Course Syllabus

SIPS 539

Academic Year 2025

Department of Physiology

Faculty of Medicine Siriraj Hospital, Mahidol University

Course ID and name:	SIPS 539 ADVANCED 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. Instructor Patamat Patanapirulhakit, 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:	02/2025
Prerequisite:	None
Date of Latest Revision:	January 7, 2026

Course Description:

Endocrine hypertension, geriatric endocrinology, obesity, disorders of lipoprotein metabolism; endocrine system functions with other body systems; current research in endocrine and reproductive physiology

Course-level Learning Outcomes (CLOs)

Upon completion of this course, students are able to:

1. **Explain the physiological mechanisms underlying endocrine hypertension, aging-related endocrine changes, obesity, and disorders of lipoprotein metabolism.**
2. **Evaluate the integrative roles of the endocrine and reproductive system in coordinating functions across multiple organ systems.**
3. **Critically interpret current research in endocrine and reproductive physiology and identify its clinical and translational relevance.**

Constructive Alignment of CLOs and Program's ELOs

CLOs	ELO1	ELO2	ELO3	ELO4
1. Explain the physiological mechanisms underlying endocrine hypertension, aging-related endocrine changes, obesity, and disorders of lipoprotein metabolism.	R			

2. Evaluate the integrative roles of the endocrine and reproductive system in coordinating functions across multiple organ systems.	P	P		
3. Critically interpret current research in endocrine and reproductive physiology and identify its clinical and translational relevance..	P	P	P	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	Date/time	Teaching & learning strategy	Assessment (in-class)	Lecturers
		Lecture	Laboratory	Self Study					
1	Endocrine hypertension	1	-	2	1	12 Jan 2026 11.00-12.00	Lecture / Asynchronous	Reflection	Dr.Suwattanee
2	Obesity	1	-	2	1	12 Jan 2026 13.00-14.00	Lecture / Asynchronous	Reflection	Dr.Chantacha
3	Disorder of lipoprotein metabolism	1	-	2	1	13 Jan 2026 9.00-10.00	Lecture / Asynchronous	Reflection	Dr.Suwattanee
4	Geriatric endocrinology	1	-	2	1	13 Jan 2026 10.00-11.00	Lecture / Asynchronous	Reflection	Dr.Patamat
5	Advances in endocrine physiology	3	-	6	1,2,3	26 Jan 2026 9.00-12.00	Presentation, Report	Reflection / Discussion	Dr.Suwattanee
6	Advances in reproductive physiology	3	-	6	1,2,3	3 Feb 2026 13.00-16.00	Presentation, Report	Reflection / Discussion	Dr. Chantacha
7	Current topics in endocrinology	3	-	6	1,2,3	16 Feb 2026 9.00-12.00	Presentation	Reflection / Discussion	Dr.Suwattanee
8	Current topics in reproduction	3	-	6	1,2,3	23 Feb 2026 9.00-12.00	Presentation	Reflection / Discussion	Dr.Chantacha
9	Q/A					26 Feb 2026 13.00-14.00			
10	Exam					27 Feb 2026 9.00-12.00			
Total hours of the study		16		32					

Course Assignments

- Reading materials
- Writing a report
- Presentation of advanced and current research
- Short reflection after each class

Assessment Criteria

- Two open-book, essay-type examinations (internet prohibited) [40%]
- Presentation / Report [40%]
- Attendance / participation [20%]

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 regulations.

SIPS 539 ADVANCED ENDOCRINE AND REPRODUCTIVE PHYSIOLOGY

Guideline for Writing a Report

- Before starting, please thoroughly and critically read the provided article. Then write a
- report by briefly summarizing the key concepts with some relevant explanations, in approximately 2
- to 4 full pages of A4 papers (Times New Roman 12, single spaced). DO NOT COPY & PASTE from the
- original content or other sources (plagiarism). The report should be composed of the below sections.
- However, please always consult your topic advisor for the exact expectations.

*** Submit the report through Turnitin NO LATER THAN 3 WEEKS after the class ***

1. Introduction
   a. What is the article about?
   b. Why is it important to read and understand this article?
2. Summary

In each topic of the article, summarize the main concepts and necessary (relevant) details.

3. Reflection (The following is not an inclusive list. You can choose relevant ones or add other aspects to discuss/reflect.)
   a. What are new ideas or concepts proposed by the article? Discuss.
   b. What are ideas/concepts/understanding new to you that you learned from the article/class experience, in addition to those listed in a? Discuss.
   c. According to the provided contents, what concepts/ideas/mechanisms are not fully understood in the scientific communities?
   d. What experiments should be done in order to elucidate the above uncertain concepts/ideas/mechanisms? Provide the core ideas of the experiments with only key details that are essential to the ideas.
   e. What are your ideas for further research related to the topic of the article? This should be different from those stated in the articles. Provide core ideas and only essential details.
   f. Cross-functional: What are your ideas for further research, related to your own (future) thesis project, drawn from or inspired by the article? Again, provide only core ideas and essential details.

Students are urged to do the cross-functional reflection (f), in addition to at least one or two of a-e. Cross-functional thinking will help expand your thought horizon and correct your mindset and may become one of the most important thought toolkits in your research career.

