KEMENTERIAN RISET, TEKNOLOGI, DAN PENDIDIKAN TINGGI
UNIVERSITAS BRAWIJAYA
FAKULTAS KEDOKTERAN
PROGRAM MAGISTER ILMU BIOMEDIK
Jalan Veteran, Malang 65145, Jawa Timur – Indonesia
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Teaching Plan

Course Title : **Pathobiology**
Course Code : **DKF6207**
Credits : **2**
Course Coordinator : **Dr. dr. Tinny Endang Hernowaty, Sp.PK.(K)**
(phone: 0811313617, email: tinnyendang@yahoo.com)

Course Description

This course was designed with overall goal is to introduce students to pathobiology process of diseases. The key objective is to apply concepts and principles rather than merely memorize information. Subject areas covered include cell injury, tissue renewal, and hemodynamic disorders.

Course Learning Outcomes

On successful completion of this course students will:		Bloom's Taxonomy
CLO1	Demonstrate a comprehensive understanding of cellular response to stress and toxic (cell adaptation, death, apoptosis, injury, and mechanism), acute and chronic inflammations, also normal cell proliferation and tissue growth.	Level 2. Understanding
CLO2	Demonstrate a comprehensive understanding of mechanism cell regenerations, extracellular matrix, and cell-matrix interactions, hemodynamic disorders, edema, hyperemia, and congestions, hemorrhage, hemostasis, and thrombosis, DIC, embolisms, infarct, and shock.	Level 2. Understanding
CLO3	Able to interpret the scientific paper relating to the understanding of the pathobiology process of diseases and communicate it through oral presentation.	Level 3. Applying
CLO4	Demonstrate self-directed learning and ethical standards for all intellectual activities.	Level 3. Applying

Links between CLOs and PLOs

	PLO1.1	PLO1.2	PLO2.1	PLO2.2	PLO2.3	PLO3.1	PLO3.2	PLO3.3	PLO3.4	PLO4
CLO1		√	√							
CLO2		√	√							
CLO3		√	√			√	√			√
CLO4							√			√

Topic and Schedule

Week	Topics	Competencies	Lecturer
1	Cell adaptation, death, and apoptosis	Able to explain: cellular response to stress and toxic (cell adaptation, death, and apoptosis)	KM
2	Cell injury and mechanism	Able to explain: cellular response to stress and toxic (cell injury and mechanism)	KM
3	Inflammation	Able to explain: acute and chronic inflammations	DS
4	Cell proliferation and tissue growth	Able to explain: control of normal cell proliferation and tissue growth	KM
5	Journal reading and oral presentation 1	Able to interpret the scientific paper relating to the understanding of the pathobiology process of diseases, then able to communicate effectively and succinctly through oral presentation	TEAM
6	**Mid-Term Exam**		**TEAM**
7	Cell regenerations	Able to explain: mechanism cell regenerations.	EW
8	Cell Matrix	Able to explain: extracellular matrix and cell matrix interactions.	TR
9	Hemodynamic disorder	Able to explain: hemodynamic disorder.	TR
10	Edema, hyperemia, and congestions	Able to explain: edema, hyperemia, and congestions.	DS
11	Hemorrhage, hemostasis, and thrombosis	Able to explain: hemorrhage, hemostasis, and thrombosis.	EW

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12	Gene and DIC, embolisms, infarct, and shock	Able to explain: DIC, embolisms, infarct, and shock.	TR
13	Journal reading and oral presentation 2	Able to interpret the scientific paper relating to the understanding of the pathobiology process of diseases, then able to communicate effectively and succinctly through oral presentation	TEAM
14	**Final-Exam**		**TEAM**

Lecturers:

TR : Dr. dr. Tinny Rasjad, Sp.PK(K)
KM : Dr. dr. Karyono Mintaroem, Sp. PA (K)
DS : Prof. dr. Djanggan Sargowo, PhD, Sp.PD, Sp.JP.
EW : Prof Dr. dr. Edi Widjajanto, Sp.PK(K)

Teaching and Learning Strategy

Core material will be delivered through lectures, completed with oral presentations of scientific journal reading.

Assessment Methods

Type	Weighting	CLO Assessed	Description
Journal Reading and Oral Presentation	20%	3,4	Students are assigned a scientific paper to review and describe as an oral presentation. The assessment will comprise a 1000 word executive summary (in English) of research paper or review from scientific journals; this assessment includes a 15 minutes presentation on the highlights of the journal followed by 10 minutes of discussion.
Written exam (mid)	40%	1,4	The examination will be a 2-hour unseen paper with questions on theoretical aspects of pathobiology of diseases.
Written exam (final)	40%	2,4	

Learning Sources

Essential reading/resources	1. Robbins & Cotran Pathologic Basis of Disease, 9th Edition 2. Robbins Basic Pathology, 9th Edition
Further reading/resources	Scientific Journals (Clinical Biochemistry, Biochemistry Journal, The International Journal of Biochemistry & Cell Biology, The New England Journal of Medicine, The Journal of Biochemistry, etc.)

Course Coordinator,

Dr. dr. Tinny Endang Hernowaty, Sp.PK.(K)