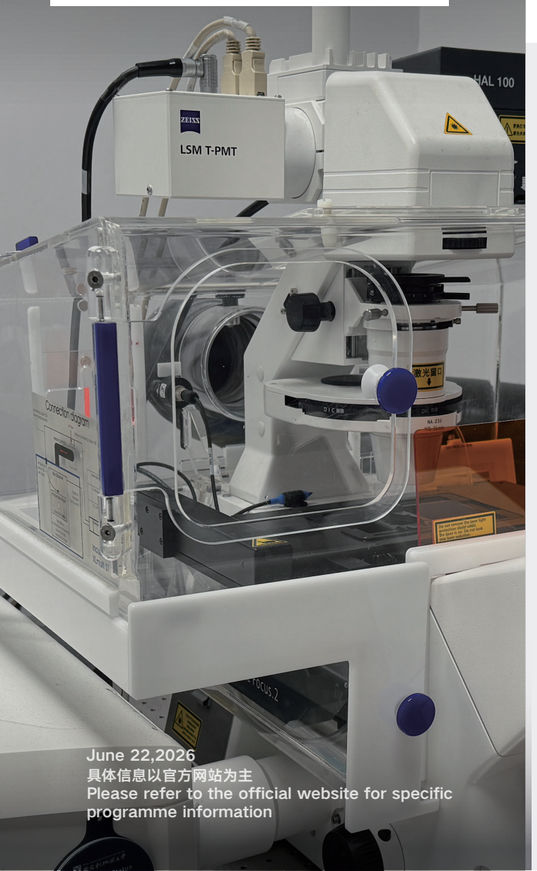
BSC BIOMEDICAL SCIENCES

生物医学科学



June 22,2026
具体信息以官方网站为主
Please refer to the official website for specific programme information

XJTLU | ACADEMY OF LIFE AND NATURAL SCIENCES 生命与自然科学学院

CAREERS

BSc Biomedical Sciences graduates enjoy a wide array of rewarding career pathways across diverse industry sectors.

They may pursue cutting-edge academic research at top universities or institutes, focusing on areas like cancer biology, immunotherapy, or gene therapy. In leading healthcare sectors, roles span medical diagnostics, genetic counselling, and innovative diagnostic technology development. The biopharmaceutical industry offers opportunities in drug discovery, clinical trials, and medical device innovation, while AI-driven health technology fields welcome expertise in medical imaging algorithms and biomedical big data analytics.

Graduates can also contribute to public health through epidemic disease prevention at agencies like the CDC, or engage in biotechnology ventures to advance modern diagnostic and therapeutic tools. Equipped with interdisciplinary training and a global perspective, our BSc Biomedical Sciences students are poised to drive scientific breakthroughs and address pressing health challenges worldwide.

START DATE
Every September

SCHOOL
Academy of Life and Natural Sciences

DURATION
four years

QUALIFICATION
XJTLU
BSc Biomedical Sciences

2+2 STUDY
Available

University of Liverpool
BSc Biomedical Sciences (Hons,4+0)
BSc Microbiology and Infection
BSc Biochemistry
BSc Biomedical Sciences (Hons,2+2)

LOCATION
Suzhou

ATTENDANCE
Full time

MODULES

YEAR ONE

In the UK, undergraduate programmes typically last three years, whereas in China, they normally span four years. Accordingly, at Xi'an Jiaotong-Liverpool University (XJTLU), students who have already obtained the required credits and qualifications may be admitted directly into Year 2 of their chosen programme. The majority of students, however, enter Year 1, where they take foundation courses that include language training, basic mathematics, and subject-specific preparatory modules.

YEAR THREE

Compulsory modules:

- CELL BIOLOGY TECHNIQUES
- PRACTICAL BIOINFORMATICS
- HUMAN ANATOMY AND PHYSIOLOGY
- EPIDEMIOLOGY
- INTRODUCTORY STATISTICS FOR NATURAL SCIENCES

Optional modules:

- MEDICAL MICROBIOLOGY AND VIROLOGY
- ADVANCED GENETICS
- CELL SIGNALLING
- BIOLOGICAL CHEMISTRY
- BIOTECHNOLOGY
- STRUCTURE AND DYNAMICS OF BIOMOLECULES
- NUTRITION AND METABOLISM

YEAR TWO

Compulsory modules:

- EXPERIMENTAL DESIGN AND ANALYSIS
- CELLULAR AND MOLECULAR BIOLOGY
- CHEMICAL PRINCIPLES OF LIFE
- THE BIOLOGY OF MICROBES
- INTRODUCTION TO BIOCHEMISTRY
- INTRODUCTION TO EVOLUTION AND GENETICS
- DEVELOPMENTAL BIOLOGY
- MOLECULAR BIOLOGY TECHNIQUES
- INTRODUCTION IN ECOLOGY
- INTRODUCTION TO ARTIFICIAL INTELLIGENCE FOR SCIENCE
- ENTREPRENEURIAL EDUCATION IN SCIENCE: INNOVATING FOR TOMORROW

