



## MSc Low Energy Building Services Engineering



THE TIMES GOOD  
UNIVERSITY GUIDE 2019  
**1ST IN THE UK  
FOR BUILDING  
ENGINEERING**



UK UNIVERSITY TIMES  
SUBJECT RANKING 2020  
**1ST IN THE UK  
FOR BUILDING  
ENGINEERING**



WHATUNI STUDENT  
CHOICE AWARDS 2020  
**BEST UNIVERSITY OF THE  
YEAR**



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To apply for the course, click the below link

<https://www.lboro.ac.uk/study/postgraduate/masters-degrees/a-z/low-energy-building-services-engineering/>

Scholarship available for UK equivalent first class (20%) and for 2:1 (10%)

October and January intakes available

## Welcome



**Prof. Mahroo Eftekhari**

Programme Director,  
Low Energy Building Services  
Engineering

Welcome to Loughborough University and to the School of Architecture, Building and Civil Engineering. We are very proud of our University's many successes and achievements and hope you have a very enjoyable and productive year with us.

Your course is taught primarily by staff of the Building Energy Research Group within the Architecture, Building and Civil Engineering School who have been running programmes specifically related to the Built Environment for over 40 years. Over this period the School has developed an experienced team of specialists in building services engineering, low energy building design and computer modelling, making us one of the UK's leading research institutions in this field. In the latest Research Assessment Exercise, over 75% of the School's research rated as world-leading or internationally excellent for its quality. For impact, 95% of our research rated as world-leading or internationally excellent for its influence on society, the economy and policy.

We hope that you will find the programme exciting and rewarding.

The MSc in Low Energy Building Services Engineering is a demanding programme, but with the right balance between the many social activities that are on offer at Loughborough and the demands of the programme, I am confident that you will emerge with a degree that you can be proud of and be ready to launch yourself into your chosen career.



'For the vitality and sustainability of the research environment'  
REF 2014  
**1ST IN THE UK  
FOR BUILT ENVIRONMENT**



NATIONAL STUDENT SURVEY 2020  
**TOP 10 IN THE UK FOR  
OVERALL SATISFACTION  
IN BUILDING**

### COURSE HIGHLIGHTS

- October & January intakes
- BREEAM AG Certification as part of course
- A pathway to Chartered Engineer status
- Free CIBSE Student Membership
- Headquarters for ASHRAE UK Midlands
- Discounted ASHRAE Student Membership
- Suitable for students from Mechanical, Electrical and Civil Engineering, Architecture, Maths, Physics background
- Companies provide placement for our graduates
- All our graduates secure jobs in companies in UK and in other countries
- Our graduates become successful researchers in building energy field

ASSOCIATED WITH



ACCREDITED BY



## About the course

### MSc

FT length: 1 year PT length: 2-5 years

### Entry requirements

A UK honors degree (2:1 or above) or equivalent overseas qualification in engineering, science, mathematics, or a discipline related to building services engineering. Other qualifications supplemented with relevant industrial experience will also be considered.

### Fees

Check the [website](#) for fees information



### Programme overview

Our MSc in Low Energy Building Services Engineering, provides students with a holistic understanding of the principles of low energy building and building services design. This enables graduates to contribute to the global transition to a future low energy-built environment. Students learn through a carefully balanced combination of lectures, in-class guided workshops, hands-on laboratory experiments, site visits, computer modelling and independent research, the content being delivered by experts in the field. Part time students may base their research projects on the particular needs of their employer. The programme is accredited by both the UK Chartered Institution of Building Services Engineers (CIBSE) and the Energy Institute (EI), and for professional registration as a UK Chartered Engineer (CEng). The course has extensive support from industry, and they provide prizes and placements for our students.

### Modules

Modules studied may include

- Human Thermal Comfort and Indoor Environment
- Building Thermal Loads and Systems
- Building Energy Supply Systems and District Energy Networks
- Control and Commissioning for Low Energy Buildings
- Electrical Systems: Buildings and Renewable Energy
- Low Energy Building Design
- Thermal Modelling and 3D Building Information Modelling
- Research Methods in Building Performance
- Research Dissertation in Building Performance

**How you will be assessed**

You will be assessed by a combination of examination, coursework and class presentations, as well as a dissertation on an agreed topic.

