

BSC

APPLIED

CHEMISTRY

应用化学

CAREERS

Chemistry graduates pursue a wide range of careers, from working in the chemical and pharmaceutical industries to business management. Graduates can find employment in a number of industries, including chemical (materials and synthesis), drug discovery and healthcare, food, environment and energy, research and development, and government and public service.

MODULES

The programme addresses both classical and modern developments in chemistry. Your final year project will give you a taste of a research career and expose you to the current research topics of the department. This hands-on experience with modern technologies and research activities will make you more competitive in establishing a career in both industry and academic institutions.

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 TWO

Core Modules

- INTRODUCTORY SPECTROSCOPY
- INTRODUCTORY INORGANIC CHEMISTRY
- INTRODUCTORY PHYSICAL CHEMISTRY
- KEY SKILLS FOR CHEMISTRY AND MATERIALS SCIENCE
- INTRODUCTORY ORGANIC CHEMISTRY II
- INTRODUCTORY ORGANIC CHEMISTRY I
- LABORATORY TECHNIQUES
- INTRODUCTION TO ARTIFICIAL INTELLIGENCE FOR SCIENCE
- ENTREPRENEURIAL EDUCATION IN SCIENCE: INNOVATING FOR TOMORROW

Optional Modules

- THE BIOLOGY OF MICROBES
- INTRODUCTION TO ENVIRONMENTAL CHEMISTRY AND MONITORING
- PHYSICS FOR CHEMISTRY

 START DATE Every September	 SCHOOL Academy of Life and Natural Sciences
 DURATION Four years	 QUALIFICATION XJTLU BSc Applied Chemistry University of Liverpool BSc Applied Chemistry(hons,4+0) BSc Chemistry(hons,2+2)
 2+2 STUDY Available	
 LOCATION Suzhou	 ACCREDITATION Royal Society of Chemistry
 ATTENDANCE Full time	

YEAR THREE

Core Modules

- INTERMEDIATE ORGANIC CHEMISTRY
- INTERMEDIATE PHYSICAL CHEMISTRY
- FURTHER KEY SKILLS IN CHEMISTRY
- INTERMEDIATE INORGANIC CHEMISTRY
- MEASUREMENTS IN CHEMISTRY
- PREPARATIVE CHEMISTRY: SYNTHESIS AND CHARACTERISATION
- ANALYTICAL CHEMISTRY
- INORGANIC APPLICATIONS OF GROUP THEORY

Optional Modules

- INTRODUCTION TO BIOLOGICAL CHEMISTRY
- INTRODUCTION TO POLYMER CHEMISTRY

YEAR FOUR

Core Modules

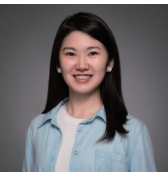
- ADVANCED INORGANIC CHEMISTRY
- ADVANCED ORGANIC CHEMISTRY
- FINAL YEAR PROJECT
- CRITICAL THINKING AND APPLIED SKILLS IN SCIENCE RESEARCH

Optional Modules

- ADVANCED PHYSICAL CHEMISTRY
- INTRODUCTION TO MEDICINAL CHEMISTRY
- INTRODUCTION TO ELECTROCHEMISTRY
- NANOTECHNOLOGY AND ADVANCED MATERIALS
- COMPUTATIONAL CHEMISTRY

BSC
APPLIED
CHEMISTRY

The BSc Applied Chemistry provides you with a broad understanding of applied chemistry, drawing on the Department of Chemistry's emerging research strengths in new materials, clean and renewable energy, pharmaceuticals and healthcare.



Programme Director:
Dr. Danlei Li
Danlei.Li@xjtlu.edu.cn



KNOWLEDGE AND SKILLS

By the time you graduate from the BSc Applied Chemistry, you will have:

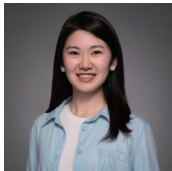
- A strong understanding of fundamental chemistry concepts
- The skills and knowledge to design and conduct experiments
- Research experience gained by the completion of a final-year research project
- High-level quantitative and problem-solving skills
- An appreciation of the application of chemistry in nanotechnology, chemical, pharmaceutical, and clean and renewable energy industries.

WHY SHOULD I STUDY APPLIED
CHEMISTRY AT XJTLU?

