

# ITEC Career Opportunities for Women Returners

## Equalitec: Advancing Women in ITEC

(Information Technology, Electronics and Communications)



# Foreword from ITEC Skills Team, DTI

Welcome to the first in a series of guides produced by the Equalitec: Advancing Women in ITEC (Information Technology, Electronics and Communications) project. This ITEC Career Opportunities for Women Returners guide has been produced to provide an overview of employment opportunities in ITEC and in other areas where ITEC skills are in demand.

DTI is pleased to support the Equalitec project in the production of this guide as it works towards providing a practical resource to improve diversity in the IT, telecoms and electronics industries. Within DTI, the ITEC Skills Team works closely with our Office of Science and Technology and Women and Equality Unit to help address the under-representation of women in ITEC employment (currently about 21% of the workforce). DTI also works with industry and other stakeholders to help improve the diversity of the ITEC workforce.

In addition to our work with Equalitec, DTI is also working with other key partners including the Intellect Women in IT Forum, e-Skills UK, SEMTA and the UK Resource Centre for Women in Science, Engineering and Technology on ITEC diversity initiatives. ITEC Sector Skills Agreements (SSAs) have been developed by the relevant Sector Skills Councils e-Skills UK (for IT) and SEMTA (for electronics). These SSAs, published at the end of June 2005, included long term action plans to address the business demand for ITEC skills. A key aim of the SSAs and these other initiatives is to match supply more effectively to demand, both in terms of quantity and quality of skills by ensuring that industry does not lose out on important resources and talent.

Projects such as Equalitec support and complement the other work in this area by providing solutions for creating a diverse ITEC workforce through promoting the re-integration and progression of women into ITEC; helping to bring about cultural change and influencing policy; and developing innovative recruitment and progression schemes. The case studies featured in this guide illustrate the wide range of career options that ITEC skills open up and the many different paths to enter and return that such skills offer to women who wish to re-establish their careers after a period away from the workplace.

I hope you will find this guide informative and useful. DTI looks forward to continuing to work together with Equalitec and other partners in a joined-up approach to help encourage greater diversity and equality of opportunity in ITEC and deliver the skills essential for future business success.

*Joe Gardiner*

*Head of ITEC Skills Team, DTI*



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# About Equalitec: Advancing Women in ITEC

Equalitec - Advancing Women in ITEC (Information Technology, Electronics and Communications) is a project funded under the Equal Programme by the European Social Fund (ESF) and supported by the Department of Trade and Industry (DTI).

Women are severely under-represented in ITEC jobs and their participation in recent years has been decreasing. In the UK, women make up approximately 21% of the ITEC workforce. ITEC can offer many opportunities and paths for career development, which could suit women whose careers have been affected by maternity leave or periods of unemployment.

Opportunities exist for the integration and re-integration of women into jobs in a wide range of sectors utilising ITEC skills or within ITEC industries. To address emerging skills gaps, integrated interventions and policy directed actions are urgently needed.

Equalitec intends to meet this challenge by tackling the barriers to recruitment, retention and progression of all women in ITEC in the following ways:

## 1) Promoting the Reintegration & Progression of Women into ITEC:

- Developing and delivering training modules for women returners in the ITEC sectors and career women in ITEC
- Running a placement scheme for women returners
- Organising ITEC Mentoring Circles for women returners
- Researching the needs of women returners in the ITEC sector (including perceptions and attitudes towards innovation and work-life balance)
- Supporting a National Award for Innovative Women in ITEC

## 2) Promoting Cultural Change & Influencing Policy:

- Running a diversity forum in ITEC – bringing together women and key players within organisations to mainstream gender diversity issues relating to employment and promote good practice

## 3) Developing Innovative Recruitment and Progression Schemes:

- Developing a career portal for women
- Developing an ITEC careers guide
- Providing information supporting women returners back into employment or entrepreneurship

In addition, the project will aim to transfer into the private sector best practice and expertise from one of the most successful national programmes for women returners across Europe which is managed by the Daphne Jackson Trust.

## Project Team:

The project partnership represents a broad spectrum of interested parties in the field of employment, gender and ITEC, consisting of private enterprises, governmental bodies, training and professional bodies and voluntary/charitable organisations, including both UK and transnational partners.

If you would like to find out more about the Equalitec project, or to get involved as a supporting organisation, please visit [www.equalitec.org.uk](http://www.equalitec.org.uk) or contact PORTIA

# Introduction

Are you a woman returning from a career break and looking to change paths into a more ITEC based job or to return to work in the ITEC sector itself? Do you think you have the balance of skills that ITEC jobs need? If so, you will find yourself in high demand. Apart from the really technical roles, working in the ITEC sector is to a certain degree all about people. As a woman returner or career changer with past working/studying experience you will more than likely have a wide range of 'people skills' which employers are looking for.

Employers are particularly interested in people with problem solving skills, who are strong communicators and have the ability to work in teams. In addition to possessing technical skills an 'ideal candidate' will possess good communication and team working skills as well as being able to be flexible and adaptive to change. Research shows that women consistently score higher in these abilities than men. If you are looking for a career that provides opportunities for career and self-development coupled with financial reward, then why not consider ITEC as your next move?

There are many different routes into a career working in ITEC or using ITEC skills in other sectors. Not all people working in ITEC have entered via the traditional route of completing an ITEC related degree at 21 years old and then going straight into employment.

Reading the case studies featured in this booklet will provide an insight into the many routes and career/educational opportunities available in ITEC. The A-Z list of useful organisations at the back of the booklet provides a good overview of organisations working to support and promote women in ITEC.

If after reading this booklet you are interested in finding out more about opportunities open to you in ITEC, please visit Equalitec to register your interest. [www.equalitec.org.uk](http://www.equalitec.org.uk)

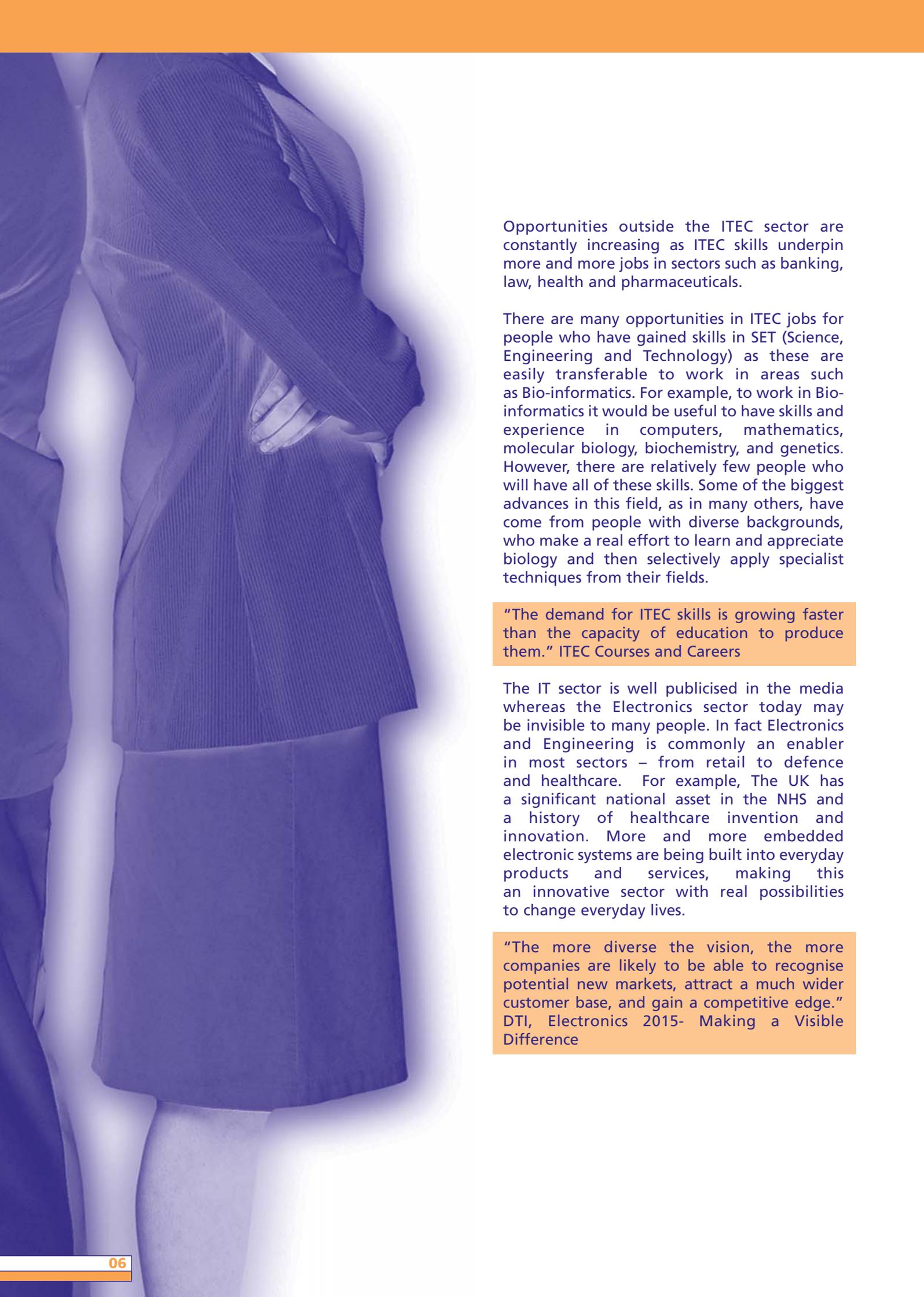
## ITEC Sector Background

The ITEC sector in the UK is a fast moving and dynamic industry, with the associated benefits of being part of an ever-changing set of industries. There are currently 20 million people using IT skills in everyday jobs, making it one of the most useful skillsets to obtain. Current statistics show that there are 1.2 million Information and Communication Technology (ICT) workers fulfilling a variety of roles – 580,000 workers in the UK IT industry and 590,000 IT professionals in other sectors with a predicted growth in the workforce of between 1.2% and 2.2% by 2014 (E-Skills 2004). The development of the internet and associated security issues, e-commerce, mobile phone technology and handheld computer devices are just a few of the exciting new areas creating jobs not imagined a few years ago.

Perhaps due to this expanding nature of the ITEC sector, there are serious skills shortages in supplying the skills employers want from the labour market. The percentage of jobs remaining unfilled in the ITEC sector in the UK due to these skill gaps fluctuates, with current research pointing to figures of around 30% shortfall. The labour market profile in the UK is also changing. In less than ten years time there is an anticipated increase of two million more jobs in the UK economy and women will fill 80% of these positions (DTI 2004). In 2010 it is predicted that only one third of the workforce will be male and under 45 (Platman & Taylor 2004). It is clear that women have a key part to play in the future workforce economy.

