

Engineering

Address Engineering, King's College London, Strand Campus, Strand, London WC2R 2LS
Contact Postgraduate Secretary, Nicola Nayler, Engineering, tel 020 7848 2592, fax 020 7848 2932, pgadmissions.engineering@kcl.ac.uk, www.kcl.ac.uk/diveng

Both Electronic and Mechanical Engineering have been rated 5, and therefore among the best in the country for excellence in research in the Higher Education Funding Council's 2001 Research Assessment Exercise (RAE). Our active research environment and the involvement of staff in the development of the engineering professions mean that the topics covered in both taught and research programmes are at the forefront of knowledge. Our research activities maintain a good balance between fundamental academic research and industrial applications.

We host regular international conferences, including IFIP International Conference on Mobile and Wireless Communications Networks (2005), Signal Processing for

We strive to engineer solutions to problems as diverse as biometric identification, building intelligent robots, designing new medical apparatus, and communications beyond 3G. We pursue excellence in teaching, scholarship and research. We incorporate changes in engineering education and demands by industry for both specialist and broad-based engineers in our degree programmes. Our students are the heart of the division, and its future.

Wireless Communications (annual), and 13th European Mixing Congress (EFCE 2009).

A number of our staff are elected fellows of engineering bodies (eg IET, IMechE, IChemE), meaning that they have demonstrated exceptional commitment, professionalism and innovation in their field.

Induction & training

Induction events take place for all students at the start of the academic year, giving you a chance to familiarise yourself with the department, and meet staff and fellow students. All our research students attend training courses in transferable skills. Your supervisor assesses other training needs on an individual basis.

Facilities

Our facilities include a wide range of sensors and instrumentation for measurements in fluid flow and heat transfer, 1-, 2- and 4-channel laser anemometers, and a particle image velocimeter. Our computing facilities include an extensive network of PCs, a new 12-processor supercomputer, a powerful cluster of UNIX workstations, a terminal room, a laser-based technique research area and an open-plan laboratory.

We also have robot manipulators, mobile robots, and a wide range of CAD/CAM software, as well as comprehensive materials preparation and metallographic facilities.

Funding

We receive grants from the EPSRC, BBSRC, the EU and industry.

Research opportunities

Engineering Research MPhil/PhD (Electrical Engineering, Telecommunications, Mechanical Engineering)

Head of programme Professor Lakmal Seneviratne.

Entry requirements A minimum 2:1 (or equivalent) degree in engineering or a related subject. A 2:1 first degree and a subsequent MSc in a relevant area is acceptable.

Duration Expected to be: three years FT, four–six years PT.

Intake Approximately 30.

Closing date 1 May, for those eligible and wishing to be considered for research council funding.

Funding Some studentships are usually available but students are often self-funded.

Fees See general fees section.

Location Strand Campus.

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with industry, government organisations, and other universities, and are currently working with (amongst others): Defence Science and Technology Laboratory (Dstl); Mobile VCE Consortium; Nokia and QinetiQ. Further details on website.

About the programme

Our staff are nationally and internationally renowned in a variety of fields. We provide opportunities to pursue research in electronic engineering, with an emphasis on digital signal processing and telecommunications (particularly mobile and personal communications, and ultra wideband communications), and in mechanical engineering in the fields of fluid mechanics, mechatronics, robotics, nanotechnology, materials science, biomedical engineering and intelligent systems. All our Engineering activities were rated 5 in the 2001 RAE, demonstrating that most of our research is at an international level.

Study environment

You will attend a School induction course, and also divisional events. All students receive the Division of Engineering Guidelines for students and supervisors when you enrol. We also have various

seminars arranged, which include those organised by research groups and given by third year PhD students. Your supervisor will help you learn the techniques and advise on training/courses to attend. You will usually work within a group and be supervised by two academics. As part of this supervision you will take part in a monitoring exercise every six months. All research students are provided with a dedicated work area.

Training

Receiving the appropriate training and support is vital in successfully completing a research degree, and King's has the highest completion rates in England (HEFCE 2007). All research students are required to attend the training provided by the School. Other training needs are assessed on an individual basis, in discussion with your supervisors. Some students are given the opportunity to work as laboratory demonstrators for undergraduate classes.

