

SCPM 511: Molecular and Cellular Science in Pharmacology**Date:** August 14 – September 6, 2019**Time:** 09:00-12:00 **Mon-Wed-Thurs-Fri****Room:** Pr. 501 / Pr. 507, Department of Pharmacology, Faculty of Science, Mahidol University

Date	Topics	Instructors
Wed 14 Aug 2019 (9:30-12:00)	Orientation (30 min: 9:30-10:00)	PK
	L1: Cell organelles L2: Carbohydrate, lipid and protein	NM
Thu 15 Aug 2019 (13:00-15:00)	L3: Biomolecules as drug target L4: Cell to cell communication	NM
Fri 16 Aug 2019 (9:00-12:00)	L5: Energy metabolism L6: Oxidative phosphorylation L7: Metabolic pathway as drug target	PK
Tue 20 Aug 2019 (10:00-12:00)	L8-9: Receptors and ion channels	DP
Tue 20 Aug 2019 (13:00-16:00)	L10-11: Signal transduction and secondary messengers L12: Signaling pathway as drug target	DP
Wed 21 Aug 2019	Self-study	
Thu 22 Aug 2019 (13:00-16:00)	Examination I (L 1-9)	
Fri 23 Aug 2019 (10:00-12:00)	L13-14: Neurotransmitters and neuromodulators	PP
Mon 26 Aug 2019 (9:00-12:00)	L15: Autacoids I – histamines (antihistamines), serotoninins L16: Autacoids II – prostaglandins, leukotrienes L17: Nitric oxide and bradykinin	NS
Mon 26 Aug 2019 (13:00-15:00)	L18: Overview of immune system L19: Antigen recognition & body response to invaders	SY
Wed 28 Aug 2019	Self-study	
Thu 29 Aug 2019 (13:00-16:00)	Examination II (L 10-19)	
Fri 30 Aug 2019 (9:00-12:00)	L20: Cytokines and chemokines Conference 1: Abnormal immune response in drug hypersensitivity and autoimmunity (2 h)	SY
Mon 2 Sep 2019 (9:00-12:00)	L21-22: Cell cycle and cell death L23: Cell responses to injury	RH
Mon 2 Sep 2019 (13:00-16:00)	L24: Carcinogenesis Conference 2: Cytotoxic agents (2 h)	PM
Wed 4 Sep 2019 (9:00-12:00)	L25: From DNA to gene expression L26: Gene regulation L27: Gene regulatory pathway as drug target	PK
Thu 5 Sep 2019	Self-study	
Fri 6 Sep 2019 (9:00-12:00)	Examination III (L 20-27)	

Evaluation methods

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| 1. Written examination: L1-27 | 80% |
| 2. Conference: Con 1-2 (rubric) | 10% |
| 3. Performance and participation in class (rubric) | 10% |