SCBM 301

Tissue Regenerative Medicine

Semester2/2017

Department of Pathobiology

Faculty of Science

Mahidol University

Course Syllabus

(Lecture-Lab-Self study)

SCBM 301Tissue 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
Fri 20 April	9.00-10.00	Course introduction and trend of regenerative medicine in business	L1	NC
	10.00-12.00	Biologic and molecular basis for regenerative medicine	L2	WP
Wed 25 April	10.00-12.00	Cell-ECM interactions in repair and regeneration	L3	NC
Fri 27 April	10.00-12.00	Hormonal therapy in endocrine system	L4	NK
***Wed 9 May**	1.00-3.00 pm.	**Midterm examination (L2-L4)**		
Wed 2 May	10.00-12.00	Regenerative medicine in heart diseases	L5	WJ
Fri 4 May	10.00-12.00	Regenerative medicine in diabetes	L6	ANJ
Wed 9 May	10.00-12.00	Regenerative medicine of the gastrointestinal tract	L7	PS
Fri 11 May	10.00-12.00	Regenerative medicine in liver diseases	L8	WP
Fri 18 May	10.00-12.00	**Final examination (L5-L8)**		
			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. Participation 10%
2. In class activity/ quiz (leading question/ posttest) 20%
3. Written Examination (short answer)/ MCQ 35%
4. One-page report 35%
5. 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 Naranuntarat Jensen, Ph.D
2. NC = NisamaneeCharoenchon, Ph.D
3. NK = Niwat Kangwanrangsan, Ph.D
4. PS = Assistant Professor Prasit Suwannalert, Ph.D
5. WJ = Associate Professor Wannee Jiraungkoorskul, Ph.D
6. WP = Witchuda Payuhakrit, Ph.D

Course Coordinator:

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Requesting an appeal:

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