Evaluation of Student Report

Outcome	Exceeding expectation	Expected performance	Minor shortcomings	Failure to show the expected outcome		Score	Grade
Grading	3	2	1	0	**Weight**	26-30	A
How well does the student state the article's relevance/importance?						22-25	B+
Introduction (Relevance): What is the importance of the article/chapter?	Complete and insightful	Complete and understandable	Not complete, but understandable	Not understandable or not present	x1	18-21	B
	3	2	1	0	**Weight**	14-17	C+
How well does the student capture key concepts and important details in each topic ?						11-14	C
Summary (Recapitulation): A summary of main ideas and important details in each topic	Captures all; insightful	Captures most	Captures some	Fails to capture any	x3	7-10	D+
	3	2	1	0	**Weight**	3-6	D
How well does the student reflect on the article/learning experience?						<3	F
Reflection: Discussion of what has been learned. Student's ideas for further research, drawn from or inspired by the article (different from those stated in the articles; can even be more related to student's own research).	Insightful/innovative /interesting and logical ideas; cross-functional	Innovative or interesting; logical ideas	Commendable attempts, at least logical	Not present, inadequate, illogical	x2.5		

Aspects	Expected performance	Minor shortcomings	Major shortcomings	Failure to show the expected outcome	
	3	2	1	0	**Weight**
Number of pages (single space)	Appropriate	Too many	Too few	Unacceptable	x0.5
	3	2	1	0	**Weight**
Grammar	80-100% correct	60-79% correct	40-59% correct	Less than 40%	x1
	3	2	1	0	**Weight**
Spelling	80-100% correct	60-79% correct	40-59% correct	Less than 40%	x1
	3	2	1	0	**Weight**
% Similarity index	≤30%	31-50%	51-80%	More than 80%	x1

Evaluation of Student Participation & Discussion in Class

Outcome	Exceeding expectation	Expected performance	Minor shortcomings	Major shortcomings	Failure to show the expected outcome	Score	Grading
Grading	4	3	2	1	0		
	How well does the student participate in class by presenting data/asking questions/offering ideas?					11-12	A
Frequency of contributions	Frequently and voluntarily (*Does not prevent others from answering)	Voluntarily	Responses only after being questioned or named	Rarely, reluctantly	Never	9-10	B+
	4	3	2	1	0	7-8	B
	How good is the quality of student's contributions?					5-6	C+
Quality of contributions	Demonstrates comprehensive knowledge and critical thinking skills	Mostly relevant, reflecting understanding of knowledge	Somewhat relevant, reflecting some levels of understanding of knowledge	Not relevant, reflecting insufficient understanding of knowledge	Lacks understanding of knowledge or infrequent contributions	3-4	C
	4	3	2	1	0	1-2	D+
	How well does the student behave during presentation?					0	D
Behavior in class	Actively and respectfully pays attention to peers/instructor; full engagement throughout the class	Pays attention to peers/instructor; engages most of the time in class	Listens to peers/instructor	Sometimes does not listens to peers/instructor; sometimes displays inappropriate behavior	Fails to pay attention; displays inappropriate behavior in class	absent	F

Student Name	How well does the student participate in class by presenting data/asking questions/offering ideas?	How good is the quality of student's contributions?	How well does the student behave during presentation?
	4 3 2 1 0	4 3 2 1 0	4 3 2 1 0
	4 3 2 1 0	4 3 2 1 0	4 3 2 1 0
	4 3 2 1 0	4 3 2 1 0	4 3 2 1 0
	4 3 2 1 0	4 3 2 1 0	4 3 2 1 0

Evaluation of Student Presentation

Outcome	Exceeding expectation	Expected performance	Minor shortcomings	Major shortcomings	Failure to show the expected outcome	Score	Grading
Grading	4	3	2	1	0		
	How is the organization of presentation?					11-12	A
Organization	Very well-organized, logical, interesting, easy to follow	Organized, logical, easy to follow	Somewhat organized, able to follow	Poorly organized, some topical shifts and jumps; hard to follow	Loss of organized sequence, unable to follow	9-10	B+
	4	3	2	1	0	7-8	B
	How well does the student demonstrate knowledge and understanding of the content?					5-6	C+
Able to elaborate	Outstanding, thorough, ability to explain and elaborate	Appropriate, able to elaborate	Some understanding, limited ability to elaborate	Limited knowledge, insufficiently elaborate	Lack of knowledge and unable to elaborate	3-4	C
	4	3	2	1	0	1-2	D+
	How well are the slides (font, readability, interesting to read and follow)? Are the images, diagrams or graphics related to the presentation?					0	D
Use of diagram /graphics	Professional use for reinforcing presentation; easy to read	Use for relating text and presentation	Occasional use for supporting text and presentaiton	Occasional use; too much text to follow	No diagram/graphics; too much text; lack of interest to follow	absent	F

- Based on the assessment criteria mentioned above, numerical scores for each component will be calculated and weighted to determine the **final letter grade**. The conversion follows the criteria below:
    - From 3.51 = A
    - 3.26-3.50 = B+
    - 3.00-3.25 = B
    - 2.75-2.99 = C+
    - 2.50-2.74 = C
    - 2.25-2.49 = D+
    - 2.00-2.24 = D
    - less than 2.00 = F