



Motorsport Industry Association Careers Guide

What do I need for a career in Motorsport?

...or the other high performance engineering sectors such as Defence, Marine or Automotive?

The apparent 'glamour' of Motorsport - Formula 1 especially - is a powerful attraction to many; fast, noisy, colourful, broadcast on television from exotic locations with the 'beautiful people' in attendance... "I'd like to be there..!"

Of course you would, but this is merely the televised pinnacle of a hugely diverse Sport serviced by a relatively small global Industry, the heart of which is based in the English Midlands in an area identified as *Motorsport Valley*. As with all other sectors, the impact of the world-wide recession has been considerable. Opportunities to join the UK-based industry workforce of just 40,000 are few and open only to the 'best of the best'. Consequently, the right qualifications and, perhaps even more importantly, the right attitude and enthusiasm, are reviewed critically by would-be employers.

In most professions, GCSEs, or the equivalent, in English and Maths are desirable... In Engineering, strength in these core subjects - and science - is essential for both *Engineer* and *Technician* pathways.

So, whatever your ambition, the journey to a career in Motorsport or High Performance Engineering must begin with a dedication to these subjects at school. Later, at secondary level, some schools offer vocational qualifications in Engineering, IT and similar subjects. These provide skills and knowledge for a particular job and are taken by students who prefer a more work-focussed approach to study.

But Motorsport is not only about Engineering: Like any other industry, there are requirements for supporting business skills - Sales, Marketing, Accounting, Project Management...

If you are not sure which appeals to you, don't limit yourself too early. Think about how you like to learn, what you enjoy and perhaps where you see yourself in the future: Do you favour an office-based role? Or are you happiest in a practical, hands-on environment? Your Careers Advisor or Connexions office will be able to provide information about the various job roles. With this information you can look at the core subjects which offer the study and career options you wish to pursue.





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Advice for Students

- Whatever path you choose, gaining experience is very important. There are lots of opportunities to get involved in both the Sport and the Industry - just volunteering to wash wheels, sweep-up or even make the tea demonstrates a willingness which will endear you to a prospective employer...provided you do it well and you make a nice cup of tea, of course! It also helps to 'open doors' and meet people - this might well pay dividends later on.
- There are several school and student-based programmes - some within the national curriculum. Others operate outside the national curriculum and will greatly enhance your understanding of the sector. These place a focus on the teamwork and the commitment that both the Sport and the Industry demand.

For more information, go to:

Primary Engineer	www.primaryengineer.com
Formula 1 in Schools	www.f1inschools.co.uk
Formula Schools	www.formulaschools.com
Greenpower	www.greenpower.co.uk
Formula Student	www.formulastudent.com
Shell Eco Marathon	www.shell.com/home/content2/eco-marathon-en

- Use every opportunity to gain work experience through school, at weekends, evenings, or unpaid during the holidays. Try to pick an activity which will help you gain experience relevant to your future career and make sure you ultimately include this in your CV – even when applying for informal, perhaps unpaid, positions.
- If you live near a race track, go along and volunteer to get involved - that's where you'll find the wheels to wash, the pits to sweep and the teas to be made...!
- Read the motorsport magazines: Motorsport News, Autosport, Motorsport, Race Car Engineering, Race Tech, Classic and Sports Car - and get to know the business you plan to be involved in. You will also find names and addresses of the companies looking to recruit.
- Visit Autosport International at the NEC, Birmingham in January. This is the largest Motorsport Show in the country with a huge number of companies exhibiting - you'll learn a massive amount by attending and you might even get to speak to your future employer.





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Attend as many race events as possible and network with as many people as you can - they are in the business and you might be able to find out why...! Have a personal profile or your CV with you at all times - ready to hand out to anyone who shows an interest - and request a business card in return. When you have contact details you can do just that – get in contact!

- Consider marshalling at rally or race events – be it cars motorcycles or karts. Volunteer marshals are always in demand and this work can help you learn the rules of the circuit and the way motorsport functions.