Application procedure

Your application is assessed by the Research Graduate Admissions Tutor. We aim to respond within four weeks, although it may take longer at certain times. Please see web for more details.

Research profile

RAE score 5 (2001) (for both constituent parts).

Research income We typically receive in excess of £2m a year in research income.

Current staff 37 research-active full-time academic staff in the division, and we will appoint one more in the near future.

PhD students 100.

Research assistants 20.

Partner organisations We have strong links

Research groups in Engineering

There are full details of these groups on our website.

Biomedical Engineering

Contact Dr Kalok Lee, fax 020 7848 2932, pgadmissions.engineering@kcl.ac.uk, www.kcl.ac.uk/gsp09/groups/349

Centre for Digital Signal Processing Research

Contact Dr N Boulgouris, fax 020 7848 2932, nikolaos.boulgouris@kcl.ac.uk, www.kcl.ac.uk/gsp09/groups/9

Centre for Mechatronics and Manufacturing Systems (CMMS)

Contact Professor J Dai, fax 020 7848 2932, jian.dai@kcl.ac.uk, www.kcl.ac.uk/gsp09/groups/11

Centre for Telecommunications Research

Contact Postgraduate Secretary, Nicola Nayler, tel 020 7848 2592, fax 020 7848 2932, pgadmissions.engineering@kcl.ac.uk, www.kcl.ac.uk/gsp09/groups/10

Experimental and Computational Laboratory for the Analysis of Turbulence (ECLAT)

Contact Dr S Balabani, fax 020 7848 2932, pgadmissions.engineering@kcl.ac.uk, www.kcl.ac.uk/gsp09/groups/12

Intelligent Systems and Control

Contact Dr Mahbub Gani, tel 020 7848 2388, fax 020 7848 2932, mahbub.gani@kcl.ac.uk, www.kcl.ac.uk/gsp09/groups/350

Materials

Contact Dr Mark Miodownik, fax 020 7848 2932, mark.miodownik@kcl.ac.uk, www.kcl.ac.uk/gsp09/groups/330

Ultra Wide Band Communications

Contact Postgraduate Secretary, tel 020 7848 2592, fax 020 7848 2932, pgadmissions.engineering@kcl.ac.uk, www.kcl.ac.uk/gsp09/groups/329

Staff research interests

Each accomplished in their own field, our staff actively pursue their own research. For contact details see our website.

Centre for Digital Signal Processing Research

Dr Steve Alty Intelligent signal processing; efficient algorithms; speech technology.

Dr Nikolaos Boulgouris Image/video processing; biometric identification; multimedia transmission; surveillance; multimedia indexing and retrieval.

Dr Zoran Cvetkovic Signal processing, theory and applications.

Dr Mahbub Gani Mobile sensor networks; multi-agent systems; distributed control and signal processing; robust control.

Dr Apostolos Georgakis Time-frequency analysis; biomedical signal processing; signal processing for biomechanics.

Dr Hak-Keung Lam Chaotic synchronisation; fuzzy control; neural networks; genetic algorithm.

Dr Bingo Wing-Kuen Ling Filter banks and wavelets; symbolic dynamics; functional inequality constrained optimisation; impulsive control.

Dr Mohammad Shikh-Bahaei Communication signal processing; cross-layer optimisation of wireless communication systems; adaptive transmitters and receivers.

Centre for Mechatronics and Manufacturing Systems (CMMS)

Dr Kaspar Althoefer Mechatronics; robotics; embedded intelligence; medical robotics; remote sensing; pipe inspection; neuro-fuzzy robot navigation; visual odometry.

Professor Jian Dai Robotics, kinematics and mechanisms; advanced machinery; motion control; assembly and industrial automation.

Dr Catarina Nunes Biomedical engineering; control systems; modelling and identification, intelligent systems.

Dr Lei Ren Biomechanics and neural control of human movements; neuromuscular skeletal system; rehabilitation engineering.

Professor Lakmal Seneviratne Robotics; automation; mechatronics; control, system identification.

Dr Michael Spratling Neural computation; visual perception; machine intelligence; developmental robotics; computational and cognitive neuroscience.

