BUILDING THE FUTURE
Construction Management and Engineering at the University of Reading is one of the top-ranking departments in the UK for teaching and research in the built environment*. We study the design, construction and operation of the buildings in which we live, work and play.

The breadth of our interdisciplinary expertise encompasses surveying, construction management, and energy and environmental engineering. Our work crosses scales of space and time: we study buildings, neighbourhoods and cities, and span the local and global, historic and futuristic.

Our research and teaching are grounded in the real world. We seek to address social aspirations and challenges relating to the built environment – embracing digital technologies to improve the quality of our work. We explore physical, biological and social environments that affect people’s lives, including quality of life, sustainability of communities, resilience and wealth generation.

We offer flexible degrees designed to equip you with valuable knowledge and skills, and we help you to build a strong network of industry contacts during your studies. Our focus goes beyond helping you to find a job – your personal network is key to your future.

Dr Tim Lees
Head of Construction Management and Engineering

www.reading.ac.uk/cme

* Ranked 4th for Building in the Complete University Guide 2020, and 5th in The Times and Sunday Times Good University Guide 2020. The University of Reading ranked 3rd in the UK for research impact in Architecture, Built Environment and Planning (Times Higher Education Institutions Ranked by Subject, based on its analysis of the latest Research Excellence Framework 2014)
OUR SURVEYING & CONSTRUCTION COURSES

BSc (Hons) Building Surveying
Provides a sound knowledge base relating to the design, construction, pathology, maintenance and repair of buildings. Upon completion, you will have the intellectual and practical skills needed to observe and analyse buildings.

BSc (Hons) Construction Management
Develops your expertise in the planning and programming of construction operations. You’ll graduate with the intellectual and practical skills necessary to manage construction firms.

BSc (Hons) Construction Management and Surveying
Encompasses a wide range of technical and managerial issues to give you the tools necessary for a range of careers within, and related to, the construction sector.

BSc (Hons) Quantity Surveying
Offers you an understanding of the principles and mechanisms that determine building cost and price. Upon completion, you will have a comprehensive understanding of the economics, finance and accounting processes relating to property development, including cost planning and whole-life costing.

All courses are three years in duration and share a common first two years; this enables you to wait until towards the end of your second year to decide which course is the best fit for you. This unique flexibility allows you to gain knowledge across the construction spectrum before making an informed decision. Once enrolled, you can apply to transfer (after the completion of your second year) to a four-year variant of the course with a year in industry during your third year.

Alternatively, you could boost your employability and gain fantastic life experience by studying abroad for a year (subject to meeting the eligibility criteria).

All courses are accredited by the Royal Institution of Chartered Surveyors (RICS) and the Chartered Institute of Building (CIOB). Our BSc (Hons) Quantity Surveying is also accredited by the Board of Quantity Surveyors Malaysia (BQSM).*

* Accreditation is reviewed periodically. Successful completion of one of our undergraduate courses satisfies the academic requirements for membership of CIOB and RICS. Successful completion of the BSc (Hons) Quantity Surveying also satisfies the academic requirements for eligibility for registration with BQSM.
Core Modules are the same for all courses. There are no optional modules in Year 1.

**Construction Science**
Construction Science draws together concepts from physics and engineering to develop your understanding of the nature of construction materials and the environmental performance of buildings. You will explore the mechanics and composition of construction materials and the underlying concepts of environmental services, including heating, ventilation, sound, light and electrical systems.

**Construction Site Engineering**
With buildings becoming increasingly complex, site engineering has never been more important. This module progresses from the basic principles of site engineering through to the more advanced methods used to solve real problems. In the final elements of the module, you will use team-building and problem-solving skills to address the challenges of real-life projects.

**Construction Technology**
Construction Technology equips you with an essential knowledge of the principles, technologies and systems available for the construction of low-rise buildings. You will be challenged to consider the impact of different construction methods and materials on important issues, such as the environment. In addition, you will undertake a study of various plant and equipment items used in the realisation of buildings.

**Economics for Construction and Engineering**
Economics for Construction and Engineering will improve your understanding of construction management and develop your analytical skills. You will become familiar with macroeconomic concepts – including inflation, unemployment and the management of the economy – and microeconomic tenets such as how the price mechanism allocates resources in different markets. In this module, you will also learn about differences in outcome, depending on whether an industry is competitive or dominated by a single firm.

