
Prerequisite:	None
Date of Latest Revision:	...04../...08../2026

Course Description:

Hypothalamic hormones, pituitary hormones, pineal hormones, growth hormones and prolactin, thyroid hormones, adrenal hormones, pancreatic hormones, adipokines, hormonal control of calcium metabolism; sex hormones, sex differentiation; female reproduction, menstrual cycle, menopause; male reproduction

Course-level Learning Outcomes (CLOs)

Upon completion of this course, students are able to:

1. Explain the mechanisms of normal function and control in the endocrine system of the human body.
2. Explain the mechanisms of normal function and control in the reproductive systems of the human body.
3. Describe how the body changes and what disorders or diseases might arise if the cells or organs in the endocrine system fail to function properly.
4. Describe how the body changes and what disorders or diseases might arise if the cells or organs in the reproductive system fail to function properly.

Constructive Alignment of CLOs and Program's ELOs

CLOs	ELO1	ELO2	ELO3	ELO4
1. Explain the mechanisms of normal function and control in the endocrine system of the human body.	R			
2. Explain the mechanisms of normal function and control in the reproductive systems of the human body.	R			
3. Describe how the body changes and what disorders or diseases might arise if the cells or organs in the endocrine system fail to function properly.	R			
4. Describe how the body changes and what disorders or diseases might arise if the cells or organs in the reproductive system fail to function properly.	R		P	

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	Date - Time
		Lecture	Laboratory	Self Study					
1	Introduction	0.5	-	1	1,3	Online Synchronous lecture	Q&A	Dr. Suwattanee	Monday, September 28, 2026 6:00 – 6:30pm
2	Hypothalamic and pineal hormones	1	-	2	1,3	Online Synchronous lecture	Q&A	Dr. Chantacha	Monday, September 28, 2026 6:30 – 7:30pm
3	Growth hormones, growth factors and prolactin	1	-	2	1,3	Online Synchronous lecture	Q&A	Dr. Chantacha	Tuesday, September 29, 2026 6:00 – 7:00pm
4	ACTH and glucocorticoids	1	-	2	1,3	Online Synchronous lecture	Q&A	Dr. Suwattanee	Thursday, October 1, 2026 6:00 – 7:00pm
5	Mineralocorticoids and adrenal medulla	1	-	2	1,3	Online Synchronous lecture	Q&A	Dr. Suwattanee	Friday, October 2, 2026 6:00 – 7:00pm
6	TSH and thyroid hormones	1	-	2	1,3	Online Synchronous lecture	Q&A	Dr. Suwattanee	Tuesday, October 6, 2026 6:00 – 7:00pm
7	Pancreatic hormones	1	-	2	1,3	Online Synchronous lecture	Q&A	Dr. Suwattanee	Thursday, October 8, 2026 6:00 – 7:00pm
8	Hormonal control of calcium metabolism	1		2	1,3	Online Synchronous lecture	Q&A	Dr. Suwattanee	Friday, October 9, 2026 6:00 – 7:00pm
9	Endocrine cases	2	-	4	1,3	Online Synchronous lecture	Rubric (Discussion)/ Assignment	Dr. Suwattanee Dr. Chantacha	Saturday, October 10, 2026 10:00am – 12:00pm
10	Sex differentiation and hypothalamo-pituitary-gonadal axis	1	-	2	2,4	Online Synchronous lecture	Q&A	Dr. Suwattanee	Wednesday, October 14, 2026 6:00 – 7:00pm

11	Male reproduction	1	-	2	2,4	Online Synchronous lecture	Q&A	Dr. Chantacha	Thursday, October 15, 2026 6:00 – 7:00pm
12	Female reproduction	2	-	4	2,4	Online Synchronous lecture	Q&A	Dr. Chantacha	Friday, October 16, 2026 6:00 – 8:00pm
13	Gonadotropins and sex hormones	-	2	1	2,4	Onsite lecture	Assignment Discussion	Dr. Suwattanee Dr. Chantacha	Saturday, October 17, 2026 9:00 – 11:00am
14	Reproductive cases	1	-	2	2,4	Onsite lecture	Rubric (Discussion)/ Assignment	Dr. Suwattanee Dr. Chantacha	Saturday, October 17, 2026 11:00am – 12:00pm
15	Q &A					Online Synchronous lecture		Dr. Suwattanee Dr. Chantacha	Wednesday, October 21, 2026 6:00 – 7:00pm
16	Exam				1.2.3.4	Onsite Exam			Saturday, October 24, 2026 1:00 – 3:45pm
17	Reflection and Feedback							Dr. Suwattanee	Wednesday, November 18, 2026 5:00 – 5:30pm
Total hours of the study		14.5	2	30					