Centre for Telecommunications Research

Professor Hamid Aghvami (Director of Centre) UMTS/IMT2000; future wireless multimedia communication systems; IP-based wireless networks.

Dr Vasilis Friderikos Wireless mesh networks; cross layer optimisation; scheduling; routing; QoS; stochastic/deterministic mathematical programming.

Dr M Reza Nakhai Multi-user communications; space time wireless communications; communications theory; information theory; coding.

Dr Fatin Said Wireless and mobile communications using bandwidth and energy efficient coding and modulation techniques.

Experimental and Computational Laboratory for the Analysis of Turbulence (ECLAT)

Dr Stavroula Balabani Experimental fluid mechanics.

Dr Andrea Ducci Shaken flask flow; stirred vessels; turbulence; mixing; cylindrical container flow; vortex ring.

Dr Kalok Lee Biomedical flows (inhalation, breathing, pharmaceutical inhalers, etc), fluid mechanics, instrumentation.

Dr Gianluca Marcelli Molecular simulation; reaction-diffusion; cell membrane mechanics; cell signalling; ovarian folliculogenesis.

Dr Yorgos Papadakis Computational fluid dynamics; fluid structure interaction.

Dr Pierre Ricco Fluid mechanics; applied mathematics; boundary layer theory; shear flow instability; turbulent drag reduction.

Dr Shahriar Sajjadi-Emami Multiphase dynamics; polymer reaction engineering; emulsion polymerisation, emulsion technology; colloid science; nanoparticles.

Professor Michael Yianneskis Fluid mechanics; turbulence; fluid mixing; haemodynamics.

Materials

Dr Michael Clode Microstructural modelling of materials processing.

Dr Chris Lorenz Computer modelling of molecular-scale interfacial behaviour in biology and nanotechnology.

Dr Samjid Mannan Nanoparticles; solders; electronic materials reliability in harsh environments; adhesives; rheology; concentrated suspensions.

Dr Patrick Mesquida Materials science; nanotechnology; biophysics; biomaterials; surface functionalisation; protein fibres.

Dr Mark Miodownik Computer modelling of complex materials and biological systems.

Ultra Wide Band Communications

Dr Reza Shams Dilmaghani Ultra wideband; wireless sensor networks; biomedical signals analysis; wavelets.

Professor Mohammad Ghavami Ultra wideband communication systems; smart antenna; adaptive signal processing.

Dr Panagiotis Kosmas Computational electromagnetics; biomedical engineering; inverse problems; microwave engineering; medical imaging.

Dr Arumugam Nallanathan Cognitive radio; cooperative communications; UWB communications; MIMO-OFDM systems.

Dr Vivien Xiaoli Chu Wireless communications systems; UWB radio technologies; MIMO systems; channel estimation; multiple access.

Taught programmes

Shared details

Information in this section applies to all of the Taught programmes listed below, unless separate details are given in the individual programme entries.

Duration One year FT, two years PT, September to September.

Intake Approximately 25 FT; 5PT.

Closing date Mid-September or until places are filled. However, we recommend overseas student applications are submitted by the end of July to ensure that you have time to organise visas and/or accommodation.

Tuition fees (2009) FT home/EU £4050, FT overseas £13600, PT home/EU £2025, PT overseas £6800.

Funding Students are generally self-funded.

Location Strand Campus.

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Format & assessment Teaching methods: lectures; tutorials, seminars. Assessment: coursework, written examinations, final project report. More information about our modules can be found at www.kcl.ac.uk/schools/pse/diveng/pgs

Application procedure Your application will be assessed by an admissions tutor and we aim to make a decision within four weeks. We do not normally interview.

Computer-aided Mechanical Engineering MSc

Entry requirements A second class British honours degree in mechanical engineering (or other relevant subject eg physics, mathematics, electrical engineering). We also welcome overseas, professional or occupational qualifications and assess them on an individual basis.

Student destinations Research, and careers in areas of industry such as Manufacturing, Automotive and Aerospace.

www.kcl.ac.uk/gsp09/programme/234

About the programme

Accreditations

Institution of Mechanical Engineers.

Purpose

For graduate engineers and scientists wishing to learn in depth the theory and use of state-of-the-art computer-aided design and manufacturing methods.