For more information, go to:

The Motor Sports Association

www.msauk.org

Go Motorsport

www.gomotorsport.net

British Motorsport Marshals Club

www.marshals.co.uk

- Write to the main car clubs, circuits and race venues:

British Automobile Racing Club (BARC)

www.barc.net

British Racing & Sports Car Club (BRSCC)

www.brsc.co.uk

750 Motor Club

www.750mc.co.uk

Motorsport Vision

www.motorsportvision.co.uk

- Keep looking on the Motorsport Industry Association's own website for new jobs, work placements, training advice and news:
www.the-mia.com
www.motorsportcareers.co.uk

- Keep up-to-date! Ensure you have good background knowledge of the Industry – the MIA website has a news section and the previously mentioned recommended magazine reading list will complement this.
www.the-mia.com

- Think what you can do to improve your employability so that you stand out from the crowd, and how you can better demonstrate your enthusiasm, commitment and hunger to be involved in this Industry. Don't dream - ensure your ambitions are achievable and, once you have delivered, set new goals: It is OK to have an aiming point, but don't make it so remote that it sounds totally unrealistic.
- There are increasing links between the world of Motorsport and other High Performance Engineering sectors such as Defence, Marine, Aerospace and general Automotive. An increasing number of motorsport companies are working in, and supplying to, these sectors. The skills and qualifications required by all these industries are very similar. If jobs are scarce (as they are in the current economic climate) do take a look at the other sectors and what they might have to offer – your skills are transferable.



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Job Applications

If, following your GCSEs or A-Levels, you prefer to start work straight away, speak to your Career or Connexions Advisor, visit the local Job Centre, check newspapers, recruitment agencies or appropriate websites on the internet for positions of interest. It is advisable to research employers in your area: Write to them and see what opportunities they may have. Of course this takes time and effort and it may require persistence.

When submitting a job application, take your time and avoid the temptation of sending a standard letter to several employers. You need the employer to feel that you will fit the opportunity on offer, that you have the type of personality that he is looking for and that there is a real chance you will fit comfortably into the company.

Your application is like the bait on the end of a fishing line - put the right fly or worm on the line and hope you get a bite - then you have a chance of landing the fish...or job!

It is worth taking the time to research the company you are hoping to work for. It is unlikely that the job advertisement details names of company personnel - if you can find out, it illustrates you have done your homework and are really keen to join the organisation. Also, make sure you carefully examine what the company is looking for and that you can fulfil the criteria stated. Detail your skills and qualifications accurately. Employers don't expect individuals in the early stages of their career to know everything, so be sure you succinctly describe the extent of your knowledge and experience - along with what you think you can offer. The likelihood of pulling the wool over the eyes of your interviewer is slim, besides being illegal! However, be warned, Motorsport is a highly competitive sector and you will need to demonstrate commitment, enthusiasm and the right attitude, if you are to be successful.

Recruitment Agencies

There are a number of excellent Motorsport Industry-dedicated agencies which can assist those seeking employment.

Action Resources www.motor-sport.uk.com

Alexander Associates www.motorsportrecruitment.com

Griffonage www.griffonage.co.uk

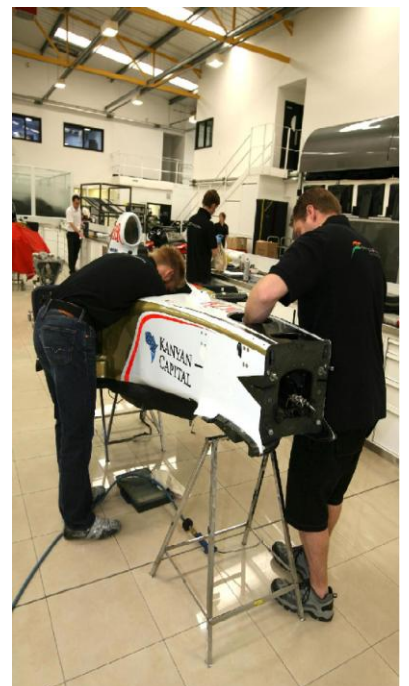
Jonathan Lee Recruitment www.jonlee.co.uk

TXM Recruit www.txmrecruit.co.uk

Additionally, all the dedicated motorsport magazines publish appointments and careers advertisements.

They include:

Motorsport News www.motorsport-news.co.uk





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Motorsport	www.motorsportmagazine.co.uk
Autosport	www.haymarket.com
Race Tech	www.racetechmag.com
Race Car Engineering	www.racecar-engineering.com
Autocar	www.autocar.co.uk

Job Roles

To work in F1 might well be your long-term goal, but given it is the pinnacle of the Sport, understand that F1 teams only employ the best and most experienced applicants. It is unlikely, coming straight from school, college or university that you will 'tick the boxes' - so when seeking opportunities, it is important to realise that experience and knowledge gained in any company within the sector - or even related sectors - might one day lead to the realisation of your ambition.

