Why study this programme?

Geographical Information Systems (GIS) and Remote Sensing (RS) provide powerful techniques and tools for the acquisition, manipulation, analysis and display of information about the terrestrial and extra-terrestrial surface and human infrastructure.

Any data with spatial elements, for instance census, roads, soil type, crop productivity, air quality and elevation data, can be managed and manipulated with GIS. These data are used to solve problems as diverse as crop monitoring, transport planning, retail analysis, mineral and hydrocarbon exploration, landscape simulation, town planning and exploration of planetary objects – the variations are endless.

RS provides up-to-date images of the land, sea and atmosphere acquired from spaceborne satellites or airborne sensing devices. These images are enhanced and analysed by image processing techniques to reveal natural patterns of variation and to monitor changes. Advancements in RS and photogrammetry technologies have revolutionised the process of updating geographical information and are providing information of tremendous value for environmental, planning and monitoring applications. GIS can help integrate and analyse any data with spatial elements and can act as a decision support system for stakeholders and policy makers by identifying various environmental, anthropological and economic patterns.

Uses of GIS include crime detection and prevention, disaster recovery and management, meteorological monitoring and prediction, epidemiology and community health management and resource management.

Provision of detailed and readily available remotely sensed imagery resolves the input bottleneck for GIS technology and increases the opportunities for integration of GIS and RS. Availability of high spatial resolution real-time data has immeasurably improved disaster monitoring, recovery and management applications. Increasing computing power is enabling more accurate virtual reality visualisation, analysis and investigation of our environment, helping us to understand, conserve and sustain its future. Developing countries are adopting the geospatial technologies to use as data management solution and decision support systems to strengthen their infrastructure and explore their resources more efficiently.

This programme provides an understanding of the techniques and use of GIS in conjunction with RS in the management, analysis and display of spatial/environmental data. The programme is primarily aimed at graduates from natural and earth science disciplines, but is suitable for students from a wide range of subject backgrounds.
An integral part of the learning experience is the development of key skills, such as spatial analysis, image processing, database management and survey data collection. Close links are maintained with professional bodies, which input directly into the programme and help to ensure that it meets the changing needs of the industry.

This programme was developed by the university’s Centre for Geographical Information Systems & Remote Sensing. This was established in 1995 to develop the range of geoscience and environmental disciplines offered by the university, and is part of the School of Science. The centre has strong links with the UK-based Remote Sensing and Photogrammetry Society. You will be encouraged to join the society and publish during its annual conference.

You should apply for this programme if you are interested in:

- Developing an interdisciplinary understanding of subjects related to geographical information
- Exploring new spatial technologies and their use in various geophysical, environmental and socio-economic applications
- Gaining expertise in the use of remotely sensed (space, airborne and ground-based) data and processing techniques within environmental and geography-related disciplines
- Acquiring spatial data management and GIS/RS software customisation and programming skills directly relevant to the modern GI workplace, such as Python, open source GIS development and web-based GIS
- Developing the ability to critically evaluate spatial data and use it to inform decision making and management planning.

Why study with us?

The School of Science unites science with teaching and research. It works with the university’s Natural Resources Institute to provide a centre for higher education with international expertise that spans the social, physical and natural sciences.

The School employs the very latest learning and assessment techniques, provides pastoral care to ensure students achieve their goals, and delivers academic and professional programmes supported by research and scholarship. We have some of the most modern and sophisticated...
Attendance: 1 year full-time, 2–3 years part-time
Entry requirements:
You should have:
**EITHER** a good first degree
**OR** a postgraduate diploma in an appropriate discipline such as natural sciences, geography, environmental sciences or computing
**OR** relevant personal or professional experience.

• We consider applicants from other backgrounds, such as humanities and engineering, who have the ability to benefit from this programme.
• If you were educated in a language other than English, you should have an IELTS score of 6.5 (with a minimum of 5.5 in each component) or an equivalent rating in another recognised language testing system.
• All UK applicants are interviewed.

How to apply:
• Applications to postgraduate programmes should be made online at www.gre.ac.uk/apply.
• There is no closing date for applications to postgraduate programmes, but many fill up quickly, so you are advised to apply early. You do not have to wait for first degree or other examination results.

What will you study?

**Term 1**

- Introduction to GIS (15 credits)
- Introduction to RS (15 credits)
- Spatial Database Management (15 credits)
- Professional Practice in GI (15 credits)

**Term 2**

- Advanced Spatial Modelling (15 credits)
- Advanced Image Processing (15 credits)
- Programming for GIS and Remote Sensing (15 credits)
- Applied GIS and RS (15 credits)

**Term 3**

- Individual Research and Dissertation (60 credits)

instrumentation and laboratory facilities in the UK. Most of our programmes are accredited or recognised by relevant professional bodies, so you can have total confidence in the quality of our teaching programmes.

The School is located on the Medway Campus in the rapidly developing area of Chatham Maritime in Kent. The campus is home to three universities, making it a vibrant place to work, study and relax. It has three cafés, a pub, a sports hall and five halls of residence. The Students’ Union University of Greenwich (www.suug.co.uk) and the Universities at Medway Students’ Association (www.umsa.org.uk) both organise a variety of sports and social activities. The Medway Campus is located near the historic towns of Rochester and Chatham and is 50 minutes from central London.
Career opportunities
Because of the high quality of vocational training in the degree, graduates from this programme are very successful in finding related employment or research positions. Our graduates can find employment in local authorities, spatial consultancies, environmental monitoring, urban planning, geo-exploration, retail, marketing and the commercial sector, the health sector and the emergency services.

Teaching and assessment
This programme is taught using a combination of lectures, tutorials, computer-based practicals, workshops, case studies and student-led presentations. It has a strong research focus and practical orientation combined with academic rigour. You will be assessed through a range of different strategies, including essay assignments, theory and practical examinations, practical assignments and oral presentations. Courses are taught by lecturers with strong expertise in research, teaching and professional environments.

Financial information
For up-to-date information on tuition fees and financial help, please visit www.gre.ac.uk/finance.

“Expectations of interactive mapping have changed enormously over the past few years. Now Geographical Information Systems (GIS) are supporting services in the back office and improving people’s access to frontline services, reflecting a growing use of geographic apps for the Internet or smartphones.”

Tracey Caldwell,
‘Councils push the GIS envelope’, Guardian.co.uk, 2011
Your next step

University Open Days are held several times a year. They include a programme of talks and offer you the opportunity to speak to staff and students. You may also be given a tour of the campus. A list of dates can be found at www.gre.ac.uk/opendays, or contact the Enquiry Unit or International Office for further information.

Why not sign up as a Greenwich VIP and create your own Greenwich webpage, personalised to your choice of programme and interests? Becoming a Greenwich VIP is a fast route to ordering our publications, booking an Open Day and finding out more about the university. You can also take part in chat sessions with staff and students, receive text and e-mail alerts, and enter our online competitions. Sign up at www.gre.ac.uk/study.

For further information

To find out more about studying at the university, please contact:

Website: www.greenwich.ac.uk

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Every effort has been made to ensure that this leaflet is as accurate as possible. However, the university reserves the right to discontinue any class or programme, to alter any programme or to amend without notice any other information printed here.