IT Careers across the sectors

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Exploring IT careers

Career planning requires you to take account of factors which differentiate you from others on your course. Do you have an interest in a particular product or organisation? What are your values? Is there a sector in which you have some current or past experience to build on?

This booklet helps you to assess the possibilities and provides a glimpse of how technology is impacting on all areas of the economy.
How you seek to operate within an organisation is important. Building skills, contacts and experience will help secure your future prospects, make you more employable and ultimately provide a fulfilling lifestyle.

We would like to help you explore the variety of ways in which you can make best use of your technical skills, personal attributes and commercial or industrial experience. Consider these areas as a starting point;

I would like to use IT

for better	*COMMUNICATION*
to	*ENTERTAIN*
for	*EDUCATION and TRAINING*
for the	*ENVIRONMENT*
for better	*BUSINESS*
with	*TRANSPORT*
with	*SCIENCE*
for	*SECURITY*

What you need to know

- For some roles, there will be no "prescribed" route of entry or qualification – employers will look for you to actively demonstrate your skills and abilities. For media related options, some sort of portfolio or "show-reel" is usually required.
- Actively seek relevant work experience, find opportunities to work shadow and learn from those inside the industry. Employers look for

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candidates who can actively demonstrate their passion for technology.

- As well as technical skills, many roles require you to have good "client" skills (e.g. being a confident communicator and being able to persuade and negotiate). In smaller companies you tend to be closer to the business and these skills are essential if you are involved with tasks such as requirement gathering.

Communication sector

New Media (Digital Media and Social Media)

New Media is commonly used as a generic term to describe those products and services that in some shape or form involve digital technology e.g. the Internet, CD-Rom, WAP, DVD, 3D and virtual reality, digital TV, video games and more recently the ipod, ipad, iphone, smart and android phones, ebooks and kindles up to the latest 'augmented reality'.

It encompasses "multimedia" (originally used to describe standalone media applications i.e. not online) as well as "hypermedia" (which emphasises interactivity, the ability to link from one form of content to another). Perhaps one of the most important themes in New Media is "convergence" - combining traditional media with computer and telecommunications technology. New Media lies at the crossroads of digital technology and traditional media like newspapers, radio and television.

New Media also sometimes refers to where the worlds of the Internet and advertising meet – about making the most effective use of the Internet to promote a business. Lots of similar jobs here to traditional advertising (account management etc) but with additional roles for people with technical understanding.

What skills are required?
Old and new media skills often overlap and combine into new and diverse skill sets. Often roles require not only a solid background in computer technologies but also in the older media styles that came before. Planning and project management are important transferable skills, along with creativity, curiosity, communication, team working and the ability to adapt to change. Skills required also depend on what the New Media is being used to do - whether to entertain, educate or promote a product or service.

Design Roles
Employers usually require a recognised qualification in design but also an understanding of how design is used in media. Designers need a firm grasp of both elements in order to know what is technically possible - HTML, JavaScript and Macromedia's Flash are important skills to acquire. Keep up with industry news and developments.

Editorial/Business Role
The key skills needed here are ideas, writing ability, basic editorial skills and an awareness of the potential of digital technology. For some areas e.g. New Media's role in advertising, sector specific skills are also important.

Technical Roles
These roles demand a solid understanding of the technical side of web and interactive media. An ideal skill set would include HTML and Java, plus other relevant programming languages and knowledge of the software development process. Those considering technical roles need to start assembling a portfolio.

Manchester Digital is a network of companies. An independent trade association for this thriving sector in the region
www.manchesterdigital.com/

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Useful publications

- Brand Republic – industry news, jobs and trade directory for digital marketing and new media
  www.brandrepublic.com/
- Convergence – the Journal of Research into New Media Technologies
  http://convergence.beds.ac.uk/
- New Media Age magazine
  www.nma.co.uk

Social Media

- Twitter https://about.twitter.com/careers 'join the flock' - Internships, new grad and direct entry positions available.
- Facebook www.facebook.com/careers
- Linked-In www.linkedin.com/company/linkedin/careers
- YouTube www.google.com/intl/en/jobs/youtube/

