

# 课程大纲

## COURSE SYLLABUS

1.	<b>课程代码/名称</b> <b>Course Code/Title</b>	流行病学研究设计及应用 Research Design and Applications of Epidemiology
2.	<b>课程性质</b> <b>Compulsory/Elective</b>	选修 Elective
3.	<b>开课单位</b> <b>Offering Dept.</b>	医学院 School of Medicine
4.	<b>课程学分/学时</b> <b>Course Credit/Hours</b>	2/32
5.	<b>授课语言</b> <b>Teaching Language</b>	中文 Chinese
6.	<b>授课教师</b> <b>Instructor(s)</b>	赵文静 Zhao Wenjing
7.	<b>开课学期</b> <b>Semester</b>	秋季 Autumn
8.	<b>是否面向本科生开放</b> <b>Open to undergraduates or not</b>	否 No
9.	<b>先修要求</b> <b>Pre-requisites</b>	(如面向本科生开放, 请注明区分内容。 If the course is open to undergraduates, please indicate the difference.) 无 None
10.	<b>教学目标</b> <b>Course Objectives</b>	<p>(如面向本科生开放, 请注明区分内容。 If the course is open to undergraduates, please indicate the difference.)</p> <p>本课程设计面向全校各个年级的研究生, 讲授横断面研究、队列研究、病例对照研究、实验流行病学设计(临床试验、社区干预等)的理论框架, 以及国内外经典或常见研究的实际应用。理论和实际相结合, 帮助学生理解和掌握流行病学研究设计方法, 拓宽学生视野, 提高学生的科研素质。</p> <p>This course is designed for graduate students in all grades of the university. It teaches learners the theoretical framework of a cross-sectional study, cohort study, case-control study and experimental epidemiology study design, and examples of the classic or common study design at home or abroad. This course aims to help the learners understand and master the main epidemiological study design, broaden their horizons and improve their scientific research quality by combining theory with practice.</p>
11.	<b>教学方法</b> <b>Teaching Methods</b>	<p>(如面向本科生开放, 请注明区分内容。 If the course is open to undergraduates, please indicate the difference.)</p> <p>本课程拟运用理论与实际相结合的方式向学生讲授常见流行病学研究设计。结合平时作业、课堂提问, 学生实际演练, 圆满完成授课任务。</p> <p>This course aims to introduce learners to the common epidemiological research design by integrating theory with practice. It is expected to successfully complete the teaching task by assigning homework, classroom questions, and practical exercises.</p>
12.	<b>教学内容</b> <b>Course Contents</b>	(如面向本科生开放, 请注明区分内容。 If the course is open to undergraduates, please indicate the difference.)

课程内容分为讲授和专题讨论两个部分。

讲授内容主要包括流行病学研究设计的定义、特点、用途、优缺点、实施步骤以及国内外经典或著名的研究实例分析。在专题讨论部分，学生以小组讨论形式提出并展示自己感兴趣的研究问题和研究计划，实施步骤等。

The course includes two parts: lectures and student group presentations.

The main content of the lectures includes the definition, characteristics, purpose, implementation steps of epidemiological studies designs, and the classic or famous practical examples.

Student group presentations include developing research questions and a research plan based on the group's interest, how to implement the target research, and making a final presentation.

