

SCBM 301
Tissue Regenerative Medicine

Semester 2/2018

Department of Pathobiology
Faculty of Science
Mahidol University

Course Syllabus

(Lecture-Lab-Self study)

SCBM 301 Tissue Regenerative Medicine

1(1-0-2)

Course description

Introduction to a basic knowledge and up-to-date techniques and application of regenerative medicine which is related replacing, repairing and improvement existing patients' tissue functions or tissue impairment in some systems or organs. The topics are included

1. Current trend of regenerative medicine in business
2. Biologic and molecular basis
3. Cell-ECM interactions in repair and regeneration
4. Pathology of lost or impair tissue in some systems (endocrine system and the gastrointestinal system), organs (heart and liver) and particular disease (diabetes)
5. The applicable therapies that play the key roles in regenerative medicines of lost or impair tissue in 4.

Prerequisite: SCBM 304 Biological science of aging
SCBM 215 Medical Neuroscience

Type of course: required course

Session: 2nd semester, 3rd year student

Course class size: none

Course objectives

By the end of this course the students are able to demonstrate basic concepts of biologic and molecular basis and cell-ECM interactions in repair and regeneration. And select the proper techniques or application of regenerative medicine for specific impairment in some pathological systems (endocrine system and the gastrointestinal tract), organs (heart and liver) and particular disease (diabetes).

Course outline

Date	Time	Topic		Instructor
*Wed 3 Apr (Pr118)	13.00-14.00	Course introduction and trend of regenerative medicine in business	L1	NC
	14.00-16.00	Biologic and molecular basis for regenerative medicine	L2	WP
Fri 19 Apr	10.00-12.00	Cell-ECM interactions in repair and regeneration	L3	NC
Wed 24 Apr	10.00-12.00	Hormonal therapy in endocrine system	L4	NK
Fri 26 Apr	10.00-12.00	Midterm examination (L2-L4), Room : Pr118		
Wed 1 May (K136)	10.00-12.00	Regenerative medicine in diabetes	L5	ANJ
Fri 3 May	10.00-12.00	Regenerative medicine in heart diseases	L6	WJ
Wed 8 May	10.00-12.00	Regenerative medicine of the gastrointestinal tract	L7	PS
Fri 10 May	10.00-12.00	Regenerative medicine in liver diseases	L8	WP
Wed 22 May	10.00-12.00	Final examination (L5-L8), Room : Pr118		
			15 hr	

Teaching Method

Lectures in class 15 hours

Teaching Media

1. Class handouts/ power point presentation/ short video clips
2. Textbooks/ papers from journals

Measurement and Evaluation of Students Achievement

1. Attendance 10%
2. Participation / in class activity / quiz 20%
3. Written Examination (short answer)/ MCQ 70%
4. Student Examination Grade = A, B+, B, C+, C, D+, D, F

Reference

Atala A, Lanza R, Thomson JA, Nerem R. Principles of regenerative medicine. 2nd ed. Academic Press, 2011.

Instructors

1. ANJ = Assistant Professor Amornrat Jensen, Ph.D
2. NC = Nisamanee Charoenchon, Ph.D
3. NK = Niwat Kangwanrangsang, Ph.D
4. PS = Associate Professor Prasit Suwannalert, Ph.D
5. WJ = Associate Professor Wanee Jiraungkoorskul, Ph.D
6. WP = Witchuda Payuhakrit, Ph.D

Course Coordinator:

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Requesting an appeal:

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