Education UK
Innovative. Individual. Inspirational.

Computing

The United Kingdom has been at the leading edge of the computing and information technology (IT) industry since the first computing machine was conceived by English mathematician Charles Babbage in the 1830s. Many developments in integrated circuits, telecommunications and the internet have been achieved by UK computer scientists.

Why study computing in the United Kingdom?

- International employers recruit large numbers of UK-trained IT graduates.
- Courses are intellectually rigorous and you will develop skills including commercial awareness, project management and teamwork.
- All courses are quality-controlled and many are accredited by professional bodies such as the British Computer Society (BCS), the Institution of Analysts and Programmers and the Institution of Electrical Engineers (IEE).
- UK universities and professional bodies have particularly strong national and international links with industry in the computing and IT field so their work is relevant and up to date.
- UK qualifications are recognised all over the world. They can lead to a wide range of career options when you return home.
- The opportunity to improve your fluency in English will improve your job prospects in English-speaking countries.

1 What do I need to think about?

There are a vast range of courses and you need to think about which will best suit your needs. Some courses have a strong mathematical focus; others are more vocational in approach, or are more applications-oriented.

You will need to decide whether your interest lies in one of the many sectors of computer science – software engineering, internet computing, information systems, multimedia computing, computer networks or computer applications – or in computer engineering. Many computer engineering degrees are combined with electronics.

You can study computing, IT or computer engineering either alone or in combination with a wide range of subjects, including languages, accounting, psychology, economics, business, criminology, chemistry, physics and mathematics. You can also study more specialised areas such as networks, multimedia, the internet and many more.

2 What can I study?

Level of study	Features
Vocational qualifications such as NVQ, GNVQ, SVQ and SGA (Scottish Group Awards)	These courses in information and communication technology (ICT) cover a range of subjects, including: • business information technology • computer studies • information technology • installing and supporting IT systems • IT services – repair centre • developing IT systems • managing IT systems.
A-level (GCE)/Vocational A-level (VCE)/Scottish Highers	You can do an A-level (GCE) in computing, ICT or applied ICT, or a Vocational A-level (VCE) in ICT. The Vocational A-level has more practical content and may be studied as a double award (equivalent to two A-levels). Both are recognised for admission to undergraduate study in the UK. (Specific grades may be needed so check the specific entrance requirements for each course.) In Scotland you can do a Higher in Computing or Computing Studies; these are accepted by all UK institutions for undergraduate study.
BTEC/Edexcel Diploma/Certificate	BTEC/Edexcel awards in IT Practitioners, at both first and national level, are widely offered at colleges of further education. The national-level award is normally studied for two years and is comparable to the Vocational A-level; it is accepted for entry to undergraduate study.
BTEC/Edexcel/SQA/ Higher National Diploma/Certificate (HND/HNC)	Two-year HNDs/HNCs in Computer Studies are offered at universities and higher education institutions. The HND/HNC is a respected qualification in its own right and also, with good marks, it can qualify you for entry onto the second or third year of a degree course.
Foundation degrees	Foundation degrees normally lasting two years are qualifications in their own right. Graduates can progress into employment or into the final year of an honours degree. Computing-related subjects include: • computing and information systems • communications and network computing • e-business and e-commerce technologies • software development • business information technology • information communication technology • internet and multimedia technologies.
BCS Professional Examinations – certificate, diploma and professional graduate diploma	The Professional Examinations of the British Computer Society are based on academic ability and practical experience. They present an alternative route to a qualification equivalent to an honours degree, and at their highest level they offer a suitable route to postgraduate study at major UK universities. There are no formal academic entry requirements. The examinations are recognised internationally and can be taken worldwide at course providers registered with the BCS. For details see the BCS website www.bcs.org/exams
Degrees – Bachelor of Engineering (BEng), Master of Engineering (MEng) or Bachelor of Science (BSc)	**Computer engineering courses** are often combined with electronics and can often be taken as four-year sandwich courses, which include a year of work experience in the UK or in Europe. **Computer science courses** usually lead to the award of Bachelor of Science (BSc) and fall into several categories: • artificial intelligence • business systems engineering • European computer science • information systems • information technology • computer graphics and animation • computer simulation and modelling • internet computing • software engineering or software technology • computer systems analysis.

