

BENG

ARCHITECTURAL

ENGINEERING

建筑工程

XJTLU | BENG
ARCHITECTURAL ENGINEERING

CAREERS

Graduates from this programme are well prepared for roles such as structural engineer, project manager, consulting engineer, Building Information Modelling (BIM) engineer, cost estimator, and building envelope designer in the construction and consultancy sectors.

The programme also provides a sound basis for further study or a research career in architecture, civil and structural engineering, construction management and engineering or related fields. Most of our graduates go on to study at the world's top universities in countries such as the UK, USA, Canada, Australia, New Zealand, and the Netherlands.

MODULES

YEAR ONE

UK degrees are three years long whereas in China they are four, therefore we do accept students with certain qualifications directly into Year Two, which is the start of the main academic programme. Most students, however, enter into Year One, which provides you with a range of interesting modules, language classes and core skills for your degree.

YEAR THREE

Year three will enhance your knowledge in building design and construction projects. You will be offered modules related to structural analysis and design, construction materials and methods, soil mechanics, and project management. In addition, aspects of buildings that are specific to architectural engineers will be taught: building topology and building services engineering.

CONSTRUCTION METHODS

ENGINEERING STRUCTURES

REINFORCED CONCRETE AND STEELWORK

BUILDING TYPOLOGY IN INTEGRATED ARCHITECTURAL DESIGN

NUMERICAL METHODS

BUILDING SERVICES ENGINEERING

ARCHITECTURAL ENGINEERING PROJECT

CIVIL ENGINEERING PROJECT MANAGEMENT

BASIC SOIL MECHANICS

CONSTRUCTION MATERIALS

STRUCTURAL BEHAVIOUR AND MODELLING

YEAR TWO

You will take fundamental modules that are essential for all civil and architectural engineers and for higher level studies: mathematics, basic structures, materials, fluids, surveying, and management. In addition, three modules from the department of Architecture are integrated to introduce students to the basics of architectural design.

DIFFERENTIAL EQUATIONS FOR ENGINEERS

INTRODUCTION TO MANAGEMENT

ARCHITECTURAL TECHNOLOGY AND INNOVATION

INTRODUCTION TO MATERIALS

FLUID MECHANICS

SURVEYING FOR ARCHITECTURAL ENGINEERS

HUMANITIES AND ARCHITECTURE

SOLIDS AND STRUCTURES

INTEGRATED DESIGN OF SMALL BUILDINGS

YEAR FOUR

In the final year, you will learn more about advanced analysis and design related theory together with real world practical examples. You will be offered modules related to structural design on steel, timber and masonry, foundations, earthquakes, and construction management. The capstone design project will guide you to design a large scale structure. More subjects related to architectural engineering will be introduced, such as cost control and estimation, and building information modelling (BIM). In addition, you will undertake an individual research project of an investigative nature across two semesters of year four.

FOUNDATION ENGINEERING

STRUCTURAL DYNAMICS

CONSTRUCTION COST CONTROL AND ESTIMATION

CONSTRUCTION MANAGEMENT

EARTHQUAKE ENGINEERING

CAPSTONE DESIGN 2

BUILDING INFORMATION MODELLING

FINAL YEAR PROJECT

STEEL STRUCTURES

TIMBER AND MASONRY STRUCTURES

START DATE
September 2021

2+2 STUDY
Available

DURATION
Three or four years

LOCATION
Suzhou

SCHOOL
Design School

ATTENDANCE
Full time

QUALIFICATION
XJTLU
BEng Civil Engineering
(Architectural Engineering
specialization)

University of Liverpool
BEng Architectural
Engineering

ACCREDITATION
Joint Board of Moderators (JBM)

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

BENG ARCHITECTURAL ENGINEERING

The BEng Architectural Engineering programme is specifically designed to produce architectural engineers with sound knowledge, problem-solving skills, and a comprehensive understanding of the multidisciplinary aspects of building.

For more information (e.g. entry requirements, how to apply) related to programme, please visit the following programme website link or the QR code



<https://www.xjtlu.edu.cn/en/study/undergraduate/architectural-engineering>



KNOWLEDGE AND SKILLS

Upon graduation from the BEng Architectural Engineering, you will have:

- A sound knowledge of architectural studies, building services engineering, construction project management and cost estimation, building information modelling, façade engineering, and the core areas of civil engineering including structures, hydraulics, geotechnics and materials
- Problem-solving skills with the ability to apply a range of qualitative and quantitative techniques in resolving architectural engineering problems
- Practical knowledge of the key aspects of civil engineering and architectural design practices
- Completed a building design and construction project that combines professional elements of both civil engineering and architecture
- A good understanding of the principles of project management, including allocating project resources effectively and how to apply modern construction practices to real-world situations

WHY SHOULD I STUDY ARCHITECTURAL ENGINEERING AT XJTLU?