**How you will study**

You will study through a range of seminars, lectures, tutorials, independent study and practical sessions.

**Who should study this programme**

Our MSc Low Energy Building Services Engineering is focused on low energy, sustainability, building services and is suitable for people from any background.



**Graduate destinations**

Previous students have gone on to work for leading consulting engineering companies such as Arup, Atkins, Cundall, Hoare Lea, Foster & Partners and Pick Everard. Some of these companies offer work placements for students to undertake their research dissertations.

**Industrial prizes**

We have industrial prizes for best performing students from companies such as AECOM, Cundall, Energy Institute, Hays, Hilson Moran, Pick Everard.





### **Software**

Leading Building Simulation software IESVE is taught to all the students in the building services course. Also, the University gives access to LinkedIn learning through which other software's can be learnt.

### **Our areas of research**

#### **Building Energy Demand**

This research group focuses on measurement and modelling to produce healthy, high-quality indoor environments, with lower energy demand and CO2 emissions. It is organised in two sub-themes: Performance Measurement and Building Physics, and Modelling and Optimisation.

#### **Building Energy Lab**

The Building and Industrial Services Pipework Academy was established to improve the awareness of BIM (Building Information Modelling) and pipework-related issues and innovations. BISPA is a perfect example of academia and industry working together to support the building and industrial services industry. Based at the School of Civil and Building Engineering, Loughborough University, and with strong links to, and technical support provided by Tata Steel and its Tubes business at Corby and Hartlepool.

As well as networking and knowledge transfer opportunities, BISPA provides a range of CIBSE approved CPD courses specifically developed to address BIM and pipework challenges facing building services engineers, specifiers and designers. We provide both classroom and hands on training using our unique and interactive training rigs.



## Awards won by the students



**Emilia Targonska**  
CIBSE ASHRAE GRADUATE OF  
THE YEAR 2014



**Ralph Amajuoyi**  
CIBSE ASHRAE GRADUATE OF  
THE YEAR 2017



**Hope Tique Organista, Joshua Vasudevan, Vijay Chithambaram**  
ASHRAE DESIGN COMPETITION (ISBD) 2019 WINNERS



**Joshua Vasudevan**  
ASHRAE HVAC&R  
COMPETITION 2020 WINNER



**Alekhya Yalamanchili, Amr Suliman, Jacob George, Mohamad Abdul Gaffor Seyad**  
ASHRAE DESIGN COMPETITION (ISBD) 2020 WINNERS



**Bjarne W. Olesen**  
**ASHRAE president 2016-2017**

*"I am happy to see your MSc course is accredited by CIBSE and covers HVAC and the latest renewable and low energy technologies. This is a conversion course and students from all background including Civil Engineering, Mechanical and Electrical Engineering, Architecture and other discipline can be trained as building services engineer. I did my master in Civil Engineering and my PhD in Mechanical engineering. This combination between building, HVAC systems and indoor environment will qualify as building services engineer. I think the MSc in Low Energy Building Services Engineering at Loughborough University will provide an excellent education as building service engineer".*



**Noamson Pillai**  
**MSc Low Energy Building Services Engineering 2016/17**  
**Graduate Mechanical Engineer - AECOM**

*"Studying the MSc in Low Energy Building Services Engineering at Loughborough helped me to fully understand the importance of buildings and building services being energy efficient while providing maximum comfort for the occupants. The course is accredited by CIBSE, the professional engineering body representing Building Service Engineers, which will surely aid me in my aim for attaining charter ship. The strong links the university has with various Industrial partners have helped me in my search for future career opportunities. The lecturers, who are pioneers in their field of study, and the support staff, have offered me outstanding support throughout the course. The overall student experience, both academically and socially, at Loughborough University is one the best, if not the best in the UK".*