Degrees (continued)	**Computing courses** usually lead to Bachelor of Science (BSc) degrees. Numerous specialisms and combinations are available, including: 1. applied computing or applied computer science 2. applied computing technology 3. business computing (covering e-commerce) or business computing systems 4. computer games technology 5. computers and education (covering e-learning) 6. computing control systems or control technology 7. computing interactive design 8. computing management 9. computing software engineering 10. European computing 11. animation 12. health informatics 13. human computing systems 14. internet computing (including distributed systems and mobile computing) 15. leisure computing technology 16. mobile computing 17. multimedia computing 18. network computing 19. psychology and computing 20. real-time computing or computing systems 21. scientific computing 22. software development (including embedded systems and software engineering) 23. three-dimensional computing.
Postgraduate courses – postgraduate diplomas and certificates; taught and research Master's degrees; and doctorates	There is a wide variety of postgraduate courses in both computer sciences and computer engineering. These range from general courses, which do not require a first degree in computing, to the specialist degrees which build on undergraduate study of computing.
Distance learning	You can take academic qualifications and BCS Professional Examinations by distance learning. See the BCS website www.bcs.org for providers of professional examinations. For other providers, search www.educationuk.org
Vendor and professional qualifications	A wide range of product-specific and professional qualifications has been developed by corporate organisations (such as Microsoft, Cisco, Novell, 3Com, etc.) and by professional bodies (such as the BCS). E-skills UK has worked with Microsoft, Cisco and Novell to link their qualifications with NVQs/SVQs and foundation degrees – see www.e-skills.com

Checklist: Choosing the right course

- There are so many courses on offer that it is vital that you do careful research in advance to ensure you find the right one for you. Start your search on www.educationuk.org but always obtain prospectuses from all the institutions you are considering.
- Universities and higher education colleges offer a wide variety of courses and it is difficult to compare institutions. There are many sources to consult about the quality of teaching and research. Look at the independent reviews conducted by the Quality Assurance Agency www.qaa.ac.uk/students and the information available on the new Teaching Quality Information site www.tqi.ac.uk There are no official performance tables for universities, but some newspapers such as *The Times* and *The Guardian* publish unofficial league tables. The tables vary enormously depending on the factors assessed and the weightings used. Read the tables critically and do not base your final decision on the ratings alone.
- Bear in mind other factors, such as cost, location and size of the institution, international mix of students on the programmes, prospective supervisors and available facilities.
- Make sure that the course you choose will be relevant to the career you hope to pursue and that the qualification is recognised in your own country.

3 Entrance

You should check with the institutions you are interested in for the exact nature of the qualifications or experience which they require. In general, for entry to postgraduate programmes all institutions will expect you to hold a university degree or the equivalent qualification from your home country. For further information see *Choosing your postgraduate programme* in this series.

There are no national guidelines about the equivalence of overseas qualifications to UK ones. You should contact the institutions you are interested in to check the acceptability of your particular qualifications. Some information can be obtained from the National Academic Recognition Information Centre for the United Kingdom (NARIC) – see www.naric.org.uk

There are no formal entry requirements for the BCS Professional Examinations; however, you are expected to determine your own suitability for each module you want to enter.

4 How can I register as a professional?

You do not have to be registered as a professional to work in computing-related disciplines in the UK. It is unlikely that you would have to be registered in other countries, though you should check.

The BCS is the professional body for the IT industry in the UK. If you have a recognised diploma or degree, you can qualify for membership of the BCS. Your qualification will exempt you from parts of the BCS Professional Examinations – you must then show you have the required training and experience. Membership of the BCS can also lead you to registration as a Chartered Engineer or Incorporated Engineer. Visit the BCS website www.bcs.org for more details.

Would a United Kingdom qualification be recognised in other countries?

UK qualifications are respected all over the world, but it is always advisable to check which qualifications are recognised in the countries where you want to work.

5 Next steps

Checklist: Your next steps

1 Before you apply for a course, do some thorough research on the best qualifications for the career you plan. Bear in mind the requirements of the country in which you want to work.

2 Ask for the prospectus or visit the website and make sure the course offers you the skills you want.

3 Check that you have the English language ability asked for by the institutions you intend to apply to. For undergraduate courses this will usually be an IELTS (International English Language Testing System) score of 5.5 to 6.5 while for a postgraduate course an IELTS score of 6.0 to 7.0 may be required.

4 Apply for Higher National Diploma and first degree courses through the Universities and Colleges Admissions Service (UCAS). See www.ucas.com for more information. For other courses, apply to the institutions direct.

6 What else do I need to know?

You should bear in mind immigration requirements when considering whether to study in the UK. Requirements vary according to your nationality or citizenship and the length of time you want to study. You will not be allowed to extend your permission to stay in the UK for more than two years on courses that are below degree level and are of less than

one year's duration. The UKCOSA website will give you further information on this topic – www.ukcosa.org.uk/pages/guidenote.htm

Note in particular that you will not be given permission to enter the UK as a student if the school, college or university that you want to study at does not appear on the UK Department for Education and Skills Register of Education and Training Providers. You can check the register by clicking on 'Browse the Register' at www.dfes.gov.uk/providersregister/

For practical advice on living in the UK download *Studying and living in the UK* from www.educationuk.org/bc_img/body/articles/pdfs/stud_live_uk.pdf

7 Where can I find more information?

British Council
Website www.educationuk.org
www.educationuk.org/scotlandFor further information, you can find details of your nearest office at www.britishcouncil.org/home-contact-worldwide.htm which includes links to all our country web pages and a worldwide address book giving contact details for all offices.

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