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**	检验诊断学 Laboratory Diagnostics
2.	**授课院系 Originating Department**	医学院 School of Medicine
3.	**课程编号 Course Code**	MED317
4.	**课程学分 Credit Value**	3
5.	**课程类别 Course Type**	专业核心课/ Major Core 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）**	吴文苑，南方科技大学附属第一医院， wy.wu@szhospital.com Wenyuan WU, 1st Affiliated Hospital of SUSTech, wy.wu@szhospital.com
9.	**实验员/助教、所属学系、联系方式 Tutor/TA(s), Contact**	王博，医学院，wangb7@sustech.edu.cn Bo Wang, School of Medicine, wangb7@sustech.edu.cn
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	32		32		64

12.	先修课程、其它学习要求 Pre-requisites or Other Academic Requirements	无/NA
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

本课程是一门医学基础课与临床专业课之间的桥梁课程，以临床诊断为教学中心，涉及多学科、多专业的一门新兴的、独立的学科。学生通过该课程可学习掌握血液、体液、生化、免疫学、病原学检查等内容。

It is a bridge course between basic medical courses and clinical professional courses. It is a new and independent subject which focuses on clinical diagnosis and involves multi-disciplinary. This course helps the students to understand blood, body fluids, biophysics, immunology, pathogenic examination, etc.

16. 预达学习成果 Learning Outcomes

通过该课程的教学活动能够使学生熟悉正确采集、保存和运送标本的方法，了解检验的原理和方法，掌握各项检验的适应症、参考值及临床意义，使学生掌握临床思维，运用实验结果，为临床诊断、观察疗效、制定防治措施、判断预后等提供科学依据，为学生今后学习本学科和其他学科奠定坚实基础。

Students can be familiar with the correct methods of collecting, preserving and transporting specimens, understand the principles and methods of testing, master the adaptability, reference values and clinical significance of various tests, enable to master clinical thinking, use experimental results, provide scientific basis for clinical diagnosis, observation of efficacy, formulation of prevention and treatment measures, judgment prognosis, etc., and lay a solid foundation to study this and other disciplines in the future through the teaching activities of this course.

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 概论、血型鉴定与交叉配血试验

检验诊断学概述

实验诊断的质量体系建设

参考值范围、医学决定水平、危急值的意义

血型鉴定与交叉配血试验

红细胞血型系统的分类及亚型

血型系统的鉴定及临床意义

交叉配血试验

其它血型系统

Chapter I Introduction, Blood Grouping and Cross-Matching Tests

Overview

Quality system construction of Laboratory Diagnosis

Reference value range, medical decision level, significance of critical value

Blood grouping and cross matching test

Classification and subtypes of red blood cell blood group system

Identification of blood group system and its clinical significance

Cross-matching tests

Other blood group systems

第二章 排泄物、分泌物及体液检测

尿液、粪便、痰液检测项目的选择及临床意义

脑脊液、浆膜腔积液检测项目的选择及临床意义

阴道分泌物、精液、前列腺液检测项目的选择及临床意义

各类标本采集方法及注意事项

Chapter II Detection of Excreta, Secretions and Body Fluids

Selection and clinical significance of urine, feces and sputum test items

Selection and clinical significance of detection items of cerebrospinal fluid and serous effusion

Selection and clinical significance of vaginal secretion, semen and prostatic fluid test items

Collection methods and precautions of various specimens

第三章 临床血液学检测

红细胞、白细胞、血小板的检测及临床意义

红细胞沉降率、血细胞比容测定及临床意义

血细胞直方图的临床应用

红细胞疾病的实验室检测及临床意义

Chapter III Clinical Hematology Tests

Detection and clinical significance of red blood cell, white blood cell and platelet

Determination of erythrocyte sedimentation rate and hematocrit and its clinical significance

Clinical application of blood cell histogram

Laboratory detection of red cell diseases and its clinical significance

第四章 骨髓细胞学检测及外周血细胞形态

骨髓细胞学检测的方法及临床应用

骨髓细胞形态学检查

常用细胞化学染色

白细胞免疫表型分析、染色体分析

Chapter IV Bone Marrow Cytological Examination and Peripheral Blood Cell Morphology