Closer to home – check out our Media Club; www.manchester.ac.uk/careers/events/themediaclub/ and articles on the Blog; http://manunicareersblog.com/

Further study

Social Media Masters at York, Birmingham City, Westminster and City Universities. Search the latest at www.prospects.ac.uk

Entertainment sector

The Games Industry

Most people enter the industry via a testing or quality assurance role. These are sometimes advertised by agencies such as Datascope (www.datascope.co.uk). Many companies use their own in-house packages based on C++ and Java. More generic technologies include

Microsoft's Direct3D/DirectX and Alias MAYA for animation. If you are interested in the art side, you will need a conventional portfolio of your work, as well as an electronic one (in the early stages, first person views etc may be sketched out on paper). Consider making speculative applications to get your foot in the door but think: why should they take you seriously? Focus on the added value you can bring and try to arrange an opportunity to have a look round. Employers look for people who have played games extensively and who have ideas on how existing games can be improved, not just ideas for new ones.

Careers information and getting in

- www.gamasutra.com - a professional games developer's site.
- www.gamecareers.biz
- www.skillset.org/games
- www.kent.ac.uk/careers/workin/computergames.htm
- www.tiga.org – Trade Association representing UK Games Industry

The Careers Service may run media related events or fairs. Check the events section of the website for details:
www.manchester.ac.uk/careers/events/

For on-going insight into the media sector our sector pages may help too;
www.manchester.ac.uk/careers/whichcareer/media/

Networks and discussion boards

- www.igda.org - International Games Developers Association, with webinars, news, careers info and links to academic and professional chapters.
- www.gamedevmap.com/ This interactive map lists all the games developers by region a good place to start !

Magazines, Journals and Directories

- www.mcvuk.com -The Market for Home Computing & Video Games. Includes job listings and an online version of their "Sourcebook" directory.
- www.edge-online.com - Edge magazine (also useful for animation)

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- www.gamesindustry.biz
- www.futureplc.com/#portfolio - Future Plc
  Games magazine publisher - you can view a list of magazines and online resources for the games industry.

Vacancy sources

- www.datascope.co.uk
- www.gamesindustry.biz/
- www.linkedin.com/job/computer-games-jobs/
- http://gamestester.com/ukjobs.asp

Some local employers

- Playdemic – (Manchester)
  www.playdemic.com/
- Connect2Media – (Manchester)
  www.connect2media.com/
- Evolution Studios – (Cheshire)
  www.evos.net
- Spiral House – (Liverpool)
  www.spiralhouse.co.uk

  and a little further afield,
- Havok (Dublin)
  www.havok.com/

Training

- Technical and programming roles normally require knowledge of C and C++.
- Creative roles usually require an art background. Software used includes 3DStudio Max, Maya, Lightwave (3D animation), Photoshop (image manipulation), Cubase (music software).
- Testers - MS Access to create reports

Further study

Several universities offer postgraduate courses in games technology e.g. Salford, Bradford, Sheffield Hallam and UCLAN who offer one by distance

learning. Sound and music for interactive games at Leeds Met sounds novel. Search the postgraduate course directory on the Prospects website for a complete listing (www.prospects.ac.uk). Most require a relevant first degree or experience.

Computer Animation

Animation has come a long way from the days of Ray Harryhausen. Advances in technology have led to "visual effects" using digital images becoming more prominent. Specific software used includes Alias MAYA (used by Weta Digital for the Lord of the Rings trilogy) and Flash (used to create mini animation sequences on websites). As well as film, these effects are also used in advertising campaigns.

Useful websites

- www.framestore.com (Gravity, War Horse, Wrath of the Titans, Walking with Dinosaurs, creatures and VFX for Harry Potter)
- www.pixar.com (Monsters University, Brave, The Incredibles, Cars and Ratatouille)
- www.dreamworksanimation.com – PDI Dreamworks (Penguins, Madagascar, Shrek)
- www.3dtotal.com (Based in Worcester)

Training

There are no fixed routes into this field, or specific qualifications, but there are courses you can take that can help. Ultimately, entrants are judged on the quality of their work and their experience. You must have a "show-reel" to demonstrate your skills and ability.