"When technology firms are forced to recruit from half of the available talent pool, it is not surprising that there are skill shortages and jobs not being filled."

Rt Hon. Patricia Hewitt, Secretary of State for Industry and Minister for Women, 2001-2005



Opportunities outside the ITEC sector are constantly increasing as ITEC skills underpin more and more jobs in sectors such as banking, law, health and pharmaceuticals.

There are many opportunities in ITEC jobs for people who have gained skills in SET (Science, Engineering and Technology) as these are easily transferable to work in areas such as Bio-informatics. For example, to work in Bio-informatics it would be useful to have skills and experience in computers, mathematics, molecular biology, biochemistry, and genetics. However, there are relatively few people who will have all of these skills. Some of the biggest advances in this field, as in many others, have come from people with diverse backgrounds, who make a real effort to learn and appreciate biology and then selectively apply specialist techniques from their fields.

“The demand for ITEC skills is growing faster than the capacity of education to produce them.” ITEC Courses and Careers

The IT sector is well publicised in the media whereas the Electronics sector today may be invisible to many people. In fact Electronics and Engineering is commonly an enabler in most sectors – from retail to defence and healthcare. For example, The UK has a significant national asset in the NHS and a history of healthcare invention and innovation. More and more embedded electronic systems are being built into everyday products and services, making this an innovative sector with real possibilities to change everyday lives.

“The more diverse the vision, the more companies are likely to be able to recognise potential new markets, attract a much wider customer base, and gain a competitive edge.” DTI, Electronics 2015- Making a Visible Difference

# A Changing ITEC Workforce

Within the ever-changing ITEC sector (new technologies continually come into the market) the issue of lifelong learning is crucial to all those working or considering a career in ITEC, and not just for those returning into the field.

*"Attracting women expands the available talent pool and enables employers to hire the very best workers." Workplaces that Work, Canadian Labour Congress*

The proportion of people aged 15-24 in the UK is in decline, whilst that of older people aged 50 to 64 is increasing. To respond to these changes in society and their impact on the labour market, employment practices will need to change accordingly in terms of training and re-training. According to research carried out by WANE (Workforce Ageing in the New Economy) employment rates for the over 50s (which had been at record low records during the 1980s and early 1990s) have been rising in the UK. For example, in 2003, 21.4% of computing professionals in employment in the United Kingdom were aged 45 and over, compared to 13.7% in 1995.

In line with our ageing population, the demographic profile of the ITEC sector is changing. Employers now have to re-think their recruitment and retention strategies in line with these figures. It is clear that it is no longer only young (male) graduates who will be the sole suppliers of the energy, creativity and cutting edge IT skills essential to the survival and success of businesses in the future ITEC market.

*"A workplace culture that is inclusive of women will attract and retain those with the skills and talents to help the organisation succeed." Centre of Excellence for Women's Advancement, Canada*

An ageing workforce for the UK means that the need for new policies and practices promoting lifelong learning and extensions

to working lives is paramount to maintaining competitive success. The EU Age Discrimination Directive which comes into force from October 2006 will mean that employers cannot discriminate on the basis of age. The law will also apply to people undertaking or applying for courses in Further or Higher Education. Many graduate recruitment schemes that have upper age limits will no longer be allowed to exclude older graduates from applying. The ITEC sector is responding to these changes by beginning to recognise the need for more flexible working conditions for employees in a bid to retain the oldest and most experienced professionals.

*"A balanced workforce is more productive and creative than an unbalanced one."*  
Computer Weekly, 2004



The development of human resource practices which attract and nurture talent from a much more diverse pool of labour, is key to the UK maintaining its place as a global competitor in these fields.

Human resources departments can find examples of best practice in recruiting and retaining more women in the ITEC sector by visiting <http://www.equalitec.org.uk/>

*"A poll of more than 4,000 job-hunters found that flexible working comes top of their list as the benefit they would most appreciate in a new job. Seven in 10 would like the chance to work more flexibly." DTI*

## Who do you want to Work for?

The globalisation of today's job markets has created a gradual shift in working patterns away from the traditional 9 to 5 full-time job towards a more flexible temporary and contract based working culture. It is commonplace now for companies to outsource many activities to contractors where specialist skills are required. This can benefit both parties as it enables workers to develop a portfolio of skills and allows smaller employers to manage projects more effectively without having to increase their workforce permanently. In the UK, more and more companies fall under the SME (Small Medium Enterprises) definition of employing less than 250 employees, with larger companies merging to be the smaller sphere of the market.

When looking at your career opportunities in the ITEC sector or ITEC jobs, there are a number of questions to ask yourself in order to find the right job that suits you:

- Are you looking to work for a small company where you will have several changing responsibilities from the start or a large company where you will have more of a fixed role?
- Do you prefer to specialise in a particular area of interest? If so, there is often more scope for this in a large organisation where there are more employees to take on distinct roles.

- Do you want to work for a fast moving organisation where decisions get made quickly and without many layers of management or do you prefer to work for a larger organisation with more traditional management structures where things might move a bit slower?

*"Twice as many employees would rather work shorter hours than win the lottery."  
DTI Work-Life Balance Survey*

Whilst the pay and associated perks may be less impressive working for SMEs compared to large organisations, the experiences they provide can more than make up for this. You will be given more responsibility for projects and contracts earlier on when joining an SME than with a larger organisation with more resources. Working for a small business will also allow you to see a project through from beginning to end and to have more of a hands-on approach whereas in larger organisations projects can be moved through different departments in different phases of development. Also, working for a small employer you will become known and get to know your co-workers quickly and positive traits such as enthusiasm and flexibility will be appreciated. You may also have more opportunities for career progression should they arise. Some searching around for jobs on offer at SMEs will be necessary, as they do not tend to advertise in the large recruitment websites/publications.

Making speculative approaches to small companies that you have read about can be a good way to start off, or through word of mouth from friends and family contacts.



*"Look at the resources around - there is always a step you can take towards your desired goal no matter how small. Don't just think about it, take action - there is boldness in action."  
Female IT Entrepreneur*

Due to the range of activities involved with working in ITEC, there are many different careers in the sector or in an ITEC related job, which demand a variety of skills. In addition to a strong technical background/technical interest, as in any industry, employers are looking for individuals with recognised interpersonal skills. Strong organisational ability, good oral and written communication skills, interpersonal skills, creativity, and the ability to speak a foreign language will all strengthen your application.

*" An IT industry dominated by men is only using half the available talent and creativity. This is a particular cause for concern in an industry that, despite current economic conditions, has a growing demand for skilled labour." Rt. Hon Patricia Hewitt, Secretary of State for Trade and Industry, 2001-2005*

For more information on the family friendly policies of hundreds of organisations visit the **Where Women Want to Work** site- <http://www.www2wk.com>

Aurora, the international organisation working for the economic advancement of women, suggest themes for women to consider in order to make sure you are choosing a women-friendly employer:

- Company values. Does the organisation illustrate a commitment to the advancement of women?
- Management support. Is there evidence of management support within the company to support the advancement of women?
- Flexible working. How does the company make sure that their employees can make the most appropriate choice for themselves in terms of work/life balance?
- Parental and care leave. What are the company policies regarding these issues?
- Role models. Who are the women role models in the company and what do they represent?
- Mentoring. Does the company provide mentoring programmes for all its staff?
- Accountability. How does the company report on the numbers of women and their progression within the company? Is it easy to find this information?

# Case Study:

## Returning to ITEC with a Fellowship Scheme



Name: Maggie Westby  
Job: Research and Development Fellow  
Company: Royal College of Nursing  
Education: 1979: BA Chemistry Oxford University  
1984: PhD Chemistry London University  
1995: Certificate in Information Technology,  
Cambridge University Local Examinations Syndicate

### Background

I trained as a research chemist, and worked for ICI Paints for 5 years before having a 7 year career break. There was very little ITEC in my ICI work – when I left ICI in 1987 the first PCs were being introduced into the laboratories. I did quite a lot of programming (Fortran, Basic) in my PhD.

Following my career break I did an IT course because my skills were out of date in what was then a rapidly changing field (I had bought a PC when I left ICI, however, and used this in my capacity as editor of the hockey club newsletter).

### Best things about your job

Variety and intellectual challenge. I also enjoy the political side of working for a large organisation. Finally I have a very supportive manager, who is skilled at bringing out the best in people. I have encountered this only once in previous jobs, and it is worth hanging on to!

### Does your organisation offer flexible work practices?

Yes, several people work at least one day from home and if there is a problem with children etc there is understanding based on trust that the person will make up the time. I found this to be the case in my previous work too.

### What was your experience as a woman returning to work?

After a career break of 7 years, I did an IT course to update my skills, and then started to apply for jobs that might use these skills. I ended up with a low-level job in evidence-based medicine, which had as its main requirement, 'the ability to read scientific English'. With a PhD in Chemistry my view was that if I couldn't do that, I couldn't do anything. I had very little confidence at that time, however, and didn't really think I could cope with the level I had been at before. This job fitted in well with my children (very flexible hours, at home or in the library) and I graduated to a quality control position. As I rarely went into the office (apart from delivering work) I didn't have much interaction with others, but occasionally felt that I was undervalued, and I started to want something more from my work.

One day I came across a leaflet from the Daphne Jackson Trust, an organisation that aims to get women back to careers in science and engineering after a career break. The Daphne Jackson Trust awarded me a research fellowship (part time) to retrain, and I carried out the fellowship in evidence-based medicine at the same place – the UK Cochrane Centre in Oxford. This project involved identifying reports of clinical trials on interventions in a particular area of healthcare; quality assessment of the trials and combining their results statistically as appropriate.

Part of my retraining involved a course learning database design and programming in Visual Basic in MS Access, and I applied this in a novel way to the research project I was carrying out.

After my fellowship ended I continued to work on the database project, but then my (additional) funding ran out and I got a new job at the Royal College of Nursing, working on Clinical Guidelines. This was similar work, and I devised a modified database for the new project.

I originally made the mistake of doing most of my work from home and just turning up for meetings. This was very convenient (work was 20 miles away) and much better for meeting the children out of school, etc. But it had the great disadvantage that the only person I really saw was my supervisor – no one else really knew who I was. So in the second year of my fellowship I changed to spending most days in the office. The other researchers at the UK Cochrane Centre were generally supportive, although didn't usually identify with the work-life balance I was maintaining. My supervisor was helpful, although very busy. I found his secretary was very kind and understanding, and did a lot to make me feel happier. She didn't mind me asking (for the 10<sup>th</sup> time) how to send a fax or explaining who did what etc.

I think it is unlikely that I would have progressed to the level I did without the Daphne Jackson Fellowship, not least because to turn up with some funding and an almost blank sheet on what I wanted to do was a great advantage. I felt that my previous work with the UK Cochrane Centre meant they had some idea of what I was like, but it also was difficult to change some people's perceptions of my ability.

