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Communications Engineering and Networks Masters/MSc with Industrial Studies

Postgraduate degree programme Communications Engineering and Networks Masters/MSc with Industrial Studies:

This programme will equip you for a rewarding career in a dynamic and challenging field. Companies in both mature and rapidly growing economies are keen to secure staff with the masters-level specialist knowledge of the underlying principles and advanced applications of communication systems, that this programme provides. Your career prospects will be excellent. This variant of our standard **MSc in Communications Engineering (/postgraduate/courses/taught/eece/communications-engineering-networks.aspx)** includes an industrial placement module, providing an opportunity for you to develop ideas for your individual project.

Follow this link for a transcript of the video (/accessibility/transcripts/eps/eece/inans-ogejuma.aspx) , or roll over the video and click on the Captions button to display live subtitles.

Study here and find out why the University of Birmingham has been awarded The Times and The Sunday Times University of the Year 2013-14 (http://www.birmingham.ac.uk/news/latest/2013/09/20-sep-Birmingham-announced-as-University-of-the-Year.aspx)

Course fact file

Type of Course: Continuing professional development, taught

Study Options: Full time

Duration: 18 months full-time

Start date: September/October

Related courses

Communications Engineering and Networks Masters/MSc (/postgraduate/courses/taught/eece/communications-engineering-networks.aspx)

Postgraduate degree courses - Electronic, Electrical and Computer Engineering (/schools/eece/postgraduate/index.aspx)

Contact

Mr David Pycock
Tel: +44 (0)121 414 4330 or 4292
Email: **d.pycock@bham.ac.uk (mailto:d.pycock@bham.ac.uk)**

School of Electronic, Electrical and Computer Engineering (/schools/eece/index.aspx)

Details

Future developments in communication systems are vital to the continued growth of the global economy; reducing costs, improving quality and providing ever more sophisticated services, whilst increasing both spectral efficiency and energy efficiency. Companies in both mature and rapidly growing economies are keen to secure staff with the masters-level specialist knowledge of the underlying principles and advanced applications of communication systems that this programme provides.

This programme covers a wide range of topics in communication engineering and provides options from outside this specialism. As well as acquiring specialist technical knowledge, you will develop generic skills such as: interpreting requirements and specifications to produce effective design solutions; making decisions on the basis of incomplete information; giving technical presentations, and working in a team. These are achieved through a combination of group and individual exercises. The programme is designed to cater for students with good general mathematical skills, such as might be gained from an Honours degree in electronic engineering.

In addition to the modules taken as part of a standard MSc programme, the with Industrial Studies programme includes an industrial placement module. This provides an opportunity for you to develop ideas for your individual project on a topic related to the interests of the host company. The placement takes place during the summer, following the sessional examinations. After the industrial placement you return to the University to begin an individual project.

To qualify for this degree you must meet the standard requirements for an MSc, obtain and pass an industrial placement. To obtain a placement students must pass the January examinations at the first attempt and be selected by a company. Selection for a placement involves interviews with companies, which are arranged by the School from our extensive network of industrial contacts. The University will provide training in the preparation of a CV, and in interview technique but cannot guarantee a placement. Students who do not meet the requirements for a degree with industrial studies, including those who are unable to secure a placement, will revert to a standard degree programme.

Related links

- **Postgraduate degree courses - Electronic, Electrical and Computer Engineering (/schools/eece/postgraduate/index.aspx)**
- **Postgraduate degree courses FAQ (/schools/eece/postgraduate/faq.aspx)**

Modules

Compulsory modules	Semester
Introductory Module for Communications	1
Principles of Communication Systems	1

Satellite, Cellular and Optical Fibre Communications	2
Computer and Communications Networks	2
Individual Project	3

Cross Programme Options (Take one of the following)	**Semester**
Small Embedded Systems	2
Embedded Digital Signal Processing	2

Fees and funding

Tuition fees

Tuition fees for **2013/2014** are as follows:

- £6370 for **home/EU students**
- £20,820 for **international students**

Further funding information

Learn more about **fees and funding (/postgraduate/pgt-fees/fees.aspx)**

Scholarships and studentships
Scholarships may be available. International students can often gain funding through overseas research scholarships, Commonwealth scholarships or their home government.

For further information contact the School directly or email **sfo@contacts.bham.ac.uk (mailto:sfo@contacts.bham.ac.uk)**

Entry requirements

At least an upper second-class Honours degree from a university of high international standing in a relevant subject.

Learn more about **entry requirements (http://www.birmingham.ac.uk/students/pg/requirements)**

International students
We accept a range of qualifications from different countries – learn more about **international entry requirements (http://www.birmingham.ac.uk/students/pg/requirements/international)**

English language requirements: TOEFL (paper-based) 580, (computer-based) 230, (internet-based) 92, IELTS 6.5.

How to apply

When clicking on the Apply Now button you will be directed to an application specifically designed for the programme you wish to apply for where you will create an account with the University application system and submit your application and supporting documents online. Further information regarding how to apply online can be found on the **How to apply pages (http://www.birmingham.ac.uk/students/courses/postgraduate/apply-pg/index.aspx)**

Apply now (https://pga.bham.ac.uk/lpages/EPS039.htm)

Related links

Postgraduate degree courses - Electronic, Electrical and Computer Engineering (/schools/eece/postgraduate/index.aspx)

Postgraduate degree courses FAQ - Electronic, Electrical and Computer Engineering (/schools/eece/postgraduate/faq.aspx)

Electronic, Electrical and Computer Engineering MSc and MRes brochure (PDF 3.7MB) (/Documents/college-eps/eece/brochures/eece-msc-mres-brochure.pdf)

Learning and teaching

The Adobe Flash Player or QuickTime is required for video playback.
Get the latest Flash Player
Get the latest version of QuickTime

[redacted]

Patterns of study

The majority of students study our taught Masters programmes full time. Our programmes are also suitable for practising engineers who wish to study part-time or take a single module to earn Continuing Professional Development (CPD) points. Many modules are completed in three-day sessions allowing you to focus one topic at a time. Following each session of lectures there is an opportunity for you to deepen your understanding through private study and in most cases there is also an assessed assignment.