**Xiaoyan Luo**  
**MSc Low Energy Building Services Engineering 2015/16**  
**Now PhD student at Loughborough**

*"I think it is one of my best decisions to study in Low Energy Building Services Engineering MSc course at Loughborough University. This course is accredited by CIBSE which is a professional Institution in UK. I gained not only systematic and logical insight but also many advanced technologies such as some popular software from this course. The course is very interesting and useful. The staff here are so nice and friendly and I met many good students from all over the world in my class. I really enjoyed my MSc at Loughborough. My classmates all have very good jobs after graduate and I continue doing PhD study here. Studying in LEBSE course can give students useful knowledge, open eyes, good friends, great job and a wonderful experience for life".*



**Zheng Liu**  
**MSc Low Energy Building Services Engineering 2016/17**

*"During my study in Low Energy Building Services Engineering MSc programme, I was amazed by the close industrial links from many construction companies. As the courses are all enriched with both theoretical and piratical knowledge, now I have broader career prospects from whether academic or industrial perspective in building environment. Resources provided by this multidisciplinary programme is not limited to the lectures and materials, friendly and constructive advice from many tutors and PhD students in different fields had been really helpful as well. I have gained better understanding in building energy conservation and sustainability development, and I would highly recommend this programme to anyone who have interest in building service and environment".*





**Francisco Manuel Funes Garrido**  
**MSc Low Energy Building**  
**Services Engineering 2016/17**

*"Studying my Msc in Low Energy Building Services Engineering helped me become more specialised. The MSc course is accredited by a professional body namely CIBSE and its strong industrial support helped me find a job as an Engineer in the UK and put me on the road to become a chartered engineer. My experience and the support offered by tutors and staff members have been excellent. I was elected as the student representative for the course which helped me get involved in meetings with key engineering firms who showed a clear interest in students who are studying this postgraduate degree. I highly recommended The MSc in Low Energy Building Services Engineering".*



**Hope Tique Organista**  
**MSc Low Energy Building**  
**Services Engineering 2016/17**  
**Graduate Engineer - WSP**

*"I chose Loughborough University predominantly for its strong academic profile in engineering as well as its incredible campus. Throughout my bachelor's degree, I was strongly supported and guided by my professors. That made me realise that I didn't want to go anywhere else for my master's degree. I can't thank Dr. Mahroo Eftekhari, my MSc Programme Director enough for all the support and encouragement she gave me during my master's degree. She cares about her students and wants to see them succeed. It was amazing to have a role model like her as she pushed me to work hard and do my best. My Loughborough University experience and achievements have inspired me to become a role model for younger generations. I want to encourage students to have the motivation and confidence to take on new challenges and opportunities to grow and develop their skills."*

## Our Academics



**Prof. Mahroo Eftekhari**  
Programme Director

Expert in control and optimum operation of HVAC systems to provide better indoor air quality. She is the president of BISPAA and Vice President of UK ASHRAE Midlands Chapter, as well as the Regional Vice Chair of CTC for the ASHRAE Region XIV.



**Dr. Steven Firth**  
Reader in Building Performance Modelling

Expert in building energy modelling, occupant behaviour methods and open science research. He teaches Building Simulation and Renewable Energy.



**Prof. Richard Buswell**  
Professor of Building Energy Systems

Specialist in multi-disciplinary research in building energy performance and construction manufacturing and leads the Building Thermal Loads and Systems module.



**Prof. Jonathan Wright**  
Professor of Building Optimisation

Chartered Engineer with over 30 years of experience in Building Services Engineering, focusing on the computational design optimisation of buildings. He leads the Wellbeing and Indoor Environment module.



**Dr. David Allinson**  
Reader in Building Physics

Expert in building physics, particularly interested in the use of passive design strategies to reduce building energy demand. He leads the Low Energy Building Design module.



**Prof. Malcolm Cook**  
Acting Dean (ABCE school) and Professor of Building Performance Analysis

Expert of low energy building design and ventilation with over 25 years of experience in modelling natural ventilation air flows using advanced, computational fluid dynamics techniques.

### For enquiries contact

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