

# British Degrees

at **Applied Science University**  
in Partnership with  
**London South Bank University**  
(Leading to LSBU Awards)



BEng (Hons) Architectural Design Engineering  
BEng (Hons) Civil and Construction Engineering

**ASU**  
جامعة العلوم التطبيقية  
APPLIED SCIENCE UNIVERSITY



**London  
South Bank  
University**

EST 1892





# London South Bank University

Established as the Borough Polytechnic Institute in 1892, the original aim of **London South Bank University (LSBU)** was to promote industrial skills, general knowledge, health and well-being of young men and women and this mission remains remarkably similar today. The University's focus on vocational education and professional opportunity allows it to produce graduates who can meet the challenges of today's workplace. LSBU won the Entrepreneurial University of the Year award in 2016.





Applied Science University (ASU) aspires to become a leading university in the Kingdom of Bahrain and in the wider Gulf region. We support economic and social development by providing undergraduate and postgraduate programmes that are designed to develop students' understanding of key theories and concepts through knowledge acquisition and development of practical skills, with a focus on providing programmes in STEM (science, technology, engineering and mathematics). We aim to foster life-long learning and to prepare our graduates for a range of career paths within their chosen field or discipline.

## British Awards

In partnership with **London South Bank University (LSBU)**, UK, a leading British university, Applied Science University (ASU) is now hosting **British programmes**, making it affordable for students to gain internationally recognised British qualifications in Bahrain. On successfully completing the programme, students will be awarded a degree from LSBU.



## Advantages

- Save on the high cost of living and tuition in the UK, live close to your family and friends in Bahrain while earning a British degree.
- The degree is internationally recognised giving you a competitive advantage in the job market, wherever your career takes you.
- Gain practical knowledge from highly qualified academics with robust professional experience.
- Develop lifelong learning skills. These key competencies and values are sought after by employers domestically and internationally.
- Get a chance to spend your internship in the UK interacting and collaborating with top international firms.
- Become a global professional.

## Entry Requirements

In order to be considered for entry to the programme, applicants are required to have:

- A Bahraini or GCC Secondary School (Scientific) Certificate, or equivalent, with a minimum of 65% GPA\* and a 60% in Mathematics and 60% in English language (competency equivalent to IELTS 4.5 or above).

*\*Candidates with a lower GPA may also be admitted subject to a satisfactory interview by the College.*

Progressing to the second year of the programme is subject to:

- Demonstrating English competency equivalent to IELTS 5 or above.

## Programmes

In partnership with **London South Bank University (UK)**, the following programmes are being hosted by ASU.

1. **BEng (Hons) Architectural Design Engineering**
2. **BEng (Hons) Civil and Construction Engineering**

The following programmes will be hosted in the future.

1. **BEng (Hons) Electronics and Electrical Engineering**
2. **BEng (Hons) Telecommunications and Networks Engineering**
3. **BEng (Hons) Mechanical and Design Engineering**

The Bachelor's degree programmes are four years long. In each year students must complete a specific number of courses (see study plans) and the courses are each assigned a weighting of three ASU credit hours.

To achieve the award, all years of the programme must be passed successfully.

Detailed descriptions of the individual courses for each programme may be found in the web pages: [www.asu.edu.bh/engineering](http://www.asu.edu.bh/engineering). The aims of the programmes are outlined below, together with their yearly study plans.



## Civil and Architectural Engineering Department

The department offers two programmes to prepare students for careers as engineers:

- BEng (Hons) Architectural Design Engineering
- BEng (Hons) Civil and Construction Engineering

The programmes embrace recent industry developments, in particular the ECUK UK Standard for Professional Engineering Competence (UK-SPEC), and give students the opportunity to achieve the professional status of Chartered Engineer.

The curriculum emphasises the development of traditional engineering numerical strengths coupled with an enquiring creative approach as required by employers. We hope that by the end of their programmes students will be excited by a blank sheet of paper, an undefined brief and the challenge of developing a rational solution! We seek to educate rather than just train.

Because both civil and architectural engineering are such broad areas, there are many different specialisms for students to consider after graduating and our degrees will give students a solid foundation to enter any of them.