The National Centre for Computer Animation offer well respected courses - both MA's and undergraduate courses specialising in computer games and digital arts. The postgraduate course is not cheap but graduates go on to work in the games and film/TV industries. The website at Bournemouth also has links to visual effects and animation companies

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and organisations, along with course details, news and links to relevant magazines. Their website is http://ncca.bournemouth.ac.uk.

Many courses like this require applicants to have a good portfolio of work before they start. Search the postgraduate course directory on the Prospects website for a complete listing (www.prospects.ac.uk). As with any course, find out exactly what the course teaches, the software they use and what industry contacts they have. N.B. you may still find that to land your first job, you need to supplement this learning with extra training from professionals within the industry.

Escape Studios in London offer open days and free webinars, on-line mentored courses, through to intensive 12 week courses. Some of their courses can be expensive as they use industry experienced professionals to tutor the courses. www.pearsoncollegelondon.ac.uk/study/short-courses.html

Technical Careers in the Media

The BBC recruit engineers annually (around November) to carry out research & development (R&D) on all aspects of digital television and radio, and the application of enhanced techniques and computer systems for making programmes in the studio. The BBC R&D web pages have more information about technology careers in broadcasting and the media:
www.bbc.co.uk/rd/careers/overview

These teams play a lead role in developing production techniques and systems for the new generation of interactive programmes. Positions are available for industrial placements and graduate trainee technologists:
www.bbc.co.uk/careers
A good general site for media careers is www.skillset.org/careers

Useful publication

- Journalism and Broadcasting Starting Point Sheet– produced by the Careers Service available to takeaway or download.

Education and training sector

Virtual learning environments

On-line courses have been around for a long time. The convenience of self-directed learning grew from postal correspondence courses through to the televisual advances of the Open University, and now on to e-courses offered by providers such as Learn Direct www.learndirect.co.uk. Universities and colleges are providing learners with the opportunity to take courses through the internet. Blackboard, WebCT and Moodle are becoming familiar words in our vocabulary. IT companies like RM are developing virtual learning environments as they become more sophisticated and user-friendly.

Useful websites

- www.blackboard.com/about-us/careers.aspx
  VLE supplier
- www.viglen.co.uk/viglen/about/careers.aspx?GUID
  VLE supplier.
- www.virtualimage.co.uk/
  Based in Stockport – Educational software specialists.

Employers offering graduate and professional jobs

- RM www.rm.com/home
- Pearson http://jobs.pearson.com/
- CAPITA www.capita.co.uk/careers/Pages/careers.aspx

Training simulators

Aircraft, air traffic control and oil-rig simulators give powerful training tools to ensure competent operation in critical environments. In the world of sport golf simulators analyse body posture and swing techniques for the budding professional or committed enthusiast.

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Flight simulator manufacturers

- Thales (France and 50 locations in the UK)
  www.jobs.thalesgroup.com/en/pid1/Home.html
- Micro Nav Ltd. Dorset (includes graduate vacancies)
  www.micronav.co.uk/

International options see;

- Flight Safety International
  www.flightsafety.com/fs_simulation_landing.php
- Rockwell Collins (USA with a presence in UK)
  www.rockwellcollins.com/Careers.aspx
- CAE Inc. and Mechtronix (Canada) www.cae.com and
  www.mechtronix.com
  Oil-rig simulator:
- DART – Drilling Simulator Training (Aberdeen)
  www.kcadeutag.com/businessandservices/Pages/DART.aspx

Sport performance simulator:

- Sports Coach Systems (Surrey)
  www.sports-coach.com/index.aspx
- Wii fit Nintendo (Germany) See jobs section for latest vacancies
  www.nintendo.co.uk/NOE/en_GB/index.html

Environment sector

Design software

Architects and structural engineers are now relying on effective technology to create simulations of building which not only give a visual sense of aesthetics but also allow for details of materials, structural integrity and the environmental impact to be measured.

