

SCHOOL OF CONSTRUCTION MANAGEMENT & ENGINEERING

BUILDING THE FUTURE

By 2050, it is forecast that 6.7 billion people across the world will live in urban areas – 5.9 billion more than in 1950¹.

The way that people interact with buildings, infrastructure and cities must change.

Improving the quality of our built environment – and thereby quality of life – requires planning, technology and research. It depends on individuals with vision, drive and commitment.

Join us and develop a skillset that's up to the challenge.

¹ United Nations Department of Economic and Social Affairs
World Urbanization Prospects 2018: Highlights

“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 environment². 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 Ian Ewart

Head of Construction and Engineering Management

www.reading.ac.uk/cme

² Ranked 8th for Building in The Times and Sunday Times Good University Guide 2023 and 9th in the Complete University Guide 2023



OUR SURVEYING & CONSTRUCTION COURSES

BSc (Hons) Building Surveying³

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 Management³

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 Surveying³

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 Surveying³

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)⁴.



³ We also offer a four-year version of this course "with International Foundation Year" specifically for international students who don't meet the requirements for direct entry onto the three-year course.

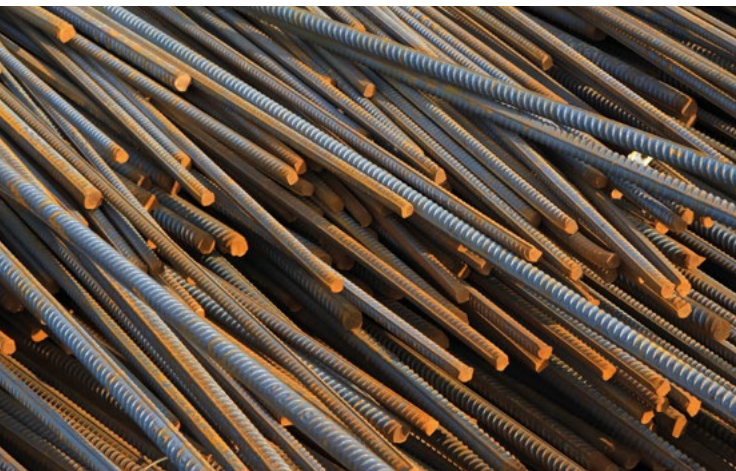
⁴ Accreditation is reviewed periodically. Successful completion of one of our undergraduate courses satisfies the academic requirements for membership of CIOB and RICS. Successful completion of the BSc (Hons) Quantity Surveying also satisfies the academic requirements for eligibility for registration with BQSM.

YEAR 1 TOPICS

THE TOPICS BELOW ARE THE SAME FOR ALL COURSES.

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.



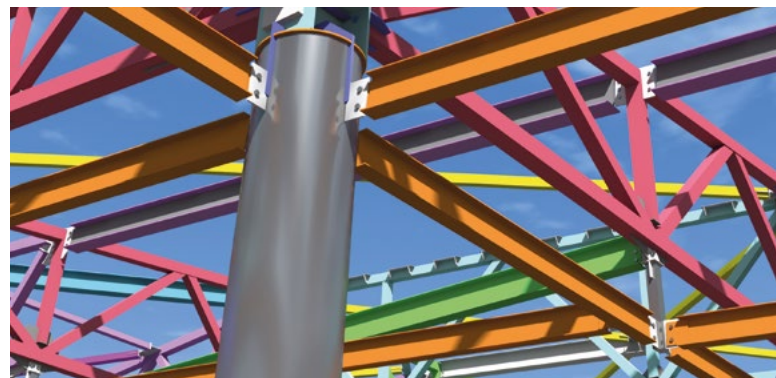
Empirical studies and site engineering

With buildings becoming increasingly complex, site engineering has never been more important. From the basic principles of site engineering through to the more advanced methods, you'll use team-building and problem-solving skills to address the challenges of real-life projects.

Gain hands-on investigative experience, and further develop your understanding of technology and material science. Based in the laboratory, you'll 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.