<b>Section 1</b>	流行病学研究设计概论-Introduction to epidemiological research design 1.1 流行病学研究类型- Epidemiological Research Type 1.2 流行病学研究设计的框架- Epidemiological Research Structure 1.3 流行病学研究用处- Epidemiological Research Purpose
<b>Section 2</b>	流行病学研究要素 I- Basic ingredients I 2.1 研究问题的提出- Conceiving the research question 2.2 研究计划的制定-Developing Research Plan 2.3 研究人群的选择-Choosing the Study Subjects
<b>Section 3</b>	流行病学研究要素 II-Basic ingredients II 3.1 研究问题的测量- Planning the Measurement 3.2 样本量估计以及样本量估计的效能-Estimating Sample Size and the Power
<b>Section 4</b>	横断面研究设计及应用- Cross-sectional study design and the application 4.1 横断面研究的定义、特点、用途、实施步骤、优缺点-The Definition, Characteristics, Purpose, Implementation Steps, Advantages, and Disadvantages 4.2 研究实例介绍-The Practical Example
<b>Section 5</b>	队列研究设计及应用 I- Cohort study design and the application I 5.1 队列研究的定义、特点、用途、实施步骤、优缺点--The Definition, Characteristics, Purpose, Implementation Steps, Advantages, and Disadvantages 5.2 研究实例：出生队列- The Practical Example: Birth Cohort Study
<b>Section 6</b>	队列研究设计及应用 II- Cohort study design and the application II 6.1 队列研究实例：慢性病队列-The Practical Example: Cohort Study on Chronic Diseases 6.2 队列研究实例：老年队列-The Practical Example: Cohort Study on Old Population
<b>Section 7</b>	病例对照研究设计及应用- Case-control study design and the application 7.1 病例队列研究的定义、特点、用途、实施步骤、优缺点- The Definition, Characteristics, Purpose, Implementation Steps, Advantages, and Disadvantages 7.2 研究实例：食管癌发病的病例对照研究- The Practical Example: Case-Control study Related to Esophagus Cancer
<b>Section 8</b>	观察性研究中的因果推断- Causal inference in observational studies 8.1 加强观察性研究因果推断中的注意事项：偶然、偏移- Chance, and Bias, 8.2 加强观察性研究因果推断中的注意事项：因果倒置和混杂因子-effect-cause and confounding factors
<b>Section 9</b>	小组讨论&答辩 Group discussion and presentations
<b>Section 10</b>	随机化盲法试验设计及应用 I- A randomized blinded trial design and the

	<p>application I</p> <p>10.1 随机化盲法试验中干预组与对照组的选择、结局的定义、研究对象的选择 -Selecting Intervention and Control Conditions, Choosing Outcome Measurements, Selecting the Participants</p> <p>10.2 基线变量的测量以及随机、盲法的方法-Measuring Baseline Variables, and Randomizing and Blinding</p> <p>10.3 研究实例- The Practical Example</p>
<b>Section 11</b>	<p>随机化盲法试验设计及应用 II-A randomized blinded trial design and the application II</p> <p>10.1 随机化盲法试验建立的步骤-Implementation Steps</p> <p>10.2 研究实例（以社区病人为例）- The Practical Example (Patients Living in the Community)</p>
<b>Section 12</b>	<p>其他临床试验设计- Alternative trial design</p> <p>12.1 非随机化试验- Other Randomized Designs</p> <p>12.2 组内随机-Group Randomization,</p> <p>12.3 非随机化组间设计等- Nonrandomized Between-Group Designs</p>
<b>Section 13</b>	<p>医学检验的研究设计- Medical tests study design</p> <p>13.1 怎样衡量医学检验的有用性、再现性-Determining Whether a Test is Useful, Studies of Test Reproducibility</p> <p>13.2 医学检验的准确性、可行性-Studies of the Accuracy of Tests, Studies of the Feasibility of Tests</p>
<b>Section 14</b>	<p>使用既有数据库开展研究- Utilizing existing databases</p> <p>14.1 二手数据的分析- Secondary Data Analysis,</p> <p>14.2 系统综述的开展- Systematic Review</p>
<b>Section 15</b>	<p>研究实施事项- Study implementation issues</p> <p>15.1 研究实施过程中的伦理问题、问卷设计、访谈- Addressing Ethical Issues, Designing Questionnaires and Interviews</p> <p>15.2 研究实施过程中的数据管理、质量控制-Data Management, and Quality Control</p>
<b>Section 16</b>	<p>小组讨论&amp;答辩 Group discussion and presentations</p>
<b>13. 课程考核</b> <b>Course Assessment</b>	
	<p>(① 考核形式 Form of examination; ②. 分数构成 grading policy; ③ 如面向本科生开放, 请注明区分内容。If the course is open to undergraduates, please indicate the difference.)</p> <p>本课程考核方式为考查, 期末考核满分 100 分。主要从出勤 (Attendance): 20%; 课堂表现 (Class Performance): 20%; 平时作业 (Assignments): 20%; 期末报告 (Final Presentation and report): 20% 等几个方面对学生进行考查。</p>
<b>14. 教材及其它参考资料</b> <b>Textbook and Supplementary Readings</b>	
	<ol style="list-style-type: none"> <li>1. 临床研究设计 (第四版) 【Designing Clinical Research】 Stephen B. Hulley 等著, 彭晓霞, 唐迅 译</li> <li>2. Designing Clinical Research Third Edition by Stephen B. Hulley et al.</li> <li>3. 流行病学 (第八版) 詹思延主编</li> </ol>