- The Royal Institute of British Architects
  www.riba.org/go/RIBA/Home

Smart Houses

Building sustainable houses which are carbon zero are with us now. Government incentives for domestic users of power to become sustainable are more recent innovations. Individual houses generating extra power to feed back into the national grid is also in progress.

- National House Building Council
  www.nhbc.co.uk/
- Smart homes Conference (Birmingham) M2M machine – to-machine
  www.m2mconference.com/index.html
- Technology and hardware supplier (links page for software and manufacturers)
  www.automatedhome.co.uk/

Nuclear sensors

Monitoring power generation processes highly dangerous, remote or inaccessible environments make cost-effective use of robotic or remote control instrumentation.

- Sellafield Ltd. Nuclear power station. Recruits technical support roles.
  http://careers.sellafieldsite.co.uk/
- National Nuclear Laboratory
  www.nnl.co.uk/
- Nuclear graduates which lists companies involved in the sector
  www.nucleargraduates.com/
- Nuclear Careers blog for all the latest news
  http://nuclearcareersonline.net/

Sea bed mapping

To enable petroleum geologists, geophysicists and reservoir engineers to effectively map the sea bed for the most cost-effective method of routing oil wells is greatly enhanced by 3D visualisation systems.

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- Oil and Gas UK (member listings) www.oilandgasuk.co.uk/aboutus/members.cfm
- Local company based on the Wirral who recruit technical roles; www.osirisprojects.co.uk/

Business sector

E-commerce becomes M-commerce

This is simply the buying and selling of goods and services on the Internet. It usually involves some/all of the following activities: e-tailing; gathering and use of demographic data through Web contacts; Electronic Data Interchange (EDI) - business-to-business exchange of data; use of e-mail to reach prospective & established customers; business-to-business buying and selling, and the security of business transactions."Mobile commerce will be nearly half of e-commerce by 2018" according to Internet Retailer.

It is becoming an integral part of many businesses and jobs exist both within end user companies (e.g. financial institutions, retailers and service providers) through to specialist agencies and consultancies. An understanding of business is as important as an understanding of technology.

Useful publications

- InfoWorld is a leading source of info on emerging enterprise technologies www.infoworld.com/
- Internet News - Ecommerce www.internetnews.com/ec-news/
- Amazon – the famous online shopping portal www.amazon.co.uk/b/ref=gw_m_b_careers?ie=UTF8&node=202594011

- E-Bay – The world's online marketplace
  http://pages.ebay.co.uk/aboutebay.html

Web Development & Design

The word 'design' in this context goes beyond the technical design of a web page. To gain entry to this field, you often need to have a creative design background. Designers need to understand both sides of web page creation - design and development - to know what is technically possible. A good understanding of HTML and JavaScript is important. Flash 5 is useful and understanding of Actionscript an advantage (used to generate Flash movies).

Keep up with industry news and developments - think broadly about other internet platforms e.g. TV internet, games consoles, mobile internet (tablets, smartphones and Apps etc). There aren't really any qualifications you can take to become a 'professional' web developer/designer; employers will often expect you to have a portfolio of work to show what you can do.

Useful publications

- Computer Arts magazine - software news/tutorials
  www.computerarts.co.uk
- .net magazine. Good for web design and developing industry news
  www.creativebloq.com/net-magazine
- HTML Goodies
  www.htmlgoodies.com/

On reference in the Careers Library

Programming Interviews Exposed: Secrets to landing your next job

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Transport sector

Traffic jams are of growing concern as we work to restrict the peak time bottle-necks through road tolling and congestion charging schemes. Technology for motorists and road watchers a like help to save journey times. Innovations such as satellite navigation systems and GPS technology assist road-users and the motoring organisations to pinpoint directions. Motor insurance companies use telematics technology to incentivize good driving.

Technology opportunities arise far beyond the commuter or holiday maker sectors with engine management systems for Formula One teams, UAVs for military air forces, crop spraying and weather detection.