YEAR FOUR

Compulsory modules:

- MOLECULAR IMMUNOLOGY
- PHARMACOLOGY AND THERAPEUTICS
- FINAL YEAR PROJECT IN BIOMEDICAL SCIENCES
- CRITICAL THINKING AND APPLIED SKILLS IN SCIENCE RESEARCH

Optional modules:

- BIOLOGY OF DISEASE
- GENE EXPRESSION AND GENOME ANALYSIS
- HIGH-THROUGHPUT APPROACHES AND SYSTEMS BIOLOGY
- ARTIFICIAL INTELLIGENCE IN BIOMEDICINE

Xi'an Jiaotong-Liverpool University 西交利物浦大學

BSC BIOMEDICAL SCIENCES

In an era filled with emerging global health challenges, xjtlu's bsc biomedical sciences programme trains pioneers in life sciences and medical innovation. Merging foundational biology, medicine, and technologies like ai, it cultivates clinical thinkers who can decode human disease mechanisms and design tomorrow's therapies. The students learn through hands-on projects with world-class researchers and tackle real-world medical issues. Whether pursuing careers in research, healthcare, or leading health tech industries, this programme prepares students to lead with impact and make a difference. Join us to turn curiosity into solutions and shape the future of health!

Programme Director:
Dr. Yongtao Zhu
Yongtao.Zhu@xjtlu.edu.cn

KNOWLEDGE AND SKILLS

By the time students graduate from the BSc Biomedical Sciences programme, they will have comprehensive knowledge of and skills in:

- Fundamental theories, concepts and key challenges in biomedical sciences;
- Essential biochemical principles of life;
- Human anatomy, physiological functions and regulatory mechanisms;
- Pathogenesis of diseases and fundamental principles of diagnosis/therapy;
- Pharmacological mechanisms, drug design and development;
- Applications of bioinformatics and ai in biomedicine;
- Experimental design, execution and data analysis;
- Scientific literature retrieval and critical reading; and
- Team collaboration and lifelong learning.

WHY SHOULD I STUDY BIOMEDICAL SCIENCES AT XJTLU?

- Tackle Global Health Crises: Prepare to address issues like aging populations, infectious diseases, and genetic disorders through cutting-edge research in precision medicine, therapeutic innovation, and disease presentation
- Interdisciplinary Curriculum: Master molecular biology, genetics, human anatomy, physiology, immunology, metabolism, pharmacology, AI-driven analytics, bioinformatics etc., and hands-on lab skills
- Expertise & Resources: Learn from internationally recognized faculty, research partnerships, a research-led learning environment, and access state-of-the-art facilities, including virtual anatomy labs
- Industry Connections: Leverage Suzhou's booming biotech hub (4,000+ companies) and government partnerships for internships and career opportunities
- Global Pathways: Seamlessly transfer to the University of Liverpool's BSc Biomedical Sciences or other programmes via the 2+2 route
- Holistic Skills: Develop critical thinking, teamwork, and leadership, with 80%+ graduates advancing to global postgraduate programmes
- Earn Two Degrees: an XJTLU degree from the Chinese Ministry of Education and a globally recognised degree from the

Xi'an Jiaotong-Liverpool University
西交利物浦大学

生物医学科学

在全球健康新挑战频发的时代背景下，西交利物浦大学生物医学科学专业致力于培养生命科学与医疗创新的先锋人才。我们将基础生物学、医学知识与人工智能等前沿技术相融合，培养具备临床思维的学生，使其能够深入理解疾病机制并设计未来治疗方案。学生将在世界一流科研导师的指导下参与实践项目，探索真实的医疗难题。无论毕业后投身科研、医疗卫生行业，还是引领健康科技产业，本专业都将为你们提供坚实的能力基础。加入我们，将好奇心转化为解决方案，共同塑造人类健康的未来！

专业负责人：
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知识与技能

完成本专业学习后，学生将掌握以下关键知识与能力：

- 生物医学科学的基础理论、核心概念与关键挑战
- 生命的基本生物化学原理
- 人体解剖结构、生理机能与调节机制
- 疾病发生机制及诊断与治疗的基础原理
- 药物作用机制、药物设计与开发流程
- 生物信息学与人工智能在生物医学中的应用
- 实验设计、执行与数据分析能力
- 文献检索与批判性阅读技能
- 团队协作与终身学习能力