The Motorsport Industry is predominantly made up of small to medium sized companies (SMEs) supplying products and services to the teams which participate in a hugely varied series of events around the globe. These SMEs are involved in research and development, testing, race car construction and supply of products/components such as gearboxes and composites. Services such as hospitality, catering, media, logistics are also central to motorsport. Each one of these areas is involved in the engineering competition that is Motorsport: It is the competition element which gives the industry its attitude – 'Can do, will do, done!' There are few, if any, other industries which respond to challenges in such a timely fashion.

In larger organisations, roles can be specialised to focus on a particular area or discipline, often demanding a high level of skill, expertise and specific knowledge. In smaller businesses, roles usually demand wider, multi-skilled capability and knowledge. It is therefore important to understand the business and functions of the company you are keen to work for.

The world of Motorsport mirrors the wider world of work, so jobs exist in areas such as Sales, Marketing, Hospitality, Engineering, Manufacturing, Finance, IT and Administration to name a few.

→ Manufacturing & Engineering

Within Motorsport, manufacturing consists of several different areas:

- Composites
- Model Making & Testing
- Machining
- Fabrication
- Quality & Inspection



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Components tend to be complex, low volume, high precision and high value. Roles span involvement with one or more elements of the manufacturing process such as programming, setting or operating machinery, painting, welding, assembling, and the use of materials such as carbon fibre or specialised weight-saving metals and alloys.

As an Engineer in motorsport, you are likely to work with some of the most advanced technologies in the world. Given the speed of development of new products and solutions, motorsport is often looked upon as the 'laboratory' for proving components and systems that have applications not only to the core business of motorsport, but also in other engineering sectors such as, Defence, Marine, Aerospace and general Automotive. Therefore, opportunities exist in a wide range of organisations involved in design, development, manufacture, supply and preparation.

In the first instance, employers are looking for core engineering qualifications. Of course, you may subsequently be required (or wish) to specialise - but the majority of employers are likely to deliver training for these specialist roles in-house. The industry moves at such a pace that today's 'specialism' is tomorrow's 'norm' so, from an educational standpoint, it is impossible to second-guess the pre-eminent specific skill and/or knowledge of the future.

To enter Manufacturing or Engineering, there are essentially two approaches:

- ***Technician route***

The preferred route for those wishing to mechanic or fulfil machining and fabrication manufacturing roles is via vocational programmes or apprenticeship schemes - both combine academic study with practical work experience.



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▪ **Engineer route**

This route normally relies on the successful completion of a University degree course in a relevant subject. Most employers favour Mechanical Engineering qualifications - but success in electrical, aerodynamic or aeronautical engineering also appeals to certain employers.

Whatever your chosen academic learning path, it is absolutely vital that you complement your qualification with practical work experience - and the more the better: Your prospective employer will want to know that you understand the difference between a 'hammer and a spanner'!

This route will position you for roles in R&D, Testing and Design to name only a few.

→ **Sales**

Acting as the first point of contact, sales people provide advice and actively sell, a range of products and services. They need to have a full and knowledgeable understanding of the items they are selling in order to assist their customers in solving the problems or requirements they might have.

A sales person would generally be expected to generate new enquiries and business opportunities, follow-up existing customers to establish satisfaction and gauge on-going requirements. Most salespeople will usually be rewarded according to a commission structure (linked to success and achievement) which can enhance earning potential.

The hours, as with most roles in Motorsport, usually require flexibility and quite often the job involves travelling, sometimes internationally, depending on the company and products you are working with.

In F1 and some of the other international categories of the sport, you may find Business Development/Account Management opportunities. These generally involve the search for new sponsors, investors and partners for whom the organisation can deliver a commercial opportunity or advantage through their motorsport endeavours.

Entry requirements for sales can vary widely from company to company. More specialist areas such as composite or technical product sales will require relevant technical qualifications and experience, but all will require a personality and general demeanour which puts the customer at ease.

You may wish to consult the following organisation:

- The Chartered Institute of Sales & Marketing Management - www.ismm.co.uk



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→ Marketing

Marketing involves developing methods to promote the organisation's products and services in order to increase brand awareness and business opportunities. This is mainly achieved through promotional techniques such as advertising, sales promotions, publicity, events and public relations. Motorsport - with its wide appeal, television coverage and perceived glamour - is the perfect vehicle for many of these techniques. Consequently, the role of the marketer involves devising strategies and making arrangements to entertain existing and potential sponsors/partners at events and promotional opportunities to ensure continuing and sustainable support.