Motoring organisations

- The Automobile Association
  www.theaacareers.co.uk/
- The RAC careers pages
  www.rac.co.uk/careers

Telematics

- Telematics information hub
  www.telematics.com/

SatNav hardware manufacturers and associated software developers

- Sony careers
  www.sony.co.uk/hub/careers
- Nokia graduates
  www.nokia.com/global/about-us/careers-page/
- TomTom (*TomTom Software*) jobs page
  www.tomtom.com/about/jobs
- Garmin careers
  www.garmin.com/garmin/cms/site/uk/careers
- Pioneer jobs
  www.pioneer.co.uk/uk/content/company/company/jobs.html

- Becker(Germany based)
  www.mybecker.com
- Mio Technologies (*Miomap Software*) jobs page
  http://eu.mio.com/en_gb/jobs-at-mio.htm

GPS software

- CoPilot Software
  http://copilotgps.com/uk/
- Pharos Software
  www.pharosgps.com/default.asp
- Formula 1 (Teams to target for opportunities include; Ferrari, Mercedes, BMW, Renault, Toyota and Honda)
  www.formula1.com/
- BMW Careers
  www.bmw.co.uk/en_GB/footer/publications-links/Careers/bmwgroupcareers.html
- Renault Careers
  www.renault.co.uk/about/careers/default.aspx
- Honda Careers
  www.honda.co.uk/careers/
- Prodrive "one of the world's leading motorsport and automotive technology businesses, employing more than 1000 people at operations in the UK, USA, Germany, Thailand and Australia."
  www.prodrive.com/#!careers/c66t
- Unmanned Aerial Vehicle Systems Association
  www.uavs.org – list of member companies, events and job opportunities.
- Qinetiq – "Zephyr" UAV and GPS systems
  www.qinetiq.com/careers/ (careers page)
- Royal Air Force Careers
  www.raf.mod.uk/careers/

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Science sector

Bioinformatics

Bioinformatics is essentially the application of information science to biology. It involves the storage, interpretation and application of structured biological information (e.g. from genomes) using the theory and tools of mathematics and computing. The project most associated with bioinformatics was the Human Genome Project, which sequenced all twenty-four human chromosomes.

The main areas of work are:

- Sequence assembly – putting the pieces together in the right order.
- Database design & maintenance – maintaining databanks of gene sequences, constantly updating (companies often maintain their own private databases).
- Sequence (gene) analysis – understanding the function of a gene, what bits do what; may be done by comparing against known genes; carried out using powerful computers and specialised software.
- Proteomics – studies the portion of the genome expressed in particular cells using cutting edge technology. Bioinformatics specialists work closely with bench scientists to do this "data-mining".
- Pharmacogenomics – how single point mutations or alterations in the genome at specific positions can be associated with particular disease states and with reduced/increased sensitivity to particular drugs. Bioinformaticians are at forefront in collecting these into databases for analysis and application of this data.

Getting in

Entrants to the profession typically have either a computing or life science background. Some universities, including Manchester, offer specialist Master's degrees (MSc and also MRes at some institutions). Entrance to these courses typically requires a good undergraduate degree in either a biological or computer science.

There is increasing demand for life scientists with high level computing skills e.g. PhD biologists who developed their own computational tools for their research. Employers often look for knowledge of programming languages (e.g. Java, Perl, HTML and C++), as well as databases (SQL, Oracle) and operating systems such as UNIX.

Further information

- Career Networking Portal for Biotechnology and Healthcare IT
  Good introduction to careers in bioinformatics.
  www.biohealthmatics.com/careers/biocareer.aspx
- European Informatics Institute www.ebi.ac.uk
- European Molecular Biology Laboratory
  Jobs page www.ebi.ac.uk/Information/Jobs/jobs.html
- The International Society for Computational Biology
  Including jobs www.iscb.org
- Weatherall Institute of Molecular Medicine (University of Oxford).
  Their Computational Biology Research Group
  www.compbio.ox.ac.uk/CBRG_home.shtml
- Health and Social Care Information Centre – the national provider of information, data and IT systems for health and social care.
  www.hscic.gov.uk/careers
- UCL research group
  www.chime.ucl.ac.uk

