

# 课程大纲

## COURSE SYLLABUS

1.	<b>课程代码/名称</b> <b>Course Code/Title</b>	BME5205 生物技术的应用与产业化 Application and translation of biotechnology
2.	<b>课程性质</b> <b>Compulsory/Elective</b>	专业选 修课 Major Elective Courses
3.	<b>课程学分/学时</b> <b>Course Credit/Hours</b>	3 学分/48 学时 3 Course Credit/48 hours
4.	<b>授课语言</b> <b>Teaching Language</b>	英文 <b>English</b>
5.	<b>授课教师</b> <b>Instructor(s)</b>	张博 Zhang Bo
6.	<b>是否面向本科生开放</b> <b>Open to undergraduates or not</b>	否 No
7.	<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 No
8.	<b>教学目标</b> <b>Course Objectives</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.)  通过讲授生物技术的应用及其产业转化的各方面知识, 帮助研究生了解基础科研走向临床应用及转化的路径, 掌握生物技术应用与产业转化的相关知识。  By introducing the knowledge on the application of biotechnology and its commercial translation, student can understand the path from basic research towards clinical application and translation, to gain related knowledge on application and translation of biotechnology.
9.	<b>教学方法</b> <b>Teaching Methods</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.)  讲授(Lectures)
10.	<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.)
	<b>Section 1</b>	Introduction of the course (生物技术的应用与产业化绪论, 2 学时)
	<b>Section 2</b>	Basics of biomolecules (生物分子基础, 4 学时)
	<b>Section 3</b>	Sequencing of biomolecules and bioinformatics (生物分子测序与生物信息学, 2 学时)
	<b>Section 4</b>	Basics of Genomics (基因组学基础, 2 学时)
	<b>Section 5</b>	Basics of immunology (免疫学基础, 2 学时)

<b>Section 6</b>	Application of nanotechnology in biomedicine (纳米技术在生物医药领域的应用, 2 学时)
<b>Section 7</b>	Application of biotechnology in <i>in vitro</i> diagnostics (生物技术在体外诊断领域的应用, 3 学时)
<b>Section 8</b>	Application of biotechnology in imaging (生物技术在影像领域的应用, 3 学时)
<b>Section 9</b>	Application of biotechnology in therapeutics (生物技术在疾病治疗领域的应用, 2 学时)
<b>Section 10</b>	Biotechnology market analysis and strategy (生物技术的市场前景研究与战略规划, 2 学时)
<b>Section 11</b>	Patent strategy for biotechnology (生物技术的专利策略, 2 学时)
<b>Section 12</b>	Fundraising strategy for biotech company (生物科技公司的融资策略, 2 学时)
<b>Section 13</b>	Business plan for biotechnology (生物技术公司的商业计划书, 2 学时)
<b>Section 14</b>	Clinical trials for biotechnology (生物技术的临床试验与合规, 2 学时)
<b>Section 15</b>	Product design for biotechnology (生物技术的产品设计, 2 学时)
<b>Section 16</b>	Manufacturing and QC for biotechnology (生物技术产品的生产与质量控制, 2 学时)
<b>Section 17</b>	Final Presentation (专题汇报, 12 学时)
<b>11. 课程考核</b> <b>Course Assessment</b>	
	( 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.)  出勤 Attendance 20%, 期末文献汇报 Final Presentation 80%
<b>12. 教材及其它参考资料</b> <b>Textbook and Supplementary Readings</b>	
	无