Course Assignments

- Reading materials
- Homework to understanding in clinical apply
- Short reflection after each class

Assessment Criteria

- One open-book, essay-type examinations (internet prohibited) [70%]
- Two Assignment and seminar discussion [20%]
- participation [10%]

Appeal Procedure

- Any request about the course teaching and learning activities should be directed to the course coordinator.
- Otherwise, please follow the university rules and regulation

Rubric for performance in discussion classes

Assessment Criteria	2 Excellent	1.5 Good	1 Satisfactory	0.5 Needs Improvement
1. Pre-Class Assignment: Preparation and Understanding	Completes the assignment thoroughly and demonstrates comprehensive understanding of the relevant physiological concepts, mechanisms, and evidence.	Completes the assignment and demonstrates good understanding with minor gaps.	Completes the assignment partially or demonstrates basic understanding with some important gaps.	Assignment is incomplete, poorly prepared, or demonstrates limited understanding.
2. Participation and Engagement in Discussion	Consistently contributes relevant, thoughtful, and insightful comments; actively listens and constructively responds to peers.	Participates regularly and makes relevant contributions.	Participates occasionally or requires prompting; contributions may be limited.	Rarely participates or is disengaged from the discussion.
3. Critical Thinking and Application of Physiology	Critically analyzes information, integrates physiological mechanisms, evaluates evidence, and applies concepts to clinical or experimental situations.	Demonstrates good analysis and appropriate application of physiological concepts.	Demonstrates basic analysis but limited integration or application.	Demonstrates little critical thinking or provides inaccurate or unsupported interpretations.
4. Communication and Professionalism	Communicates clearly, logically, and respectfully; uses appropriate scientific terminology and demonstrates excellent professional behavior.	Communicates clearly and respectfully with minor limitations.	Communication is generally understandable but may lack clarity or organization.	Communication is unclear, inappropriate, or demonstrates poor professionalism.
5. Assignment Completion and Quality	Assignment is complete, accurate, well organized, submitted on time, and demonstrates critical thinking and advanced understanding.	Assignment is complete and generally accurate with minor weaknesses.	Assignment demonstrates basic understanding but has limitations in completeness, accuracy, or analysis.	Assignment is incomplete, late, inaccurate, or demonstrates insufficient understanding.

Class Participation and Discussion Rubric (Revised 2026)

Scoring Scale: 5 = Excellent | 4 = Good | 3 = Satisfactory | 2 = Developing | 1 = Unacceptable

	5	4	3	2	1
1. Ideation & Engagement <i>Measurable Action:</i> Volunteering & initiating	Initiates scientific ideas or perspectives voluntarily and frequently.	Offers relevant ideas or insights voluntarily when prompted.	Contributes answers or ideas only when directly called upon.	Rarely contributes; remains passive during group work.	Fails to contribute any ideas or refuses to answer.
2. Scientific Quality <i>Measurable Action:</i> Analyzing & backing with data	Analyzes cases deeply and justifies views with empirical data.	Explains relevant mechanisms accurately and correctly.	States basic facts from memory without mechanical depth.	Provides irrelevant info that deviates from the clinical topic.	Shows no scientific substance or pre-class preparation.
3. Professionalism & Collaborative spirit <i>Measurable Action:</i> Responding & building on ideas	Actively and respectfully pays attention and builds on peers/instructor's ideas to move discussion forward.	Pays attention and responds to peers/instructor appropriately and politely.	Listens but occasionally loses focus or interrupts others.	Disengages from the group (e.g., uses mobile devices).	Fails to pay attention; disrupts the class or displays disrespectful behavior.

GRADING CRITERIA

A	80%	to	100%, with all CLOs passed (minimum 50% each)
B+	65%	to	<80%, with all CLOs passed (minimum 50% each)
B	50	to	<65%, with all CLOs passed (minimum 50% each)
F	<50%		

Actions Based on CLO Status:

I-1	Retake the exam and/or complete the assigned work within one month after the exam result is announced, if at least one CLO (CLO1-3) is failed
I-2	Complete the assigned work and undergo a new evaluation within the next semester if all CLOs all failed.
I-3	Repeat the course when it is next offered, if all CLOs are failed.