



course factfile

Building Services Engineering Project Management

BSc (Hons), BSc

Expected Intake 15

Mode of Study

Three years full time or four years with sandwich year. Also available part-time, day release

Introduction

- Do you want to be a key player in the battle against global warming and climate change?
- Would you like to be involved with the management of the design and installation of innovative and environmentally friendly systems essential to bring prestigious buildings to life?
- Would you enjoy working with a wide range of professionals including government agencies, local authorities, architects, builders, structural and civil engineers, contractors and lawyers – in a problem solving context?
- Would you like a career with plenty of variety, excellent rewards and with ample opportunity for home and overseas employment?

If the answer to these questions is 'yes', then a degree in Building Services Engineering Project Management at Liverpool John Moores University may well be the first rung on the ladder to a successful and rewarding career for you. In order for a modern building to function, it requires important engineering services to provide the lighting, heating, ventilation, safety and communication systems, drainage, escalators – there is a long list of building engineering services. Each of these engineering services is an important discipline. Building services project managers ensure that all of these different technologies merge into one functional, efficient building, and they do this under the constraints of budget, time and quality. Building Services Engineering Project Managers must operate as part of a team that includes architects, structural and civil engineers, and quantity surveyors. They must be able to manage complicated multi-disciplinary projects.

Building Services include:

- energy supply – gas, electricity and renewable sources
- heating and ventilation
- water, drainage and plumbing
- natural and artificial lighting, and building facades
- escalators and lifts
- air conditioning and refrigeration
- communication lines, telephones and IT networks
- security and alarm systems
- fire detection and protection

In every place that you see these services, Building Services Engineering Project Managers have overseen the design and installation. They have managed the commissioning and operation so that low carbon designs become practical energy efficient systems.

Today, buildings account for nearly half of the total carbon released into the atmosphere from fossil fuels. Building Services Engineering Project Managers tackle the challenge of climate change by translating design ideas into practical operational engineering systems that meet design requirements. This requires the management and co-ordination of the input of all construction disciplines, and this must be achieved in "real world" situations. This means that Building Services Engineering Project Managers must understand how contracts are won competitively and how costs are controlled throughout the contract. Control of cost must normally be achieved within set budgets, the client's requirements for quality must be met and a safe project must be delivered on time. Safety is vital, not just during installation, but throughout the life of the project. Modern Building Services Engineering Project Managers must be able to determine whole life cycle costs so that clients receive long-term sustainable and economic buildings.

A Building Services Engineering Project Manager will have the engineering skills and knowledge necessary for managing the design and installation of complicated engineering systems, as well as the managerial and cost-control skills necessary to operate as a professional in high value contractual situations. Building Services Engineering Project Management graduates can secure work in a wide variety of roles. They may work with a contractor, or alternatively may act for the client.

Many large organisations such as hospital trusts, government organisations, large private companies, and local councils require professionals with an understanding of engineering systems, and how they are managed and financed to manage their

building assets. LJMU has developed its Building Services programmes in partnership with practising professional building services engineers to ensure that the courses provide students with the skills and knowledge that industry is seeking.

Why should I study Building Services Engineering Project Management at LJMU?

Since this degree programme has been developed in partnership with practising professionals, there is therefore a strong emphasis on providing students with the proficiencies that employers are seeking. The course content includes up to date instruction in sustainable energy technologies.

The programme introduces students to the knowledge and skills that mechanical and electrical building services engineers require, and develops these to high levels of proficiency through challenging theoretical and practical work. Additionally, the course will provide the essential project management skills to enable students to develop into capable professional building services engineering project managers. The skills developed will include not just important academic and technical abilities: graduates will also be capable of applying the knowledge and skills gained through study to real situations.

The Building Services Engineering Project Management degree programme is available in both full-time and part-time study modes.

The BSc (Hons) degree programme has been designed to enable graduates to meet the academic requirements for licentiate membership of the Chartered Institution of Building Services Engineers (CIBSE). Professional body accreditation from the CIBSE for all JMU's Building Services programmes is therefore being sought during 2009.

As well as gaining degree level academic skills and knowledge, Building Services graduates from JMU will be proficient in the design, and in the technical and managerial challenges inherent in the installation and commissioning of complex and innovative building engineering systems. Clearly the engineers of the future must comprehensively understand the technologies required to achieve zero carbon buildings, and Building Services courses at JMU will equip graduates with the practical know-how and skills necessary to make sustainability a reality.

The programme covers a wide range of skills, knowledge, and competencies. Building Services Engineering Project Managers must be competent technically, practical in outlook, and capable of giving professional advice on a range of subjects ranging from design to installations and site management. The skills required are therefore visual, verbal, numeric, written, and graphical. An ability to relate to a wide range of people as well as an understanding of how things work is necessary to be a successful Building Services Engineer. This course will take students through modules and projects designed to foster and develop these skills.

Projects at all levels of the degree are designed to help students to integrate their learning, and to apply it to real situations. Employers assist with the course by providing real life project materials and contribute to the supervision of such project work.

