



ZJU-UIUC INSTITUTE

Zhejiang University-University of Illinois at Urbana-Champaign Institute
浙江大学伊利诺伊大学厄巴纳香槟校区联合学院

Zhejiang University-University of Illinois at Urbana-Champaign Institute

International Undergraduate Degree Program (ZJU Degree)

Overview

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The Zhejiang University-University of Illinois at Urbana-Champaign Institute (the ZJU-UIUC Institute, ZJUI) is a cooperatively-run engineering college on the Zhejiang University(ZJU) International Campus in Haining, China. Complemented with contributions from counterpart colleges and departments from ZJU, ZJU-UIUC Institute will provide a world-class engineering education. The institute was officially launched on April 11, 2016. At present, ZJUI has 518 undergraduates and 48 PhD candidates. The ZJUI Faculty is composed of talent recruited from top-tier international universities and distinguished professors from ZJU and UIUC. In the 3 years since the institute established, ZJUI's education features gradually condensed. And the preliminary results of the innovative educational practice gradually produced. The undergraduate students have been successful at various competitions and shines at international conference and academic journals. ZJUI provide a strong institutional foundation with a strong mix between both interdisciplinary innovation and teaching practice.

Zhejiang University

Founded in 1897, Zhejiang University is one of China's oldest and most prestigious institutions of higher education. Laying claim to several areas of research strength, ZJU currently ranks among the top three universities on the Chinese mainland and within the top 100 in the Times Higher Education World Reputation Rankings and QS World University Rankings. Eighteen disciplines of ZJU have been selected for China's "Double First-class" Initiative (3rd in China) and 39 disciplines graded A in the recent national assessment (1st in China). The engineering programs of Zhejiang University ranked 4th in the World Best Global Universities Rankings published by US News & World Report in 2016. ZJU has 25 Members of the Chinese Academy of Sciences and 25 Members of the Chinese Academy of Engineering.

Programs

Electronic and Computer Engineering (ZJU Single Degree)

Study in ZJUI for 4 years, and students who successfully complete the program and meet the requirements will receive bachelor's degrees of ZJU



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PROGRAM OVERVIEW

Electronic and Computer engineering develops student understanding of a computer system from top to bottom – from application software to operating systems to hardware and circuits. It prepares students to create the wide array of computing systems and devices that we all use and depend upon every day.

CAREER PROSPECTS

Graduates will work in all segments of the broad and thriving computer industry, including:

- software engineering
- programming
- computer system architecture
- microprocessor/hardware design
- realtime and embedded systems
- operating systems
- human machine interfaces
- artificial intelligence
- image and speech processing
- cloud computing and large
- scale data

DISTINCTIVE CHARACTERISTICS

A broad and solid foundation in mathematics, and computing skills. A large degree of flexibility in the curriculum that enables students to pursue topics of interest among the many sub-disciplines in computing.

Electrical Engineering and its Automation (ZJU Single Degree)

Study in ZJUI for 4 years, and students who successfully complete the program and meet the requirements will receive bachelor's degrees of ZJU

PROGRAM OVERVIEW

Electrical engineering and its Automation is a multifaceted discipline and has produced an astounding progression of technological innovations that have shaped virtually every aspect of modern life. It is a rapidly evolving discipline based on the application of math, physics, and computation to address the needs of our networked information-age society.

CAREER PROSPECTS

Graduates will work in a variety of fields including:

- communications and wireless networks
- electromagnetics, optics, remote sensing



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- energy, power and transportation
- signal, image, and speech processing
- robotics and control systems
- semiconductor materials and integrated circuits
- nanotechnology and quantum devices
- lasers, biomedical sensing and probing, acoustics
- operating systems and software engineering
- networking and information security

DISTINCTIVE CHARACTERISTICS

A broad and solid foundation in mathematics and physics. An emphasis on innovation and design of sensing, communication, computing, and decision-making systems of increasing complexity in various application domains.

Features & Strengths

1. Top-tier programs cooperation, Promising career prospect

Complemented with contributions from counterpart colleges and departments from ZJU, ZJU-UIUC Institute will provide a world-class engineering education. The two ZJU single degree programs we offer are both advantage programs. In the national assessment of the discipline, all the relevant disciplines of ZJU obtained A. All the courses and activities will be conducted in English.

In the tide of information age, Electrical Engineering and Computer Engineering will definitely become the most popular programs in engineering, artificial intelligence, machine learning, semiconductor materials, depth algorithm and integrated circuit, nanotechnology and quantum, 5G communication, many new fields create positions for the graduates of these two programs, lots of opportunities and broad market will give the students a good development prospects.

