

## PROGRAMME OVERVIEW

### DEGREE PROGRAMME

BEng Electronic Science and Technology

### AWARDING INSTITUTION

University of Liverpool, UK  
Xi'an Jiaotong-Liverpool University, China

### TUITION FEE

RMB 88,000 per year  
All international, Hong Kong, Macao and Taiwan students who accept their offer and pay the deposit by 1st May 2018 will automatically qualify for a RMB 8,000 early bird discount.

### PROGRAMME DURATION

3-4 years

### SCHOLARSHIPS

Scholarships of up to 50% are available for international students. For details, please visit:  
[www.xjtlu.edu.cn/en/study-with-us/admissions/scholarships](http://www.xjtlu.edu.cn/en/study-with-us/admissions/scholarships)

## INTERNATIONAL STUDENT ENTRY REQUIREMENTS

[www.xjtlu.edu.cn/en/study-with-us/admissions/entry-requirements](http://www.xjtlu.edu.cn/en/study-with-us/admissions/entry-requirements)

### ENTRY INTO YEAR ONE

We welcome applications from high-quality candidates in all subject areas with appropriate high school or equivalent qualifications. Students will normally be expected to have a high standing in their high school performance with a minimum "B" average in relevant subjects.

### ENTRY INTO YEAR TWO

Students who have completed A-levels or International Baccalaureate (or equivalent) will be considered for entry into Year Two.

- A-level: BBB
- IB: 30 points
- SAT: high school diploma with a GPA of 3.0, plus three SAT subject tests of at least 600 in each subject or redesigned SAT 1280
- AP: high school diploma with a GPA of 3.0, plus three AP subjects at Grade 4 or above

### HONG KONG, MACAO AND TAIWAN

Applicants from Hong Kong, Macao and Taiwan may also apply with the Joint Entrance Examination to Chinese Universities for Overseas Chinese Students and Students from Hong Kong, Macao and Taiwan, or the GSAT.

### ENGLISH LANGUAGE REQUIREMENTS

YEAR ONE ENTRY	IELTS 5.5	TOEFL iBT 72
YEAR TWO ENTRY	IELTS 6.5	TOEFL iBT 90

The University reserves the right to modify programmes at any time in response to unforeseen circumstances, feedback and review. The University also reserves the right to not offer programmes with low enrolments. For the latest information, please visit our website.

## HOW TO APPLY

[www.xjtlu.edu.cn/en/study-with-us/admissions/how-to-apply](http://www.xjtlu.edu.cn/en/study-with-us/admissions/how-to-apply)

### INTERNATIONAL, HONG KONG, MACAO AND TAIWAN

All international, Hong Kong, Macao and Taiwan applicants should apply via our online application system:

1. Choose your programme
2. Click/tap 'Apply' on the programme page
3. Create an account or log in to your existing account
4. Complete your application.

You may save and re-log in to your application form at any time and upload any remaining supporting documents.

We reserve the right to request additional documents or an interview to assess your academic qualifications.

### CHINESE NATIONALS

You should take the National College Entrance Examination (Gaokao) and achieve a score above the Tier One threshold of your home province. You can then apply for XJTLU through the National College Application System at the first tier.

### Comprehensive Evaluation Admission

XJTLU Comprehensive Evaluation Admission only applies to students in Jiangsu and Guangdong but will expand to other provinces in the future.

### APPLICATION DEADLINE

30 June 2018

# BEng

# ELECTRONIC

# SCIENCE AND

# TECHNOLOGY

# 电子科学与技术

# 电子科学与技术

电子科学与技术专业教授有关先进的电子元器件和电路、微电子器件和集成电路、以及光电子器件和光通讯的基本工作原理, 办学方向集中在集成电路(芯片)设计、制造和应用。本专业为学生提供在微电子学、光电子学、半导体材料和器件、集成电路设计、集成电路制造以及集成电路应用(包括应用于电子仪器和系统、电子工程、通讯工程等)等方面的全面基础训练, 培养尖端新兴技术的运用能力。

## 行业认证

西交利物浦大学电气与电子工程系的本科和硕士专业获得英国工程技术学会(IET)的全面认证。它是评定全球范围内达到英国专业工程技能标准(UK-SPEC)要求的高质量专业教育是否可以得到国际认可的基准和标志。

## 专业特色

- 英国工程技术学会(IET)的全面认证;
- 本专业学生将学习电子系统中开发集成电路设计、集成电路制作和集成电路应用的最新理论和工具, 并可以运用学到的知识在超净实验室内实践验证;
- 本专业拥有14套正版的集成电路模块设计软件;
- 本专业还拥有在中国大学中极为独特的集成电路芯片微纳制造工艺线;
- 同时获得中国教育部认可的西交利物浦大学学位与全球著名的罗素教育集团成员——英国利物浦大学学位。