**Empirical Studies**
Gain hands-on investigative experience, and further develop your understanding of technology and material science. Based in the laboratory, you will conduct a variety of experiments from measuring light efficacy in a room, to determining how and when materials fail. There is also an opportunity to undertake practical land surveying on campus. Upon completion, you will have gained essential skills in technical report writing, simple computational methods and teamwork.
YEAR 1 CORE MODULES

CORE MODULES ARE THE SAME FOR ALL COURSES. THERE ARE NO OPTIONAL MODULES IN YEAR 1.

General Introduction to Law
The General Introduction to Law module will provide you with sufficient understanding of the English legal system to solve basic legal problems within the construction industry. Key legal concepts and ideas are taught along with the basic principles of contract and tort law. This is enormously helpful, for example, in identifying when there is a valid contract in place, what the terms of that contract are, and how it might be brought to an end.

Information and Communication
In this module you will develop an understanding of the importance of information, communication and digital modelling in the design and construction of complex projects. This module teaches the core skills for working in the construction industry, including presentation, drawing, critical evaluation, personal development and teamwork. You will learn through lectures, in-class exercises and practical tutorials in our dedicated Building Information Modelling (BIM) lounge.

Principles of Management
In Principles of Management, you will be introduced to key approaches in the study of management and strategy. You will examine current practices employed by leading organisations and consider the challenges facing business generally – and construction firms in particular – in the twenty-first century. This will help you understand the reasoning behind practical management decisions and develop robust arguments to support these decisions in practice.

Projects
The Projects module introduces you to two important areas of the School’s curriculum: enquiry-based learning and structured research. Using an enquiry-based learning approach, you will work in teams to solve problems. We’ll challenge you to think creatively through problems while learning about team dynamics, leadership and team formation. You will also work in a team to undertake a structured research project to address a specific problem.
CORE MODULES ARE THE SAME FOR ALL COURSES.

THERE ARE NO OPTIONAL MODULES IN YEAR 2.

Building Environment Systems
Building on the Construction Technology, Construction Science, and Empirical Studies modules taught in Year 1, this module provides insight into environmental performance and environmental systems. It offers an integrated approach, applying theories and concepts developed in Year 1 to reinforce your knowledge and understanding. You will also develop critical analysis of relevant applications.

Building Pathology
In the Building Pathology module, you will study the way buildings deteriorate. You will learn how to assess a building’s condition and what procedures should be carried out to meet a client’s needs. You will also acquire knowledge of the causes and methods of assessing decay and what repair methods are available. On completion of this module, you will have the skills required to undertake a basic condition assessment of a simple building structure.

Building Technology
Building Technology focuses on the construction technology of commercial, industrial and other buildings, and draws on your knowledge gained in Year 1. Current trends and techniques are considered, as well as alternative methods of construction. You will gain an understanding of functional performance requirements and other factors involved in the specification of various parts of a building.

Construction Economics
Building on the basic economics principles you learned in Economics for Construction and Engineering in Year 1, this module focuses on the economics and financial management techniques needed during the development of a construction project. This includes financial feasibility appraisals and cost and price analyses of construction work.

Construction Statutory Law
Statutory law plays an important role in many aspects of construction. Knowledge of statutory law, and an understanding of its application, is vital for the success of construction projects and firms operating in the construction sector. Statutory law impacts a wide range of areas relating to construction, including health and safety, equality and diversity, building planning and control, procurement and the environment. Construction Statutory Law builds upon the General Introduction to Law module in Year 1, developing your appreciation for the application of law within construction projects, construction firms and by construction professions.

Construction Procurement
Construction procurement is complex because of pre-planning, duration, expense and fragmentation. Issues of particular importance are the high numbers of specialist trade contractors, the separation of design from construction, the complex interactions between off-site and on-site fabrication, and the role of professionals in the process. In this context, we seek to explain the commercial processes of structuring, negotiating, recording and
Construction Contract Law
Construction work is typically carried out through contracting with a variety of different firms, which are connected through a complex network of contracts. Construction contract management encompasses the institutional infrastructure of the industry in terms of: its impact on the production of standard-form contracts, the influence of procurement methods on contractual networks, common roles and responsibilities of stakeholders, and a consideration of contract choice and risk allocation.

Introduction to Quantification and Computerised Taking Off
In this module, we introduce you to the fundamental techniques that underpin the practices of quantification of construction work. This is the mensuration and quantification of items for a project for the purposes of early stage cost estimates and contract preparation. Through practical examples, you will learn about the IT applications used for these techniques and gain experience in the use of the CATO computer programme.

