

课程详述

COURSE SPECIFICATION

以下课程信息可能根据实际授课需要或在课程检讨之后产生变动。如对课程有任何疑问，请联系授课教师。

The course information as follows may be subject to change, either during the session because of unforeseen circumstances, or following review of the course at the end of the session. Queries about the course should be directed to the course instructor.

1.	课程名称 Course Title	病理生理学 Pathophysiology				
2.	授课院系 Originating Department	医学院 School of Medicine				
3.	课程编号 Course Code	MED211				
4.	课程学分 Credit Value	3				
5.	课程类别 Course Type	专业基础课/ Major Foundational Courses				
6.	授课学期 Semester	春季/ Spring				
7.	授课语言 Teaching Language	中英双语 English & Chinese				
8.	授课教师、所属学系、联系方式 (如属团队授课, 请列明其他授课教师) Instructor(s), Affiliation & Contact (For team teaching, please list all instructors)	Patrick Tan 副教授, 汕头大学医学院, Email: doc_paks@hotmail.com Patrick Tan, Associate Professor, Medical College of Shantou University Email: doc_paks@hotmail.com				
9.	实验员/助教、所属学系、联系方式 Tutor/TA(s), Contact	无 /NA				
10.	选课人数限额(可不填) Maximum Enrolment (Optional)					
11.	授课方式 Delivery Method	讲授 Lectures	习题/辅导/讨论 Tutorials	实验/实习 Lab/Practical	其它(请具体注明) Other (Please specify)	总学时 Total

学时数 Credit Hours	48	0	0	0	48
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12. 先修课程、其它学习要求 Pre-requisites or Other Academic Requirements	MED210 生理学 Physiology
13. 后续课程、其它学习规划 Courses for which this course is a pre-requisite	待定/To be determined
14. 其它要求修读本课程的学系 Cross-listing Dept.	待定/To be determined

教学大纲及教学日历 SYLLABUS

15. 教学目标 Course Objectives

本课程是基础医学与临床医学衔接的课程，教学目标是培养临床执业者(如临床医学、口腔医学)。课程将着重阐明机体主要常见疾病过程中可能出现的、共同的功能、代谢变化规律及其机制，以及机体的主要器官系统在多种疾病发生、发展过程中可能出现的常见的、共同的病理过程及主要常见病的发病过程。

As a bridge between basic medicine and clinical medicine, this course focuses on the basic principles of pathophysiology needed to begin a career in the health care professions, such as medicine and dentistry. This course explains the functions of abnormal states, specifically, the functional changes that accompany a particular syndrome or disease, and the mechanisms underlying these changes.

16. 预达学习成果 Learning Outcomes

- 1.掌握人体异常的生命活动及其规律。
To understand the functional changes of abnormal states and their mechanisms.
- 2.掌握常见人类疾病过程中可能出现的、共同的功能与代谢变化规律及其机制。
To understand the functional changes that accompany common human diseases.
- 3.掌握多种疾病发生发展过程中可能出现的常见的、共同的病理过程及主要常见病的发病过程。
To understand common pathological disease processes in the development of various diseases.

17. 课程内容及教学日历 (如授课语言以英文为主, 则课程内容介绍可以用英文; 如团队教学或模块教学, 教学日历须注明主讲人)

Course Contents (in Parts/Chapters/Sections/Weeks. Please notify name of instructor for course section(s), if this is a team teaching or module course.)

第一章 绪论 Chapter 1. Brief introduction to Pathophysiology

- 1) 病理生理学概念及任务
 - 2) 病理生理学学术地位、角色和主要内容
 - 3) 病理生理学主要研究目标及发展历史
- 1) Concept and task of Pathophysiology
 - 2) Academic position, role and main content of Pathophysiology
 - 3) Main research target of Pathophysiology and its evolutionary history

第二章 疾病概论 Chapter 2. Conspectus of disease

- 1) 疾病的概念
 - 2) 病因学
 - 3) 发病学
 - 4) 疾病的转归
- 1) Concept of disease
 - 2) Etiology of disease
 - 3) Pathogenesis of disease
 - 4) Outcome of disease

第三章 水、电解质代谢紊乱 Chapter 3. Disorders of Water and Electrolyte Metabolism

- 1) 正常水、钠代谢;
 - 2) 水、钠代谢障碍的分类: 低渗性脱水; 高渗性脱水; 水中毒
 - 3) 水肿的发病机制;
 - 4) 正常钾代谢及钾代谢障碍;
 - 5) 镁代谢及镁代谢障碍;
 - 6) 钙磷代谢和钙磷代谢障碍。
- 1) The Normal metabolism of sodium and water
 - 2) Classification of sodium water metabolic disorders: dehydration, water intoxication
 - 3) The pathogenesis of edema.
 - 4) Potassium balance and disorders of Potassium metabolism.
 - 5) The Normal metabolism of calcium and phosphorus, disorders of calcium and phosphorus metabolism.

