

SCHOOL OF ENGINEERING



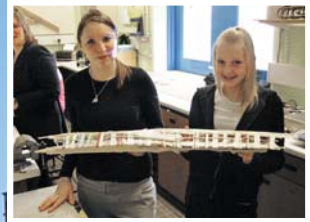
the  
UNIVERSITY  
of  
GREENWICH

Working in partnership with



# Department of Civil Engineering

Civil Engineering at Greenwich means *High Employability*



Medway Campus

## Past and present excellence

The School of Engineering at the University of Greenwich has a strong tradition of education dating back to the 1890s, when it pioneered the teaching of people of all levels of society with an interest in learning. It is based on the Medway Campus of the university.

The School's Department of Civil Engineering offers programmes reflecting the needs of industry and society from local, regional, national and international perspectives. Civil engineering is a fast-moving, challenging and rewarding profession which contributes extensively to society as a whole, offering solutions in design, construction and management.

The world is facing a shortage of civil engineers. In Britain, the challenge is that over the next 10 to 15 years, approximately half the country's chartered practitioners will retire. Today

is, therefore, an opportune time to join the profession. More immediately, construction associated with London's staging of the 2012 Olympic Games provides a golden opportunity for civil engineers to show their talents and fulfil their aspirations.

The Department of Civil Engineering's laboratories and computing facilities are a launch pad for 21st-century careers in design and analysis of structural, hydraulic and geotechnical issues. In addition to our partnership with Atkins, one of the world's leading providers of professional, technologically-based consultancy and support services, we are continually extending and strengthening links with employers, who are involved in delivering our programmes and developing new ones.

For more information on the School's Department of Civil Engineering, visit [www.gre.ac.uk/schools/engineering/departments/civil-engineering](http://www.gre.ac.uk/schools/engineering/departments/civil-engineering)



## Department of Civil Engineering highlights

- The appointment of Professor Chun-Qing Li as the inaugural Atkins Chair in Civil Engineering was a major step forward.

The Vice-Chancellor, Baroness Blackstone, said: "Professor Li has an impressive track record, combining strengths in teaching, research and consultancy. This appointment cements the relationship between W S Atkins and the University of Greenwich."

The Chief Executive of Atkins, Keith Clarke, agreed and added: "Professor Li displays all the qualities needed to ensure that the university becomes synonymous with civil engineering excellence."

- The department welcomes the professional accreditation by the Joint Board of Moderators (JBM) of a range of programmes: BEng Hons Civil Engineering, BSc Hons Civil Engineering, BEng Hons Civil Engineering with Project Management, BEng Hons Civil Engineering with Water and Environmental Management, and MSc Civil Engineering.
- In RAE 2008, the Department of Civil Engineering achieved a small proportion of 4\* rating (i.e. world leading), with an average 2\* rating (i.e. internationally recognised).

- The department offers a curriculum that emphasises development of your skills for employability. We work with leading international consultancies and contractors such as Atkins, Mott McDonald, Balfour Betty and Nuttall, to give you opportunities to benefit from:

- Industry-sponsored or mentored individual projects;
  - Summer placements, leading to possible employment;
  - A final-year design course which includes a "Constructionarium" - a hands-on residential construction week supervised by companies who are also potential employers.
- The department provides an inspiring learning environment with student-centred care from entry to graduation. Support for building on your strengths is given at all stages of your studies. Your Personal Development Plan, created with the support of academic staff, is a further opportunity to demonstrate your abilities to employers.
  - The department has enhanced its research and enterprise activities in niche areas such as whole life management of infrastructure, and applications of new materials such as fibre-reinforced concrete, which also involve PhD training.