## Please describe a typical day at work

Easier to describe a week: this week I attended a course on the organisation at HQ, I wrote a substantial part of the Guideline I am working on, which included analysis and use of my database. I acted as a case study for one of my research colleagues, I advised another colleague on the use of databases for another application. I was also involved in a meeting about a new research project that is based

on my Guideline and I prepared a poster for a conference I am going to next week.

## Life outside work

I am actively involved in my hockey club (of which I am the Chairman and play regularly). I sing and play violin in a local music group. I am involved in the local church and Friends of the Earth group. And last, but not least, I have a husband and two teenage children, with whom I could spend more time.

## Any other comments to pass onto other women returning to work after a career break

It may not be a good idea to stay at the first place you go to after returning to work – they will probably remember your mistakes and think of you as 'the apprentice'. Lack of confidence is the big enemy, and you need to believe that, even if your skills are buried, they are still there and can be updated. It is also not true that having children dulls your brain – you just get a different perspective, which in itself is valuable. I would not recommend working from home all the time, however convenient it might be. If you want to return to work after a career break you are likely to be enthusiastic and ready to learn – and your contemporaries who didn't have a break will be looking forward to their retirement. And that newness attitude makes up for a lot – so you're like an 'old head on young shoulders'! Getting back to work is hard, and toughens you up, and you have to stick at it, but it's worth it in the end.

# Placements for Women Returners

Many companies offer placement schemes for school leavers and graduates. There are very few opportunities for women returners, however. Equalitec recognises that a placement could be the bridging step between you and returning to work.

The top 4 reasons for going on placement are:

- Companies often use placements as a testing ground for future recruits. If you impress on your placement you could be offered a permanent position. Regardless, you will build up new contacts and potential references that could get you a job somewhere else
- Most companies value people who have recently completed a placement as a way to update skills/renew skills and experiences and it also shows enthusiasm for working in ITEC
- A placement can act as a bridge between your career break and returning to work for an employer and can help build your confidence and some breathing space to adapt back into the workforce

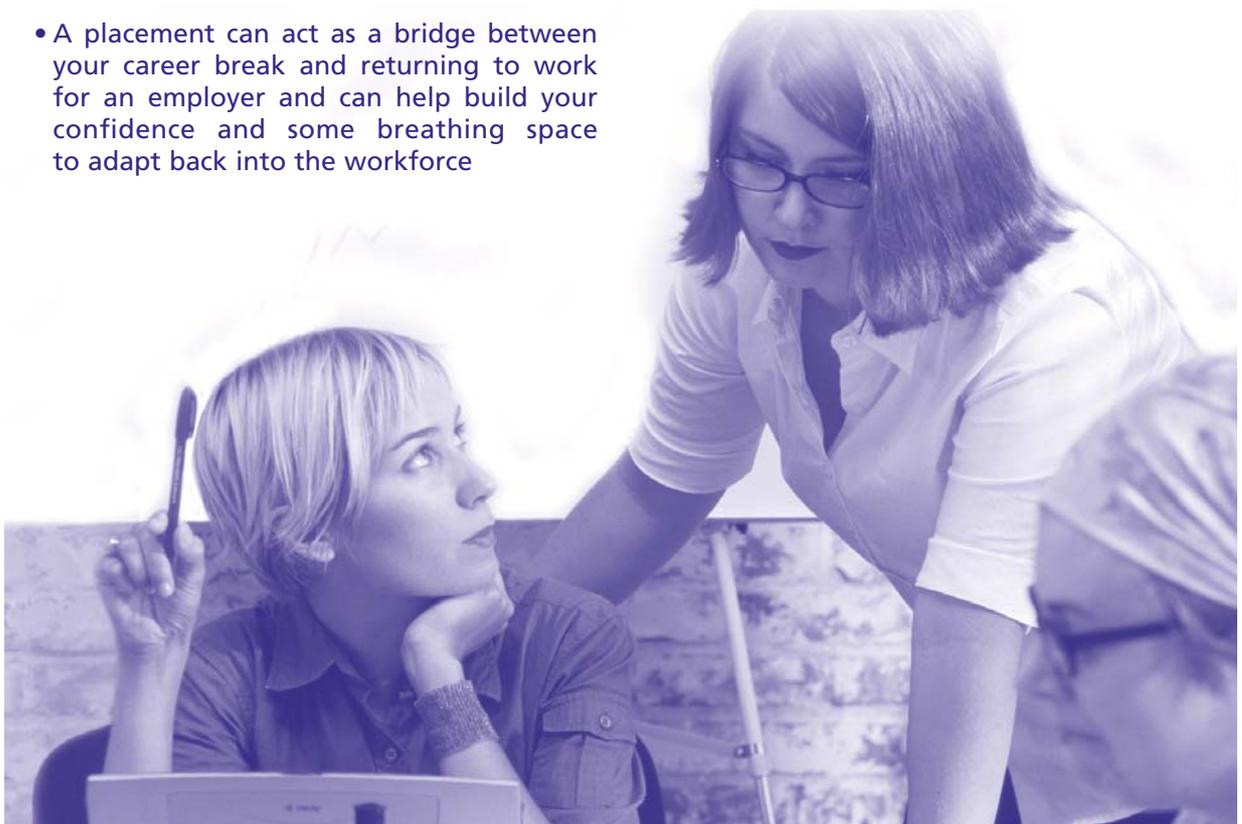
- A placement will give you first hand knowledge of a profession and therefore help you assess whether that profession is right for you before you commit yourself to a permanent job in a new area.

*"Placements are a crucial area in order to promote the reality of working in the ITEC sectors and to dispel myths about the image of the industries to women." BAE Systems*

Equalitec will be offering placements as part of its project activities to women looking to return to work into an ITEC job. This could be a great way to try out a new career and to increase your confidence levels along with developing a support network of women who are all in the same situation as yourself.

Visit [www.equalitec.org.uk](http://www.equalitec.org.uk) to register your interest in joining its placement programme for women returners

*"I love the challenge of creating a software solution to meet a customer's requirement. Every day I get the chance to become a "hero" by making their lives easier." Female Programmer*



## Updating your Skills

An increasing number of colleges are offering courses to help women return to the workforce equipped with essential IT skills and able to make the most of the skills they learnt while on a career break. Companies are also doing more to help women on maternity leave or longer career breaks to keep in touch, including some running in-house programmes. A refresher course can help boost morale as well as updating skills or introducing new ways of working and providing new contacts.

As part of your preparation for returning to work it helps if you can give yourself some time to plan and update your knowledge. This could consist of time spent on the internet finding out about the latest developments in ITEC and your specialism or visiting former colleagues to find out the latest business organisation issues.

Mentoring can also help in this way to assist you in objectively looking at your skills and capabilities and helping you to find out where you need to develop further. Reading through industry journals and magazines in order to keep in touch with the trends and issues can also help you to feel that you are informed of the latest issues.

As well as industry specific refresher courses, a number of further education colleges run general courses for those returning to the workforce, designed to bring them up-to-date with general IT skills and to boost self-confidence.

The UK Resource Centre offers an online course aimed at women returners with a SET (Science, Engineering or Technology) background (run via The Open University) to assist women returning to a career in SET. For more information visit [www.setwomenresource.org.uk](http://www.setwomenresource.org.uk)

If you are a woman returner with a background in Science, Engineering or Technology you could be eligible to apply for a Fellowship from the Daphne Jackson Trust. The Fellowships enable individuals to gain confidence, update skills, competence and knowledge, with the end result being improved job prospects. Find out more from their website [www.daphnejackson.org](http://www.daphnejackson.org)

*"I feel I have gained a great deal from my Fellowship. Personally and technically it has given me the opportunity to carry out substantial research in a technology which is still at the demonstration stage in the UK.*

*Apart from knowledge in a specialist field it provided me with the chance to develop more general skills in environmental assessment and management which can have wide application and to fully update other skills especially in the use of IT and monitoring equipment. In addition it has led to establishing many new contacts and directly to me being offered permanent employment and to two short consultancy jobs." Former Fellow, Daphne Jackson Trust*

Visit [www.learndirect.co.uk](http://www.learndirect.co.uk) to find out about the different training courses online that could help you change or return to a new career in ITEC.

For a list of providers who can help you find the right course for you as a woman returner, please visit the Women Returners Website at [www.women-returners.co.uk](http://www.women-returners.co.uk)

*"The UK needs women's skills, their creativity and their enterprise." Lord Sainsbury, Minister for Science and Innovation*

# Case Study: Returning to ITEC as an Entrepreneur

Name: Shirley Zipperlen  
Job: Managing Director  
Company: Estona Internet Marketing Ltd.  
Accreditation: Professional Member of the  
British Computer Society  
(MBCS)  
E-mail: shirley@estona.com  
Web: www.estona.com



## Background: Making the Move into IT

Immediately before making the move into IT I was unemployed, on Income Support and living in a rented flat with no central heating. I had a PhD in tropical plant ecology and lots of experience as an advanced user of computers but no qualifications and no relevant work experience. I wanted to get into the field of web site development - I am technically minded with an artistic flair so this seemed a good choice. I came across a computer training scheme available that was free to the unemployed. This was a self-taught City & Guilds Qualification in Word Processing, Spreadsheets and Database Design. The level of the course was quite low given my experience but I enrolled anyway - it was a positive action and with hindsight was the pivotal point in establishing a career in IT.

My first job after the course was working as a temp on a tutorial database for the University of Sheffield Medical School. I worked for them for four weeks when a job came up with Sheffield Health Authority - Intranet Project Manager. It seemed my ideal job but was a real long shot - after all I had no real experience in this field. Before the interview I grabbed a book and read up on Intranets. In the interview I concentrated on my "transferable skills". I was good with people and understood the issues faced by computer users, I was fast to learn new skills, I was used to problem solving and project management but most of all I had a fantastic enthusiasm for the power of web communications and was genuinely excited about the implications of technology for the way we do business. To my astonishment

I got the job! The real lesson in this was that the result was obtained by taking action. Look at the resources around - there is always a step you can take towards your desired goal no matter how small. Don't just think about it, take action - there is boldness in action.

## Becoming Self Employed

In April 2001 I left my job with the NHS to have a baby. I wanted to return to work but wanted to be as flexible as possible so that I could enjoy time with my new daughter, Gaia. In October 2001 I started a sole trader business Create Computing with nothing more than a laptop and a dial up internet connection. My office was the back bedroom - my laptop sat at one end of the bench, the baby's changing mat at the other! I had no business experience and the following three years were a very steep learning curve. Initially things were tough - building up the business took much longer than I had expected and the financial strain was difficult at times. However I felt more fulfilled as my own boss than I had ever felt as an employee and my enthusiasm kept me going along with the amazing unwavering support of my husband, Simon.