Introduction to economics and law

We cover a range of economic and legal concepts and issues relevant to the UK construction industry, and assist you in developing an overall awareness of the workings of the construction industry. This includes processes of cost management and forecasting for the development of construction projects from the client/owner, design team, and contractor's perspective. The focus is from the concept and the early design stage, through the design and construction process, and into occupancy. You will also gain insights into the English legal system.



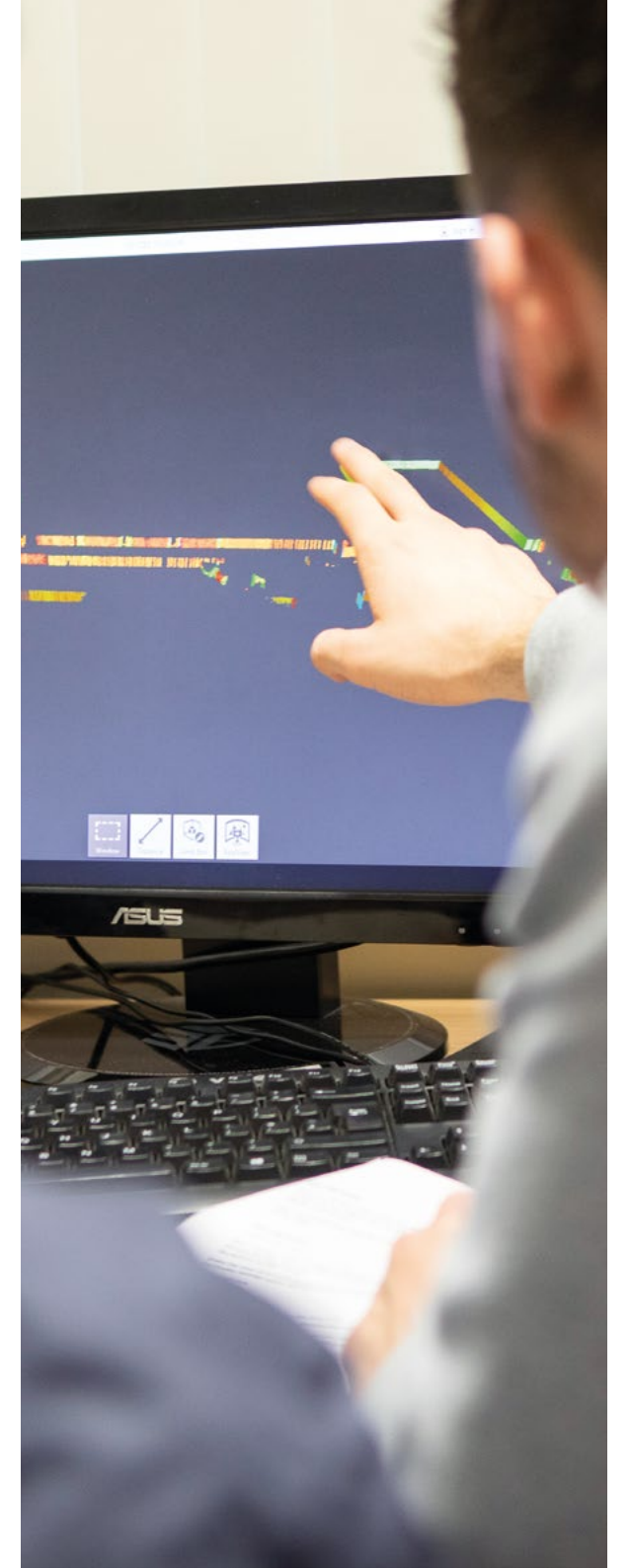
Introduction to management and projects

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.

You will undertake a group project which will utilise two important areas of the School's curriculum: enquiry-based learning and structured research skills. 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.

Information and communication

Develop an understanding of the importance of information, communication and digital modelling in the design and construction of complex projects. We teach 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.



YEAR 2 TOPICS

THE TOPICS BELOW ARE THE SAME FOR ALL COURSES.