## Civil Engineering programmes

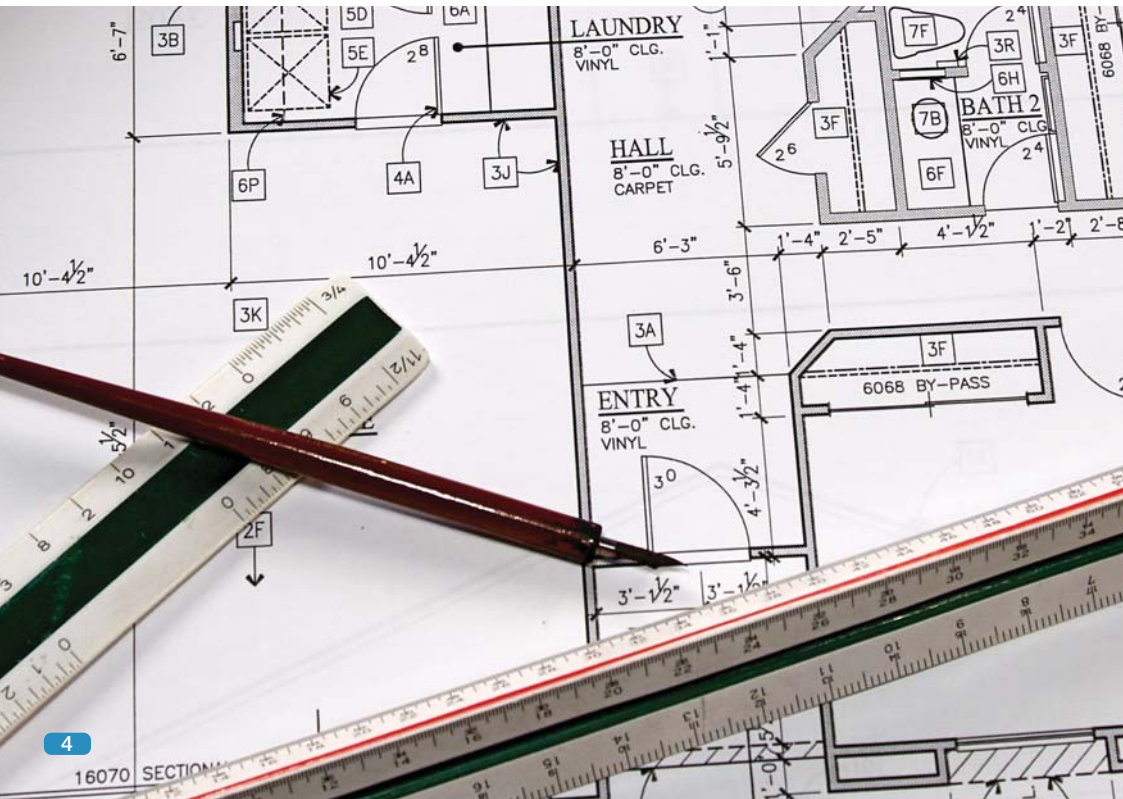
Whilst the core programme is the BEng Hons, the department's range goes from HNC/HND, to BSc/BEng Hons, MEng and MSc through to research degrees such as MPhil and PhD. All taught programmes, except HNC, are available in full-, part-time and sandwich modes. Students are encouraged to progress from HNC and HND to BSc Hons and BEng Hons, and from BSc Hons to BEng Hons, if they achieve required grades in relevant subjects.

## Professional recognition

All programmes support the academic formation of Incorporated or Chartered Engineers. For more information on this and the civil engineering profession in general, go to [www.ice.org.uk](http://www.ice.org.uk)

## Application

Applications for full-time or sandwich programmes should be made through UCAS, the Universities and Colleges Admissions Service, website: [www.ucas.ac.uk](http://www.ucas.ac.uk). Application for part-time study, the MSc, and from overseas should be made to the School of Engineering, University of Greenwich at Medway, Central Avenue, Chatham Maritime, Kent ME4 4TB.



# Undergraduate studies

## BEng Hons Civil Engineering

This programme covers principles of planning, design and construction of civil works, as well as communication and leadership skills.

The programme is the widely taken path to engineering qualifications for school leavers with A-levels, or equivalent. If your entry qualifications do not meet our requirements, we can offer our accredited foundation year programme (BEng Hons Extended Engineering - Civil Engineering), which is taken prior to year 1 entry.

In each year, core subjects are taught alongside supporting subjects and professional studies. Core subjects include structures, geotechnics, hydraulics and design. The second and final years focus on subjects related to your chosen career route. Options in the final year include an individual project of your choice and a professional design option.

Sandwich students spend their third year in an industrial placement. Part-time students attend for one day per week and complete courses from year 2 and the final year over a four-year period.

## Programme structure of BEng Hons Civil Engineering

### Year 1 (120 credits)

- Civil Engineering Technology and Design
- Mathematics
- Hydraulics 1 and Structures 1
- Communication Social and Legal Studies
- Management for Civil Engineering

### Year 2 (120 credits)

- Design and Materials
- Geotechnics and Geology
- Hydraulics 2 and Structures 2
- Engineering Analysis and Applications 1
- Project Management and Technology

### Optional Sandwich Year (Work Placement)

### Final Year (120 credits)

- Individual Project
- Hydraulics 3 and Structures 3
- Engineering Analysis and Applications 2
- Project Management and Appraisal (Civil)
- Geotechnics
- Option chosen from: Bridge Design and Assessment; Water and Environmental Management; or Design of Concrete Structures

## Other degree programmes

- **BEng Hons Civil Engineering with Project Management**
- **BEng Hons Civil Engineering with Water and Environmental Management**

- **BSc Hons Civil Engineering**

These are variants of BEng Hons Civil Engineering programme.