Overview module

There is a shared introduction to topics from communications engineering, requirements analysis and object-oriented design, and an introduction to and recap of C programming. For the communications engineering programmes there is an introduction to key issues in the design of antennas, radio frequency circuits and link budgets. For the computing programmes there is an introduction to object-oriented programming.

Core modules

These modules cover the advanced specialist topics required for your specific degree programme, such as statistical signal processing and coding and advanced digital design. These technologies are at the heart of many current developments in modern electronic systems.

Cross-programme option modules

These options specialize in topics relevant to each degree programme and give you the opportunity to adapt the programme that you have chosen to study. The prior knowledge needed for each module is specified in the student handbook to help you make the most appropriate choice. This allows you the greatest possible freedom to customise your study package appropriately.

Individual project

This is an opportunity for you to develop specialist knowledge. Some projects are undertaken in collaboration with companies and, in some cases, you may work on company premises investigating issues of direct concern to future product development. Typical projects include the development of hardware for automotive radar signal processing and the detection of leaks in landfill sites, wireless access systems, 3G mobile radio for light aircraft, the creation of 3D worlds for surgery simulation and wearable computing.

Assessment and awards

Assessment is by a combination of written examination and course work. There is a strong emphasis on course work to deepen understanding. The pass mark is 50%. A merit is awarded to students with an average of 60% or more and a distinction is awarded to students with an average of 70% or more, in both taught and project modules. There are prizes for students who perform especially well overall and for those who complete exceptionally good individual projects.

Employability

University Careers Network

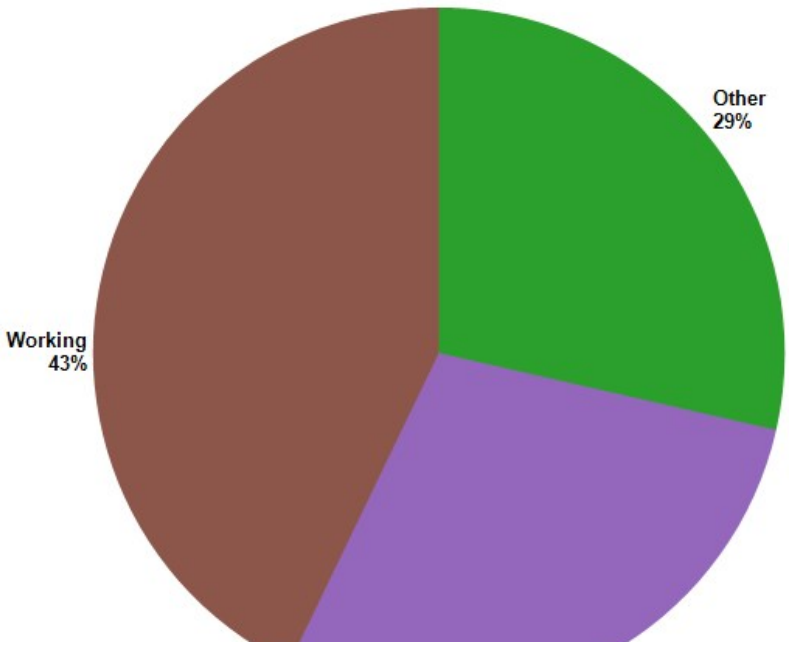
Preparation for your career should be one of the first things you think about as you start university. Whether you have a clear idea of where your future aspirations lie or want to consider the broad range of opportunities available once you have a Birmingham degree, our Careers Network can help you achieve your goal.

Our unique careers guidance service is tailored to your academic subject area, offering a specialised team (in each of the five academic colleges) who can give you expert advice. Our team source exclusive work experience opportunities to help you stand out amongst the competition, with mentoring, global internships and placements available to you. Once you have a career in your sights, one-to-one support with CVs and job applications will help give you the edge.

If you make the most of the **wide range of services (https://intranet.birmingham.ac.uk/as/employability/careers/college/eps/index.aspx)** you will be able to develop your career from the moment you arrive.

Destinations of Leavers from Higher Education (DLHE) 2011/12 (postgraduate taught graduates)

The DLHE survey is conducted 6 months after graduation.



Examples of employers

- Aero Engine Controls
- Jaguar Land Rover
- Ministry of Defence
- Price Waterhouse Coopers
- Ernst and Young
- Arup
- Glaxo SmithKline
- NHS
- Talk Talk
- Autologic

Examples of occupations

- Electronic Engineer
- Applications Engineer
- Communications (Electronic) Engineer - Officer
- Optimisation Consultant
- Manufacturing Engineer
- Junior Business Analyst
- Test Engineer

- Service Specialist
- IT Analyst
- Development Engineer

Further study - examples of courses

- MSc Project Management
- MSc Radio Frequency and Microwave Engineering
- MSc Electronic and Computer Engineering
- MSc Physics and Technology
- Postgraduate Certificate in Education - teaching
- AAT accountancy

Visit the **Careers section of the University website (https://intranet.birmingham.ac.uk/as/employability/careers/college/eps.aspx)** for further information.

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