



Our MSc in Communications and Information Engineering addresses tomorrow's challenges in one of the fastest growing technology sectors. The unique cross-disciplinary course brings together valuable training from communication systems and data analytics. This allows students to understand the underpinning challenges at the hardware and software levels, and design the integrated systems needed for real-world problems.

Professor Stephen Jarvis, Director of the Warwick Institute for the Science of Cities

MSc in Communications and Information Engineering

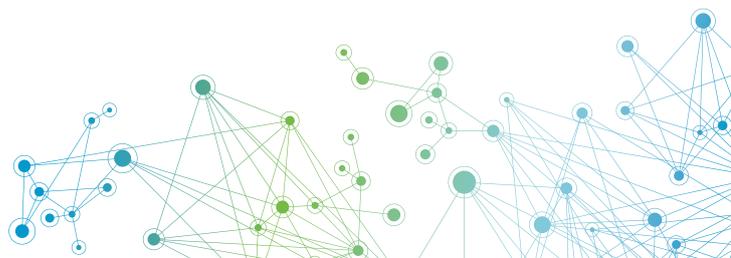
One of the cornerstones of modern life is the acquisition, transportation and analysis of data. This is pervasive at both the individual and societal levels. This course addresses the fundamental theory and practical design of such systems, by examining the mechanisms of sensor devices, wireless networks and data analytic methods. Furthermore, the course is complemented with optional data visualization and smart cities modules to allow students the opportunity to apply their knowledge to real-world problems.

"Mobile Data Delivery: a smart city will make extensive use of information and communication technologies, including mobile networks, to improve the quality of life of its citizens in a sustainable way."

GSMA SMART CITY INDEX (2014)

This MSc course will equip students with a cross-disciplinary understanding of the hardware and software challenges in designing future data acquisition and analysis platforms. Through research-led teaching the course provides a blend of rigorous theory and industrial practice, allowing students to graduate with the skill sets required to pursue a wide range of industrial and academic careers.

With this degree, graduates will be well equipped for employment in the numerous branches of information and communication systems. Recent graduates occupy positions in industries ranging from core network provision, through to logistics and software support; our graduates are also in demand by manufacturers of data communication equipment and by service providers in both the UK and worldwide. The Institute has strong links with leading telecommunications and information technology companies and project work is often conducted with industry partners.



COURSE COMPOSITION

The course provides students with comprehensive training in the essential elements of modern communication and information engineering. The information theoretic underpinnings are provided in conjunction with physical-layer aspects of both optical and radio transmission, and also signal processing methods. Furthermore, the course covers evolutions in radio network architecture and deployment. Cross-disciplinary options in data mining and data visualization are offered, and students carry out a significant project, which will provide them with the opportunity to put their knowledge into practice.

Core modules: Advanced Wireless Systems and Networks; Information Theory and Coding; Wireless Communications; Optical Communication Systems; Signal & Image Processing.

Optional modules are drawn from courses across several university departments and faculties and include: Sensor Networks and Mobile Data Communications; Foundations of Data Analytics; Data Mining; Image and Video Analysis; and Methods and Practice in Urban Science.

UNIQUE INTERNATIONAL SETTING

We have developed the MSc in Communications and Information Engineering as part of our collaboration with the New York *Center for Urban Science and Progress* (CUSP) – a partnership between five world-class universities: Carnegie Mellon University, IIT Mumbai, New York University, University of Toronto and the University of Warwick.



Center for Urban Science and Progress, New York

Our MSc in Communications and Information Engineering is a core element in a portfolio of urban science courses offered by CUSP and Warwick's EPSRC Centre for Doctoral Training (CDT) in Urban Science and Progress. Signing up for



the MSc in Communications and Information Engineering as part of the CDT therefore gives you a gateway to a unique international experience. As part of the CDT you will take part in multi-institutional collaboration, will have unprecedented access to industry experts both in the UK and overseas, will have the opportunity to visit and work with other international laboratories, and will be part of a wider global cohort working on real-world problems and solutions.

“Research-led learning actively engages students in their learning experience, encouraging them to develop critical thinking and entrepreneurial skills. Evidence suggests increased employer satisfaction and wage premiums, higher student satisfaction, and higher rates of progression to further study.”

RUSSELL GROUP

A number of competitive scholarships are available for the MSc in Communications and Information Engineering and are awarded in May/June prior to October entry. Opportunities exist for follow-on PhD scholarships, funded through the EPSRC Centre for Doctoral Training in Urban Science and Progress, which is based at Warwick. Apply any time throughout the year by emailing enquiries@wisc.warwick.ac.uk. We are always pleased to hear from potential applicants.

Find out more at www.wisc.warwick.ac.uk.

