

Course Syllabus  
SIPS 540  
Academic Year 2023  
Department of Physiology  
Faculty of Medicine Siriraj Hospital, Mahidol University

Course ID and name:	SIPS 540: Advanced Cardiovascular Physiology
Course coordinator:	Assoc. Prof. Panapat Uawithya, M.D., Ph.D.
Instructors:	Assoc. Prof. Panapat Uawithya, M.D., Ph.D. Assoc. Prof. Wattana Watanapa, M.D., Ph.D. Lect. Luecha Boontaveekul, M.D.
Credits:	1 (1-0-2) (lecture – laboratory – self-study)
Curriculum:	Masters of Science Program in Medical Physiology
Course type:	<input type="checkbox"/> Core <input type="checkbox"/> Required <input checked="" type="checkbox"/> Electives
Semester offering:	x/20xx
Prerequisite:	None
Date of Latest Revision:	11 November 2023

**Course Description:**

Advanced cardiovascular mechanisms (cellular and molecular mechanisms, advanced principles), selected analytical framework, circulatory system function with other body systems; current research in cardiovascular physiology

**Course-level Learning Outcomes (CLOs)**

Upon completion of this course, students are able to:

1. Apply advanced medical physiological knowledge to explain the interaction among cardiovascular system's structure, function, and regulation in selected conditions.
2. Critically evaluate current scientific research related to the cardiovascular system, with a focus on developments and their implications for clinical application.
3. Evaluate ethical considerations within research methodologies in cardiovascular physiology related to commonly occurring diseases.
4. Demonstrate communication skills in presenting complex cardiovascular concepts to a scientific audience.

### Constructive Alignment of CLOs and Program's ELOs

CLOs	ELO1	ELO2	ELO3	ELO4
CLO 1	P	P		
CLO 2	P	P		R
CLO 3		P		
CLO 4		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	Teaching & learning strategy	Assessment (in-class)	Lecturers
		Lecture	Laboratory	Self Study				
1	Arrhythmia	3		6	1	Onsite	KSA/Discussion	Dr. Luecha
2	Heart failure	3		6	1	Onsite	KSA/Discussion	Dr. Panapat
3	Current topic presentation	3		6	2, 4	Onsite	Oral presentation	Dr. Panapat
4	Ischemic heart disease	3		6	1	Onsite	Discussion	Dr. Luecha
5	Cardiovascular research laboratories	3		6	3	Onsite	Discussion	Dr. Wattana
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
Total hours of the study		15		30				

### **Course Assignments**

1. A presentation of original research article

### **Assessment Criteria**

1. Rubric assessment for presentations of research articles
2. Rubric assessment for appraisal and inquiries for other research presentations
3. Written examination with letter grade system

### **Appeal Procedure**

1. An appeal can be made by a student to the course coordinator or the graduate program director.