Like sales, this role is likely to involve travel (possibly international) - depending on the role of the company and product involved.

To enter a marketing role, employers generally look for a professional qualification such as Chartered Institute of Marketing Diploma or a Business or Marketing degree. Any evidence of previous experience or involvement with Motorsport, will clearly benefit an application.

You may wish to consult the following organisations:

- Chartered Institute of Marketing - www.cim.co.uk
- Chartered Institute of Sales & Marketing Management - www.ismm.co.uk

→ Logistics & Stores

Logistics and Stores Management is as varied as the different companies involved with Motorsport: If you work for an Engineering or Manufacturing company involved in the supply of components, then your role can be similar to that of Logistics or Store Manager in any other company – your job will be to ensure a regular supply of parts to the factory floor and the arrangement of deliveries/collections to and from the factory.



But Motorsport rarely operates like that, the time parameters defined by race schedules being as they are. You will be responsible for ensuring that parts and or people are in the right place at the right time and this means anticipating needs, having back-up plans for products and alternative suppliers so that the race is not lost for want of a simple component.

You may wish to consult the following organisation:

- Chartered Institute of Logistics and Transport - www.ciltuk.org.uk



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→ Purchasing

Purchasing generally involves finding a provider who can supply a specific product or service to a specification, negotiating prices and then arranging delivery according to the needs of the company.

Buyers in the motorsport industry commonly have specialist experience of Engineering and/or Manufacturing. The role can be highly demanding and competitive - a direct consequence of the response rate and tight lead times demanded by the rapid rate of R&D at the heart of Motorsport operations.



→ Accounting & Finance

These functions are the same as within any other industry. Typically, an employee in this area is involved with the smooth running of the accounts function, sales and purchase ledger, invoicing, producing and analysing management accounts, month-end routines, VAT-reporting and returns. Seasonal budgets and analysis of sponsorship and investor inputs is of vital importance since - typically for a race team - 70% of revenue is derived from such a source.

Given that the industry reinvests an average of 30% of revenue on R&D, knowledge of specialist topics such as R&D Tax Credits, is increasingly important.

These roles are usually office-based and, in some smaller organisations, the role is combined with other duties such as administration, payroll and employment legislation.

In normal circumstances, employers will be seeking individuals professionally qualified in these subjects.

You may wish to consult the following organisations:

- Institute of Certified Bookkeepers www.bookkeepers.org.uk
- Institute of Chartered Accountants in England & Wales www.icaew.co.uk
- Institute of Chartered Accountants of Scotland www.icas.org.uk



Case Studies – A Career in Motorsport

Name: Kirsty Allan

Age: 26

Nationality: British

Qualifications:

MEng in Mechanical Design Engineering (First Class Honours) from the University of Glasgow
(October 2001 – June 2006)

MSc in Motorsport Engineering and Management from Cranfield University
(September 2006 – 2007)



Job title/Company:

Composites Engineer for Williams F1 Team.

Responsibilities:

When I started at Williams, I was basically a link between the Design Office and the Composites Research and Development department. I managed R&D projects, from beginning to end, and was involved in all aspects of the work from the manufacture of specimens and the design of the testing equipment to the actual tests themselves. I had to ensure all results were written up in an R&D Test Report and I discussed the projects and conclusions with my colleagues in Composite R&D meetings.

More recently, however, I have become heavily involved with the design of the F1 car itself. I am now responsible for several composite assemblies on the current Williams race car and have experience of working on almost all of the composite components. Mostly, I work on the brake ducts, which are an extremely complex part of the car, and certain parts of the car bodywork. I still attend the fortnightly R&D meetings but this aspect of my job now runs in the background of my design work.

What steps did you take to get into your current role?

I have been an avid fan of F1 for many years and have always been fascinated with the technology and mentality of the sport and of the motorsport industry in general. Upon discovering the Cranfield Motorsport Engineering Masters course and then undertaking practical work experience with Legends Racing at Knockhill as an apprentice mechanic during the summer 2006, I realised that motorsport was the way in which I wanted to apply my engineering knowledge and skills.