2. Break the discipline boundary, accelerate cross-disciplinary innovation

Today's most important engineering challenges require expert teamwork across many disciplines. ZJUI students learn the deep knowledge and fundamentals that define their core discipline, and work together across all disciplines on design projects and comprehensive problems. Advanced classes in systems-oriented topics, student teams built around major international competitions, and visitors from all over the world help to demonstrate convergence and cooperation. Students are engaged in engineering challenges from their very first semester. The engagement in design and in broad engineering challenges begins immediately and progresses throughout the curriculum. By their final year, students are organizing and working on multidiscipline design teams to invent a solution to a problem they have chosen.



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ZJUI focus on the following cross-disciplinary areas:

- Intelligent city (including intelligent infrastructure, intelligent traffic management, intelligent cargo, dynamic intelligent parking, etc.).
- Energy development and the sustainable development (including smart grid, high quality environment, etc.)
- High-performance materials (including nano materials, atomic scale materials, etc.)
- Advanced manufacturing (including robot, industrial data analysis, process control and intelligent computing, etc.)
- Medical technology based on the engineering (cooperate with ZJU-Edinburgh Joint Institute, develop advanced medical treatment method, medical equipment design and manufacturing, etc.)

3. Emphasis the research training, create an innovation curriculum

Features of the curriculum

- Engineering classes and learning from the very first day.
- Joint courses that converge disciplines throughout the program, in every term
- Cross-discipline advanced courses to provide a broad perspective
- Design that transcends the disciplines
- Ongoing creativity, entrepreneurship and leadership learning and opportunities

Features of ZJUI education

- Cross-discipline education
- Enhanced interaction between faculty and students
- Evaluation and feedback throughout the process
- Extend a vision of engineering toward grand global challenges
- Combine theory and practice

4. Hunting world-class faculty, building a strong faculty team

Talent recruited from top-tier international universities that include UIUC, ZJU, MIT, Stanford, UC Berkeley, CalTech, Carnegie Mellon, Johns Hopkins, Tsinghua, HKUST, Cambridge, and many others. So far, we have 1 Member of U.S. National Academy of Engineering U.S., 54% of them hold a non-Chinese passport, they came from the United States, Italy, Germany, Singapore, Ukraine, etc.

5. Residential college model and All-rounded Cultivation

The International Campus has a Residential College housing system. Each residential college provides a friendly and supportive learning-and-living environment. Each student has a private bedroom, shared bathroom, and common living space. Each College offers library facilities, study rooms, discussion and interactive spaces, laundry



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facilities, activity spaces, and fitness rooms. Each College becomes a close-knit community, serving as a microcosm of the diverse student population on the International Campus. The Residential Colleges are significant in the everyday lives of ZJU's students. The colleges provide an exceptional opportunity to meet and learn from students, tutors, and professors with different interests – people students might not otherwise encounter in their courses or extracurricular activities.

The Master of the Residential College, Professor Lap-Chee Tsui, is a renowned educator who served as President of the University of Hong Kong for 12 years. The Fellows, Tutors and Counselors in each College seek to help students make the most of their learning experience, through general education, personal development, extracurricular activities, and events. The program seeks to help students become well-rounded people with knowledge, leadership skills, competence, creativity, morality, and individuality. A trained support team is available on campus 24 hours a day.

6. First-Class Campus

- The International Campus provides faculty and students with a first-class environment for living and learning.
- Support and services are provided by the Campus Operation & Service Center and the Student Center.
- Teaching facilities include classrooms equipped with interactive integrated teaching systems, classrooms with flexible furniture and configurations, small meeting and discussion rooms, and world-class laboratories.
- Academic support through the library, outstanding information technology, and access to information and study facilities.
- Sports and activity facilities include music rooms, game rooms, a massive sports center, and student activity rooms.

ZJU-UIUC Institute is a strong partnership between two prestigious universities in China and U.S., it offers top programs in engineering and carries out the cross-disciplinary education and research, we sincerely welcome you to join us and solve the greatest challenge together with us, let's embracing the challenges and the future.