Description

Over the past two decades computers have revolutionised the practice of

mechanical engineering and have become indispensable tools in all of its key areas. As a result, there is a growing demand for MSc graduates who can integrate computing skills with the traditional mechanical engineering principles. Core modules are: Dynamical Systems & Simulation; Advanced Numerical Methods for Engineers; Computer-Aided Manufacture; Computer-Aided Design; Computational Fluid Dynamics; Project Management; Robotic Systems; Individual research project. Plus either Fluid Mechanics or another MSc module in the division.

See shared details (above)

Digital Signal Processing MSc

Entry requirements Second class honours degree in electronics, electrical engineering, computer science, applied mathematics or physics. We welcome overseas, professional or occupational qualifications and consider them on an individual basis.

Intake Approximately 20.

Student destinations PhD studies in signal processing, communications, biomedical engineering and related disciplines; careers in the defence and commercial sectors including finance, communications, aerospace, media and consumer electronics.

www.kcl.ac.uk/gsp09/programme/235

About the programme

Accreditations

Institution of Engineering and Technology.

Purpose

For students and practitioners with a background and/or interest in signal processing who wish to understand the mathematical foundations of signal processing and explore the applications of this theory in a variety of modern settings including intelligent systems, health sciences, wireless communications, multimedia and consumer electronics.

Description

Signal processing is the mathematical engine under the bonnet of highly complex digital systems and devices that are at the core of the information exchanges in our lives today. Consequently, there is growing demand in defence, health and a broad range of commercial sectors, for engineers proficient in both the theory and practice of signal processing.

Core modules: Fundamentals of Digital Signal Processing (DSP); Statistical DSP; Real-time DSP; Wavelets & Transforms in DSP; Pattern Recognition; Adaptive & Array Signal Processing; Individual research project. Plus two from other modules in the areas of communications and signal processing.

See shared details (above)



Digital Technology & Culture MSc

Entry requirements Second class British honours degree in engineering or computer science (or other relevant subject, eg mathematics, materials science, physics). We welcome overseas, professional or occupational qualifications and assess them on an individual basis.

Intake Approximately 10 FT, 5 PT.

Student destinations Careers in music production, music performance, radio, TV, film, arts management and production.

www.kcl.ac.uk/gsp09/programme/464

 See shared details (page 180)

About the programme

Purpose

For students with a technical background who want to specialise in digital technology and its applications in the cultural sector.

Description

Focuses on the application of digital technologies in music and contemporary culture, which is broadly interpreted to include areas of activity such as film, TV, radio, the visual and performing arts, telecommunications, information

technology, law and philosophy. It aims to provide a rigorous framework to understand the social and cultural impact of the revolution in digital technology. Core modules are: Digital Culture & Technology; Rapid Prototype Engineering.

Over 40 options in Electronic Engineering, Mechanical Engineering, Computer Science, Film Studies, Music, Philosophy, Geography and War Studies (subject to availability and timetabling).

Electronic Engineering Research MSc

Entry requirements First class or 2:1 degree or equivalent in electrical/electronics engineering, computer science, applied mathematics or physics. We welcome overseas and professional qualifications and assess them on an individual basis.

Student destinations Our graduates progress into industry, commerce or further study.

www.kcl.ac.uk/gsp09/programme/236

 See shared details (page 180)

About the programme

Purpose

For students interested in pursuing MSc research in mobile and personal communications or digital signal processing. This programme provides a basic experience of research and training in one of these specialist areas.

Description

Your main focus will be a substantial research project which runs throughout the year. Appropriate projects can provide the foundations for PhD research. You will also select two taught modules to extend and complement existing knowledge.

Format & assessment

Two taught modules and a supervised research project. Written examinations; project dissertation; coursework.

Electronic Engineering with Business Management (subject to approval) MSc

Entry requirements Second class British honours degree or equivalent overseas degree in electronic engineering or other relevant subject. We welcome overseas, professional or occupational qualifications and consider them on an individual basis.

Student destinations Management positions in industry.

www.kcl.ac.uk/gsp09/programme/557

 See shared details (page 180)

About the programme

Purpose

To provide practical and theoretical knowledge of modern electronic engineering techniques sufficient to prepare them for careers in the field of electronic engineering on a managerial level.