During the MSc, following my application and an interview with the CEO of the company, I was awarded a bursary from Williams F1 and so carried out my individual thesis project with them from May until September 2007. I really enjoyed my thesis project as it was involved with composite materials and incorporated many different aspects of engineering including design, manufacture and testing. I



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was fortunate enough to be based in the Williams F1 headquarters throughout the duration of my project and I feel this was very beneficial in helping me gain eventual full-time employment. Carrying out an industrial thesis project was a fantastic opportunity for me to produce a worthwhile and in-depth piece of work that would benefit Williams and their race car. Once my thesis project was over, I was offered a full-time position in my current role after proving myself as a capable and worthwhile addition to the team.

Being offered a full time contract as an engineer in an F1 team was an incredible feeling, especially as the position I was offered wasn't an advertised position as such. It was created for me as Williams F1 realised that the work I had carried out during my thesis project was important, meaningful and valid. However, I had applied for the job of an R&D Technician with the team previously and so had been through an interview process with them. I actually turned down a job as a Design Engineer at Renault F1 to take my role here at Williams!

Tell us about any obstacles you faced and how you overcame them.

I haven't really faced any big obstacles in my quest to become an engineer in the motorsport industry if I'm completely honest. I have worked so hard and have applied myself in everything I have done to get here and it has all paid off. I think when you want something enough, hard work, dedication and commitment is all you need to overcome any obstacles and to make sure you have the best chance of securing that dream job. Once I knew I wanted to work in motorsport, there has been no stopping me! Sure there have been tough times at university when I found myself staring at my laptop at 4am trying to finish an assignment but it's that sheer determination and will that prepares you for the long hours and the tough mentality of the F1 industry.

What do you like best about your job?

The best part of my job is that I get to be involved in both the R&D and the design side of engineering. This brings a great deal of diversity to my role and ensures that everyday presents me with a different challenge, which I relish. One of the most exciting parts of my job is seeing parts that I have designed working well over a race weekend. Knowing that I have made a worthwhile contribution to the company and the development of our F1 car is the best feeling I could ask for in my job.

Are there any disadvantages?

The hours are long and it can get especially tough over Christmas and during the winter months when it's non-stop design and development, but that is the name of the game! Without those busy, stress-filled months over the car build period, the new car launch wouldn't feel as special and as satisfying. I'm lucky as my boyfriend works for Williams as well so we understand each others need to work ridiculously long hours.

When did you first become interested in the industry?

I first became properly interested in F1 in my first year at Glasgow University. I moved into halls of residence and the girl who lived in the room next to mine was an F1 nut! She was a huge McLaren fan and talked about F1 all the time so I started watching the Grand Prix with her and that was me hooked! I have to admit, this led me to start off my love affair with F1 as a McLaren fan too but since working for Williams, my alliances have changed!

What advice would you give to youngsters trying to get into motorsport?

Getting a career as a motorsport engineer requires a lot of hard work and dedication so you have to be prepared to start making the right decisions early on. You need to take the correct subjects at school:



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make sure you have a mixture of relevant subjects like mathematics, physics, mechanics, technology and of course, design. Also, practical experience is key and the more you can get before you are ready to start applying for jobs, the better chance you will have of making important contacts and ensuring your C.V. shows a keen interest in motorsport.

It is also important to research the variety of courses on offer from universities and colleges. The route I took isn't the most direct as there are now universities, such as Oxford Brookes, that offer undergraduate courses in Motorsport Engineering. Work hard at whatever course you undertake and don't forget to get as much practical experience as you can in your spare time. Get involved in the university's Formula Student team or offer your services as a voluntary marshal at your local race track!

Name: Matthew Picton

Qualifications:

BEng (Hons) Automotive Engineering
Loughborough University
(1995-1999)



Job Title/Company:

Development Engineer – Ilmor Engineering Ltd.

Responsibilities:

I have a very varied role including both design and development tasks, but generally my main responsibilities are:

- Detail design of engine components using Catia V5;
- Component & system development such as pneumatic valves or inlet system;
- Conceptual engine design using 1D simulation;
- Analysis of results & production of reports for management & customers.

Some particular projects I've been involved with are:

- Project management, design & development of high power derivative road car to meet strict US emissions limits for major OEM;
- Component testing of MotoGP bike, eg. CofG measurement, chassis stiffness testing;
- Development & operation of Ilmor UAV launcher.

What steps did you take to get into your current role?