Preliminary Requirements of Application

SAT	IB	GCE A-level	ACT
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<p>For SAT exam, a score in the range 1200</p>	<p>An overall score of 30 points, including 6 in Mathematics and Physics at higher level.</p>	<p>ABB, in one sitting, to include Mathematics and Physics. GCSEs: Mathematics at Grade B and English at Grade C.</p>	<p>ACT Composite score of 25 minimum</p>
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单学位招生专业介绍

学院简介

浙江大学伊利诺伊大学厄巴纳香槟校区联合学院

浙江大学伊利诺伊大学厄巴纳香槟校区联合学院 (ZJU-UIUC Institute) 是浙江大学 (ZJU) 与美国伊利诺伊大学厄巴纳香槟校区 (UIUC) 共建的中外合作办学机构, 2016 年 2 月经教育部批准成立, 依托浙江大学相应院系的优势, 融合 UIUC 工学院顶尖专业的培养体系, 汇聚全球精英, 开展科学研究, 培育青年翘楚。两校合作培养本科生、硕士生和博士生。目前联合学院共有本科生 518 人、博士生 48 人。联合学院通过全球招聘引进了一批来自全球顶尖高校的一流专聘教师。学院成立三年来, 工程交叉创新培养特色逐步凝练、培养成果初步显现, 学子屡获国内外学科竞赛大奖, 屡次在国际学术期刊和学术会议上发表论文……人才培养形成了厚基础、强交叉、重实践、求创新的鲜明特色。

浙江大学

浙江大学是一所历史悠久、声誉卓著的高等教育学府, 成立于 1897 年, 直属于中华人民共和国教育部, 是中国“双一流”重点建设高校, 是 C9 联盟、环太平洋大学联盟的成员。2018 年度《美国新闻与世界报道》(US News & World Report) 世界大学排名中, 浙江大学工学学科位列世界第七。浙江大学在聘教师队伍中共有 25 位中国科学院院士, 25 位中国工程院院士。

培养专业

电子与计算机工程 (浙大单学位)

四年均在联合学院接受国际化交叉创新培养, 符合毕业后获得浙江大学学位与学历证书

关注关键计算技术的发展, 如芯片、计算机、网络、编程工具以及构建各种应用的关键算法等, 构建可扩展、可信任的计算系统。电子与计算机工程几乎在所有科学和工程领域的革新中发挥了关键作用, 如并行计算、云计算等技术的应用, 使得人类生活发生了翻天覆地的变化。该专业让学生有能力开发我们日常使用和依赖的各类计算机软硬件系统和设备。

职业前景

毕业生将在应用广泛、蓬勃发展的信息技术行业从事各种工作, 包括:

- 软件工程师
- 程序员



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- 计算机系统架构师
 - 微处理器/硬件设计师
 - 实时系统和嵌入式系统
 - 操作系统
 - 人机界面
 - 人工智能
 - 图像与语音处理
 - 云计算与大数据
- 等众多日新月异的专业领域。

显著特色

广泛而扎实的数学功底和计算能力

课程具有很大的灵活性，让学生在计算机的众多分支学科中学习感兴趣的内容

电气工程及其自动化（浙大单学位）

四年均在联合学院接受国际化交叉创新培养，符合毕业要求后获得浙江大学学位与学历证书

是一门多分支的学科，是现代能源、通信、传感、计算、医疗、安全和国防等很多领域的技术基础，在每个分支领域，其应用都强烈依赖于动手实践或理论、数学和计算方法，在消费、国防和医疗应用等领域日益增长的需求不断给该学科带来新的挑战和发展机遇。

职业前景

毕业生将从事多个领域的工作，包括：

- 通信与无线网络
- 电磁、光学、遥感
- 能源、交通运输
- 信号、图像与语音处理
- 机器人与控制系统
- 半导体材料与集成电路
- 纳米技术与量子器件
- 激光、生物医学传感和探测、声学
- 操作系统与软件工程
- 网络与信息安全

显著特色

广泛而扎实的数学和物理功底

强调传感的创新与设计、沟通、计算，以及多个应用领域中日益复杂的决策体系



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学院特色与优势

一、优势专业联合 就业前景广阔

联合学院目前开设的两个浙大单学位本科专业电气工程及其自动化与电子与计算机工程均为浙大优势专业，两个专业均为全英文授课。全国第四轮学科评估中，浙江大学以上学科全部获得 A 级。

在信息化时代浪潮中，电子与计算机工程、电气工程及其自动化专业无疑是最为热门的工程专业，人工智能、深度算法、机器学习、半导体材料与集成电路、纳米技术与量子期间、5G 通信等许多崭新的领域都在为这两个专业开疆辟土，机会多，市场广，学生的就业前景极佳。

二、打破学科界限 交叉融合创新

联合学院打破传统工程学科界限，不按学科属性设立系、所等机构。

学科交叉融合：建立学科交叉平台，如工程与系统科学平台、信息系统与数字科学平台、能源与环境工程科学平台等。不同专业共同协作，面向未来社会的热点工程领域、造就跨领域、多学科知识背景创新人才。

教师交叉融合：鼓励不同专业背景教师融合、交叉合作，学院有伙伴听课制度、教师午餐会制度、教师招待会制度、教师研讨会制度等，促进教师交叉融合。

学生交叉融合：不同专业学生生活学习在一起，同上一门课，同在一个组讨论，完成团队作业，参加社团活动等。高年级阶段设立工程交叉创新团队，不同专业学生一起参与课题研究活动。