Description

We aim to provide a good understanding of a wide range of both general management, engineering management

and electronic engineering skills. This will allow graduates to work in industry at a relatively advanced level and to work towards senior positions within electronic engineering or management. All students take modules in Advanced Industrial Business Management, and Operations Management, and then choose six modules from a range of engineering management, signal processing and communications modules. An important and substantial part of the programme is the individual engineering project.

Engineering with Business Management MSc

Entry requirements Second class British honours degree in engineering or a related subject, eg physics, computer science, materials science. We welcome overseas, professional or occupational qualifications and assess them on an individual basis.

Student destinations Management positions in industry.

www.kcl.ac.uk/gsp09/programme/463

 See shared details (page 180)

About the programme

Accreditations

Institution of Engineering and Technology.

Purpose

To provide graduates in engineering or relevant scientific disciplines with practical and theoretical knowledge of modern engineering techniques sufficient to prepare them for careers in the field of engineering on a managerial level.

Description

We aim to provide students with a good

understanding of a wide range of both general management and engineering management techniques and applications. Core modules are: Project Management; Operations Management; Advanced Industrial Business Management; Individual engineering project.

Optional modules include: Computer Aided Design; Computer Aided Manufacture; Industrial Business Management; Intelligent Systems for Legal & Administrative Applications; Real-Time Systems & Control; Sensors & Actuators; Robotic Systems.

Engineering with Finance (subject to approval) MSc

Entry requirements At least a 2:2 British honours degree (or international equivalent) in engineering. Students with a first degree in mathematics, physics or other physical sciences and engineering subject will be assessed on a case-by-case basis for their suitability for the programme.

Intake Approximately 30.

Student destinations Financial analysis; risk management; quantitative finance.

www.kcl.ac.uk/gsp09/programme/556

 See shared details (page 180)

About the programme

Purpose

To provide graduates with a good understanding of a wide range of both engineering methods and applications (eg wavelets, orthogonal decomposition, intelligent systems) for financial problems.

Description

We aim to provide practical and theoretical knowledge of engineering techniques to prepare graduates for careers in the field of quantitative finance. All students

take three core modules: Strategic Analysis of Financial Systems; Financial Engineering; Applied Risk Management. Students then choose at least three modules from: Random Variables and Stochastic Processes; Pattern Recognition; Dynamical Systems & Simulation; Biologically Inspired Methods; Statistical Digital Signal Processing; Advanced Numerical Methods, plus another module from a list including advanced topics in engineering management. A substantial part of the programme is the individual engineering project.

Intelligent Systems MSc

Entry requirements A high quality degree in a scientific or engineering discipline which provides extensive computer programming experience and a sound background in basic mathematics, in particular familiarity with standard concepts of calculus, linear algebra, differential equations and elementary probability theory.

Student destinations Careers in industry or academic research.

www.kcl.ac.uk/gsp09/programme/498

 See shared details (page 180)

About the programme

Purpose

For graduates in science and engineering with a good knowledge of computer programming and mathematics wishing to obtain specialised training in intelligent systems. Provides broad understanding of the field and practical knowledge and expertise sufficient to evaluate, design and build intelligent systems using a large range of tools and techniques.

Description

Engineering systems and devices of all kinds are increasingly required to behave

in more intelligent ways. There is thus a growth in interest in intelligent methods for solving a huge range of problems across many disciplines and industries. This programme aims to address the upsurge in interest in this field and the future need for graduates in this area. At least five modules are chosen from: Artificial Intelligence, Agents & Multi-agent Systems; Neural Networks, Pattern Recognition, Computer Vision, Biologically Inspired Methods, Group Design Project, Individual Project. One to three from modules including: Advanced Neural Networks, Multimedia Signal Processing, Robotic Systems.

Mechanical Engineering Research MSc

Entry requirements First or 2:1 degree (or equivalent) in mechanical engineering, electronics and electrical engineering, computing, physics. We may consider other scientific degrees. We also welcome overseas, professional or occupational qualifications and assess them on an individual basis.

Intake Approximately 5.