Projects
As with Projects in Year 1, this module gives you an opportunity to put your knowledge of the various technological aspects of construction into practice. The module simulates the activities of a project team in responding to client briefs. Within a team, you will assume various construction roles, including structural engineer, building services engineer and quantity surveyor. Together, you will design and plan a building project to meet the demands of a particular client brief. In the process, you will enhance your skills in teamwork, time management, presentation, technical writing and drawing.

Research Skills
Research Skills gives you a grounding in research methods and statistical analysis, as well as in the process of writing a dissertation. Our research-active staff deliver this module through a mixture of lectures, group work and hands-on activities. During the module, you will gain the key research skills required to produce an evidence-based dissertation. You will develop your ideas, prepare an outline dissertation proposal, and find out about the range of research activities.

Management in the Built Environment
The Management in the Built Environment module provides you with an understanding of development activity and the importance of projects and their management, in both national and international contexts. You will be introduced to key management tools in relation to the control of time, cost and quality, health and safety, and risk management.
Dissertation
The dissertation is a piece of research work that explores a relevant topic in depth. This is an opportunity for you to draw upon all the knowledge you have gained throughout your studies. By the end of the dissertation, you will be able to produce a significant piece of written work. The process will also hone your transferable skills, including independent learning, organisation and time management, creative and analytic thinking, and communication skills.

Building Surveying Projects
The Building Surveying Projects module exposes you to real buildings that need repair, conversion, alteration or general refurbishment. You will undertake a number of practical surveying tasks in order to derive sufficient information for your project work. You’ll learn to apply technical knowledge and draw upon skills acquired earlier in the course to produce a viable solution to client requirements for the surveyed building.

Construction Management/ Built Environment (BEM)/ Quantity Surveying (QS) Project
The aim of the Project module in Year 3 is to reinforce the theoretical and vocational components of the degree by undertaking an extended project. You will outline the design of a realistic development project and then plan the tasks related to the vocational specialism of your degree. For example, based on a designed project, Quantity Surveying students will prepare a design cost plan; Construction Management students will undertake the planning and programming of the required construction operations; and Construction Management and Surveying students will prepare an environmental impact assessment.
YEAR 3
OPTIONAL MODULES

In addition to our core modules, options are available to customise the course to meet your needs.

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*At least one module must be selected from our four sustainability-related modules.
FACILITIES & SITE VISITS

FACILITIES
We offer excellent facilities that reflect our academic reputation, quality and ambition. You will have access to an array of digital technologies and software, including building information modelling (BIM), building energy and urban microclimate simulations, and 3D laser scanning. We also offer an immersive virtual reality “CAVE” that enables you to interact with 3D digitised environments. You will be encouraged to explore, experiment with and learn from these innovative technologies. In addition to these digital resources, you will have access to a dedicated resource room containing course books, key professional journals, magazines, newspapers and a wide range of industry specific documents. Online support includes virtual classrooms and lecture notes.

SITE VISITS
To enhance your studies, we encourage you to experience real working environments throughout your degree course. Visits to construction sites, practitioner offices, manufacturing facilities and large-scale urban developments allow you to experience construction operations first-hand. You’ll gain a greater understanding of corporate and professional offices, observe new and cutting-edge practices implemented in relevant settings, and gain insights into innovative methods. In recent times, we have visited the BRE Innovation Park, the National Self Build & Renovation Centre, the Weald & Downland Living Museum, and several manufacturing facilities which focus on prefabricated building projects.

LIVE PROJECT
You will have the opportunity to participate in the Construction Live Project – a chance to experience the challenge of managing and building a real construction project. This dynamic project, delivered in collaboration with industry, runs over an intensive, two-week period, including a one-week residential. Supported by academics, student teams must plan, schedule, cost, manage health and safety, and build a scaled version of an iconic build or building. During the project you will work with professionals from the partner contractor and their supply chain.

“I loved it! The Construction Live Project is one of my favourite things that we did. You literally get given the plans and told to build the structure. Everyone scrambles, no-one knows what to do... so you appoint roles, you appoint teams, you start working. I learned so much, because we kept making mistakes.”

Louise Lawson
BSc Quantity Surveying
Developing the employability of our students is a key outcome of all our courses. We help you acquire excellent technical skills and build your competence to secure relevant experience and stand out in the recruitment process.

Our international reputation, and close relationships with industry and professional institutions, make our graduates highly sought after in the workplace. The latest Destination of Leavers from Higher Education Survey (2016–17) shows that 98% of our undergraduate students were in work or further study within six months of graduating. Of those in full-time work, 100% progressed to professional or managerial roles.

