



**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** : Endothelial Dysfunction  
**Course Code** : DKF6006  
**Credits** : 2  
**Course Coordinator** : Dr. Titin Andri Wihastuti, S.Kp., M.Kes (TAW) (phone: 081805101827)

### Course Description

This subject is an elective course which aims to support the thesis, so the content facilitates the student needs. In this semester, subject on endothelial dysfunction covers the concepts of endothelial, including anatomy histology, physiology, and cell pathophysiology related to the clinical diseases. Furthermore, it also involves the correlation of endothelial dysfunction with metabolic diseases, psychological stress, as well as the effects of xenobiotic agents, pollutants, and additives in food on endothelial dysfunction. There is also discussion about the repairing process, therapy, as well as the roles of nutrition and trace element on endothelial dysfunction.

### Course Learning Outcomes

On successful completion of this course students will:	Bloom's Taxonomy
<b>CLO1:</b> Demonstrate a comprehensive understanding modification of Anatomy, Histology, and Physiology of Endothelial Cell; Xenobiotic, Pollutant, Food Additive on Endothelial Dysfunction; Biomarker Of Endothelial Dysfunction (Clinical Assessment); Psychological Stress on Endothelial Dysfunction; Modality Therapy on Endothelial Dysfunction	Level 2. Understanding
<b>CLO2:</b> Demonstrate a comprehensive understanding of Endothelial Dysfunction and Metabolic Disease; Repairing Process on Endothelial Dysfunction; Nutrition and Trace Element on Endothelial Dysfunction	Level 2. Understanding
<b>CLO3:</b> Able to interpret the scientific paper relating to the understanding of the endothelial function and communicate it through oral presentation.	Level 3. Applying
<b>CLO4:</b> Demonstrate self-directed learning and ethical standards for the 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
<b>CLO1</b>		√								
<b>CLO2</b>		√								
<b>CLO3</b>		√	√			√	√			√
<b>CLO4</b>							√			√

### Topic and Schedule

Week	Topics	Competencies	Lecturer
1	Introduction	Able to explain: The Basic Concepts of Endothelial Dysfunction	TAW
2	Anatomy, Histology And Physiology of Endothelial Cell	Able to explain: Anatomy, Histology and Physiology of Endothelial Cells	MAW
3	Xenobiotic, Pollutant, Food Additive on Endothelial Dysfunction	Able to explain: Xenobiotic, Pollutant, Food Additive on Endothelial Dysfunction	MAW
4	Journal reading and oral presentation 1	Able to interpret the scientific paper relating to the understanding of the endothelial function, then able to communicate effectively and succinctly through oral presentation	MAW
5	Clinical Assessment	Able to explain: Biomarker of Endothelial Dysfunction: Clinical Assessment	DS
6	Stress on Endothelial Dysfunction	Able to explain: Psychological Stress on Endothelial Dysfunction	DS



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7	Therapy on Endothelial Dysfunction	Able to explain: Modality Therapy on Endothelial Dysfunction	DS
8	Journal reading and oral presentation 2	Able to interpret the scientific paper relating to the understanding of the endothelial function, then able to communicate effectively and succinctly through oral presentation	DS
9	<b>Mid-Exam</b>		
10	Endothelial Dysfunction and Metabolic Diseases	Able to explain: Endothelial Dysfunction and Metabolic Disease	TAW
11	Journal reading and oral presentation 3	Able to interpret the scientific paper relating to the understanding of the endothelial function, then able to communicate effectively and succinctly through oral presentation	TAW
12	Repairing Process on Endothelial Dysfunction	Able to explain: Repairing Process on Endothelial Dysfunction	NP
13	Nutrition and Trace Element on Endothelial Dysfunction	Able to explain: Nutrition and Trace Element on Endothelial Dysfunction	NP
14	Journal reading and oral presentation 4	Able to interpret the scientific paper relating to the understanding of the endothelial function, then able to communicate effectively and succinctly through oral presentation	NP
15	Material Review	Material Review	Team
16	<b>Final-Exam</b>		Team

**Team of Lecturer:**

1. Prof. Dr. dr. Djanggan Sargowo, Sp.PD., Sp.JP.(K) (DS) HP 0811313617
2. Prof. dr. M. Aris Widodo, Sp.FK., Ph.D. (MAW) HP 081334263999
3. Dr. drg. Nur Permatasari, MS. (NP) HP 083834487555
4. Dr. Titin Andri Wihastuti, S.Kp., M.Kes. (TAW) HP 081805101827

**Teaching and Learning Strategy**

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

**Assessment Methods**

Type	Weighting	CLO Assessed	Description
Journal Reading and Oral Presentation	40%	3,4	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 (in English) on the highlights of the journal followed by 10 minutes of discussion. Research papers will be distributed 2 weeks before the oral presentation. Executive summary and presentation slides should be submitted via email 1 week after the oral presentation.
Written exam (mid)	30%	1, 4	The examination will be a 2-hour unseen paper with questions on theoretical aspects of endothelial dysfunctions.
Written exam (final)	30%	2, 4	

**Learning Sources**

<b>Essential reading/resources</b>	Progress in Inflammation Research: Endothelial Dysfunction and Inflammation, Dauphinee, Shauna, Karsan, Aly (Eds.). 2010
<b>Further reading/resources</b>	Scientific Journals

**Course Coordinator,**

**Dr. Titin Andri Wihastuti, S.Kp., M.Kes.**