Student destinations Careers in industry, eg manufacturing, automotive and aerospace; PhD Mechanical Engineering.

www.kcl.ac.uk/gsp09/programme/238

 See shared details (page 180)

About the programme

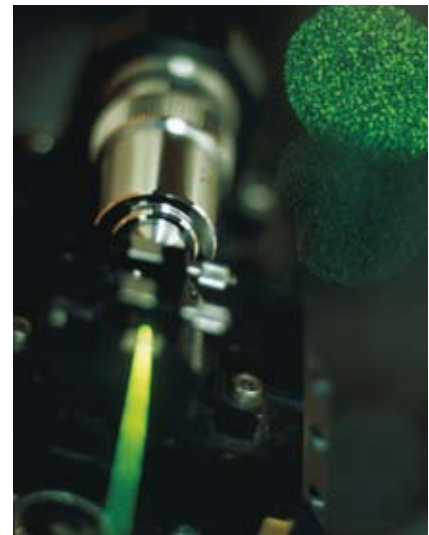
Purpose

For well-qualified mechanical engineering graduates interested in research but not yet ready to embark on a full three-year PhD.

Description

The main focus of the programme is a major research project, related to the current research activities in the department. It will run throughout the academic year and will be supervised by two academics of our department. In addition, you will take two

taught MSc level course modules. The two taught modules will be agreed with your project supervisors at the beginning of the academic year. Examples of modules available include: CFD, CAD, Robotics, Nanotechnology, Rapid Prototype Engineering, Sensors & Actuators, Advanced Numerical Methods, Computer Vision, and Heat & Mass Transfer.



Mechatronics MSc

Entry requirements Second class British honours degree in mechanical engineering (or other relevant subject eg physics, mathematics, electrical engineering, computer science). We also welcome overseas, professional or occupational qualifications and assess them on an individual basis.

Duration One year FT, two years PT, September to September or January to January.

Student destinations Careers in industry, eg manufacturing, automotive and aerospace to companies such as Cummins Inc. and Transport Alstom; research.

www.kcl.ac.uk/gsp09/programme/239

 See shared details (page 180)

About the programme

Accreditations

Institution of Mechanical Engineers.

Purpose

To provide graduates in engineering or relevant scientific disciplines with specialist knowledge of mechatronics, with emphasis on robotics and automation applications.

Description

Mechatronics is a multidisciplinary activity dealing with the integration of mechanical devices, sensors, electronics and 'intelligent' computer-based controllers. Core modules are: Dynamical Systems & Simulation; Group Design Project; Computer-Aided Manufacture; Computer-Aided Design; Sensors & Actuators; Real Time Systems & Control; Robotic Systems; Individual research project.

Mobile & Personal Communications MSc

Entry requirements Second class honours degree in electronics, electrical engineering, computer science, applied mathematics or physics. We welcome overseas, professional or occupational qualifications and consider them on an individual basis.

Intake Approximately 40.

Student destinations Careers in industry and commerce, or further study.

www.kcl.ac.uk/gsp09/programme/240

 See shared details (page 180)

About the programme

Accreditations

Institution of Engineering and Technology.

Purpose

For students wishing to work in the telecommunications industry.

Description

Our programme offers introductory modules followed by specialised topical modules on the latest aspects of communications technology. Core modules are: Fundamentals of Digital Signal

Processing; Digital Communications; Random Variables & Stochastic Processes; Antennas & Propagation; Communications Theory; Introduction to Telecommunications Networks; Mobile & Personal Communications Systems; Individual research project, plus either Compression Methods for Multimedia or Wavelets & Transforms in DSP.

Multi-scale Fluid Process Engineering (Macro to Nano) MSc

Entry requirements Second class honours degree in mechanical or chemical engineering or other relevant subject. We also welcome overseas, professional or occupational qualifications and assess them on an individual basis.

Student destinations Industry, academia, research labs, consulting firms, government bodies.

www.kcl.ac.uk/gsp09/programme/499

 See shared details (page 180)

About the programme

Accreditations

Institution of Mechanical Engineers.

Purpose

To provide students with in-depth knowledge of the fundamental and practical aspects of flow and transfer processes, with particular emphasis on the effect of different scales, their interaction and their effect in the determination of the behaviour of multiscale systems.