## 知识与技能

- 熟练掌握建模和分析方法的应用;
- 能够用IT设计工具和CAD系统建模、分析、模拟和设计集成电路;
- 能够根据原始需求与限制条件开发、设计和制造电子和通讯系统;
- 能够根据原始需求与限制条件设计和制造集成电路芯片或光电子器件。



扫描二维码  
获取更多专业信息

咨询邮箱  
[international@xjtlu.edu.cn](mailto:international@xjtlu.edu.cn) (国际学生)  
[admissions@xjtlu.edu.cn](mailto:admissions@xjtlu.edu.cn) (中国学生)

在线申请  
[www.xjtlu.edu.cn/zh/find-a-programme/undergraduate/electronic-science-and-technology](http://www.xjtlu.edu.cn/zh/find-a-programme/undergraduate/electronic-science-and-technology)

## 课程

### 一年级

大学一年级内容包括众多的基础课目。

### 第二学年

电子电路—晶体管和放大器
电工原理和电路
C和C++编程与软件工程
工程数学
工程电磁学与驱动
数字电子学
集成电子学与设计 (微电子学导论)
实验技能

### 第三学年

连续和离散时间信号和系统
电子电路及系统
电磁学
电工原理和电路
数字电子学
CMOS集成电路 (数字集成电路)
微处理器系统
产业意识与团队项目
模拟与数字通信
仪器测量
射频工程与应用电磁学
能源转换和电源系统
控制系统

### 第四学年

模拟与数字通信
通信电子学
HDL数字设计
集成电路 (数模集成电路设计和制造)
信号处理
仪表电子学
数字滤波
毕业设计
<b>选修课:</b>
嵌入式计算机系统
光电子学和光子学
微/纳米制造技术

## 就业

- 本专业毕业生在微电子工程、电子工程和通讯工程行业具有广泛的就业机会;
- 毕业生优势体现在微电子/光电子行业, 从事芯片/光电子器件设计工程师、芯片/光电子器件制造工程师、芯片/光电子器件测试工程师和集成电路应用工程师(电子工程和通讯工程)等工作岗位。
- 毕业生也可选择在电子学方面继续攻读硕士或博士研究生。

# BEng ELECTRONIC SCIENCE AND TECHNOLOGY

The BEng Electronic Science and Technology programme offers you a thorough foundation in micro-electronic engineering, electronic engineering and photonic engineering. You will learn to operate at the cutting-edge of emerging technologies.

## ACCREDITATION

This programme has been accredited by the Institution of Engineering and Technology (IET). IET is a leading professional organisation working to share and advance knowledge and promote science, engineering and technology across the world.

Students graduating from this accredited programme can enjoy a more straightforward registration process for incorporated engineer (IEng) or chartered engineer (CEng) registration, important benchmarks professionally.



SCAN THE QR CODE  
TO VISIT THE  
PROGRAMME  
WEBSITE

GENERAL ENQUIRIES  
[international@xjtlu.edu.cn](mailto:international@xjtlu.edu.cn) (International)  
[admissions@xjtlu.edu.cn](mailto:admissions@xjtlu.edu.cn) (Chinese nationals)

APPLY  
[www.xjtlu.edu.cn/en/find-a-programme/undergraduate/electronic-science-and-technology](http://www.xjtlu.edu.cn/en/find-a-programme/undergraduate/electronic-science-and-technology)

## DISTINCTIVE FEATURES

- Accreditation by the Institution of Engineering Technology; an internationally respected benchmark awarded to high-quality programmes within and outside the UK that meet the educational requirements of the UK Standard for Professional Engineering Competence (UK-SPEC).
- Use state-of-the-art equipment and tools for developing integrated circuit (IC) design, IC fabrication and application in electronic systems.
- Have access to an equipped clean-room to apply knowledge learnt from books and lectures.
- Study an IC design module, based on appropriate software, which is unique among Chinese universities.
- 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.

## CAREERS

With a worldwide shortage of graduates in this field, BEng Electronic Science and Technology graduates have multiple career opportunities within micro-electronic engineering, electronic engineering and photonic engineering. Given the programme's strong focus on micro and photo-electronics, graduates will be particularly well-equipped for employment in the microelectronics (semiconductor) and photonics industries. The programme will also provide a sound foundation for further studies at masters and PhD levels in microelectronics, electronics and photonics.

## KNOWLEDGE AND SKILLS

- By the time you graduate, you will:
- have extensive experience in modelling and analytical methods
  - be able to use IT tools and computer-aided design systems for modelling, analysis, simulation and design
  - be able to design a system, component or process based on initial requirements and constraints
  - be able to design and fabricate integrated circuit chips or photonic devices.

