

## SCPM 511: Molecular and Cellular Science in Pharmacology

**Date:** August 15 – September 21, 2018

2 credits (2-0-4)

**Time:** 09:00-12:00 **Mon-Wed-Fri**

**Room:** Pr. 501 / Pr. 507, Department of Pharmacology, Faculty of Science, Mahidol University

**Course coordinator:** Ajarn Pornnipa Korprasertthaworn (porntipa.kor@mahidol.ac.th)

**Course description:** Molecular components of the cell and their interaction within and among cells; effects of biomolecules in response to drugs; energy flow and control; gene expression and regulation in pharmacology; cell response to injury and regulation of immunity in response to drugs; cell growth and death and modification by drugs

	Date	Topics	Instructors
Wed	15 Aug 2018	Orientation (30 min: 9:30-10:00)	PK
		L1: Cell organelles L2: Carbohydrate, lipid and protein	NM
Fri	17 Aug 2018 (10:00-12:00)	L3: Biomolecules as drug target L4: Cell to cell communication	NM
Mon	20 Aug 2018	L5: Energy metabolism L6: Oxidative phosphorylation L7: Metabolic pathway as a drug target	PK
Wed	22 Aug 2018 (10:00-12:00)	L8-9: Receptors and ion channels	DP
Fri	24 Aug 2018	L10-11: Signal transduction and secondary messengers L12: Signaling pathway as a drug target	DP
Mon	27 Aug 2018	<b>Examination I (L 1-9)</b>	
Wed	29 Aug 2018 (10:00-12:00)	L13-14: Neurotransmitters and neuromodulators	PP
Fri	31 Aug 2018	L15: Autacoids I – histamines (antihistamines), serotonin L16: Autacoids II – prostaglandins, leukotrienes L17: Nitric oxide and bradykinin	NS
Mon	3 Sep 2018	L18: Overview of immune system L19: Antigen recognition & body response to invaders	SY
Wed	5 Sep 2018	Self-study	
Fri	7 Sep 2018	<b>Examination II (L 10-19)</b>	
Mon	10 Sep 2018	L20: Cytokines and chemokines <b>Conference 1:</b> Abnormal immune response – drug hypersensitivity and autoimmunity (2 h)	SY
Wed	12 Sep 2018	L21: From DNA to gene expression L22: Gene regulation L23: Gene regulatory pathway as a drug target	PK
Fri	14 Sep 2018 (9:00 – 12:00)	L24-25: Cell cycle and cell death L26: Cell responses to injury	WH
	13:00 – 14:00	L27: Carcinogenesis	PM
Mon	17 Sep 2018	<b>Examination III (L 20-27)</b>	
Fri	21 Sep 2018 (10:00 – 12:00)	<b>Conference 2:</b> Cytotoxic agents (2 h)	PM