Our turnover doubled year on year and in April 2003 I moved into an office and became Managing Director of Estona Internet Marketing Ltd. In April 2004 I left to have our second baby Miranda. Simon kept the business going and we now work together four days a week. Family has been my primary concern throughout and I feel our company demonstrates very well that it is possible to have a successful career and a fulfilled family life at the same time. The key to my success has been the support of my husband, a willingness to step out of my comfort zone and the confidence to go for it.

## Being a Woman in IT

I have three older brothers and am well used to being in a male dominated environment. I have never felt at any disadvantage in life due to my gender and I am sure this has helped me to succeed in my chosen career. I have perhaps dealt with one client who I considered to be a chauvinist where my strategy was simply to rise above it, to put personal feelings aside and to concentrate on the relationship from a business point of view. I have also met a male client who stated he preferred to work with women because they were more reliable than men! My experience is that being a woman is absolutely no barrier to progressing in the IT sector.

My strength lies in a dual approach to ITC - I have a good understanding of the technical constraints and issues surrounding web communications but I am also good at relating to people, putting them at their ease and understanding their needs. This is what our clients value most, our approachable and friendly attitude. The ability to combine these skills with sound technical knowledge makes women sought after players in the ITC arena, particularly as managers.

## Typical Day & Life Outside Work

Mornings start around 6.30 am when our eldest girl Gaia will climb into bed with us. The day's work activities vary but might involve handling client feedback on a site we are developing, travelling out to meet a potential client or managing a sub-contractor by telephone. We finish work shortly after five and return home after picking the girls up about 6pm. We always eat together as a family and mealtimes are very important quality time with the girls - one of the big advantages of working for ourselves is the amount of time we get to spend with the children.

## Advice to Others

A lack of qualifications in IT is not necessarily a barrier to starting a career in IT - this is a fast moving industry and skills learnt two years ago may already be out of date. If you enjoy working with computers, are technically minded and willing to learn you have a lot to offer this industry. More generally, in my experience you find what you are looking for in life. If you expect being a woman to be a barrier to a career in IT you will be watching out for prejudice in every situation and you are bound to find it. Concentrate on what you can offer, don't underestimate yourself and above all take action!

# Transferable Skills and Skills Checklist

One of the most important concepts you will come across in the job-hunting process as part of returning to work is that of transferable job skills. Awareness and recognition of your transferable skills will be a key factor in the jobs you apply for and when updating your CV and preparing for any interviews.

Transferable skills are basically skills you have acquired during any activity in your life - jobs, short courses, community projects, parenting, hobbies, sports, virtually anything – the important thing is that they are transferable and applicable to what you want to do in your next job. To make the most of the skills you will have undoubtedly gained during a career break where you have been raising a family, you need to recognise how everyday experiences translate into skills needed for ITEC jobs.

*"We look for enthusiastic people who can think, analyse, problem solve and enjoy the technical challenge." Engineering Training Manager, Rolls-Royce plc*

Recognising that many women lack confidence about returning to the workforce after a career break, some organisations have developed recruitment policies specifically to assist women returners to make the most of assessing and selling their skills. For example, Unilever developed a 'Mum's CV Programme' which encourages women returners to identify skills

and competencies developed whilst looking after a family. Just as society and business tends to undervalue skills gained during a career break involving caring responsibilities, women also have tended to let these skills go unrealised and underestimate their value. Unilever found that when returners were applying for jobs this lack of confidence in their skills and abilities was detrimental to them being selected for jobs. The 'Mum's CV' is also useful as a tool for recruitment managers to appreciate the skills gained during a career break.

In their prompt list Unilever ask returners to reflect on times when you have had to display communication and influencing skills, using examples such as difficult conversations with teachers or joining new committees and voicing opinions in these. Ensuring that you are including all the transferable skills you have at your disposal using everyday examples to illustrate your development of skills during a career break can help you not to feel self conscious that there is a 'gap' in your CV.

*"The ability to pick things up quickly is much more important than what you know already..... We can teach you Java easily enough, but we can't give you the urge to learn." Recruitment Manager, Intellect.*

Before applying for a job in ITEC, look at the questions below to think about whether you have the generic skills suited to a career working with ITEC:

- Do you enjoy working with technology or using technology as part of your everyday life?
- Can you think about how you could implement solutions through using technology?
- Do you find that you grasp technology and how it can be used, quickly?
- Do you think up new ways of applying technology to existing issues and problems?
- Do you base your actions on well thought out ideas?
- Do you research different alternatives before taking action?
- Do you regard problems as challenges - preferring to find solutions rather than say you can't do it?
- Are you a good communicator? Are you comfortable speaking to people from all levels in an organisation?
- Are you used to meeting deadlines?
- Are you independent and able to use your own initiative?
- Are you comfortable with ambiguity and change? When things aren't clear-cut can you stay positive?
- Are you well organised? Do your friends and family regard you as reliable and punctual- someone who remembers to do things and rarely loses things?

Based on Reuters Guidelines for Applying for Technology Positions

# Skills Reflection

Many employers talk of 'core competences' required for jobs in ITEC. When deciding whether you are right for a job it can be helpful to consider the broad headings below to see where your skills and experiences can provide concrete examples of each of the competences. By thinking of your answers to the questions below you will soon see where you need to find supporting evidence for this skill. The skills headings below relate to all jobs across all sectors and industries, and if you can display examples of these skills from your experiences then you will be well on the way to being the ideal candidate!

|                           |   |
|---------------------------|---|
| Communication             | <ul style="list-style-type: none"> <li>• Are you able to keep verbal and written communications clear, to the point and confident?</li> <li>• Can you adapt your communication according to the audience?</li> <li>• Are you good at listening to others and considering their views on a subject?</li> <li>• Are you able to pick out the most important points from other people's written and verbal communication?</li> </ul> |
| Teamwork                  | <ul style="list-style-type: none"> <li>• Are you able to build and maintain strong working relationships, with both colleagues and clients?</li> <li>• Are you happy sharing information with others and working together for a common goal?</li> <li>• Are you happy supporting others and respecting people's individuality?</li> </ul>   |
| Business Awareness        | <ul style="list-style-type: none"> <li>• Can you show knowledge of the sector, the employer and the competition?</li> <li>• Are you aware of the key business issues for the sector?</li> </ul>   |
| Drive and Motivation      | <ul style="list-style-type: none"> <li>• Can you show the determination to get to a successful end result?</li> <li>• Can you keep a positive and enthusiastic approach even when things are difficult?</li> </ul>  |
| Problem Solving           | <ul style="list-style-type: none"> <li>• Can you show a logical and analytical approach to solving problems?</li> <li>• Can you see a problem from a variety of different angles?</li> </ul>  |
| Planning and Organisation | <ul style="list-style-type: none"> <li>• Are you good at planning your work and working out realistic timetables for delivery?</li> </ul>   |
| Leadership                | <ul style="list-style-type: none"> <li>• Do you consider and identify what motivates others?</li> <li>• Do you lead by example?</li> </ul>  |

# Case Study: Returning/Changing to a Career in ITEC and Management



Name: Aline Hayes  
Job: Head of Faculty Technical Services  
Company: Faculty of Arts, Computing, Engineering and Sciences, Sheffield Hallam University  
Education: Left School at 16 with 5 'O' Levels and 3 CSE's  
BSc (Hons) in Information Systems for Business, Leeds Metropolitan University, Currently researching PhD in Philosophy of Artificial Intelligence, University of Bradford

## Background

Born Bradford 1967, after leaving school at 16 I had a series of short-lived jobs (toy packer, catering trainee, receptionist/telephonist, community outreach/advice worker) and periods of unemployment. Joined Bradford College at 18 as a temporary Computer Technician and discovered a previously unknown affinity with computing and computer applications. During my time at the college I moved from technical to administrative roles for a time before returning and being promoted in a series of ICT roles. During this time I had both my children, and also completed a part time degree in Information Systems via day release. By 1999 I had risen to Teaching Services Manager in charge of managing the provision of workshop facilities and support for academic ICT delivery across most of the College, and supporting curriculum areas including Art and Design, Business Studies, Engineering, Adult Education, Teacher Training, etc.

I joined the university in 2000 as Technical Services Manager for the School of Computing & Management Science. I was promoted in 2004 to the post of Head of Faculty Technical Services, managing a multi-disciplinary technical team of around 80 people. My remit covers curriculum disciplines including Fine Art, Communications, Electrical Engineering, Mechanical Engineering, Materials Science, and Computing etc. It also includes the support for two 5 RAE rated research institutes.

## Best things about your job

I have always aimed to work in roles that can contribute to making a difference to people. It is very important to me that I feel the organisation I work for is making a positive difference to people's lives. Education is specifically good in this way, as education is life changing. My own experience of higher education has shown me how valuable continued education is, and how learning continues even when the formal studying has ended. I also enjoy the more broad strategic management areas and that I am able to be involved in planning and decision making across a range of activities (not just technical) that shape the future of the Faculty and the wider university.

## Does your organisation offer flexible work practices?

There is a formal flexi-time scheme for administrative staff graded SO1 and below, academic staff have formal annual work plans setting out their workload levels, whilst technical staff work fairly standard hours in term time. Senior staff members are expected to work flexibly – that is, the hours (times and length) they feel necessary in order to get the job done.

## What was your experience as a woman returning to work?

I have found my experiences to be mixed with regard to culture and approaches towards women and women with children. I have had massive support from one particular line manager (I couldn't have returned to full time employment after the birth of my first son without the short term support he provided). I have also had comments about "the problem of the kids" - I don't see my children as a problem, quite the reverse, they provide some stability and balance in my life.

## Please describe a typical day at work

A typical day starts at about 7:50 when I arrive in my office. Many people start around 8:30 or so, so this gives me some quiet time to catch up with email, preparation for meetings, etc. Most days I have a full schedule of meetings, committees, etc. and I use time between meetings either as 'open door' time or to try and keep paperwork and email under control. I find the job so varied that I can be talking about planning for locating to a new building, then defining a common university approach to provision of ICT support, then budget forecasts and planning, and then strategic HR issues in the university, etc. I am fortunate in that I have excellent PA support and she keeps me organised.

Typically, I will be in meetings from 9:00 onwards and if I'm lucky I get time for a break around lunchtime, although in reality this is when people have realised I'm likely to be available so it tends to be when I get the ad hoc drop-in meetings with staff and other colleagues. If I've had a particularly busy day, Carolyn my PA will have printed off any unread email, papers for meetings, etc. and I can either take them home or deal with this when I get in the next day. I aim to leave at 5pm or 6pm latest and I try to not take work home on an evening unless I can either do it

as I commute or if it is unavoidable but am more willing to do so on a weekend if necessary.

## Life outside work

I'm currently researching a part time PhD in the Philosophy of Artificial Intelligence. Other than that I enjoy (non-academic!) reading, travel and spending time with my family. I've also recently retaken up photography as a hobby.