Building environment systems and technology

By taking an integrated approach, you will apply theories and concepts developed in Year 1 to reinforce your knowledge and understanding of environmental performance and environmental systems. You will focus on the construction technology of commercial, industrial and other buildings, considering current trends and techniques, 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.

Building pathology and surveying practice

You will develop a forensic understanding into the decay of buildings and the process of surveying buildings as well as the role of the professional bodies in the delivery of surveying advice. We focus on the importance of professional guidance and frameworks in producing technical reports to include the significance of sustainability, ethics, and accessibility in the built environment. Parallel to the technical content and analysis of building defects, you'll also engage with industry, supporting your career development and creating opportunities for work experience to align academic surveying theory with professional application.



Construction procurement and contract law

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 enforcing business deals in construction.

Construction work is typically carried out through contracting with a variety of different firms, which are connected through a complex network of contracts. 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.

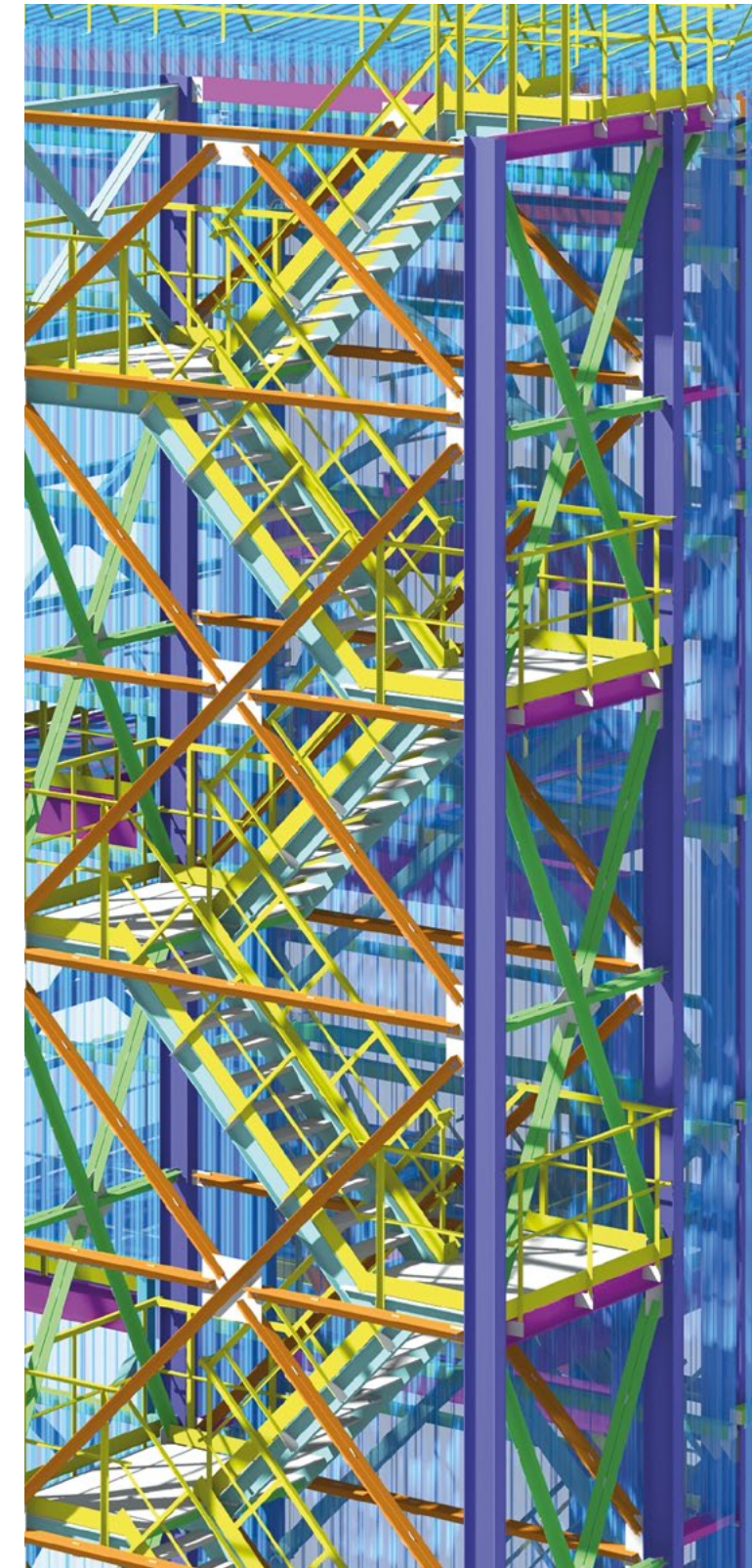


Quantification and computerised taking off

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.

Management of construction projects

You will gain 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.



YEAR 3 TOPICS

TOPICS VARY BY COURSE.

BSc (Hons) Building Surveying

Building surveying project

Commercial surveying practices and advanced building pathology

BSc (Hons) Construction Management

Construction management project

Management of construction projects

BSc (Hons) Construction Management and Surveying

Built environment project

BSc (Hons) Quantity Surveying

Quantity surveying project

Quantification and costing

Research skills and dissertation

All courses will include a 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 have produced 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 project

You will be exposed to real buildings that need repair, conversion, alteration or general refurbishment, and 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 / quantity surveying 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 TOPICS

CUSTOMISE THE COURSE TO MEET YOUR NEEDS.

Business organisation and management

Commercial surveying practices and advanced building pathology

Construction contract management

Construction live project

Digital technology use in construction

Human resource and health and safety management

Inclusive environments

International construction

Management of construction projects

Quantification and costing

Quantification for infrastructure and civil engineering works

You must choose at least one of the following sustainability-themed topics:

Environmental management and assessment

Green innovation in construction

Historic built environment

Sustainable built environments

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 immersive virtual reality systems that enable 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.

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.