## MODULES

### YEAR ONE

Year One provides you with a range of interesting modules, language classes and core skills for your degree. International students who meet academic and English language requirements may enter directly into Year Two, which is the start of the main academic programme.

### YEAR TWO

ELECTRONIC CIRCUITS – TRANSISTORS AND AMPLIFIERS
ELECTRICAL CIRCUITS
C AND C++ PROGRAMMING AND SOFTWARE ENGINEERING
ENGINEERING MATHEMATICS
ENGINEERING ELECTROMAGNETISM AND DRIVES
DIGITAL ELECTRONICS
INTEGRATED ELECTRONICS AND DESIGN
EXPERIMENTAL SKILLS

### YEAR THREE

CONTINUOUS AND DISCRETE TIME SIGNALS AND SYSTEMS
ELECTRONIC CIRCUITS AND SYSTEMS
ELECTROMAGNETICS
ELECTRICAL CIRCUITS
CMOS INTEGRATED CIRCUITS
DIGITAL ELECTRONICS
ENGINEERING MATHEMATICS
MICROPROCESSOR SYSTEMS
INDUSTRIAL AWARENESS AND GROUP PROJECT
ANALOGUE AND DIGITAL COMMUNICATIONS
INSTRUMENTATION
RF ENGINEERING AND APPLIED ELECTROMAGNETICS
ENERGY CONVERSION AND POWER SYSTEMS
CONTROL SYSTEMS

### YEAR FOUR

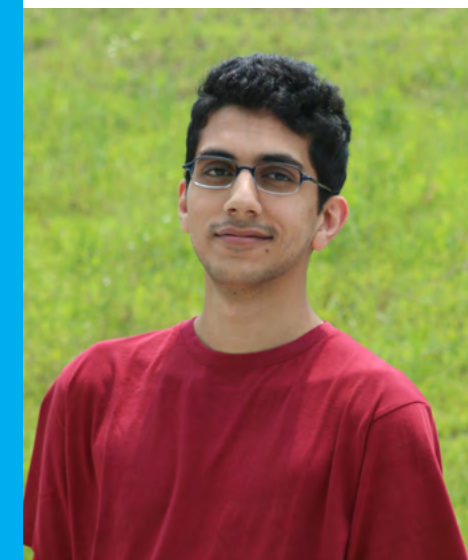
ANALOGUE AND DIGITAL COMMUNICATIONS
ELECTRONICS FOR COMMUNICATIONS
DIGITAL DESIGN WITH HDL
INTEGRATED CIRCUITS
SIGNAL PROCESSING
ELECTRONICS FOR INSTRUMENTATION
DIGITAL FILTERING
FINAL YEAR PROJECT

Choose from the following:

EMBEDDED COMPUTER SYSTEMS
OPTOELECTRONICS AND PHOTONICS
PHOTONICS AND OPTICAL COMMUNICATION SYSTEMS
MICRO AND NANO-MANUFACTURING TECHNOLOGY

“I love the organisation of the city, Suzhou Industrial Park in particular is so nicely laid out. I'm happy with the facilities at XJTLU in terms of labs and the international teachers here are approachable and helpful - they have helped me a lot in my studies. I want to work in the electronics field in the future and I'm looking into a few different research areas.”

ALI KHAN  
STUDENT  
BEng ELECTRONIC SCIENCE AND TECHNOLOGY



# XJTLU

## UNDERGRADUATE

### DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING 电气与电子工程系

The Department of Electrical and Electronic Engineering is committed to research and teaching excellence. Our highly qualified academic staff includes full professors, associate professors and lecturers. We aim to develop graduates who are competent in the fundamentals of electrical and electronic engineering with wider transferable skills in communication, team-working, organisational awareness and project management. Our students are able to meet the needs of a wide spectrum of employers both within and outside the specialised sector. Our strong research background has a positive impact on the quality of teaching - our students are exposed to the latest cutting-edge knowledge.

电气与电子工程系致力于追求卓越学术研究及教学水平。我系具备高质量学术人才, 由教授、副教授和讲师组成。我系以培养在电气与电子工程系方面拥有足够竞争力, 在沟通、团队合作、组织意识和项目管理方面拥有广泛通用技能的毕业生为目标。不论是专业知识或非专业领域能力, 我系学生都能满足雇主的广泛需求。

### XI'AN JIAOTONG-LIVERPOOL UNIVERSITY 西交利物浦大学

Xi'an Jiaotong-Liverpool University is the largest international joint venture university in China, combining the best of East and West, awarding English-taught University of Liverpool degrees.