I'm also hoping to make a contribution beyond the university in the future, possibly with involvement in the wider public or voluntary sectors.

## Any other comments to pass onto other women returning to work after a career break

For most of my career, I have worked as one of only a small number of women in a larger group of men but I have never found this to be a problem.

My advice to women wanting to achieve in this sector is to seize any opportunities provided to broaden your experience, and continually keep your skills up to date. For myself, I can honestly say that I have never had some grand career plan. I would like, at some point, to be heading up a large, complex organisation, building on the general senior management experience I am gaining in my current post. I feel I have learned and developed so much in the past 12 months, I can see new learning in even the last 6 weeks, as I've had to meet new challenges. I've found new strengths and things that I unexpectedly enjoy and seem to do well with. However, without grasping the opportunities early on as they presented themselves, I would have missed all of this.

# Self Reflection Exercises

There are a variety of exercises and tools which can be used to help make decisions, such as decision trees, force field analysis, lists of pros and cons, talking to friends and family, and so forth. However, a powerful tool for making decisions, which is sometimes overlooked, is self-reflection. The process of self-reflection provides room for clarity on your criteria in making your decision e.g. Returning back into what type of career and also helps you to focus on what is meaningful to you and what matches your priorities.

Self-reflection can be quite difficult, requiring some time and a quiet place to do some hard thinking! Perhaps you already have a practice of taking time out to reflect on the day, on decisions and on what is important to you? Taking time out to be quiet and reflective means changing the pace of your normal routine, which is not something that most of us do regularly.

The beginning of self-reflection often occurs without us being fully aware that this is what we are doing - talking to ourselves in order to get in touch with our core values and re-evaluate our situation. At the start of any decision making process we are usually in the unknown and unsure of what will happen next. Often it is this uncertainty and worry that we will not find the answer, which sometimes prevents us from taking the necessary quiet time alone to reflect.

Self-knowledge can assist you to:

- make appropriate academic/educational and career choices
- increase your occupational knowledge
- understand your decision making process
- write an effective CV
- sell yourself to an employer in an interview

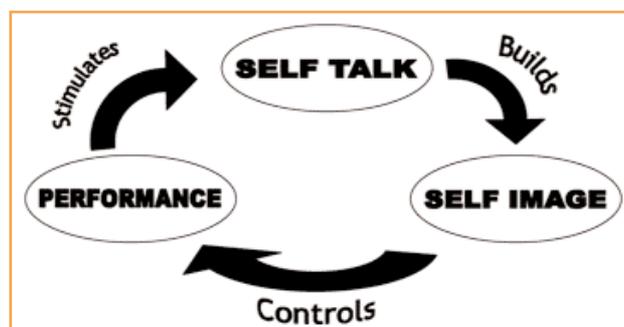
When starting to think about changing careers or returning back to a career/sector that may have altered since you left, it can help to begin with a review of your personal needs. Both self-reflection and career assessment tools can assist you in this.

When thinking of returning to work/changing career, consider your:

- Interests - What are your likes/dislikes? What can you see yourself doing and enjoying?
- Personal and Work Values - What will contribute to your personal job satisfaction?
- Preferred Working Conditions - What type of work environment would you prefer?
- Personality - What are your personality traits and how will these affect who you want to work for/with?
- Preferred Skills - What skills have you developed? Of those, which ones would you like to develop/explore further?
- Personal Profile - Summary of what is important to you in order to evaluate different job opportunities.

In order to have a chance of being effective, self-discovery requires some belief on your part that an answer will eventually emerge!

The diagram below shows the main elements involved in self-reflection. It starts with "positive self-talk." This in turn builds "positive self image" which in turn controls behaviour or performance. Positive behaviour/performance further reinforces the positive self-talk, and so the cycle continues. But it is the self-talk where the process starts. When at the start of a career change or returning to work, it is here where the self-reflection work needs to begin.



*From Career Transitioning by Tom Morris, Morris Associates*

The first questions most people thinking of returning to work after a career break are asked are "What do you want to do?", "What are/were you good at in your last job?" and "Tell me about yourself and what you enjoy doing."

The following exercises could help you in the first phase of starting to think about what you are looking for in your return to work/career change:

## Exercise 1. Recognising Your Achievements

**Step 1.** To recognise your achievements, both work and personal, list 12 to 15 events in your life, which may have been difficult or uncomfortable at the time, that you enjoyed doing, that you did well, and that you were pleased with or took pride in. Reflect on successes and achievements in both your life and work. Half of the list should include events from your personal life, and the other half should include events from your career. Rank them in order of importance. Note your reactions. If other events now come to mind, add those to the list and rank their order.

**Step 2.** Select the top 10 events. Reflect on each event and write down the steps you took, the skills you used, and the personal traits you displayed. Say you volunteered to assist with a community group fundraising event. You would write down the actions you made to get involved with the event (for example, reflected on values, researched funding opportunities, talked with community group manager, made time in your life to spend x number of hours a week volunteering). You then write the skills you used (thinking, analysing, researching, organisational, interpersonal communications, time management). Finally, you list the traits you used (loyalty, dedication, initiative, intelligence, and concern for others).

**Step 3.** Repeating this process for all your achievements or events, you will have created a list of all your best achievements which can then be used as a career development tool later on when putting together your CV, job applications and interviews. Reviewing this document you should begin to see patterns emerging and have a clearer idea of the direction you want to take and the job you want to pursue.

## Exercise 2. Cloning Yourself

Setting aside practical considerations such as financial constraints and physical capabilities, list the careers, jobs or activities you would pursue if you could clone yourself into five different people and have them do or be anything. In order for this exercise to produce useful results you have to let yourself go. You need to resist self-censorship and that little voice that says, "I can't do this!" Then, for each clone, explain in writing why you chose that activity and what skills you have now that would help you do the activity. This exercise helps you to look forward and outward and to reveal your inner 'dream job', which should in turn help you to look for jobs where these activities are a prominent feature.

Both these short exercises allow you to quickly and effectively identify and rank your favourite skills and abilities whilst also revealing important information about your personal characteristics and what you want to get out of a career. Using a process of self-reflection, talking to friends and colleagues, career advisors and other professionals should help you when deciding on your return to work path.

# Case Study: Returning to an ITEC Employer

Name: Dani Strickland  
Job: Control and Electrical Systems Engineer  
Company: Rolls-Royce Fuel Cell Systems Limited  
Education: BEng Hons (1st) in Electrical and Electronic engineering from Heriot Watt University 1988-1991  
PhD in Electrical Engineering from Cambridge University (Queens' College) 1991-1995



## Background

I have had a number of part time temporary jobs both at university and while taking a career break to have a family. These have included private investigating and mystery shopping. However, my main employment has been based in the electrical engineering field.

1995-1997 : Research Associate in the Electrical Machines and Drives group at Cambridge University in conjunction with Brook Hansen  
1997-2001 : Electrical Power Engineer at the Power Technology Centre, PowerGen  
2002-2004 : Part time lecturer and Daphne Jackson research fellow in the Electrical Machines and Drives group at the University of Sheffield  
2004 – present : Control and electrical systems engineer at Rolls-Royce Fuel Cell Systems Limited

## Best things about your job

Working on a challenging and exciting state of the art research project in an excellent team who are very understanding about the restrictions on my time.

## Does your organisation offer flexible work practices?

I work two and a half days a week. I'm able to work flexible hours and there is the option of working from home. Rolls-Royce Fuel Cell Systems Limited have been very good about arranging work hours that suit me.

## What was your experience as a woman returning to work?

I first returned to work as a part-time temporary lecturer at the University of Sheffield, then I had a part-time research fellowship funded by Rolls-Royce Fuel Cell Systems Limited through the Daphne Jackson Trust, who also offered helpful advice and support.

## Please describe a typical day at work

I like to arrive early (around 7.45am) and check my email and sort any paperwork or administration that needs doing. When the control and electrical systems team has arrived we decide the work plan for the day. At the present we're in the middle of a tight testing schedule, so the day tends to include a lot of on-site work; commissioning, testing, debugging problems and sorting out control coding and any safety issues. I also have some research and development projects that I work on when I get a moment. I have the occasional conference call or meeting to attend.

## Life outside work

I have two children, Rachel (aged 5) and Matthew (aged 3). I look after Matthew two days a week at home. Most of my time is spent acting as a taxi driver to the children taking them to gymnastics, ballet and parties. In my spare time I help with the S Yorkshire IEE committee and I'm a SETPOINT ambassador. At present, I'm involved in helping with the K'nex challenge in schools. I have also started to learn to climb.

## **Any other comments to pass onto other women returning to work after a career break**

The worst part of my life is dealing with illness and school holidays. I have brilliant parents who help out and a very tolerant husband, but don't be embarrassed to ask for help with childcare when you need it.

# Support for Women in the Workplace

Women are under-represented in ITEC and can sometimes benefit from support networks/organisations that put women working in ITEC in touch with each other. Women returners or career changers can have access to different types of support in the workplace. Sometimes this can be dependent on the organisation you are working for but support is also available sector-wide. Some larger organisations will have their own women's networks e.g. BT, whereas working for an SME it can be helpful to share experiences with other women through a network such as BCS Women (British Computer Society) women's network or the Intellect Women in IT Forum.

There are a number of organisations working to promote and support women in ITEC who can help with contacts for women's networks and other information geared towards women in ITEC. Please have a look at the A-Z list of organisations at the back of this booklet to find out who can offer support and advice.

Mentoring programmes are increasingly common in organisations for all employees and can be a great tool for women working in fields where they are in the minority as a means to progress and gain support. This is particularly important when experiencing periods of change such as returning to work after a career break or entering a job for the first time. As a minority group working within an organisation where the culture is dominated by the majority, women may be inclined to become 'invisible' and simply adapt to the prevailing standards and values. Mentoring has been shown to help increase the recruitment and retention of women in ITEC, and has proven to be an effective component of cultural change within organisations.