- **MEng Civil Engineering**

This programme is the most direct route to Chartered Engineer, in which the first two years are closely related to the BEng Hons programmes. Years three and four involve study equivalent to Master's level, and placements in industry.

- **MSc Civil Engineering**

This programme offers graduates and engineers an opportunity to update technical knowledge and skills to serve the demands of the construction industry, and to achieve fast career progression.

### Key facts

**Attendance:** 3 years full-time/4 years sandwich (BEng Hons, BSc Hons); 4 years full-time (BEng Hons Extended Engineering – including foundation year); 4 years full-time/5 years sandwich (MEng).

**Entry requirements:** 240 UCAS points for the BEng Hons, or 300 for the MEng. This must include mathematics and preferably a science/technology subject at A-level, or a National Diploma in engineering at MMM, for the BEng Hons, or DDM, for the MEng, including mathematics for both, or equivalent qualifications.

For BEng Hons Extended Engineering- Civil Engineering, 80 UCAS points or National Diploma with an overall pass.

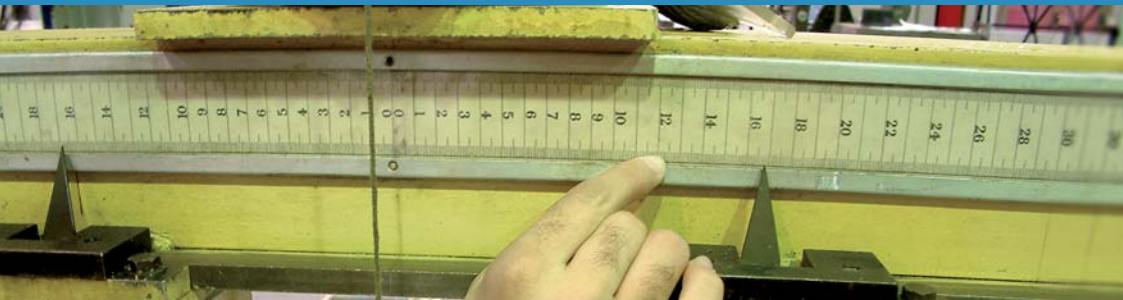
Plus, for all routes, at least 3 GCSEs at grade C or above (including English, mathematics and science) or equivalent

For UCAS codes, visit

**[www.gre.ac.uk/schools/engineering/departments/civil-engineering](http://www.gre.ac.uk/schools/engineering/departments/civil-engineering)**

**Career options:** Employment in contracting organisations, national and local government including organisations such as the UK Environment Agency and the Highways Agency or their equivalents, consulting engineers, private infrastructure and utility companies or educational institutions





## HNC/HND Civil Engineering Studies

These programmes provide the ideal qualification for starting your professional career in civil engineering, particularly where previous studies have included vocational elements or other level 3 diplomas or certificates, or their overseas equivalents. Mature students with industrial experience, but without qualifications for entry directly to degree programmes, may also be eligible, subject to interview.

These programmes develop practical knowledge and design skills, and improve your communication and organisational abilities through team-based projects. They are approved by the professional bodies as contributing to the educational base for Incorporated Engineer formation. Subject to completion of either the diploma or the certificate, you can join year 2 of the BEng Hons or BSc Hons programmes, depending on results in specific subjects. You can also take individual courses to improve qualifications and update skills.

## Programme structure of HND

### Year 1 (120 credits)

- Civil Engineering Construction A
- Construction Materials
- Civil Engineering Computations
- Structural and Applied Mechanics
- Site Surveying
- Soil Mechanics (Properties)
- Design of Elements A
- Mathematics N/H

### Optional Sandwich Year (Work Placement)

### Year 2 (120 credits)

- Soil Mechanics (Design)
- Contractual Administration
- Structural Analysis A
- Hydraulics
- Design of Elements B
- Project
- Mathematics H
- Option chosen from: Computer-Aided Design 1; Computer-Aided Design 2; or
- Civil Engineering Construction and Geology

## Research and enterprise

The department maintains high-quality research in a broad area of infrastructure engineering and management, and in close partnership with Atkins. Research activities are organised in three groups: structural, geotechnical, and water and environmental.

The main subject areas are: whole-life management of infrastructure; reinforcement corrosion and its effects on concrete structural behaviour; risk assessment of infrastructure during extreme weather and other hazardous events; fibre-reinforced concrete; performance-based seismic design of buildings, computational soil mechanics and earth structures.

The department specialises in reliability methods, in particular, time-dependent reliability methods which are crucial for sustainable development of civil infrastructure.

The department's excellent facilities include concrete-testing equipment used to ensure the quality of materials for the Channel Tunnel Rail Link. Recently upgraded to test concrete slabs up to 12 metres long and with loads up to 600 kilo-newtons (the equivalent of 12 elephants), it is one of only two in the world with these capabilities.