学院重点关注的交叉融合创新领域包括：

- 智慧城市（包括智能基础设施、智能交通管理、智能货物运载、动态智能停车等）。
- 能源开发与可持续发展（包括智能电网、高质量环境等）。
- 高性能材料（包括纳米材料、原子尺度材料等）
- 先进制造（包括机器人、工业大数据分析、过程控制和智能计算等）
- 基于工程的医疗技术（与浙大爱丁堡联合学院生物医学融合，研究开发先进医疗方法、医疗设备设计和制造等）

三、重视科研训练 创新课程体系

学院目标是培养既知专业自身，也知其他广阔领域的 T 型学生，鼓励学生主动学习，坚持问题导向。课程五大特色：

- 入学伊始即接受工程教育，传统工科要在大三才开始
- 每个学期都有跨专业联合课程



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- 交叉学科的高级课程提供广阔视野
- 跨学科的设计训练与实践
- 持续的创新、创业、领导力学习和训练

优化培养方案：采用联合学院三年多合作形成的教育教学培养模式、课程体系、核心教材、质量标准和保障体系，全英文授课。

强调师生互动：启发式教学，**主动性学习**，所有课程授课均采用理论课和讨论课、实验课结合的形式，讨论课和实验课均为**小班化教学**。

全程学习评价：持续学习提升，课外作业丰富，**阅读和写作能力培养**，测验、考试**次数多**，最终成绩是平时所有作业、测验、考试的成绩综合。

拓展工程视野：每周邀请全球学术界、工业界精英来校开设讲座，拓展学生知识视野，**发现个人兴趣**，启发智慧灵感。

理论与实践结合：**强化问题导向学习、科研和实践训练**，学生普遍参与设计与课题研究，提供广泛实习机会，培养创新、发明、创业能力。

四、选聘一流师资 获享名师资源

联合学院课程将由国际一流师资授课，包括学院全聘教师和浙江大学本部教师，及部分来自伊利诺伊大学厄巴纳香槟校区（UIUC）的教师。目前全聘教师有美国工程院院士1位，国家千人计划专家3位，和来自哈佛、耶鲁、剑桥、斯坦福、MIT、加州理工学院、加州大学伯克利分校、英国帝国理工、东京大学等著名大学毕业的教师，其中54%的教师拥有外国国籍。

五、书院全人教育 助力学生成长

住宿式书院：建筑集生活、学习、娱乐、锻炼、交流功能于一体，学生与专家学者、授课教师、学业导师等同住书院，不同专业学生在书院中住宿、自习、研讨、休闲和社交。

单元式生活：学生享有独立居住空间，集体单元式生活，中外学生同住，共享单元公共空间，学生既有个人生活空间，同时不疏于集体生活，促进不同知识和文化交流。

多样化活动：成立各种学生社团组织，举行多样化课外活动，如演讲、辩论、竞赛、演出、社区服务等，与课堂能力培养相辅相成，培养学生领导和社交能力，提升文化品位、自信心和责任感。

多方位辅导：配备资深导师、学业导师和生活导师，营造学业指导环境、素质发展环境、生活共享环境，集通识教育、素质教育、养成教育于一体，促进学生在知识、能力、素质等方面的全面发展。

书院由著名教育家、香港大学前校长徐立之教授担任院长。



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六、一流校园支撑 以生为本服务

校园建设：国际水准美丽校园为教师和学生营造一流教与学的环境。

后勤服务：校园运营中心、学生活动中心等为教师和学生提供全方位后勤保障服务。

教学设施：所有教室配置现代互动型交互一体机，为教师课堂教学提供现代化教学硬件支持，自由移动式桌椅便于自由组合进行小班化讨论式教学。

软件系统：教学教务系统与辅助教学平台均采用国际一流大学使用的主流产品，如教学管理系统使用美国 Oracle 公司 PeopleSoft 系统；教学辅助平台采用美国 Blackboard 公司系统。

ZJU-UIUC 联合学院是中美名校携手，顶尖专业联合，开展交叉工程科学研究的一流工程学院，我们真诚欢迎你的加入，与我们一起，拥抱全球挑战，拥抱未来。

申请最低成绩要求

SAT	IB	GCE A-level	ACT
For SAT exam, a score in the range 1200	An overall score of 30 points, including 6 in Mathematics and Physics at higher level.	ABB, in one sitting, to include Mathematics and Physics. GCSEs: Mathematics at Grade B and English at Grade C.	ACT Composite score of 25 minimum

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