Methods and clinical application of bone marrow cytology

Bone marrow cytomorphological examination

Usual cytochemical stains

Leukocyte Immunophenotyping, chromosome analysis

第五章 血栓与止血检测

生理止血机制概述

血管壁检测项目、血小板检测项目及临床意义

凝血因子检测项目及临床意义

抗凝系统检测及纤溶活性检测的临床意义

血流变学、血栓弹力图的检测

常见出血病与血栓病的实验诊断

Chapter V Thrombus and Hemostasis Testing

Overview of physiological hemostatic mechanisms

Vascular wall test items, platelet test items and their clinical significance

Detection items and clinical significance of coagulation factors

Clinical significance of detection of anticoagulation system and activity

Detection of hemorheology and thromboelastography

Experimental diagnosis of common hemorrhagic diseases and thrombosis

第六章 常用肾脏功能实验室检测

肾小球功能检测及临床意义

肾小管功能检测及临床意义

血清电解质、血尿酸检测

肾小管性酸中毒的检测

肾功能检测项目的选择和应用

Chapter VI Commonly Used Renal Function Laboratory Tests

Detection of glomerular function and its clinical significance

Detection of renal tubular function and its clinical significance

Serum electrolyte and blood uric acid detection

Detection of renal tubular acidosis

Selection and application of renal function test items

第七章 肝脏病常用实验室检测

肝脏病常用的实验室检测项目

常见肝脏疾病的各种实验诊断指标变化特点

病毒性肝炎检测项目及临床意义

常见肝脏病检查项目的合理选择与应用

Chapter VII Commonly Used Laboratory Tests for Liver Diseases

Commonly used laboratory tests for liver diseases

Characteristics of various laboratory diagnostic indicators of common liver diseases

Detection items of viral hepatitis and its clinical significance

Reasonable selection and application of examination items for common liver diseases

第八章 临床常用生物化学检测（一）

血清脂质与脂蛋白检测项目选择及临床意义

常见脂质代谢紊乱性疾病的实验诊断

心肌损伤的生物化学指标分类

心肌酶和心肌蛋白检测及临床意义

Chapter VIII Commonly Used Biochemical Tests in Clinical Practice (I)

Selection and clinical significance of serum lipids and lipoproteins

Experimental diagnosis of common lipid metabolic disorders

Biochemical classification of myocardial Injury

Detection of myocardial enzyme and myocardial protein and its clinical significance

第九章 临床常用生物化学检测（二）

糖代谢紊乱的实验诊断

血糖及其代谢产物的检测及临床意义

血清胰岛素检测和胰岛素释放试验

内分泌系统及常见内分泌激素分类

常用内分泌疾病的实验检测

常见内分泌疾病的实验诊断

Chapter IX Commonly Used Biochemical Tests in Clinical Practice (II)

Experimental diagnosis of glucose metabolism disorders

Detection and clinical significance of blood glucose and its metabolites

Serum insulin test and insulin release test

Classification of endocrine system and common endocrine hormones

Experimental detection of commonly used endocrine diseases

Experimental diagnosis of common endocrine diseases

第十章 临床常用免疫学检测（一）

肿瘤标志物的概念与分类

常用肿瘤标志物的实验检测与临床意义

细菌、寄生虫感染免疫检测及临床意义

病毒感染免疫检测及临床意义

性传播疾病免疫检测及临床意义

Chapter X Commonly Used Immunological Tests in Clinical Practice (I)

Concept and classification of tumor markers

Experimental detection and clinical significance of commonly used tumor markers

Immunodetection of bacterial and parasitic infections and its clinical significance

Immunodetection of viral infection and its clinical significance

Immunodetection of sexually transmitted diseases and its clinical significance

第十一章 临床常用免疫学检测（二）

体液免疫检测及临床意义

细胞免疫检测及临床意义

自身抗体、移植免疫检测及临床意义

其它免疫检测

流式细胞术及其临床应用

Chapter XI Commonly Used Immunological Tests in Clinical Practice (II)

Humoral immune detection and its clinical significance

Detection of cellular immunity and its clinical significance

Detection of autoantibodies and transplantation immunity and its clinical significance