- Tailor your studies to your own area of interest, with a range of classical and modern chemistry modules available
- Benefit from a low staff-to-student ratio, allowing you to participate in a wide range of practical exercises
- Undertake an ambitious final-year project, giving you a taste of a research career and exposing you to the current research topics of the Department of Chemistry
- Earn two degrees: an XJTLU degree from the Chinese Ministry of Education and a globally recognised degree from the University of Liverpool, a member of the Russell Group of leading UK universities.

应用化学

应用化学在推动低碳排放新材料与技术的革新中扮演着核心角色，是引领可持续发展、构筑地球绿色未来的关键力量。我们的应用化学课程匠心独运，为学生搭建起一座理论与实践的桥梁，不仅培养他们专业的化学知识，更赋予他们解决实际行业难题的能力，激发创新思维，共同促进社会的可持续进步与环境的绿色转型。



专业负责人：
李丹蕾博士
Danlei.li@xjtlu.edu.cn



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

知识与技能

毕业生将获得以下几个方面的知识和能力：

- 对于基础化学概念的深刻理解
- 设计和进行实验的知识技能
- 通过毕业研究项目获得研究经验
- 高级定量和解决问题的技能
- 将化学知识应用于纳米技术、化学、制药、清洁和可再生能源产业的能力

专业特色

- 本专业提供一些列的现代化学课程，根据学生的兴趣爱好和特长培养专业技能
- 本专业师生比例相对较低，学生可以参与到更广阔的实践练习中
- 最前沿的毕业项目使学生体验研究事业，接触到学院最新的研究课题
- 并能获得导师的全面指导
- 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

本专业毕业生就业范围广泛，从化学化工类工业到工商管理，都是应用化学专业毕业生的用武之地。毕业生可以从事的职业有化学化工类企业（材料及合成），制药和医疗保健企业，食品行业，环境和能源，研究和发 展，公共和政府部门。

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

核心课程

光谱学导论
无机化学导论
物理化学导论
化学与材料科学关键技能
有机化学导论 2
有机化学导论 1
化学实验室技术
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

可选课程

微生物生物学
环境化学与监测导论
物理学（化学专业）

UNDERGRADUATE

BSc Applied Chemistry 应用化学

The BSc Applied Chemistry provides you with a broad understanding of applied chemistry, drawing on the Department of Chemistry's emerging research strengths in new materials, clean and renewable energy, pharmaceuticals and healthcare.

The programme will train you to a high professional standard, equipping you to deal with challenges in academia and industry, and in highly competitive and interdisciplinary environments.

Our curriculum offers you the most advanced chemistry topics, ensuring what you learn is at the cutting-edge of the field. The knowledge of and hands-on experience with modern technologies make our graduates stand out in both academic institutions and industry.

The BSc Applied Chemistry is accredited by the Royal Society of Chemistry in the United Kingdom. This accreditation means that upon graduation, you will have partially gained the academic requirements needed to achieve chartered status and be able to demonstrate internationally recognised standards of competency as chemists.

应用化学以化学专业新兴的研究专长，培养学生在高新材料、清洁与可再生能源、制药与医疗卫生等方面对于应用化学的广泛理解。

本专业将会以高专业水准培养学生，使学生具备在学术及应用环境中应对挑战的能力，更好地适应当今激烈竞争及跨学科综合的社会环境。

本专业研究最先进的化学课题，保证学生所学为化学领域内的最尖端知识。现代科技的理论知识和实践技能使我们的毕业生无论在学术机构内还是在工业机构中都能脱颖而出。

西交利物浦大学应用化学专业已经获得英国皇家化学学会（Royal Society of Chemistry）认证，该学会是世界上最重要的化学专业机构之一。获得该机构的认证意味着西浦应用化学专业的学生在毕业时已经达到国际认可的标准。

 开始时间 每年9月	 教学形式 全日制
 学制 四年	 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 应用化学
 学习地点 苏州	利物浦大学 BSc Applied Chemistry (hons,4+0) BSc Chemistry (hons,2+2)
 认证 英国皇家化学会 (Royal Society of Chemistry)	

第三学年

核心课程

中级有机化学
中级物理化学
化学关键技能进阶
中级无机化学
化学测量
制备化学：合成与表征
分析化学
群论在无机化学中的应用

可选课程

生物化学导论
高分子化学导论

第四学年

核心课程

高等无机化学
高等有机化学
毕业设计
科学研究中的批判思维和应用技术

可选课程

高级物理化学
药物化学导论
电化学导论
纳米技术与先进材料
计算化学