Most of our graduates who wish to start their professional career straight after graduation, secure employment before completing their studies and are found within leading firms around the world. Past graduates have secured a range of roles within the construction sector, including quantity surveyor, building surveyor, commercial manager, construction manager, project manager, cost manager, BIM manager, and procurement manager. Many work in consultancy firms, advising clients and safeguarding their interests, while others prefer the practical challenges of working within major construction firms. Most of our students secure employment within leading firms around the world before they have completed their studies.

Career fairs – specific to sectors relevant for our students – are held every year, enabling you to connect with employers – and enabling employers to connect with you.

CAREERS

Our successful placement scheme establishes a balance between outstanding academic achievements and relevant industrial experience.

Many students, supported by the School’s placement officer, choose to undertake a “Year in Industry” degree or a shorter summer placement in the UK or overseas. You don’t have to make this choice before enrolment; you can make the decision to take a year out during the second year of the course, which provides flexibility in your decision making.

Placements can be located anywhere in the UK and sometimes overseas. Firms offering places to our students in the past include Deloitte, Faithful and Gould, Lambert Smith Hampton, Rider Levett Bucknall, and Savills.

In your final year, you can select the Career Development module, in which you achieve credits for your placement activity. This module helps you understand the transition to the workplace, and how to increase your chance of securing employment. Throughout the module, there is a strong focus on reflection. This will help you tackle the professional competence assessments you’ll undertake on your journey to becoming chartered.

PLACEMENTS

“I received a job offer from my first-choice employer today. I just wanted to thank you for the large part you played in making this possible for me. The Career Development module was invaluable, and the help and support you provided was fantastic.”

Adam Fontannaz
BSc Construction Management and Surveying (then Year 3 student, now graduate)
Community has always been, and continues to be, at our heart. Our community encompasses students, staff and alumni, as well as our partners and industry supporters, both locally and globally.

With industrial and professional relationships across the world, we offer a network of global contacts. This network, complemented by the skills and expertise provided by our courses, has helped our graduates achieve great things across the globe.

There is a diverse student and staff body within the School, and we value the breadth of perspectives this brings to our learning community. Our staff draw on a wide range of expertise and international experience to feed directly into our teaching and research activities; many remain engaged in overseas construction projects or working to influence policy around the world.

Reading University Construction Society

The Reading University Construction Society (RUCS) is a social and cultural hub for our students. It provides an informal networking platform, and aims to increase the employability and knowledge of its members through events with leading employers and professional institutions. It is also renowned for its active calendar of social events throughout the year, including an annual gala dinner and student-staff football match. RUCS play an important role in enhancing the quality of student life in the School, developing relationships between the degree cohorts, staff, professional bodies and industry.

“The School has a special sense of community. You know other students across the different years, especially through involvement with societies such as the Reading University Construction Society (RUCS). RUCS is the largest academic society on campus and is well known throughout the University. Our staff are very supportive and the relationship between the different year groups is unique – one that you would not find at many universities.”

Louise Lawson
BSc Quantity Surveying, RUCS President 2016/17
Disclaimer
This brochure was issued in 2019 and is aimed at prospective students wishing to apply for a place at the University of Reading (the University) and start a course in autumn 2020 and prospective partner institutions. The brochure describes, in outline, the undergraduate surveying and construction courses and services offered by the School of the Built Environment at the University. The University makes every effort to ensure that the information provided in the brochure is accurate and up-to-date at the time of going to press (September 2019). To make an informed decision, we recommend that you check www.reading.ac.uk/ready-to-study for up-to-date information.

The University undertakes to take all reasonable steps to provide the services (including the courses) described in this brochure. It does not, however, guarantee the provision of such services. Should industrial action or circumstances beyond the control of the University interfere with its ability to provide the services, the University undertakes to use all reasonable steps to minimise any disruption to the services.

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Placements disclaimer
Programmes with a Professional Placement Year (also known as 'Year in Industry' or 'Placement Year') are fully dependent on students securing their own placement opportunity, normally through a competitive recruitment process. The University provides dedicated career and application support for placement year students. Students who do not secure a placement or who are unable to complete the placement year due to extenuating circumstances, have the option to transfer to a three-year variant of their programme with agreement from their school/department.

Modules disclaimer
Sample modules are provided as a taster of some of the modules that may be available on this course. The sample modules listed may be compulsory (core) or optional modules. Information is correct at the time of going to press (September 2019) but the University cannot guarantee that a module appearing in this list will definitely run.