In order to integrate the course of study with the professional workplace, the course is offered in sandwich mode to those who wish to take this option. This means that after 2 years of study, one year is taken working in a placement with a Building Services Engineering consultant or contractor (the sandwich year), and then returning to University for the final year of study. Graduates with a sandwich degree have excellent career prospects due to their direct work experience and references combined with the degree. You should note, however, that whereas most if not all students requiring sandwich year employment are successfully guided into such posts, we cannot guarantee employment in a particular company or geographical area.

The BSc (Hons) degree programme has been designed to enable graduates to meet the academic requirements for licentiate membership of the Chartered Institution of Building Services Engineers (CIBSE). It is expected that graduates, subject to gaining sufficient professional experience, could apply for the appropriate level of membership of the CIBSE.

Our Byrom Street campus, where this course is delivered, is well supplied with facilities thanks to the investment of £6 million in state-of-the-art laboratories and lecture rooms.

How will you spend your study time?

The BSc (Hons) course is divided into three levels that correspond to years one, two and three of the full time course, although part-time students would complete these over five years*.

Full-time students have the option of taking a 'sandwich degree', which includes a one year work placement with an employer after two years of full-time study. This is an important facility enabling full-time students to consolidate and reinforce their studies whilst gaining valuable professional experience.

The courses are built up from a number of modules at levels 1, 2 and 3. Students are awarded credits as they progress and complete each module of study until sufficient credits have been accumulated for the award of a degree.

*Part-time applicants who already hold other qualifications in Building Services Engineering (e.g. HNC/D or Foundation Degree) may be granted accreditation of prior learning (APEL) from relevant study modules, and may be admitted to later stages of the programmes.

The pattern of study expected is for students to attend timetabled lectures, tutorials, workshops, and practical sessions, whilst

carrying out their own research using the resources of the University's Learning Resource Centre, and from the web. Timetabled classes account for approximately two and a half days per week for full-time students and one day per week for part-time students. The remaining time in the week should be spent on self-directed study, team-work and the preparation of coursework and assignments.

Initially the course introduces students to the built environment and sustainability in buildings, as well as the main principles of engineering. The basic tools needed by today's engineer, such as CAD drafting skills, mathematics, and scientific and engineering principles are developed, along with the study of sustainable energy technologies. These core topics build a firm foundation upon which more focussed and in-depth learning can take place in subsequent studies. When they have developed competence in engineering, sustainability and environment, students will study the commercial and managerial aspects of mechanical and electrical services. Students' skills in these vocationally focussed subjects are contextualised along with prior theoretical work, through the completion of multi-disciplinary projects. Later on in the course, students have the opportunity to choose specialist optional modules which reflect their own interests and career aspirations, and more self-directed research into relevant areas of particular interest is encouraged.

How will you be assessed?

Assessment methods include the use of examinations (open and closed book), coursework (projects, laboratory reports, technical reports, etc.), and oral presentations.

Graduate Employment and Careers

Senior business leaders in national and international companies are working closely with LJMU to identify the higher 'world of work' or WoW skills that will give our students a competitive edge when it comes to climbing the professional career ladder. No other university, either in the UK or internationally, offers you the chance to develop these WoW skills.

There is a national shortage of well trained Building Services Engineering Project Managers, and therefore students who successfully complete the course stand an excellent chance of gaining well paid employment. Opportunities exist with small and large national Building Services Engineering consultancies and contractors; opportunities also exist in the public sector with local authorities and government agencies. It is expected that many students may obtain offers of employment prior to the end of their final academic year.

Building Services Engineering Project Managers may work in consultancies as part of a team that includes architects, structural engineers, quantity surveyors, and similar professionals. They may also work in contracting where they manage the development of consultants' schemes into working practical installations. Other roles for Building Services Engineering Project Managers are as Facilities Managers or acting as a client's professional representative for various organisations who require engineering work carried out. These organisations might include banks, hospitals, police forces: in fact any enterprise which uses energy and engineering services.

Why should you choose LJMU?

LJMU places work-related learning and graduate skills development at the heart of every undergraduate degree, without compromising academic quality. Senior business leaders in national and international companies are working closely with us to identify the higher 'world of work' (WoW) skills that give our students a competitive edge for rewarding careers.

No other university, either in the UK or internationally, offers you the chance to develop these WoW skills. LJMU is committed to raising the bar on all aspects of teaching, assessment, academic support and skills development. We offer excellent facilities, high quality degree programmes, supportive staff and a thriving student community drawn from 100 countries worldwide. LJMU is a vibrant university located in one of the most exciting, and affordable, student cities in the UK.

Why Liverpool?

Liverpool – an exceptional student city

Liverpool is a city that has something for everyone and is very supportive of the 50,000 students who live, work and study in its universities.

Rich in cultural heritage, the city has received World Heritage Site status and was the 2008 European Capital of Culture. According to Home Office statistics, Liverpool is one of the safest places in the UK too.

LJMU Bursaries and Scholarships

LJMU has an excellent and long-established record of reaching out to students with little experience or family tradition of attending university and helping them succeed in higher education.

LJMU offers a range of Special Support Bursaries and LJMU's scholarships reward both academic and personal achievement.

