

生物工程专业辅修培养方案

Bioengineering Minor Training Program

一、培养目标 Objectives

本专业以“立足生工、服务社会，立足西南、面向全国”的办学定位及人才培养目标，培养“德、智、体、美、劳”全面发展的人才，合格的社会主义建设者和接班人。具有良好的人文社会科学素养、宽厚的自然科学基础、扎实的专业知识和研究能力，并具有创新意识及国际化视野，能在生物技术与工程及相关领域从事技术与产品研发、生产与技术管理、质量管理与控制、工艺与工程设计、经营管理等工作，成为所从事领域的专业技术和管理工作的骨干。

This major is based on the student service society, based on the southwest facing the country's educational orientation and talent training goals. This major cultivates the students with a solid biological and engineering theoretical basis, the system knowledge and specialized skills of the bioengineering profession, the engineering capability of the industrialization technology development, technology implementation, production operation and management, and the composite bioengineering technology personnel with engineering design and technical innovation ability. Graduates can work in the field of design, management and research and development in bioengineering and research institutes.

二、培养要求 Requirement

本专业辅修方向应获得以下几个方面的知识、能力和素质：

1. 具有扎实的生物工程理论基础和专业知识；具有良好的知识学习和专业拓展能力，能较好地了解生物工程技术理论前沿和发展动态。具备从事生物技术与工程及相关领域的技术与产品研发、生产与技术管理、工艺与工程设计等复杂工程问题。
2. 能够适应独立和团队工作环境，能够熟练地与同行业及相关专业人员沟通交流，能够主导、协调或融入生物工程项目的设计和组织实施过程。
3. 具有崇高理想信念、强烈的社会责任感和良好的人文素养、法制观念以及科学素养，能够在生物工程领域的研发、设计、生产管理等工作中的自觉谨守职业道德，遵守行业规范。
4. 具有跨文化的交流、竞争与合作能力；能通过继续教育或其它途径进行终身学习，

拓展自己的知识和能力，适应职业发展，保持职业竞争力，适应行业发展需求。

Graduates of minors in this major should acquire the following knowledge, abilities and qualities:

1. Students are required to have a more systematic and solid basic knowledge of biological science and experiments, practical hands-on ability, have a strong scientific thinking and innovation ability, with a certain degree of professional experimental design, operation and comprehensive analysis of experimental results.
2. Students are required to understand, master the basic theory of biological information and computer operation and use ability, with biological data analysis and computer-aided design and other capabilities.
3. Students are required to learn and practice through the basic knowledge and practice of biological engineering, biology, biopharmaceutical and other related fields, to obtain more systematic knowledge and skills in biological products, biotechnology and pharmaceutical and other related fields.

三、学分要求 Credits Requirements

学分：30 学分

学制：二年

Credits: 30 credits

School system: two years

四、课程设置 Course Programs

课程类型 Course Type	课程名称 Course Name	课程性质 Nature of Course	学分 Credits	开课学期 Semester	开课学院 School	备注 Notes
专业基础课 化学和生物类 Chemistry and Biology Courses	有机化学 BI Organic Chemistry BI	必修 Compulsory	2	春季学期 Spring Semester	生命学院 School of Life Science and Engineering	
	有机化学 BII Organic Chemistry BII	必修 Compulsory	2	秋季学期 Fall Semester	生命学院 School of Life Science and Engineering	
	有机化学实验 Organic Chemistry Experiment	必修 Compulsory	1	秋季学期 Fall Semester	生命学院 School of Life Science and Engineering	

专业基础课 化学和生物类 Chemistry and Biology Courses	生物化学 A Biochemistry A	必修 Compulsory	4	秋季学期 Fall Semester	生命学院 School of Life Science and Engineering	
	生物化学实验 A Experiments of Biochemistry A	必修 Compulsory	1	秋季学期 Fall Semester	生命学院 School of Life Science and Engineering	
	微生物学 A Microbiology A	必修 Compulsory	3	春季学期 Spring Semester	生命学院 School of Life Science and Engineering	
	微生物学实验 Experiments of Microbiology	必修 Compulsory	1	春季学期 Spring Semester	生命学院 School of Life Science and Engineering	
专业核心课 Specialized Core Course	发酵工程 A Fermentation Engineering A	必修 Compulsory	3	春季学期 Spring Semester	生命学院 School of Life Science and Engineering	
	发酵工程实验 Experiments of Fermentation Engineering	必修 Compulsory	1	春季学期 Spring Semester	生命学院 School of Life Science and Engineering	
	基因工程 A Genetic Engineering A	必修 Compulsory	3	秋季学期 Fall Semester	生命学院 School of Life Science and Engineering	
	基因工程实验 Experiments of genetic Engineering	必修 Compulsory	1	秋季学期 Fall Semester	生命学院 School of Life Science and Engineering	
	化工原理 A Principle of Chemical Engineering A	必修 Compulsory	4	春季学期 Spring Semester	生命学院 School of Life Science and Engineering	
	化工原理实验 A Experiments of Principle of Chemical Engineering A	必修 Compulsory	2	春季学期 Spring Semester	生命学院 School of Life Science and Engineering	
	生物分离工程 Biochemical Isolation Engineering	必修 Compulsory	2	秋季学期 Fall Semester	生命学院 School of Life Science and Engineering	
总学分 Total Credits			30			