

SCBC612 Functional Genetics and Genomics: the Central Dogma and Beyond

Room: B301

Time: Mon / Wed / Fri 10:00 – 12:00 AM

Course description: Functional Genetics, Model Organisms, Genome Biology, Systems Biology, Comparative Genomics, and Evolutionary Genetics.

For 2017, the course will revolve around key mechanisms in the central dogma and also cover pathways beyond the original concept of the central dogma as well.

Prerequisite: SCID 506 or permission of the course coordinator.

Course material: Handouts from instructors

Further reading: Lewin's GENES XII, 2017, Jones and Bartlett Publishers

Course format: The course will be divided into 5 blocks, each block contains 3 x 2 hrs. The lecture will be given on Monday, followed by paper discussions on Wednesday and Friday. Students will be assigned to present their papers and carry on their discussion.

Evaluation: Paper presentation and discussion 10% per block
Open-book examination/assignment 10% per block

DATES	TITLE	INSTRUCTORS
8 Jan	Course orientation	PW
8, 10, 12 Jan	DNA replication and repair	DP
15, 17, 19 Jan	Transcription and RNA processing	SC
22, 24, 26 Jan	Epigenetics and non-coding RNAs	PW
29, 31 Jan, 2 Feb	Translational control and microRNA	OI
5, 7, 9 Feb	Reverse transcription and RNA replication	SCh
19 Feb	Exam	PW

Instructors:

DP: Danaya Pakotiprapha

SC: Sittinan Chanarat

PW: Patompon Wongtrakoongate (Course coordinator)

Ol: Ornchuma Itsathitphaisarn

SCh: Sarin Chimnarok