专业特色

- 从生物科学和基础医学两个角度来培养学生理解人体机能、健康和疾病，为学生打下坚实的生物医学基础
- 课程设置全面且学科交叉，聚焦前沿，结合院系师资优势融入了生物信息学和人工智能等学科
- 拥有一支由国际知名学术专家组成的教职团队，享有高度国际化和浓厚的科研氛围
- 苏州地处生物医药，生物技术，医疗器械，医疗卫生等行业发展高地，为本专业学生的实习实践提供了众多机会
- 毕业生可获得中国教育部认可的西交利物浦大学学位和国际认可的利物浦大学学位

就业

生物医学科学专业的毕业生具备广泛的就业前景与职业选择。他们可在顶尖高校或科研机构从事前沿学术研究，方向涵盖癌症生物学、免疫治疗、基因治疗等领域。在医疗健康领域方面，毕业生可从事医学诊断、遗传咨询、创新诊断技术开发等工作；在生物制药行业，则有机会参与药物研发、临床试验及医疗器械创新；在人工智能驱动的健康科技领域深耕医学影像算法与生物医学大数据分析；也可投身公共卫生体系，如疾病预防控制中心等机构参与传染病防控，或选择生物技术创业推动现代诊断与治疗技术的发展。凭借跨学科训练与国际化视野，本专业毕业生将成为推动科学突破、应对全球健康挑战的中坚力量。

XJTLU | ACADEMY OF LIFE AND NATURAL SCIENCES 生命与自然科学学院

开始时间
每年9月

学院
生命与自然科学学院

2+2 留学模式
可选

学位证书
西交利物浦大学
生物医学科学

利物浦大学
BSc Biomedical Sciences (Hons,4+0)

BSc Microbiology and Infection
BSc Biochemistry
BSc Biomedical Sciences (Hons,2+2)

学制
四年

学习地点
苏州

教学形式
全日制

课程

第一学年

在英国，本科阶段学习学制三年，而中国本科阶段学制为四年。因此，对于已获得相应学分、证书的学生，在我校可以直接升入二年级进行专业学习；大多数学生则是进入一年级进行基础课学习，主要课程包括语言课程、基础数学课程和专业相关的预备课程。

第二学年

必修课：

- 实验设计与分析
- 细胞和分子生物学
- 生命的化学原理
- 微生物生物学
- 生物化学导论
- 进化与遗传学导论
- 发育生物学
- 分子生物学技术
- 生态学导论
- 面向科学的人工智能导论
- 科学领域的创业教育：面向未来的创新

第三学年

必修课：

- 细胞生物学技术
- 实用生物信息学
- 人体解剖与生理学
- 流行病学
- 自然科学统计学导论

选修课：

- 医学微生物学与病毒学
- 高级遗传学
- 细胞信号转导
- 生物学化学
- 生物技术
- 生物分子的结构和动力学
- 营养与代谢

第四学年

必修课：

- 分子免疫学
- 药理与治疗学
- 生物医学科学毕业设计
- 科学研究中的批判思维和应用技术

选修课：

- 疾病生物学
- 基因表达和基因组分析
- 高通量方法和系统生物学
- 人工智能在生物医学中的应用

XJTLU

UNDERGRADUATE

BSc
Biomedical Sciences
生物医学科学

Shaping the Future of Health!
创生健康未来！

The BSc Biomedical Sciences programme at XJTLU is another innovative academic programme within the Academy of Life and Natural Sciences. It is designed to cultivate versatile young professionals equipped with integrated theoretical knowledge, experimental expertise, and practical skills in modern biosciences and fundamental medicine. The curriculum spans core disciplines such as molecular biology, genetics, human anatomy, physiology, immunology, and pharmacology, while incorporating cutting-edge technologies like medical AI and big data analytics. Through systematic training and hands-on practice, students gain insights into human body functions, disease mechanisms, modern diagnostics, and advanced therapeutic approaches, fostering robust scientific research capabilities to address global health challenges. This programme is dedicated to training highly talented biomedical leaders for China and the world.

生物医学科学本科专业（BMS）是西交利物浦大学生命与自然科学学院开设的又一创新型学术项目，旨在培养具备坚实的现代生命科学与基础医学理论、出色实验技能和应用能力的复合型生物医学人才。课程内容涵盖分子生物学、遗传学、人体解剖学、生理学、免疫学和药理学等核心学科，并融入医学人工智能、医学大数据分析等前沿技术。通过系统化教学与实践训练，学生将深入理解人体机能、疾病机制、现代诊断方法及先进治疗策略，逐步建立起应对全球健康挑战的科研能力。这一充满前景的专业致力于为中国及全球培养未来生物医学领域的卓越领导者。