第四章 酸碱平衡和酸碱平衡紊乱 Chapter 4. Acid-Base Balance and Imbalance

- 1) 酸碱的概念
 - 2) 酸碱平衡紊乱判断常用指标
 - 3) 单纯型酸碱平衡紊乱
 - 4) 酸碱平衡紊乱的判断
- 1) The concept of acid and base.
 - 2) The common parameters for determining acid-base imbalance.
 - 3) The concept of simple acid-base disorders.
 - 4) The judgement for acid-base imbalance.

第五章 糖代谢紊乱 Chapter 5. Disorders of glycometabolism

- 1) 高血糖症的病因、概念和发病机制;
 - 2) 高血糖症对机体的影响;
 - 3) 低血糖症的病因和发病机制;
 - 4) 低血糖症对机体的影响;
 - 5) 糖代谢紊乱防治的病理生理学基础。
- 1) Causes, concept and mechanisms of hyperglycemia
 - 2) Alternation of metabolism and function of hyperglycemia
 - 3) Causes and mechanisms of hypoglycemia
 - 4) Influence of hypoglycemia
 - 5) Pathophysiological basis of prevention and treatment of disturbance of glycometabolism.

第六章 脂代谢紊乱 Chapter 6. Disorder of lipid metabolism

- 1) 脂蛋白的组成、分类和功能, 脂蛋白的正常代谢
 - 2) 脂代谢紊乱的分型
 - 3) 高脂蛋白血症的病因及影响因素, 高脂蛋白血症的发生机制、对机体的影响和防治
 - 4) 低脂蛋白血症的发生机制、对机体的影响
- 1) The composition, classification and function of lipoproteins; the normal metabolism of lipoproteins.
 - 2) Types of lipid metabolism disorder
 - 3) The causes and mechanisms of hyperlipidemia, the effect of hyperlipidemia on the body, and the prevention and treatment of hyperlipidemia.
 - 4) The mechanisms of hypolipidemia and its effect on the body.

第七章 缺氧 Chapter 7. Hypoxia

- 1) 缺氧的概念及常用血氧指标的概念和意义;
 - 2) 缺氧的分类、各种类型缺氧的发生机制及血氧变化特点;
 - 3) 缺氧时机体的各器官系统功能与代谢变化;
 - 4) 缺氧治疗的病理生理学基础。
- 1) Concept of hypoxia; concepts and meanings of parameters of blood oxygen.
 - 2) Classification of hypoxia; mechanisms and characteristics of parameters of blood oxygen in 4 types of hypoxia
 - 3) Alternation of metabolism and function of hypoxia
 - 4) Pathophysiological basis of prevention and treatment of disturbance of hypoxia

第八章 发热 Chapter 8. Fever

- 1) 体温与正常体温调节概述。
 - 2) 发热的病因和发病机制。
 - 3) 发热时代谢与功能的改变。
 - 4) 发热的处理原则。
- 1) Overview of body temperature and normal body temperature regulation;
 - 2) Etiology and pathogenesis of fever;
 - 3) Functional and metabolic alteration after fever;
 - 4) Basic principles for prevention and treatment of fever.

第九章 应激 Chapter 9. Stress

- 1) 应激、应激原的概念;
 - 2) 应激时的躯体反应;
 - 3) 心理性应激;
 - 4) 应激时机体的各器官系统功能与代谢变化及与疾病的关系。
- 1) Concepts: stress, stressor, acute phase protein, heat shock proteins (HSP).
 - 2) Neuroendocrinal responses in stress.
 - 3) Cellular and humoral response in stress.
 - 4) Metabolic and functional changes in stress.
 - 5) Stress and related diseases.