Technology used in human health can be explored via:

- Medicines and Healthcare products Regulatory Agency
  www.mhra.gov.uk
- The Institute of Physics and Engineering in Medicine.
  (Clinical technology roles) www.ipem.ac.uk
- Health simulators company
  www.cae.com/en/healthcare/home.asp
- BCS Health Group for issues, events and networking
  www.bcs.org/category/6044

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Security sector

Protection of bank account details, having water-tight internet transactions right through to reports of identity theft has made security a major issue for commercial organisations, governments and police authorities across the globe. Outwitting the hackers is a constant challenge. Individuals with the skills and ingenuity to test systems to the limit but with an ethical approach and lots of personal integrity would be suited here.

- See Prospects for details of the role of Information Security Specialist www.prospects.ac.uk/information_security_specialist_job_description.htm
- Siemens Enterprise Communications - specialist provider for network security, compliance www.unify.com/uk/
- See the info on Forensic Computing at University of Kent Careers Service website. An excellent list of contacts and information sources. www.kent.ac.uk/careers/workin/forensiccomputing.htm

Computer security/computer crime

The following organisations may be able to provide information about career opportunities and potential employers:

- The Information Assurance Advisory Council
  A broad-based group concerned with minimising threats to the UK's IT infrastructure. Website lists member-organisations, which include private companies, government agencies and academic research centres. Useful for general research into the topic. www.iaac.org.uk/
- Institute of Information Security professionals. www.iisp.org/
- The Centre for the Protection of National Infrastructure (CPNI) Government body responsible for co-ordinating the response to

threats to the IT infrastructure.
www.cpni.gov.uk/

- The Communication Electronics Security Group (CESG)
  Information Assurance arm of the Government Communications Headquarters (GCHQ) and it provides advice on Information Assurance to government departments and, in certain circumstances, private companies.
  www.cesg.gov.uk
- The National Crime Agency co-ordinates the investigation of crimes against IT systems (e.g. hacking) and crimes involving the use of IT (e.g. fraud, blackmail, human trafficking). Most of the unit's investigative staff are serving police or customs officers but civilian technical and administrative staff are also employed.
  www.nationalcrimeagency.gov.uk/
  SOCA affiliated to the Child Exploitation and On-line Protection Centre
  www.ceop.police.uk/
- TechUK
  The main trade association for the UK IT industry. Provides the secretariat for SAINT; the Security Alliance for Internet and New Technologies as well as a Security and Privacy Group. Member listing (over 800).
  www.techuk.org/
- The Serious Fraud Office
  Investigates major fraud of all kinds and employs its own specialist IT staff. Current vacancies pages:
  www.sfo.gov.uk/careers

Other types of employers recruiting security personnel

- GCHQ careers:
  www.gchq-careers.co.uk/
- IT Software developers producing encryption software
- Specialist consultancies in Information security
- Professional Services firms providing technology security services eg. Technology Assurance and Advisory teams at Deloitte
  http://careers.deloitte.com/gateway.aspx

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- IT end-users where encrypted data is needed, e.g. finance companies

More information and a competition

- Cyber security challenge
  Information portal for careers in Cyber security. Also a competition with prizes including internships with top recruiters and a bursary for postgraduate study.
  https://cybersecuritychallenge.org.uk/index.php

For further study options in security

- Royal Holloway (London University)
  MSc Mathematics of Cryptography & MSc Communications
  www.rhul.ac.uk/mathematics/coursefinder/mscmathematicsofcryptographyandcommunications(msc).aspx
  MSc Information Security
  www.isg.rhul.ac.uk/msc
  Video from successful RHUL graduate:
  www.youtube.com/watch?v=VCIryGhmSP0&feature=player_embedded
- University of Bradford
  MSc Cyber Security
  www.bradford.ac.uk/study/courses/view/?c=cyber-security-msc-full-time
- The British Computer Society
  Information Security Specialists Group
  www.bcs-issg.org.uk/index.html

On reference in the Careers Library

- Security Architect

Courses and training

This list will get you started but is not comprehensive, so you may need to do additional research depending on your needs. The training route you take into the industry depends largely on the role you are aiming for and your current level of experience. Large companies may train you but smaller companies often require you to have relevant skills and knowledge from day one.