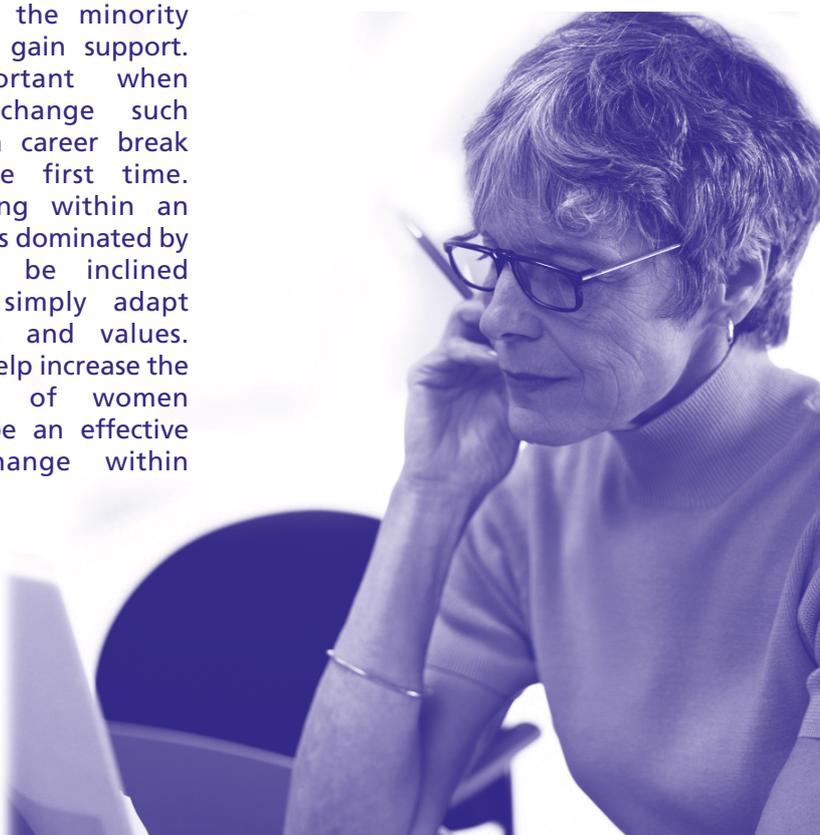
A survey of European projects undertaken where women returners were targeted asked project managers to identify the benefits of mentoring to women returners.

These benefits included:

- increased self-esteem
- restoration and development of confidence
- ownership of the training-to-work transition
- enhanced interpersonal skills
- improved motivation and diversified aspirations.

These benefits demonstrate that mentoring offers an excellent way of supporting women returners in making the move back into the workplace.

*"A more equitable representation of women at work will boost the economy and broaden the scope and quality of national and local decision-making to reflect the fact that nearly half the workforce is female." Julie Mellor, Chair of Equal Opportunities Commission*



# Finding a Mentor

The right match between mentor and mentee is crucial to the success of any mentoring experience. In many cases, mentees tend to choose a mentor with a background similar to their own. For women returners, this often means that mentees choose a mentor who had herself been a returner. In these cases, personal experience of how to balance home and working life is an important aspect of the mentoring relationship. Returners are however not limited to being the recipients of mentoring. A mentor can enhance the guidance process, be a role model and assist with confidence building. Mentoring can help returners to identify where their existing skills lie and help provide a focus for future directions.

If when you return to work your organisation doesn't run a mentoring programme there are a number of ways you can find a mentor on your own. The relationship could be in-person, telephone or e-mail based. You might also discover that mentoring can often come from something you read or something you experience that acts as a means of supporting change and development. If the idea of having a mentor appeals to you, some ideas to find someone suitable include:

- Check with local businesses or organisations to determine whether they have a formal mentor program you can access
- Contact businesses or organisations to find out if they can provide you the names of any retired executives who might be willing to act as volunteer mentors
- Ask your local Chamber of Commerce whether they have created a mentor programme or service. Also ask local women's groups or branches of national organisations whether they are running any mentoring programmes
- If you are enrolled in a college or university, make an appointment with their student career services to find out if they have a list of volunteer mentors
- Go to your local library and scan the trade publications associated with your desired area and identify potential mentors from the biographical or topical articles
- Place an ad on an internet site requesting a mentor in your area
- Find the organisations or businesses on the internet that reflect your interest area and contact them by e-mail to determine whether they have personnel who can act as mentors
- Use your network of friends and relatives to let them know what kind of person you want as a mentor. Ask them to think of someone who could help you
- Use an internet search engine to find companies and organizations or individuals who are doing what you want to do and determine their interest in helping you
- Read biographies of people who have been successful in your interest area; sometimes their biography by itself can act as a mentor in that it can prompt you to try out new things.



# Online Links to help with finding a Mentor

<http://www.coachingnetwork.org.uk>

The Coaching & Mentoring Network ('The Network') was established to provide a service both for people who provide coaching or mentoring services and for those seeking them.

<http://www.iee.org/EduCareers/Mento/index.cfm>

Mentoring scheme run by the IEE (Institution of Electrical Engineers) is open to members and will help you find a mentor within the IEE.

<http://www.mentorset.org.uk/>

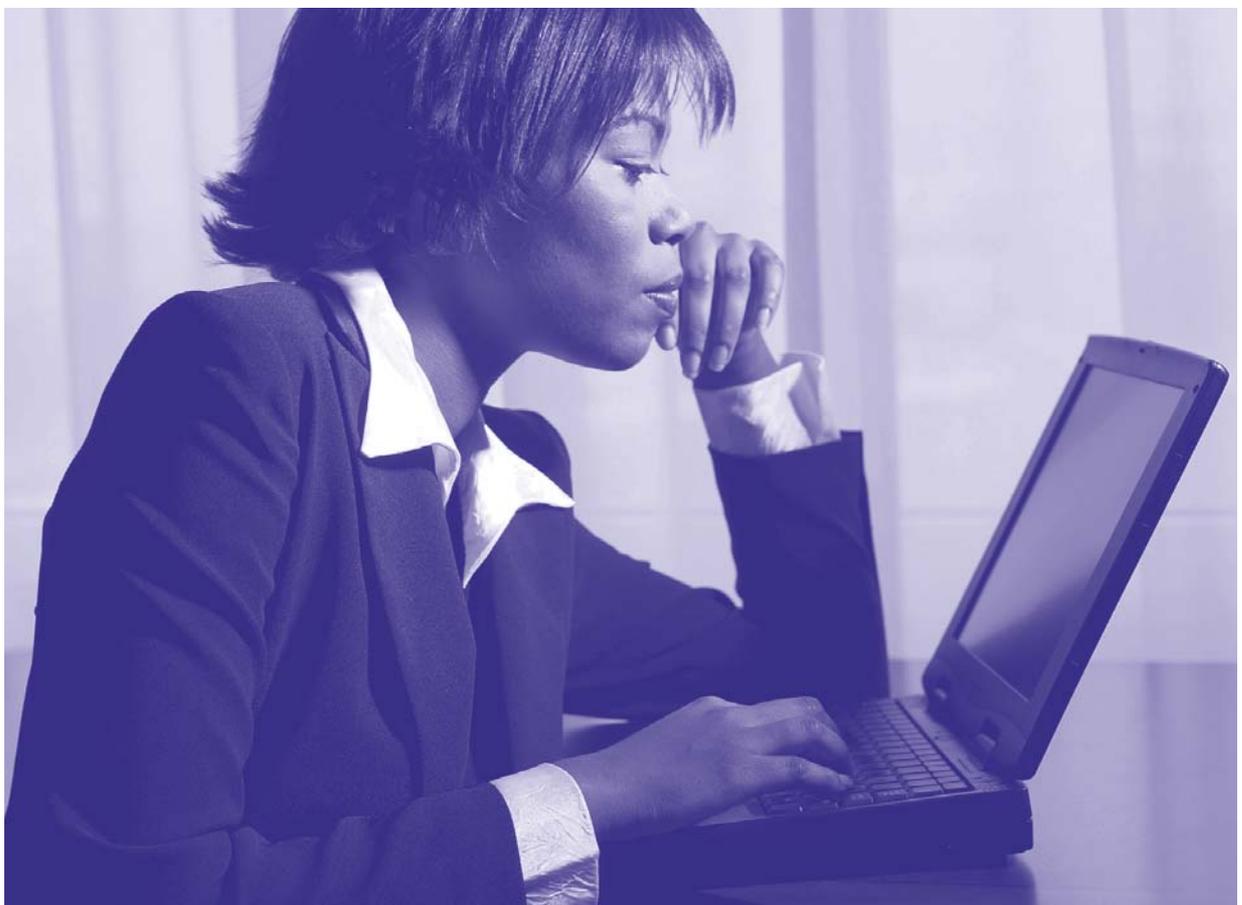
Mentorset is a UK-based initiative organized by AWiSE (Association for Women in Science and Engineering) and WES (Women's Engineering Society) and aims to provide a national mentoring scheme for women in SET.

<http://www.setwomenresource.org.uk>

The UKRC offers a number of mentoring services, including a programme for returners.

<http://www.setwomenexpertsuk.org.uk>

The UK database of Women Experts in SET is a free service where you can search for women experts in SET who are willing to act as mentors.



# Job Trends in ITEC

Looking through the many online sources of job adverts such as [newscientist.com](http://newscientist.com), [jobs.ac.uk](http://jobs.ac.uk) and [doctorjob.com](http://doctorjob.com), for example, can give you an idea of the employment trends in ITEC and also some ideas of the types of jobs you may be interested in aiming for. If you have a background in science, you can see how the applications of IT in this environment can give you a new perspective on how new technologies are underpinning a variety of different posts where knowledge of science is crucial.

For example, job titles such as Director of Environmental Informatics was advertised at the Centre for Ecology and Hydrology recently who are looking for individuals with both science and Informatics knowledge to combine into a strategic post. Other roles that combine science and technology include recently advertised posts such as Team Leader for Radioisotope Imaging Methodology for The Institute of Cancer Research. In a role such as this, the ability to develop numerical and computational techniques for modelling with a combination of a science background would be essential.

Data Analysts or Research Assistants can work across all fields and require the use of IT skills to support this work. For example, a financial industry based organisation recently advertised for a Data Analyst/Research Assistant to work with their research team to be responsible for the management and quality assurance for the data in their research databases. This type of role combines IT skills with a background in a numerate discipline where 'excellent attention to detail and the ability to work accurately and efficiently with large sets of data' were seen as essential.

Websites such as [doctorjob.com](http://doctorjob.com) provide overviews of jobs in over 23 sectors, many of which involve ITEC skills, providing you with more information for the job search process. The Equalitec website also provides information for women looking to get into ITEC and how to progress in ITEC. See the A-Z list of useful websites for full details.

The following broad job descriptions provide a brief overview of some of the careers available in ITEC or using ITEC skills.

These are adapted from the job descriptions collated by Careers Space- you can read more at their site [www.career-space.com/](http://www.career-space.com/)

*"IT Salaries are set to rise by up to 15 per cent over the next three years with security and database skills most in demand." Silicon.com*



## Overview: Multimedia Design

The area of Multimedia design is a growing market in the UK today. Most organisations have an online presence that is crucial to marketing to clients and this can be a creative and dynamic part of the ITEC sector to work in. Multimedia is one of the key growth areas of the 21st Century and is a vital component to all business, education and entertainment services. Entry into Multimedia Design is possible through a variety of routes for example either through media design (Arts background) or by having software experience (Technical background) – creativity is however the most important skill which puts you ahead of the crowd. Examples of jobs you could be working in Multimedia Design include:

- Multimedia Programmer
- Web Designer
- Web Information Specialist
- Web Content Strategist
- Web Content Programmer

Working in Multimedia Design usually involves a great deal of planning and overseeing client requirements and developments, as well as integration and installation at the client's site. In addition, training and support for clients are important aspects of the designer's role. Many people in this type of job work in software development laboratories as part of a team, but this job also offers possibilities of working from home due to the nature of the technology involved or working for in-house web development teams. Multimedia designers need to be creative team members who can provide a vision to the clients' needs. A high level of interaction is usually involved with clients and the software communities (teams, universities), which means that you get the opportunity to work with a wide variety of different people and organisations. Anyone working in this field needs to keep up-to-date on the latest in human computer interaction studies. e.g. by attending conferences or working with universities. You also need to be keen to keep up to date with the latest trends in website development and to be capable of always thinking of new ways to present information in the best possible way for each client.