### Philosophy of the curriculum

The central theme of the programmes is developed around the broad concept of "engineering - design and construction". This is achieved by structuring the programmes around two main strands, namely Engineering Analysis and Engineering Design.

### Engineering Analysis Courses

This strand of the course develops the fundamental knowledge of engineering, considering the physics of the problems, the theoretical underpinning and problem-solving techniques.

### Engineering Design Courses

The design capability is developed as a generic capability underpinned by engineering analysis with the objective of developing Civil and Architectural Engineers who approach design problems creatively and who have the technical skills to see ideas through to realisation.

### Complementary Courses

These units further enhance the quality of the Civil and Architectural Engineer by providing general and specialist skills in a range of appropriate computer software and IT packages including CAD and BIM packages. The principles of Building Information Modelling are studied in several courses and applied in group projects.

### Project

The final year Project course is an individual submission of an investigation into a specific area of the programme, providing the student with the opportunity to pursue a programme of independent study. The work is expected to be of an investigative nature having an experimental, analytical or fieldwork input.

### Laboratory and Studio Work

This is a major aspect of the course. Practical work will be contained within this course and will be designed to relate to other courses to provide a holistic approach.

## Study Plan Year 1(Common between the 2 Programmes)

Level 3 - Semester 1
Modules
Mathematics I
Engineering Science I
Intermediate English
Principles of Engineering
Laboratory and Workshop Skills

Level 3 - Semester 2
Modules
Mathematics II
Advanced English
Engineering Science II
Constructing the Built Environment
Study Skills and Professional Practice
Computer Programming for Engineering

Level 3 - Summer Semester (Compulsory)
Modules
Human Rights
Bahrain Civilization and History
Arabic Language/Arabic Language for Non-Arabic Speakers



## BEng (Hons) Architectural Design Engineering Objectives of the Programme

This programme is intended for undergraduate students who wish to study the discipline of Architectural Design Engineering to Honours degree level and who may wish to achieve professional status later. This programme is designed to embrace developments in the industry, in particular the Engineering Council UK (ECUK) Standard for Professional Engineering Competence (UK-SPEC).

### Distinctive Feature of the Programme

- Develop students' core, personal and employability skills, to help them adapt to the changing labour market.
- Expose students to a multitude of aspects of the construction process, and prepare them for work in multidisciplinary teams.
- Give students a blend of architecture and civil engineering courses, exploring the form and appearance of buildings, as well as their analysis, design and construction.
- Produce graduates with knowledge, problem-solving skills and practical know-how of the key aspects of architectural and civil engineering, and the creativity and individuality of architecture.
- Produce graduates who are aware of the whole design process, including design procedures in codes of practice, architectural engineering procedures, project management, quality issues, finance, ethical conduct, environmental issues and health and safety.
- Produce graduates who can work in multidisciplinary design practices and provide a link between engineering and architecture professionals.
- Provide graduates with the necessary academic qualifications which will provide the full educational base for a successful career in the industry.



### What is the difference between Architecture and Architectural Engineering?

	Architecture	Architectural Engineering
What's it all about?	Design, and how this fits within the broader context of society.	Engineering aspects of buildings - their structural systems.
Who is the course for?	Creative people with strong art and design skills who are interested specifically in the building.	Mathematically-minded and scientific people who are interested in building physics, the construction process, and design.
What will I study?	Design and making skills, history of architecture, architectural theory, structures, materials, sustainability, ethics and communication skills	Architectural sustainable building design and technology, building information modelling (BIM), 3D computer aided design (CAD) and visualisation, structural building analysis, calculus, building physics and thermodynamics
What careers are open to me?	Architectural Assistant, or Architect	Architectural Engineer
What does the job involve?	Working with a client to translate their vision into a design. This could be at the principle design stage or produce detailed construction drawings.	Carrying out design, testing, analysis, and implementation of building structures, as well as analysis of what is under a building, to meet regulations and the demands of the design. They use specialist skills such as building information modelling.