Option 1: Teach yourself
Take the Internet for instance… all you need to start programming in HTML is a text editor (e.g. Microsoft Notepad), a Web browser (e.g. Firefox or Internet Explorer) and some sort of manual. Teach-yourself HTML books are widely available and cost around £20. Some are quite technical and assume more previous knowledge than others, so take time to browse through a couple before you make your selection. Some come with CD-ROM's containing clipart and examples.

- MOOCs (Massive On-line Open Courses)
  www.mooc-list.com
- Sizzling Jalfrezi
  A comprehensive guide to writing websites in HTML
  http://vzone.virgin.net/sizzling.jalfrezi/iniframe.htm
- Boutell
  A huge WWW FAQ site, with sections on authoring, images and scripts
  www.boutell.com
- Learn Direct
  National database of courses and training.
  www.learndirect.co.uk

If you are already following a relevant degree course, actively learning a new language or technology in your own time demonstrates motivation. As a professional programmer, you need to be able to learn new technologies quickly.

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Option 2: Go on a course

- The university's own IT Services ECDL training for students www.its.manchester.ac.uk/trainingcourses/ecdl/
- Further Study section of the Careers Service website includes information on short courses in Manchester. www.manchester.ac.uk/careers/study/postgraduatestudyandfunding/

Option 3: Postgraduate Study

If your first degree is not related to computing or IT, you may consider taking an MSc conversion course. Some larger employers accept graduates from other disciplines who can demonstrate an active interest in IT without any further qualification; however some people choose to take this route to increase their skill level and confidence. Those aiming at more technical roles should consider an MSc.

Conversion courses are INTENSIVE. If you have never done any programming before then it is strongly advised that you start doing some before you begin the course. Conversion courses vary in focus and content - pick one specific to your interests and use the dissertation as an opportunity to develop relevant programming skills.
Apply early (i.e. autumn semester) for the more competitive courses.
Investigate funding early on. Consider approaching employers for sponsorship.

The Prospects website www.prospects.ac.uk has a searchable database of all postgraduate opportunities in the UK. Check the entry requirements to find out if your current degree subject is accepted. Reflect on your transferable skills and related knowledge gained at university to sell.

The following offer conversion courses in Manchester:

- The University of Manchester
  MSc Foundation Route course for scientists and engineers.
  www.cs.manchester.ac.uk/study/postgraduate-taught/courses/computer-science-foundation-route/?code=07728&pg=home

- Manchester Metropolitan University
  MSc conversion course in Information Systems, with a good degree in any subject.
  www2.mmu.ac.uk/study/postgraduate/taught/2015/12355/
- Salford University
  MSc conversion course in Information Systems Management open to all disciplines
  www.salford.ac.uk/courses/information-systems-management?mode=ov
- Information about conversion courses from Prospects
  www.prospects.ac.uk/conversion_courses.htm

Information in the Careers Service

Reference Books and Pamphlets

- Making it big in Software
- Programming Interviews Exposed: Secrets to landing your next job
- Security Architect
- The Google Resume

Magazines & Journals (reference only)

- Develop

Takeaway guides and magazines

Reference copies of these publications are available in the Careers Library and include:

- Target IT & Technology
- Bubble: routes into Digital Careers

Websites

Professional Bodies and Government Agencies:

- British Interactive Multimedia Association
  www.bima.org.uk
- e Skills
  Sector Skills Council for Business and Information Technology
  www.e-skills.com

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- British Computer Society
  www.bcs.org.uk
- INSIDE Careers Information Technology guide
  www.insidecareers.co.uk/professions/it/

Recruitment

- www.manchester.ac.uk/careers/findjobs/graduatejobs/agencies/
- http://jobs.econsultancy.com/ (Digital marketing and ecommerce specialists)
- http://aquent.co.uk/ (Digital Creative and Marketing)
- www.datascope.co.uk New media and games industry jobs

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