## Research degrees – MPhil and PhD

All research areas in the department provide a training base for students at MPhil and PhD levels. Funding for research students is available through schemes as university bursaries, research council grants and industrial sponsorship such as an Atkins CASE studentship.



# What people say

## Our students

**Moustafa Ismael**  
Year 3, BEng Hons

*"The department provides a practical curriculum with close industry links such as Atkins. The department has excellent laboratories, and friendly and helpful staff. My classmates come from all over the world, and we exchange knowledge both inside and outside class. Medway Campus is close to London and the modern residential student halls have low living costs."*



Professor Li, of the University of Greenwich, in discussion with Moustafa Ismael

**Fatou Tambadou**  
Graduate, BEng Hons

*"My time at Greenwich was a real life-changing experience. I enjoyed the course. I am currently working for InterRoute. My role is varied but is mainly project management, making sure all the schemes are on schedule and budget. I enjoy my work and am on an interesting learning curve. It is quite true that when you understand civil engineering, you see the world differently."*



## Employers

**Lee Parry**  
Engineering Manager,  
Earth Structures, W S Atkins

*"I have been impressed by the depth of knowledge and enthusiasm of the undergraduates I have mentored at Greenwich. In reviewing their projects, it is clear they have a genuine interest in the subject areas and have been very resourceful in pursuing their own research."*



## University of Greenwich at Medway

The university's Medway Campus is opposite the historic naval dockyard next to the towns of Chatham and Gillingham in Kent, and only two miles from the cathedral city of Rochester.

The campus, formerly home to the Royal Navy barracks, HMS Pembroke, includes a number of heritage-listed buildings dating from over a century ago.

As well as the School of Engineering, it is home to the School of Science, Medway School of Pharmacy and Natural Resources Institute. Other higher and further education institutions have joined the University of Greenwich in this area creating the Universities at Medway partnership, which offers shared resources.

The campus has a magnificent library, converted from a naval drill hall and offering 100,000 square feet of space with study areas and networked computers.

## Social life

Social and leisure facilities include two restaurants, student bar and shop. The sports hall and gym have cardiovascular and weights rooms. The Universities at Medway Student Association (UMSA) runs various events as well as sports and social societies on campus.

Chatham Maritime, the area surrounding the campus, has gained business, housing and leisure facilities, including a cinema complex, in the last few years. Dickens World, is a permanent exhibition of the life and works of the author of Great Expectations and other novels.

Within 20 minutes' drive of the campus is Bluewater, one of Europe's largest shopping centres, with a multi-screen cinema and a wide selection of places to eat and drink. The nearest Football League ground is Gillingham's Priestfield Stadium, and the Invicta Dynamos ice hockey team plays at Gillingham's Ice Bowl.



# How to find us

**University of Greenwich at Medway,  
Central Avenue, Chatham Maritime,  
Kent ME4 4TB**

**By road:** from London/the M25 take the A2 towards Dover. Just before the A2 becomes the M2 move into the left-hand lane to join the A289 to Gillingham. Follow signs to Gillingham. As you leave the Medway Tunnel, branch left and at the roundabout take the last exit marked “universities”. Then follow signs to the campus.

From east Kent take the A2/M2 towards London. Exit at Junction 4 and take the A278 towards Gillingham (or follow anchor signs). Follow signs to Chatham

Maritime/Medway Tunnel. Then follow signs to the campus.

To park on campus, visitors must obtain a temporary permit from the Gatehouse. For further information, log on to [www.gre.ac.uk/about/travel](http://www.gre.ac.uk/about/travel).

**By train:** there are frequent services to Chatham and Gillingham from Charing Cross, London Bridge, Cannon Street and Victoria stations. There are also services from Ramsgate and Dover.

**By bus:** there are a number of bus companies operating services in Medway. You can find a list of these or links to their websites at [www.medway.gov.uk/index/environment/publictransport/buses](http://www.medway.gov.uk/index/environment/publictransport/buses).



### Our campuses

- a Greenwich
  - b Avery Hill
  - c Medway
- ✈ Airport





*the*  
**UNIVERSITY**  
*of*  
**GREENWICH**

For information on our programmes  
including how to apply, please contact:

**UK students**

Freephone: 0800 005 006

Fax: 020 8331 8145

E-mail: [courseinfo@gre.ac.uk](mailto:courseinfo@gre.ac.uk)

**International/EU students**

Telephone: +44 20 8331 8136

Fax: +44 20 8331 8625

E-mail: [international@gre.ac.uk](mailto:international@gre.ac.uk)

Website: [www.greenwich.ac.uk](http://www.greenwich.ac.uk)



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