

课程大纲 COURSE SYLLABUS

1.	课程代码/名称 Course Code/Title	药物递送前沿进展 Advances in Drug Delivery																		
2.	课程性质 Compulsory/Elective	专业选修课 Major Elective Courses																		
3.	课程学分/学时 Course Credit/Hours	3 学分/48 学时 3 Course Credit/48 hours																		
4.	授课语言 Teaching Language	英语 English																		
5.	授课教师 Instructor(s)	张路 Lu Zhang																		
6.	是否面向本科生开放 Open to undergraduates or not	否 No																		
7.	先修要求 Pre-requisites	无/NA																		
8.	教学目标 Course Objectives	<p>通过全面地讲授药物递送领域的基础知识和最新发展，使刚刚进入或准备进入这一领域的研究生系统地了解药物递送体系，药物递送的基本原理、分析手段，生物应用及最新临床进展。</p> <p>Through providing the comprehensive introduction to basic knowledge and latest development in the drug delivery field, the graduate students entering or being ready to enter this filed can systematically understand drug delivery system, the basic principle, analysis methods, biological applications and the latest clinical progress.</p>																		
9.	教学方法 Teaching Methods	<p>讲授与讨论结合，理论与实例结合，PPT 与黑板授课结合</p> <p>The combination of lecture and discussion, theory and living examples, PPT and blackboard</p>																		
10.	教学内容 Course Contents	<table border="1"> <tr> <td>Section 1</td> <td>Introduction to drug delivery (药物递送概论, 2 学时)</td> </tr> <tr> <td>Section 2</td> <td>Evaluation indicators and strategies of drug delivery systems (药物递送评估指标及策略, 4 学时)</td> </tr> <tr> <td>Section 3</td> <td>Material selection in drug delivery (药物递送中材料选择, 2 学时)</td> </tr> <tr> <td>Section 4</td> <td>Target selection in drug delivery (药物递送中靶点选择, 4 学时)</td> </tr> <tr> <td>Section 5</td> <td>Progress in administration method and technology (给药方式及技术进展, 6 学时)</td> </tr> <tr> <td>Section 6</td> <td>Drug release principle in drug delivery (药物递送中药物释放原则, 2 学时)</td> </tr> <tr> <td>Section 7</td> <td>Stimulus sensitivity in microenvironment (微环境刺激敏感性, 2 学时)</td> </tr> <tr> <td>Section 8</td> <td>Liposome-based drug delivery systems (脂质体药物递送体系, 2 学时)</td> </tr> <tr> <td>Section 9</td> <td>Polymer-based drug delivery systems (聚合物药物递送体系, 4 学时)</td> </tr> </table>	Section 1	Introduction to drug delivery (药物递送概论, 2 学时)	Section 2	Evaluation indicators and strategies of drug delivery systems (药物递送评估指标及策略, 4 学时)	Section 3	Material selection in drug delivery (药物递送中材料选择, 2 学时)	Section 4	Target selection in drug delivery (药物递送中靶点选择, 4 学时)	Section 5	Progress in administration method and technology (给药方式及技术进展, 6 学时)	Section 6	Drug release principle in drug delivery (药物递送中药物释放原则, 2 学时)	Section 7	Stimulus sensitivity in microenvironment (微环境刺激敏感性, 2 学时)	Section 8	Liposome-based drug delivery systems (脂质体药物递送体系, 2 学时)	Section 9	Polymer-based drug delivery systems (聚合物药物递送体系, 4 学时)
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	Section 10	Peptide/Protein-based drug delivery systems (多肽/蛋白药物递送体系, 4 学时)
	Section 11	Microsphere-based drug delivery systems (微球药物递送体系, 2 学时)
	Section 12	The positive impact of AI on the development of drug delivery (人工智能对药物递送的积极影响, 2 学时)
	Section 13	Current situation and prospect of clinical application of drug delivery (药物递送的临床应用现状与前景, 2 学时)
	Section 14	Final Presentation (期末文献汇报, 10 学时)
11.	课程考核 Course Assessment	
	<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>出勤 Attendance 20%, 课程报告 Course Report 40%, 期末文献汇报 Final Presentation 40%</p>	
12.	教材及其它参考资料 Textbook and Supplementary Readings	
	<p>(1) Drug Delivery: Principle and Application, Prof. Binghe Wang, E-book, WILEY; (2) 纳米技术在药物递送中的应用 金义光教授主编, 化学工业出版社出版; (3) Drug Delivery Systems, Prof. Rakesh Tekade, E-book, Elsevier.</p>	