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 the past, 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.

“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

PLACEMENTS

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. 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.

“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 help and support you provided was fantastic.”

Adam Fontannaz
BSc Construction Management and Surveying

CAREERS

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. 98% of graduates from Construction Management and Engineering are in work or further study within 15 months of graduation; of those in full-time employment, 98% are in graduate-level roles⁵.

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.

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.

⁵ Based on our analysis of HESA data © HESA 2022, Graduate Outcomes Survey 2019/20; includes first degree Construction Management and Engineering responders

OUR COMMUNITY

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 plays 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

Important information

This brochure was issued in 2023 and is aimed at prospective undergraduate students wishing to apply for a place at the University of Reading (the University) and start a course in autumn 2024. 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 (May 2023). However, it may be necessary for the University to make some changes to the information presented in the brochure following publication – for example, where it is necessary to reflect changes in practice or theory in an academic subject as a result of emerging research; or if an accrediting body requires certain course content to be added or removed. To make an informed and up-to-date decision, we recommend that you check reading.ac.uk/study

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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Topics

Our joint courses may have extra requirements, including English language requirements. Please check the individual course pages on our website for further details.

Joint courses

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Year abroad and placement fees

Some courses include an optional or compulsory year abroad or placement year. During this year you will only pay a partial fee which is currently set at 15% of the normal tuition fee. Check the website for the latest information:

reading.ac.uk/fees-and-funding

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.

Study abroad disclaimer

The partnerships listed are correct at the time of publication (May 2023). For up to date information on the University’s partnerships contact studyabroad@reading.ac.uk

Where Study Abroad is not a compulsory part of the degree programme, the University of Reading cannot guarantee that every applicant who applies for the scheme will be successful. Whilst efforts are made to secure sufficient places at partner institutions, the number of places available and the University’s partners can vary year-on-year. In all cases, the University cannot guarantee that it will be possible for applicants to choose to study abroad at a particular institution.

Further, certain courses and/or institutions may require you to satisfy specific eligibility criteria. It can be a competitive process. For further information on the University’s Study Abroad Scheme please contact studyabroad@reading.ac.uk



**School of Construction Management
and Engineering**

www.reading.ac.uk/cme

Ask us a question

www.reading.ac.uk/question