## Study Plan

### Year 2 (Level 4)

Level 4 - Semester 1
Modules
Architectural Engineering Design and Structures 1
Engineering Practice and Design 1
Engineering Mathematics 1
Principles of Engineering Science 1
CAD Graphics
Integrated Design and Construction

Level 4 - Semester 2
Modules
Architectural Engineering Design and Structures 2
Engineering Practice and Design 2
Engineering Mathematics 2
Principles of Engineering Science 2
Building Technology
Building Environment Simulation and Analysis

### Year 3 (Level 5)

Level 5 - Semester 1
Modules
Structural Design 1
Advanced Engineering Mathematics
Geotechnics 1
Design Procedures for Architecture 1
AutoCAD-3D
Engineering Management and Economics

Level 5 - Semester 2
Modules
Structural Design 2
Design Procedures for Architecture 2
Architectural Engineering Field Studies
Building Information Modeling
Engineering Ethics
Internship

### Year 4 (Level 6)

Level 6 - Semester 1
Modules
Project 1
Structural Design and Analysis 1
Engineering Research Methods
Energy Conservation in Buildings
Thermodynamics for Buildings
Forensic Engineering and Conservation

Level 6 - Semester 2
Modules
Project 2
Geotechnics 2
Innovation, Enterprise and Management
Design project
Structural Design and Analysis 2



# BEng (Hons) in Civil and Construction Engineering

## Objectives of the Programme

This programme prepares students for a career in civil and construction engineering. The programme embraces recent industry developments, in particular the Engineering Council, UK (ECUK) Standard for Professional Engineering Competence (UK-SPEC), and gives students the opportunity to achieve the relevant and appropriate professional status. The curriculum emphasizes the development of traditional engineering numerical strengths coupled with an enquiring creative approach as required by employers. This degree will give students a solid foundation for entering the industry equipped with the necessary skills required to excel in a competitive environment.

## Distinctive Features of the Programme

- Produce graduates who are suited to a career in civil engineering and the construction industry.
- Produce graduates who have a breadth and depth of knowledge and understanding of the key aspects of civil engineering.
- Allow graduates to acquire and develop analytical and problem-solving skills and subject-specific skills; develop the ability to evaluate evidence, arguments and assumptions; and to communicate effectively.
- Develop graduates who approach design problems creatively and who have the technical skills to see their ideas through to realisation.
- Provide an education in disciplines relevant to the development of the built environment aiming to cultivate interaction and teamwork culture amongst various professionals in the field.

## Study Plan

### Year 2 / Level 4

Level 4 - Semester 1
Modules
Engineering Practice and Design 1
Engineering Mathematics 1
Surveying and Structures 1
Principles of Engineering Science 1
Structural Design
Civil Engineering Drawing & Surveying

Level 4 - Semester 2
Modules
Engineering Practice and Design 2
Engineering Mathematics 2
Surveying and Structures 2
Principles of Engineering Science 2
Engineering Ethics
Soil Mechanics

### Year 3 / Level 5

Level 5 - Semester 1
Modules
Design and Construction 1
Environmental Engineering
Advanced Engineering Mathematics
Hydraulics
Structural Mechanics
Engineering Management and Economics

Level 5 - Semester 2
Modules
Design and Construction 2
Theory of Structures
Civil Engineering and Construction Field Study
Infrastructure and Highway Engineering
Advanced Structural Analysis and Design
Internship

## Year 4 / Level 6

Level 6 - Semester 1
Modules
Structural Design and Analysis 1
Civil Engineering Materials
Foundations
Engineering Systems Design
Engineering Research Methods
Innovation, Enterprise and Management

Level 6 - Semester 2
Modules
Current Topics in Civil and Construction Engineering
Geotechnical Engineering
Structural Design and Analysis 2
Construction Management
Project

### **Tuition Fees:** (both programmes)

**Fees per Credit Hour:**

**BD 180**

**Additional Cost:**

**BD 120 (Registration and Application fees)**





## Applied Science University

Bldg: 166, Road: 23, Block: 623

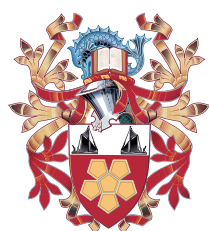
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