第十章 细胞信号转导异常与疾病 Chapter 10. Signal transduction and the related disorders

- 1) 细胞信号转导系统概述。
 - 2) 信号转导异常的原因和机制。
 - 3) 细胞信号转导异常与疾病。
 - 4) 信号转导调控与疾病防治原则。
- 1) The summary of signal transduction system.
 - 2) The causes and mechanisms of aberrant signal transductions.
 - 3) The relationship between aberrant signal transductions and diseases.
 - 4) The regulations of signal transduction and related principles of disease prevention and therapeutics

第十一章 细胞增殖和凋亡异常与疾病

Chapter 11. Abnormal cell proliferation/cell apoptosis and related diseases

- 1) 细胞周期的概念及调控。
 - 2) 细胞周期调控异常与疾病、调控细胞周期与疾病的防治。
 - 3) 细胞凋亡的概念及调控。
 - 4) 细胞凋亡调控异常与疾病、调控细胞凋亡与疾病的防治。
- 1) Concepts: cell cycle, cell proliferation.
 - 2) Regulation of the cell cycle.
 - 3) Deregulation of cell cycle and related diseases.
 - 4) The concept of cell apoptosis; modulation of cell apoptosis
 - 5) Abnormal regulation of cell apoptosis and relevant diseases
 - 6) Prevention and treatment of the diseases.

第十二章 缺血-再灌注损伤 Chapter 12. Ischemia and Reperfusion Injury

- 1) 缺血-再灌注损伤的原因及条件
 - 2) 缺血-再灌注损伤的发生机制
 - 3) 缺血-再灌注损伤时机体的功能、代谢变化
 - 4) 缺血-再灌注损伤防治的病理生理基础
- 1) Causes of ischemia-reperfusion injury;
 - 2) The molecular mechanism of ischemia-reperfusion injury;
 - 3) Functional and metabolic alteration after ischemia-reperfusion injury;

4) Basic principles for prevention and treatment of ischemia-reperfusion injury.

第十三章 休克 Chapter 13. Shock

- 1) 休克的概念、病因及分类;
 - 2) 休克的分期与发病机制;
 - 3) 休克的细胞代谢改变及器官功能障碍;
 - 4) 休克防治的病理生理基础。
- 1) Concept, etiology and classification of shock.
 - 2) Stages and pathogenesis of shock.
 - 3) Changes of cell metabolism and organ dysfunction in shock.
 - 4) The pathophysiological basis of the prevention and treatment of shock.

第十四章 凝血与抗凝血平衡紊乱

Chapter 14. Imbalance of Coagulation-anticoagulation System and DIC (disseminated intravascular coagulation)

- 1) DIC 及血液系统相关的概念。
 - 2) DIC 发生的原因及发病机制。
 - 3) DIC 的临床表现及发生机理。
 - 4) DIC 的诊断及防治原则。
- 1) Conceptions of DIC and hematological terms;
 - 2) Causes and mechanism of DIC;
 - 3) Pathophysiology and clinical characteristics of DIC;
 - 4) Basic principles of diagnosis and prevention in DIC.

第十五章 心功能不全 Chapter 15. Cardiac Insufficiency/Heart Failure

- 1) 心功能不全的概念
 - 2) 心功能不全的病因、诱因与分类
 - 3) 心力衰竭的发生机制;
 - 4) 心力衰竭时机体的代偿反应;
 - 5) 心力衰竭临床表现的病理生理基础;
 - 6) 防治心力衰竭的病理生理基础。
- 1) Concept of cardiac insufficiency.
 - 2) Causes, Precipitating factors and Classification of cardiac insufficiency.
 - 3) The pathogenesis of heart failure.
 - 4) Body compensation for heart failure.
 - 5) Functional and metabolic alteration during heart failure.
 - 6) Pathophysiologic basis of heart failure therapy.

