

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	医学生物统计学 Probability & Statistics for the Biosciences
2.	授课院系 Originating Department	医学院 School of Medicine
3.	课程编号 Course Code	MED222
4.	课程学分 Credit Value	3
5.	课程类别 Course Type	专业选修课 Major Elective Courses
6.	授课学期 Semester	春季 Spring
7.	授课语言 Teaching Language	英文 English
8.	授课教师、所属学系、联系方式 Instructor(s), Affiliation & Contact (For team teaching, please list all instructors)	方沈应、医学院/公共卫生及应急管理学院、 fangsy@sustech.edu.cn Shenyang Fang, School of Medicine/School of Public Health and Emergency Management, fangsy@sustech.edu.cn
9.	实验员/助教、所属学系、联系方式 Tutor/TA(s), Contact	
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				48
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	无 NA				
14. 其它要求修读本课程的学系 Cross-listing Dept.	无 NA				

教学大纲及教学日历 SYLLABUS

15. 教学目标 Course Objectives

<p>(中英双语)</p> <ol style="list-style-type: none"> 帮助学生掌握医学统计学的基本原理、基本概念和基本统计方法; 帮助学生熟悉医学统计图表的绘制及注意事项, 常用统计指标的计算方法、选用原则; 培养学生正确的统计思想, 培养学生分析医学资料的初步技能, 为学生今后从事医学教学、科研、临床等工作打下坚实的基础。 <ol style="list-style-type: none"> Help students master the basic principle、concept and statistical methods applied in biostatistics; Help students learn the basic techniques and guidelines to present statistical data using tables and graphs, the methods to calculate traditional statistical measures, and the approaches on selecting appropriate statistical methods; Help students develop correct statistical thinking, train students to develop the skill of analyzing clinical data, and provide them with the knowledge that is necessary for their future medical teaching, research and clinical practice.

16. 预达学习成果 Learning Outcomes

<p>(中英双语)</p> <p>通过此课程的学习, 学生应能理解医学科研中的基本统计学方法相关的知识与概念, 如均数、标准差、回归、假设检验以及样本量的计算等。</p> <p>Students should be able to understand the concept and knowledge of basic statistical methods used in medical research, such as mean, standard deviation, regression, hypothesis testing, and sample size determination.</p>
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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.)

(教学内容: 中英双语)

Mean, variance, percentiles, probability, distribution, parameter estimation, hypothesis testing for one-sample, two-sample, and multisample, non-parametric methods, hypothesis testing for categorical data, correlation and linear regression, power and sample size calculation in study design.

(教学日历: 中英双语)

Section	Topic	Hours
1	Descriptive Statistics	3
2	Probability	3
3	Discrete Probability Distribution	3
4	Continuous Probability Distribution	3
5	Estimation	6
6	Hypothesis Testing: One-sample Inference	6
7	Hypothesis Testing: Two-sample Inference	6
8	Non-parametric Methods	3
9	Hypothesis Testing: Categorical Data	3
10	Regression and Correlation Methods	6
11	Multisample Inference	3
12	Power and Sample Size Calculation	3

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

1. Fundamentals of Biostatistics 5 th edition by Bernard Rosner, Harvard University
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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	Each class	10%	0 for no showing up	Times of showing up/total times of classes*10

课堂表现 Class Performance				
小测验 Quiz				
课程项目 Projects				
平时作业 Assignments	Every two classes	30%		Average Scores of homework*30%
期中考试 Mid-Term Test				
期末考试 Final Exam	At the end of classes in spring	60%		Final exam score*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 [total scores ≥ 75 will be treated as Pass]

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