- Graduate from a programme accredited by Joint Board of Moderators (JBM) in the United Kingdom, enabling you to become a world-recognised chartered engineer
- Gain hands-on experience through site visits, field work, workshops led by industry professionals, lab experiments, and the use of computer analysis software and the latest technologies
- Explore the form and appearance of buildings, their environmental, social, and economic impact, as well as their design and construction within business and commercial context
- Learn from international academic staff who will provide you with an outstanding learning experience and opportunities to work on current research projects and papers
- 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

建筑工程

本专业是为培养建筑工程师而专门设计的；本专业培养的建筑工程师将具备扎实的专业能力，并掌握规划、设计、建造及管理等多学科建筑相关知识。

扫描二维码

获取更多专业信息



<https://www.xjtlu.edu.cn/zh/study/undergraduate/architectural-engineering>



知识与技能

毕业生将获得以下几个方面的知识和能力：

- 扎实掌握并深入理解建筑学、建筑设备工程、施工项目管理、成本预算、建筑信息模型、建筑外立面工程、及土木工程核心科目包括结构、水力学、土工和材料等方面的知识
- 土木工程关键领域及建筑设计实践方面的问题解决能力及实用专门技能
- 土木工程及建筑设计实践中关键方面的使用知识
- 完成综合利用土木工程及建筑学专业知识与技能的建筑设计及施工管理的能力
- 掌握项目管理原理、有效分配项目资源并在现实世界中实践现代施工方法

专业特色

- 本专业已被英国工程委员会监管机构(Joint Board of Moderators, JBM)认证，此认证在世界各地得到广泛认可，让学生能够成为全球公认的特许工程师
- 本专业采用让学生主动学习的教学模式，教学方式多样，包括实地考察、田野调查、实验、计算机分析以及课内理论知识实际操作
- 学生将通过探索建筑物外观、功能设计，综合考虑建筑对环境、社会以及经济的影响，结合当前的商业环境和商业惯例，对建筑进行分析、设计和建造
- 在西交利物浦大学，高度敬业的专业教授将在学生的学术生涯中为他们提供丰富的学习经验，并为学生提供参与现有的项目及论文的机会
- 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、英国著名罗素集团成员之一的利物浦大学学位

就业

建筑工程专业的毕业生将拥有坚实的建筑工程专业基础，充分具备在建筑工业和建筑咨询业从事专业性工作的能力，毕业以后可以从事的职业包括：结构工程师、项目经理、咨询工程师、BIM工程师、造价工程师、房屋设备设计师、研究人员等。

本专业也为学生在建筑学、土木工程、结构工程、施工管理、工程学，以及其它相关领域的研究生学习打下了扎实的基础。大多数毕业生选择了到世界各国顶尖学府进行深造，包括英国、美国、加拿大、澳大利亚、新西兰、荷兰。

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，对于已获得相应学时、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学习，包括众多有吸引力的课程，语言课程以及专业学习相关的核心技能学习。

第三学年

在三年级的学习中，本专业将加深学生对建筑设计和施工项目方面的了解。本学年的课程将涉及结构分析与设计、建筑材料与施工方法、土力学和工程项目管理等。此外，本阶段也将教授建筑拓扑学和建筑设备工程学方面的知识，这也是建筑工程专业的特色。

施工方法
工程结构
钢筋混凝土与钢结构
综合建筑设计中的建筑拓扑学
数值方法
土木工程项目管理
建筑材料
基本土力学
结构性与建模
建筑设备工程
建筑工程项目

第二学年

本学年，学生将接触到对土木和建筑工程师而言不可或缺的基础课程，为更高阶段的学习作准备。本学年课程包括：数学、结构基础、材料、流体力学、测量和管理。此外，为了使学生了解建筑设计基础知识，建筑系的三门课程也会被引入到本阶段的学习中。

工程数学	材料学概论
管理学导论	建筑技术与创新
固体与结构	人文与建筑
测量学	小型建筑综合设计
流体力学	

第四学年

最后一年中，学生将学到更高级的分析和设计的相关理论，同时结合工程的实际案例。本阶段的课程将涉及钢结构、木结构与砖石结构设计、地基工程、地震工程学和施工管理。综合设计项目 (Capstone design 2) 将引导学生进行大型的结构设计。在此阶段的学习中，学生会接触到更多建筑工程学相关的科目，例如成本控制与预算和建筑信息模型 (BIM)。此外，学生在本学年还将在专业导师的指导下完成一项个人科研项目，该项目的跨期为两个学期。

施工管理	木结构和砖石结构
地基工程	综合设计项目II
结构动力学	建造成本控制与预算
地震工程学	建筑信息模型
钢结构	毕业设计

BENG ARCHITECTURAL ENGINEERING 建筑工程

The BEng Architectural Engineering programme is designed to produce architectural engineers with strong problem-solving skills and a comprehensive understanding of the multidisciplinary aspects of building. The principles and precision of civil, structural, and building services engineering and the creativity of architecture are combined to give you a well-rounded education with excellent career prospects.

The programme prepares you for working with sound professional judgement in multidisciplinary teams through the study of a range of modules in both the Department of Civil Engineering and the Department of Architecture.

Upon graduation you will have fully satisfying the educational base for an Incorporated Engineer (IEng) in the Joint Board of Moderators (JBM) in the United Kingdom, and partially satisfying the educational base for a Chartered Engineer (CEng).

建筑工程专业是为培养具有优秀问题解决能力以及对建筑的各个相关学科有综合理解能力的建筑工程师而设计的。

建筑工程专业结合了工程学的严谨与设计的创造性，把土木工程，结构设计，建筑设备工程以及建筑设计等学科结合在一起，成为了本专业的独到之处，为学生提供高素质的教育以及出色的职业前景。通过同时学习包括土木工程和建筑系一系列的课程，本专业培养的建筑工程师将具备有在多学科团队合作中的专业能力。

本专业完全符合英国工程委员会监管机构(Joint Board of Moderators, JBM)的注册工程师 Incorporated Engineer (IEng) 所需课程认证；部分符合英国特许工程师Chartered (CEng) 所需课程认证。