第十六章 肺功能不全 Chapter 16. Respiratory Failure

- 1) 呼吸衰竭的概念和分类;
- 2) 呼吸衰竭的发病机制;
- 3) 呼吸衰竭时主要代谢功能变化;

4) 呼吸衰竭防治的病理生理学基础。

- 1) Concept and classification of respiratory failure
- 2) Mechanisms of respiratory failure
- 3) Alteration of metabolism and function of respiratory failure
- 4) Pathophysiological basis of prevention and treatment of disturbance of respiratory failure

第十七章 肝功能不全 Chapter 17. Hepatic Failure

- 1) 肝功能不全概述
 - 2) 肝性脑病（概念、分类与分期，发病机制，影响因素和防治）
 - 3) 肝肾综合征（病因和类型、发病机制）
- 1) Overview of hepatic insufficiency;
 - 2) Hepatic encephalopathy (Concept; classification and stages; pathogenesis; precipitating factor and principles for treatments);
 - 3) Hepatorenal syndrome (Etiology and classification; pathogenesis);

第十八章 肾功能不全 Chapter 18. Renal Failure

- 1) 肾功能不全的基本发病环节。
 - 2) 急性肾功能衰竭。
 - 3) 慢性肾功能衰竭。
 - 4) 尿毒症。
- 1) Pathogenesis of renal insufficiency;
 - 2) Acute renal failure (ARF);
 - 3) Chronic renal failure (CRF);
 - 4) Uremia.

第十九章 脑功能不全 Chapter 19. Brain Dysfunction

- 1) 认知障碍的临床表现
 - 2) 引起认知障碍的病因与发病机制
 - 3) 认知障碍对机体的影响
 - 4) 意识障碍的临床表现
 - 5) 引起意识障碍的病因与发病机制
 - 6) 意识障碍对机体的影响
- 1) Major manifestations of cognitive disorders.
 - 2) The etiology and pathogenesis of cognitive disorders.
 - 3) Systemic disturbance caused by cognitive disorders.
 - 4) Major manifestations of consciousness disorders.
 - 5) The etiology and pathogenesis of consciousness disorders.
 - 6) Systemic disturbance caused by consciousness disorders.

第二十章 多器官功能障碍 Chapter 20. Multiple organ dysfunction, Review & discussion

Section	Hour	Teaching Contents
1	3	第一章 绪论, 第二章 疾病概论 Brief introduction to Pathophysiology, Conspectus of disease
2	3	第三章 水电解质代谢紊乱 Disorder of water and electrolytes metabolic balance
3	3	第四章 酸碱平衡和酸碱平衡紊乱 Disorder of acid-base balance
4	3	第五章 糖代谢紊乱, 第六章 脂代谢紊乱 Disorder of glucose and lipid metabolic balance
5	3	第七章 缺氧, 第八章 发热 Hypoxia and fever
6	3	第九章 应激 Stress
7	3	第十章 细胞信号转导异常与疾病, 第十一章 细胞增殖和凋亡异常与疾病 Disorder of Cell signal transduction, cell proliferation and apoptosis in disease
8	3	第十二章 缺血-再灌注损伤 Ischemia-reperfusion injury
9	3	第十三章 休克 Shock
10	3	第十五章 心功能不全 Cardiac insufficiency
11	3	第十六章 肺功能不全 Respiratory insufficiency
12	3	第十七章 肝功能不全 Hepatic insufficiency
13	3	第十八章 肾功能不全 Renal insufficiency
14	3	第十九章 脑功能不全 Brain dysfunction
15	3	第十四章 凝血与抗凝血平衡紊乱 Disorder of coagulation and anticoagulant balance
16	3	第二十章 多器官功能障碍 Multiple organ dysfunction

18. 教材及其它参考资料 Textbook and Supplementary Readings

教材 Text book:

王建枝, 钱睿哲. 病理生理学. 第九版. 北京: 人民卫生出版社, 2018.

参考书 Reference book:

Carol Mattson Porth. Essentials of Pathophysiology. 4th ed. LWW, 2014.

课程评估 ASSESSMENT

19. 评估形式 Type of Assessment	评估时间 Time	占考试总成绩百分比 % of final score	违纪处罚 Penalty	备注 Notes
出勤 Attendance		10		
课堂表现 Class Performance				
小测验 Quiz				
课程项目 Projects				
平时作业 Assignments				
期中考试 Mid-Term Test		30		
期末考试 Final Exam		60		
期末报告 Final Presentation				
其它（可根据需要 改写以上评估方式） Others (The above may be modified as necessary)				

20. 记分方式 GRADING SYSTEM

- A. 十三级等级制 Letter Grading
 B. 二级记分制（通过/不通过） Pass/Fail Grading

课程审批 REVIEW AND APPROVAL

21. 本课程设置已经过以下责任人/委员会审议通过
 This Course has been approved by the following person or committee of authority

本课程已经医学院教学主任张文勇教授审核通过。