### Skills required

| 'Soft' Skills   | Technical Skills  |
|---|---|
| <ul style="list-style-type: none"><li>• Creativity</li><li>• Analytical - looking at any problems arising and thinking of ways to solve them</li><li>• Building &amp; Maintaining Relationships</li><li>• Communication - ensuring you have understood the client's needs and can demonstrate this in written specifications</li><li>• Flexibility and Self Learning- happy to keep up to date with the latest industry developments in business and education</li><li>• Technical Orientation and Interest</li></ul> | <ul style="list-style-type: none"><li>• Artistic Knowledge</li><li>• Software Engineering</li><li>• Embedded Systems Knowledge</li><li>• Systems Design and Development Methodology</li><li>• Applications Design Concepts</li><li>• Networking Concept</li><li>• End User Interface</li><li>• Computer Programming</li></ul> |

## Overview: ITEC Project Management

The ITEC industry is a highly competitive environment and as such the ability to innovate and adapt to change is often what puts one employer ahead of another. The Project Manager is a crucial link in this process as their role is to identify and translate the clients' needs into innovative projects, which if successful are great marketing points for the organisation. Project Managers have a fundamental role in the design, development and results of ITEC projects. Their function is often as much a creative role as that of someone pulling together the technical and business sides of a project. Projects are often made up of large teams of individuals working on distinct aspects but can also be small scale where the Project Manager needs to have more of a hands-on approach. Projects can involve people from a variety of backgrounds, and a core aspect of the Project Manager's role is to integrate these people and co-ordinate activities. There is a great need for a flexible approach and energy in the field of Project Management in order to get the best out of everyone working on the team. Many organisations value the soft skills and experiences of Project Managers and offer training in the technical knowledge necessary to manage IT projects for example.

Project Managers analyse client needs and work out the means and the timetable that are available to result in a solution which is most suitable for the client. Working as a Project Manager requires the establishment of open and fluid communication between all people involved in the project delivery in order to ensure that deadlines are met and the project is delivered to budget.

### Skills required.

#### 'Soft' Skills

- Negotiation - you need to be able to negotiate with both clients and team members regarding deadlines and budgets
- Leadership - you need to be able to keep optimistic and enthusiastic for the team members involved in delivery even when there are difficulties arising
- Client / Customer Orientation - you need to enjoy dealing with clients and having open communication with them to keep them informed of project progress
- Initiative - you need to demonstrate that you can think of ways round a problem/new ways of approaching things
- Flexibility - projects are often fluid and changing in their nature. You need to be comfortable in adapting to change

#### Technical Skills

- Project Management
- Business Acumen
- Planning and Organisation

## Overview: IT Business Consultancy

Working as an IT Business Consultant requires you to have good overall commercial experience and an interest in helping clients to develop and match IT solutions to help them achieve their business goals. This role combines business knowledge and awareness with technological experience and therefore offers many opportunities for those with business experience but who are in need of training for the technical knowledge to back this up. Many companies recruit people with good business awareness and who possess the necessary soft skills for this role and also offer training to provide the technical know-how. The main focus of the role is on analysing, planning and developing IT solutions to support the clients' business needs. Examples of jobs you could be working in IT Business Consultancy include:

- Information Specialist
- e-Commerce Consultant
- Business Analyst
- Application Specialist
- Information Management Consultant

The main activities of IT Business Consultants across the range of jobs include the mapping out of business requirements in the initial stage in order to be able to assess and plan the appropriate IT solutions. Often Consultants will be asked to identify and create opportunities to simplify, improve or re-design business processes using IT solutions which will involve managing the project for the client in terms of logic work flow, data security, system implementation etc. There are varying degrees of technology associated with the work such as e-commerce and internet projects and application platforms (SAP, MS SQL Server, Oracle).

### Skills required

| 'Soft' Skills   | Technical Skills  |
|---|---|
| <ul style="list-style-type: none"><li>• Flexibility and self learning - the ability to learn new information as you are going along in a project as technology changes</li><li>• Creative thought - working your way through clients' business processes and thinking of new ways to use technology to improve these</li><li>• Communication – you need to communicate effectively with the client to ensure the IT solutions meet their needs and that all the specification documentation accurately reflects the development need</li><li>• Persuasiveness - you need to persuade clients and sometimes in-house people to think about trying a different approach</li><li>• Teamwork - you need to work effectively with a range of others in order to deliver the best product to the client</li><li>• Strategy &amp; Planning - you need to make sure that you are able to think strategically about IT solutions you offer and to plan ahead</li></ul> | <ul style="list-style-type: none"><li>• Business Strategy Planning</li><li>• Business Requirements Analysis</li><li>• Process Improvement and Change Management</li><li>• Systems Design &amp; Architecture</li><li>• Industry Knowledge</li><li>• Systems Development Methods</li><li>• Business Acumen - you need to be aware of the latest business developments and needs in order to reflect this in the systems you offer to clients</li><li>• Technology Trends - similarly you need to keep up to date with trends in technology in order to ensure that you are offering clients the best solution</li></ul> |

## Overview: Data Communications Engineering

Typically Data Communication Engineers will work as part of a wider team, but the role may also involve individual onsite work. An ability to solve problems both creatively and analytically are essential in addition to having strong team building skills and the ability to work independently. Problem solving skills, the ability to work under pressure and the ability to focus on new technologies are essential for this career. In this role a key ability is to be able to review and analyse new technologies to inform management of changes which could enhance business. Communication skills are crucial in this work as you would be expected to be able to speak to and describe network conditions at the proper level of the audience e.g. technically to another engineer - high level to management or business personnel.

The Data Communications Engineer has to understand current protocols, network devices and components, software engineering, emerging theory and practice.

Examples of jobs you could be working in as a Data Communications Engineer include:

- Communications Software Development Engineer
- Software Project Manager
- Network Architect
- Systems Engineer
- Hardware Engineer

### Skills required

#### 'Soft' Skills

- Analytical
- Creative
- Teamwork
- Communication
- Professional Attitude
- Problem Solving
- Initiative
- Managing Risks
- Flexibility and Self Learning
- Efficiency & Quality
- Commitment to Excellence
- Customer Orientation

#### Technical Skills

- Knowledge of Protocols
- Requirements Analysis
- System Architecture
- Software Architecture
- Computer Programming
- Troubleshoot Technical Problems
- Object Oriented Analysis and Design
- System Integration
- Work Estimation and Scheduling
- Ability to understand and evaluate internal/external specifications
- Electronics Theory and Know-how (analogue/digital)

## Overview: Security

Security issues for businesses have never been more important than in today's information age. As more business is carried out online, the number of websites, e-mails and electronic documents produced and used by both large and small businesses continues to increase. Similarly as technology improves, the ways to access this information become more flexible for both employees and are open to potential threats from non-employees.

A survey by DTI's Achieving Best Practice in your Business and silicon.com, found that although over 85% of respondents thought online security will become an even bigger business issue in the future, only a quarter review their systems more than twice a year. In addition, over 80% of those surveyed believe that their customers and suppliers review their information security even less than they do. This strongly suggests that these companies perceive security threats as arising from businesses and individuals they deal with on a regular basis. The survey illustrated that information security must be seen as a management and business issue, not simply as a technical issue to be handed over to the experts.

Jobs available in the field of Security are increasing as businesses become more aware of the consequences of security threats to their business. Opportunities in this field are expected to rise with excellent salary and contracts available to those qualified in this area. In order to be effective, a security manager needs to have direct access to the company's top executives and also have the authority to take whatever actions are necessary to enforce the company's security policy. Working in IT Security you will need the ability to communicate with a wide range of technical and non-technical staff in order to ensure the security policies you are developing can be implemented correctly. Although security should be a high priority, in many companies, it is often neglected due to lack of resources.

If you choose the network security field, you'll be helping to keep hackers, viruses and other threats from intruding and damaging computers - a problem that is expected to get worse as more computers are networked. Skills for network security jobs are among the most in demand today, and will be more so in the future. To gain a network security job involves specialized skills. As always, it's a good idea to earn certification (if not a bachelor degree) for any information technology (IT) job. If you're interested in a network security job, you could start by researching Novell and Cisco certifications, which are among the most recognized for networking and internetworking, respectively. Alternatively, you could consider a Microsoft certification course with an emphasis on network security.

Some examples of job titles in Security include:

- Network Security Administrator
- Security Analyst
- Security Consultant

### Skills required

| 'Soft' Skills  | Technical Skills  |
|--|---|
| <ul style="list-style-type: none"><li>• A general interest in security issues</li><li>• Analytical</li><li>• Technical Orientation and Interest</li><li>• Problem Solving</li><li>• Attention to detail</li><li>• Communication</li><li>• Teamwork</li></ul> | <ul style="list-style-type: none"><li>• TCP/IP skills (transmission control protocol, and internet protocol)</li><li>• Knowledge of Intrusion Detection Systems (IDS)</li><li>• Knowledge of Firewalls and routers</li><li>• Programming skills</li></ul> |

## Overview: Software and Applications Development

Bringing new IT systems to the market involves creating, specifying, testing, installing and maintaining systems on an ongoing basis. Some of the most exciting new IT opportunities rely on software development in order to deliver a product or service. This area of ITEC is about making a difference to the ways of working and thinking for both businesses and individuals. For example applications developers work in teams to specify customer's requirements in software terms, or in terms of IT solutions, then translate them into efficient coding. Technological know-how is sought after in this field (which will range from coding for online banking transactions to developing computer games) but just as important are the abilities to understand and interpret clients' needs. This is when excellent communication skills are sought, and women are well known to be excellent communicators and mediators- able to understand the requirements of clients accurately.

Programming provides one of the best overall grounding for any career in IT. It enables you to move if you wish into more specialist fields such as analysis, design, and project/team management. A Software Applications Developer designs, builds, tests, implements and maintains applications meeting specific customer's requirements using existing programming languages (D.B.M.S) database management system, development tools, etc.