Description

For engineering students with mechanical, chemical or process engineering backgrounds to address industrial needs for improved process design via enhanced understanding and control of the small scale phenomena. The range of scales to be addressed will range from coarse-grain molecular modelling, nano particles, up to the larger scales normally addressed in most engineering modules. Core modules are: Heat & Mass Transfer; Advanced Numerical Methods for Engineers; Multiscale Processes; Computational Fluid Dynamics; Individual Project. Plus three from options including: Fluid Mechanics; Nanotechnology; Dynamical Systems & Simulations; Project Management; Operations Management.

Nanotechnology Engineering MSc

Entry requirements Second class honours degree in mechanical engineering or related subject, eg physics, chemistry, electrical engineering, materials science, chemical engineering, process engineering. We welcome overseas, professional or occupational qualifications and assess them on an individual basis.

Intake Approximately 15 FT, 5 PT.

Student destinations Industry, academia, research labs, consulting firms, government bodies.

www.kcl.ac.uk/gsp09/programme/462

 See shared details (page 180)

About the programme

Accreditations

Institution of Engineering and Technology.

Purpose

To provide students with a concise overview and knowledge of the fundamentals and all modern aspects of micro- and nano-technology specifically from an engineer's point-of-view.

Description

Nanotechnology is widely considered a major technology for the 21st century offering great research and commercial opportunities at the interface of

engineering, physics and life sciences. Core modules are: Nanotechnology; Special Topics in Nanotechnology Engineering; Dynamical Systems; Project Management; Advanced Numerical Methods for Engineers; Experimental or computational research project. Plus options including: Robotic Systems; Sensors & Actuators; Real Time Systems & Control; Computer-Aided Design; Computer-Aided Manufacture; Computational Fluid Dynamics.

Signal Processing for Communications MSc

Entry requirements Second class honours degree in electronics, electrical engineering, computer science, applied mathematics or physics. We welcome overseas, professional or occupational qualifications and consider them on an individual basis.

Intake Approximately 20.

Student destinations PhD studies, careers in the defence and commercial sector including communications, aerospace and consumer electronic industries.

www.kcl.ac.uk/gsp09/programme/459

 See shared details (page 180)

About the programme

Accreditations

Institution of Engineering and Technology.

Purpose

For students and practitioners with a background and/or interest in signal processing and communications who wish to further their studies on the cutting edge topics of communications and signal processing and explore a variety of applications thereof, including the flourishing area of wireless communications.

Description

Our programme has been designed in response to the growing demand in a broad range of commercial sectors for engineers proficient in communications and signal processing technologies. We aim to reflect the current requirements and anticipate the future needs of the ITC sector, specifically, of the fast growing area of wireless communications. Core modules are: Fundamentals of Digital Signal Processing (DSP); Statistical DSP; Real-time DSP; Communications Theory; Mobile & Personal Communications; Digital Communications; Individual research project. Plus two other modules in the areas of signal processing and communications.

Signal Processing for Multimedia Technologies MSc

Entry requirements Second class honours degree in electronics, electrical engineering, computer science, applied mathematics or physics. We welcome overseas, professional or occupational qualifications and consider them on an individual basis.

Intake Approximately 15 FT.

Student destinations PhD studies, careers in the defence and commercial sector with communications, aerospace, audio, portable multimedia devices and other consumer electronic industries, finance.

www.kcl.ac.uk/gsp09/programme/460

 See shared details (page 180)

About the programme

Accreditations

Institution of Engineering and Technology.

Purpose

For those wishing to extend their expertise and qualifications in the art of digital signal processing with particular emphasis on multimedia applications, such as compression methods for multimedia, image/video processing, coding and transmission, and audio and speech technologies.

Description

Our programme has been established in response to the growing skills shortage in IT industries for highly qualified engineers in signal processing. This programme is tailored towards those wishing to further their careers in multimedia signal processing. Core modules are: Fundamentals of Digital Signal Processing (DSP); Statistical DSP; Real-time DSP; Compression Methods for Multimedia; Multimedia Signal Processing; Wavelets & Transforms in DSP; Individual research project. Plus two modules from: Pattern Recognition; Adaptive & Array Signal Processing; Communications Theory; Mobile & Personal Communications; Introduction to Telecommunications Networks.