For more detailed information about funding, bursaries and scholarships, please visit:

<http://www.ljmu.ac.uk/study/ljmu/fees/85947.htm>

Course Fees

Fees p.a. 2010

LJMU's full time domestic tuition fees will be **£3,290** per year from 2010

What do current and past students say?

X

Application and Selection (what are we looking for?)

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We are looking for people with a keen interest in the interaction of energy and human behaviour in buildings, a desire to improve the environment and be part of the solution to some of the world's most pressing problems. Ideally a student will have good communication and problem solving skills, common sense, and will be self-starting and capable of working on their own, using their own initiative.

Entry Requirements

UCAS Tariff Points Required: 240

GCE A Levels

Minimum Number Required: 2

GCE AS acceptability: Acceptable only when combined with other qualifications

Subject Specific Requirements: While Mathematics 'A' level is not a requirement, students would benefit from having either 'AS' in Mathematics or an 'A' level in a subject with some mathematical content

BTEC

National Awards (6 units) (not including Early Years) Acceptable only when combined with other qualifications

National Awards Grades required / subjects required To the total of 240 UCAS points when combined with other qualifications

National Certificate (12 units) (not including Early Years) Acceptable on its own and combined with other qualifications

National Certificate Grades required / subjects required DD if studied on its own or to the total of 240 UCAS points when combined with other qualifications

National Diploma (18 units) (Not including Early Years) Acceptable on its own and combined with other qualifications

National Diploma Grades / Subjects required MMM if studied on its own or to the total of 240 UCAS points if combined with other qualifications

Welsh Baccalaureate

Advanced Diploma Acceptability Acceptable only when combined with other qualifications

Irish Leaving Certificate

Acceptability Acceptable on its own and combined with other qualifications

Grades / Subjects reqd Applicants should be studying at least three subjects at Higher Level

Specialised Diplomas

Subject areas accepted Construction and the Built Environment, Creative and Media, Information Technology, Society, Health & Development, Environmental and Land-based Studies, Business, Administration and Finance, Manufacturing and product Design, Hospitality, Hair and Beauty, General Engineering

Grades reqd 240 UCAS points gained from Advanced Diploma

Key Skills

Is achievement encouraged?	Yes
Will Key Skills tariff points be counted towards an offer?	No
What minimum Key Skill level is appropriate?	3
Subject areas considered	Application of number, Communication

Scottish Awards

Higher	Acceptable only when combined with other qualifications
Advanced Higher	Acceptable on its own and combined with other qualifications
Advanced Higher - Additional Information	Applicants should be studying at least three subjects at Advanced Higher Level

Access to HE

Acceptability	Acceptable on its own and combined with other qualifications
Additional Information	Recommended subject streams are: Engineering; Science; Business

International Baccalaureate

Acceptability	Acceptable on its own and combined with other qualifications
Additional Information	240 UCAS tariff points from IB

Additional Qualifications considered

Advanced Extension Award Acceptability	Acceptable only when combined with other qualifications
GCSE / Standard Grades	At least 5 GCSEs at grade C or above including English and Mathematics
Other qualifications considered	

How to apply

All applicants should apply through the Universities and Colleges Admissions Service (UCAS) system.

If you need help or advice on your individual application, you should contact your careers adviser or call the UCAS Customer Service Unit on **+44 (0)871 468 0 468**, open Monday to Friday, 08:30-18:00 hrs(UK time)

If you are calling from outside the UK and are unable to use the number above, please contact them on **+44 (0)870 1122211**.

You can also write to them:

UCAS
Customer Service Unit
PO Box 28
Cheltenham
GL52 3LZ.

You may also apply online by using the 'Apply' application service which provides detailed screen and help text to assist you in making your application: <http://www.ucas.co.uk/students/apply/>

UCAS Code Name:

LJM

UCAS Institution Code Name

L51

UCAS Course Code

KN2F

UCAS Course Abbreviation

Will I be interviewed?

No interview required (UCAS application form only)

Can this course be deferred?

Yes, please contact us to discuss your options

What happens next?

If you are from the UK or EC, you will receive a letter and an open day invitation directly from the School's Admissions Unit. The offer will also be confirmed via UCAS. Open days include an opportunity to meet academic staff and current students, as well as a tour of LJMU facilities. International students will receive confirmation of their offer from the International Office, along with details about accommodation, fees and other important information. If you choose LJMU as your 'FIRM' choice, you will receive enrolment and induction information upon confirmation of your results.

Further information

Please contact the Faculty of Technology and Environment on:

tel: 0151 231 2777

fax: 0151 231 2879

email: taeadmissions@ljmu.ac.uk

If you have any queries relating to LJMU or university life in general please contact:

**Student Recruitment Team
Liverpool John Moores University
Roscoe Court
4 Rodney Street
Liverpool
L1 2TZ**

Tel: +44(0)151 231 5090

Fax: +44(0)151 231 3462

Email: courses@ljmu.ac.uk

Web: www.ljmu.ac.uk

Further information: International Students

For further information please visit the website at: <http://www.ljmu.ac.uk/International/>