When developing business applications, the developer must gain a thorough understanding of the business processes and constraints on the client. Knowledge of human computer interaction (HCI) is a useful skill to have for these jobs also. Work in this area will mostly be carried out working with a team of developers but could also be on a 'virtual' basis working with different developers on various sites and communicating electronically. These teams are often brought together on a project by project basis and are therefore temporary in nature.

It is therefore important that people doing this job enjoy meeting a wide variety of people and are able to adapt to working in different teams quickly. Examples of jobs available in Software and Applications Development include:

- Application Programmer
- Software Engineer
- System Developer
- Technical System designer
- Software Architect

### Skills required

#### 'Soft' Skills

- Analytical
- Technical Orientation and Interest
- Problem Solving
- Attention to detail
- Communication
- Teamwork
- Planning & Organisation

#### Technical Skills

- Computer Programming
- Software Engineering
- Systems Designs
- Testing
- System Development Methods
- Embedded Systems
- System Development tools
- Business Requirements
- Project Management

## Case Study:

# Returning to Training/ Education in ITEC



Name: Patricia Farrell  
Job: Administrative Assistant  
Company: Frank Buttle Trust  
Education: 196–1967 Primary School 1967–1974 High School.  
June 2002 ECDL (European Computer Driving Licence)  
June 2003, Course in Microsoft Access (databases)  
– the LITEhouse (Flexible Learning Unit) Langside College,  
Glasgow June 2005, HNC in Computing

## Background: Returning to Training/Education

After leaving school at 18 years of age I worked as a secretary in the National Health Service for 8 years. I had secretarial training, i.e. typewriting and shorthand skills, but of course there were no computers in offices in the 1970s and early 1980s, I used a manual typewriter. I gave up my job when my first child was born. I stayed at home as a full time mum for 21 years bringing up my 3 children. After being away from the work situation for so long I knew I could not return to a secretarial job since all offices now require computer skills. I felt I was too old to go back into education and didn't have the confidence to apply for jobs. Although I had enjoyed being at home with the children, I felt I needed a new challenge in life. After hearing about a new course in computer skills, the ECDL, I applied for an ILA and decided to try out the course. I really enjoyed the course and realised I wasn't too old to learn. After completing the ECDL, the LITEhouse staff encouraged me to continue studying, and I started working towards an HNC in Computing. The flexible style of learning at the LITEhouse is great; I can fit in my studying around my family commitments. In 2003 I felt confident enough to think about applying for administration jobs and am now working as a part time administrative assistant for the Frank Buttle Trust.

## Best things about your job

I really enjoy my job as an administrative assistant. It's great to be back working within a friendly environment. I feel I'm

doing something worthwhile, and my confidence and job skills have increased. I also feel more aware of what is going on in the world. Working 15 hours a week is ideal since it gives me time for my family and to continue studying. It's great that the job is flexible – I can work the hours around my family commitments, for instance if my youngest son is not feeling well then I can change the days I work.

## Does your organisation offer flexible work practices?

Yes, as described above, I can work my hours to fit in with family commitments.

## What was your experience as a woman returning to work?

The LITEhouse staff at the college have been very supportive within throughout my learning experience and have given me every assistance. When I felt ready to apply for a job, one of the tutors helped me write a CV and offered to provide a reference for the job I was applying for. Since I hadn't worked for so long, I had no recent employers who could provide references.

Within the organisation that I work for, they have greatly helped me to blend a career with family commitments and college learning.

## **Please describe a typical day at work**

Once the computing system is running, I check for new emails, check for telephone messages on the answering machine. Reply to emails or phone messages. Open and sort the post. Type letters and send out information either by email or by normal post. Enter information onto the database on the computer. Type reports and minutes of meetings, using Excel spreadsheets. Ongoing throughout the day – deal with telephone calls, try to sort out any problems that arise throughout the day. All the above has only been possible because I went back to learning to learn new skills.

## **Life outside work**

Spending time with my family and doing things together, such as going for walks, to the cinema etc. Meeting with friends, continuing with studies at college, reading, and trying to find time to keep fit, i.e. swimming.

## **Any other comments to pass onto other women returning to work after a career break**

It's never too late to learn new skills to help you get back into work. It can be very daunting to think of going back to work when you've been at home as a full time mum for a long time.

It's important not to think you are too old, or have been away too long, to go back to learning. I used to think that college was only for 'young' people in their teens and twenties and that I would be out of place there. I have found that this is definitely not the case - that there are learners of all ages and from all walks of life. I have found that learning really can be a lifelong experience.

# A- Z Of Useful Organisations

|  |   |
|--|---|
| <a href="http://www.athenaproject.org.uk">www.athenaproject.org.uk</a>   | <b>Athena</b> is a UK wide initiative set up to encourage the advancement of women in HE and to significantly increase the number of women recruited to top posts   |
| <a href="http://www.www2wk.com">www.www2wk.com</a>   | <b>Aurora's Where Women Want to Work</b> provides a free service for women to research and compare companies, providing evidence about how companies attract, retain and advance women  |
| <a href="http://www.awise.org">www.awise.org</a>   | <b>AWISE</b> is a multi-disciplinary membership organisation composed of individuals, businesses, associations, institutions and other organisations, all of whom share the common goal of advancing the interests of women in science, engineering and technology  |
| <a href="http://www.bcs.org.uk">www.bcs.org.uk</a><br><a href="http://www.bcs.org.uk/bcswomen/index.htm">www.bcs.org.uk/bcswomen/index.htm</a> | <b>BCS</b> is the industry body for IT professionals.<br><b>BCS Women</b> is a specialist group that provides networking opportunities and support for all women working in IT around the world   |
| <a href="http://www.businesslink.gov.uk">www.businesslink.gov.uk</a>   | <b>Business Link</b> provides publications, regulations, training and contract information for businesses – from start ups to established organisations requiring advice  |
| <a href="http://www.career-space.com">www.career-space.com</a>   | <b>Career Space</b> provides potential employees with more information about the ICT industry and their skills requirements   |
| <a href="http://www.cc4g.net">www.cc4g.net</a>   | <b>Computer Club for Girls</b> is an exclusive resource for 10-14 years who traditionally 'switch off' from technology and careers in IT  |
| <a href="http://www.daphnejackson.org">www.daphnejackson.org</a>   | <b>Daphne Jackson Trust</b> implements a Fellowship scheme to enable a return to careers in science or engineering through updated knowledge and renewed professional skills  |
| <a href="http://www.dti.gov.uk">www.dti.gov.uk</a>   | <b>Department for Trade and Industry</b> provides advice on achieving 'Best Practice' For business – the DTI aims to promote enterprise, innovation and increase productivity. For employers – Advice and information on employment related issues. For Consumers – The DTI is dedicated to building a fairer more prosperous Britain |
| <a href="http://www.doctorjob.com">www.doctorjob.com</a>   | <b>Doctor Job</b> provides career advice and profiles of jobs in over 23 sectors with the latest jobs on offer  |
| <a href="http://www.equalitec.org.uk">www.equalitec.org.uk</a>   | <b>Equalitec</b> is an online resource for women, companies and HE, illustrating best practice and useful resources to promote and support women in ITEC  |
| <a href="http://www.eoc.org.uk">www.eoc.org.uk</a>   | <b>Equal Opportunities Commission</b> provides information and practical advice concerning equality, pay, policies and campaigns, plus research and statistics  |
| <a href="http://www.e-skills.com">www.e-skills.com</a>   | <b>e-skills</b> acts as the voice of employers on IT, Telecoms and Contact Centres to create the skills environment that businesses need to be productive and competitive   |
| <a href="http://www.gwiin.org">www.gwiin.org</a>   | <b>GWIIN</b> is the Global Women Inventors and Innovators Network working to promote women in SET through promoting their inventions at the Female Inventor of the Year Awards  |

[www.iee.org.uk](http://www.iee.org.uk)

**IEE** is an innovative international organisation for electronics, electrical, manufacturing and IT professionals

[www.intellectuk.org/sectors/it/women\\_it/default.asp](http://www.intellectuk.org/sectors/it/women_it/default.asp)

**Intellect** is the Information Technology, Telecommunications and Electronics Association representing members in these sectors. Intellect provides the secretariat for the Women in IT Forum

[www.mentornet.net](http://www.mentornet.net)

**Mentornet** is the award-winning non-profit e-mentoring network that addresses the retention and success of those in engineering, science and mathematics, particularly but not exclusively women

[www.mentorset.org.uk](http://www.mentorset.org.uk)

**MentorSET** is a national mentoring scheme for women in SET run by AWiSE and WES

[www.portiaweb.org](http://www.portiaweb.org)

**PORTIA** is a point of contact for women of all ages, with women's organisations, industry, educational and scientific bodies- acting as a gateway into SET for all women

[www.raeng.org.uk](http://www.raeng.org.uk)

**RAE** is Britain's national academy for engineering and brings together engineers from all disciplines to promote excellence in this field

[www.semta.org.uk](http://www.semta.org.uk)

**SEMTA** is the Sector Skills Council for Science, Engineering and Manufacturing Technologies, working to reduce skills gaps in these sectors and increase opportunities

[www.setwomenresource.org.uk](http://www.setwomenresource.org.uk)

**UK Resource Centre for Women in SET** aims to provide accessible, high quality information and advisory services to employers (including academia and the research councils), professional bodies, Sector Skills Councils, careers professionals and Higher and Further Education to promote best practice in the recruitment, retention and progression of women in SET and the built environment

[www.wes.org.uk](http://www.wes.org.uk)

**Women's Engineering Society** promotes the education, training and practice of engineering among women and acts as the voice of the woman engineer

[www.womenandequalityunit.gov.uk](http://www.womenandequalityunit.gov.uk)

**Women's Equality Unit.** Is the UK government site on women and equality, containing links and publications practical advice for women

[www.wic.org.uk](http://www.wic.org.uk)

**Women into Computing** is a network of people committed to raising the profile of women in the computing and IT fields

[www.witec-eu.net](http://www.witec-eu.net)

**WiTEC** is the European Association for Women in SET and works on projects across 12 countries in Europe to promote women in SET

[www.women-returners.co.uk](http://www.women-returners.co.uk)

**Women Returners Network** is a charity which works to help and support women to return to work after a break

[www.dti.gov.uk/work-lifebalance](http://www.dti.gov.uk/work-lifebalance)

**Work-life Balance** is the DTI's web resource containing flexible working case studies, with practical advice on how to integrate work-life balance issues into organisations

Report produced by:



Equalitec partners include:

Athena, British Computer Society (BCS), Daphne Jackson Trust, Department of Trade and Industry (DTI), Fujitsu, Global Women Inventors and Innovators Network (GWIIN), Imperial College (Department of Computing), IT Synergy, Newell and Budge, Portia, Royal Academy of Engineering, Unilever, University of Bath (School of Management), UK Resource Centre for Women in SET(UKRC) and WiTEC UK (European Association for Women in Science, Engineering and Technology)

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