Other immunoassays

Flow cytometry and its clinical application

第十二章 临床危重症实验室检测

危重症概述

危重症常用的实验检测项目及危急值

脓毒症及脓毒性休克的实验诊断

多器官功能障碍综合征的实验诊断

其它危重症的实验诊断

Chapter XII Laboratory Tests for Clinical Critical Care

Critical disease overview

Commonly used experimental test items and critical values for critical diseases

Experimental diagnosis of sepsis and septic shock

Experimental diagnosis of multiple organ dysfunction syndrome

Experimental diagnosis of other critical diseases

第十三章 细胞遗传学与分子诊断技术

常用的分子生物学技术

常见疾病的分子诊断

分子诊断在临床医学中的应用

染色体检测及临床意义

Chapter XIII Cytogenetic and Molecular Diagnostic Techniques

Commonly used molecular biology techniques

Molecular diagnosis of common diseases

Application of molecular diagnosis in clinical medicine

Chromosome detection and its clinical significance

第十四章　标本的采集运送及实验室质量控制

标本的分类及采集注意事项

标本送检注意事项

临床实验室质量指标概述

室内质量控制与室间质量评价

Chapter XIV Collection and Transportation of Specimens and Laboratory Quality Control

Specimen classification and precautions for collection

Precautions for sample submission

Overview of clinical laboratory quality indicators

Indoor quality control and indoor quality evaluation

第十五章　临床常见病原微生物检测

常见病原微生物分类

病原微生物检测项目及临床意义

呼吸道标本病原微生物培养及注意事项

无菌体液标本病原微生物培养及注意事项

泌尿、生殖系统标本病原微生物培养及注意事项

Chapter XV Detection of Microorganisms in Common Clinical Diseases

Classification of common pathogenic microorganism

Detection items of pathogenic microorganism and their clinical significance

Culture and precautions of pathogenic microorganisms in respiratory specimens

Culture and precautions of pathogenic microorganisms in sterile body fluid specimens

Culture and precautions of pathogenic microorganisms in urinary and reproductive system specimens

第十六章 病原微生物耐药检测及临床检验报告单解读

常见病原微生物耐药机制概述

药物敏感试验检测方法分类及应用

临床检验申请单开具注意事项

检验报告单内容设置及解读要点

Chapter XVI Interpretation of Drug Resistance Detection and Clinical Test Report of Pathogenic Microorganisms

Overview of resistance mechanism of common pathogens

Classification and application of drug sensitivity test

Precautions for preparation of clinical trial application form

Key points for the setting and interpretation of test report

章节 Section	教学内容 Teaching Contents	总学时 Lecture Hours	教学方法 Teaching Methods	
			讲授 Lecture	实验 Lab
1	概论、血型鉴定与交叉配血试验 Introduction, Blood Grouping and Cross-Matching Tests	4	2	2
2	排泄物、分泌物及体液检测 Detection of Excreta, Secretions and Body Fluids	4	2	2
3	临床血液学检测 Clinical Hematology Tests	4	2	2
4	骨髓细胞学检测及外周血细胞形态 Bone Marrow Cytological Examination and Peripheral Blood Cell Morphology	4	2	2
5	血栓与止血检测 Thrombus and Hemostasis Testing	4	2	2
6	常用肾脏功能实验室检测 Commonly Used Renal Function Laboratory Tests	4	2	2
7	肝脏病常用实验室检测 Commonly Used Laboratory Tests for Liver Diseases	4	2	2
8	临床常用生物化学检测（一） Commonly Used Biochemical Tests in Clinical Practice (I)	4	2	2
9	临床常用生物化学检测（二） Commonly Used Biochemical Tests in Clinical Practice (II)	4	2	2
10	临床常用免疫学检测（一） Commonly Used Immunological Tests in Clinical Practice (I)	4	2	2
11	临床常用免疫学检测（二） Commonly Used Immunological Tests in Clinical Practice (II)	4	2	2
12	临床危重症实验室检测	4	2	2

	Laboratory Tests for Clinical Critical Care			
13	细胞遗传学与分子诊断技术 Cytogenetic and Molecular Diagnostic Techniques	4	2	2
14	标本的采集运送及实验室质量控制 Collection and Transportation of Specimens and Laboratory Quality Control	4	2	2
15	临床常见病原微生物检测 Detection of Microorganisms in Common Clinical Diseases	4	2	2
16	病原微生物耐药检测及临床检验报告单解读 Interpretation of Drug Resistance Detection and Clinical Test Report of Pathogenic Microorganisms	4	2	2

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

教材 **Textbook**：《诊断学》 万学红，卢雪峰，人民卫生出版社，第九版， 2018

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		30		
期中考试 Mid-Term Test				
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副院长张文勇教授审核通过。