**微生物学D类课程教学大纲**

Course Outline

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| 课程基本信息（Course Information） | | | | | | | |
| 课程代码  （Course Code） | BI211 | 学时  （Credit Hours） | 48 | 学分  （Credits） | | 3 | |
| 课程名称  （Course Name） | 微生物学D类 | | | | | | |
| Microbiology | | | | | | |
| 课程性质  (Course Type) | 培养计划课程 | | | | | | |
| 授课对象  （Target Audience） |  | | | | | | |
| 授课语言  (Language of Instruction) | 双语 | | | | | | |
| 开课院系  （School） | 生命科学技术学院 | | | | | | |
| 先修课程  （Prerequisite） | 无 | | | | | | |
| 授课教师  （Teacher） | 赵立平、陈峰 | | 课程网址  (Course Webpage) | | http://micro.sjtu.edu.cn; http://www.cnmooc.org | |
| \*课程简介（Description） | 本课程向生物学各专业学生传授微生物学的基本概念、知识及有关实验技能，是生物类专业本科生的必修专业基础课程。经过学习，课程学习者将对微生物世界具有一个良好的、较为全面的理解，这些生物学专业的学习者将具备使用生物学的专业词汇与其他同行进行交流的能力。微生物学是生命科学领域中一个十分活跃的分支科学，所以，本课程在教学过程中，将在教授微生物学的经典、基础的观点、理论、概念的同时，向学习者介绍本领域中的一些最新的进展。微生物学也是一门以实验为基础的科学，所以本课程在教学当中也会向学习者传授一些实验技能，以利学习者在今后的进一步深造与研究。 | | | | | | |
| \*课程简介（Description） | The objective of this course is to teach the basic concepts and experimental skills in microbiology to biology-related major students. After this semester, you should be able to develop a sound understanding of and a good appreciation for the microbiological world. I believe that the whole training for a biology-related major student is all about how to help him learn to think and communicate in molecular and cellular terms. Microorganisms are the most diversified and interesting to study. Microbiology is one of the most active and promising field in life sciences. I will try to integrate the most classical and basic ideas, theories, and concepts with the most recent advances in microbiology, which are so exciting and full of fun to know about. This course will be taught in English. I will do my best to help you develop skills in learning biological science matters. Thus, learning to learn is another objective of this course. | | | | | | |
| 课程教学大纲（course syllabus） | | | | | | | |
| \*学习目标(Learning Outcomes) | 经过一个学期的学习，课程学习者将可以：   1. 对微生物世界具有一个良好的、较为全面的理解。 2. 具备使用生物学的专业词汇与其他同行进行交流的能力。 3. 掌握微生物学的经典、基础的观点、理论、概念的同时，了解本领域中的最新进展。 4. 掌握一些微生物学实验技能，以利今后的进一步深造与研究。   After this semester, you should be able to:   1. Develop a sound understanding of and a good appreciation for the microbiological world. 2. Learn to think and communicate in molecular and cellular terms. 3. Understand the most classical and basic ideas, theories, and concepts with the most recent advances in microbiology. 4. Develop skills in learning biological science matters. | | | | | | |
| \*教学内容、进度安排及要求  (Class Schedule  &Requirements) | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | 教学内容 | 学时 | 教学方式 | 作业及要求 | 基本要求 | 考查方式 | | Preface | 1 | 课堂教学 | 无 |  |  | | 1.Microorganisms and Microbiology | 3 | 课堂教学 | 有 |  |  | | 2.Microbial Cell Biology | 4 | 课堂教学 | 有 |  |  | | 3.Microbial Metabolism | 2 | 课堂教学 | 有 |  |  | | 4.Molecular Microbiology | 2 | 课堂教学 | 有 |  |  | | 5.Microbial Growth and Control | 3 | 课堂教学 | 有 |  |  | | 6.Microbial Genomics | 2 | 课堂教学 | 有 |  |  | | 7.Metabolic Regulation | 3 | 课堂教学 | 有 |  |  | | 8.Viruses and Virology | 2 | 课堂教学 | 有 |  |  | | 9.Viral Genomes and Diversity | 2 | 课堂教学 | 有 |  |  | | 10.Genetics of Bacteria and Archaea | 2 | 课堂教学 | 有 |  |  | | 11.Genetic Engineering and Biotechnology | 2 | 网上自学 | 有 |  |  | | 12.Microbial Evolution and Systematics | 3 | 课堂教学 | 有 |  |  | | 13.Metabolic diversity | 3 | 课堂教学 | 有 |  |  | | 14.Functional Diversity of Bacteria | 2 | 课堂教学 | 有 |  |  | | 15.Diversity of Bacteria | 2 | 课堂教学 | 有 |  |  | | 16.Diversity of Eukaryotic Microorganisms | 2 | 课堂教学 | 有 |  |  | | 17.Methods in Microbial Ecology | 2 | 课堂教学 | 有 |  |  | | 18.Microbial Ecosystems | 2 | 课堂教学 | 有 |  |  | | 19.Microbial Symbioses | 2 | 课堂教学 | 有 |  |  | | 20.Nutrient Cycles | 2 | 课堂教学 | 有 |  |  | | 21.Microbial Interactions with Humans | 2 | 课堂教学 | 有 |  |  | | | | | | | |
| \*考核方式  (Grading) | 课程学习完成之后，最终成绩将根据期中考试（30%）、期末考试（40%）、课堂讨论与课堂笔记（20%）、课外作业（10%）按比例给出。  The full score for this course is 100 points. The breakdown is as follows:  Middle Exam 30 points  Final Exam 40 points  Class active participation 20 points  Homework 10 points  Total 100 points | | | | | | |
| \*教材或参考资料  (Textbooks & Other Materials) | Brock Biology of Microorganisms, 14/e英文原版书 | | | | | | |
| 其它  （More） | 无 | | | | | | |
| 备注  （Notes） | 无 | | | | | | |

备注说明：

1．带\*内容为必填项。

2．课程简介字数为300-500字；课程大纲以表述清楚教学安排为宜，字数不限。