I went to Loughborough University as its Automotive Engineering degree had one of the best reputations in the country. I was lucky to get a graduate engineer job at Ray Mallock Limited before I graduated. I got an excellent grounding there as I worked in several different departments over three and a half years cumulating with the Opel Corsa Super1600 project. I was part of the design team before moving on to being Junior Engineer on the 2002 Junior World Rally Championship.



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I left RML at the end of 2002 to take up the role of Rally Engineer with the new Monster Sport Europe team which was set up to run Suzuki's works 4-car JWRC team. I was responsible for 2 cars, working with Daniel Carlsson and Urmo Aava. They had a re-organisation of the team in the middle of the season which unfortunately resulted in my job becoming redundant.

I then set up my own company to enable me to do some contracting which involved work for Prodrive and Seat Sport UK. During this period I applied for a Rally Engineer job at Mitsubishi Motorsport (MMSP), but it took 3 interviews and almost 12 months before they offered me the post towards the end of 2004! I was Gigi Galli's rally engineer for the 2005 WRC attending all the events plus some tests. This consisted of responsibility for car set-up, mapping of the electronic differentials and auto-shift, data logging & analysis and obviously working with the drivers to optimise car performance. Mitsubishi pulled out of the WRC as an official manufacturer at the end of 2005, but the team, albeit reduced in size, continued to offer the Mitsubishi Lancer WR05 for hire. During the next 18 months I became responsible for all the cars entered on WRC events and was lucky enough to work with drivers such as Toni Gardemeister, Xavier Pons, Juho Hanninen and both Daniel Carlsson & Urmo Aava whom I had worked with during my Suzuki days. Unfortunately in September 2007 Mitsubishi closed down MMSP completely and I once again found myself being made redundant.

It was then that I got my current job with Ilmor.

Tell us about any obstacles you faced and how you overcame these?

The biggest obstacle has always been lack of experience, especially when trying to gain promotion or applying for a new job. I have always asked for feedback, then done what I can to gain the requisite experience.

What do you like best about your job?

Seeing part I have designed being manufactured and used in a running engine.

Are there any disadvantages?

The main disadvantages to working in the motorsports industry are pressure and working hours. For example when I did the full World Rally Championship plus some tests in 2005 I was away from home for approximately one third of the year. It puts a great strain on your relationships, so you need a very understanding wife or partner which, thankfully, I do have!

When did you first become interested in the industry?

I have been a motorsport fan for as long as I can remember, however it wasn't until 1997 that I became actively involved. I took up co-driving, firstly on Welsh road rallies before moving on to forestry and tarmac stage events. The highlight was winning the 2001 Welsh Gravel Championship in Group-N and Under-25. I also spent plenty of weekends helping friends prepare their cars and servicing for them on events.



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What advice would you give to youngsters trying to get into motorsport?

Experience and perseverance. Nowadays virtually all employers are looking for candidates with experience and while you may feel like you need the job to give you the experience, there are things you can do to help yourself. Join your local motor club and try to get involved with any events they are organising. Also offer to help to work on the cars any of the other members are competing in, even if at the start it just means cleaning the windows. You can't expect to get paid for any of this, but it will pay dividends in the future. Also if you ever get the chance to work on a car (be it your own or somebody else's), take it as it is important to get as much practical experience of how a car works as possible. The same applies to motorcycles, or any other vehicle you are interested in. If you want to be an engineer then you should aim for the best university you can get in to. Don't feel like you must do a Motorsport degree either, as a good Mechanical Engineering degree is at least as good if not better. Finally you really have to love motorsport to work in the industry (due to the disadvantages mentioned previously), but it can be extremely rewarding.

Advice for Parents

Parents and family can have enormous influence on young people when making their career choice.

- Help your son or daughter to understand what interests them - since these are the areas in which they are most likely to be successful. If they are unsure of their specific career paths, consider core subject training which will allow them to specialise later.
- Almost any career in Motorsport relies on Mathematics, the Sciences and English – like Aviation, English is the language of motorsport. Many youngsters opt out of studying the so called STEM subjects (Science, Technology, English and Maths) at an early age. No one should be encouraged to continue studying subjects in which they fail to reach the required academic standard, but failure to pursue the STEM subjects to Key Stage 4/5 will preclude a career in most Motorsport roles.
- Help your child to research their career idea. Job roles and responsibilities constantly change and, given the rapid development of new technologies in this sector, it is important to have access to current information.





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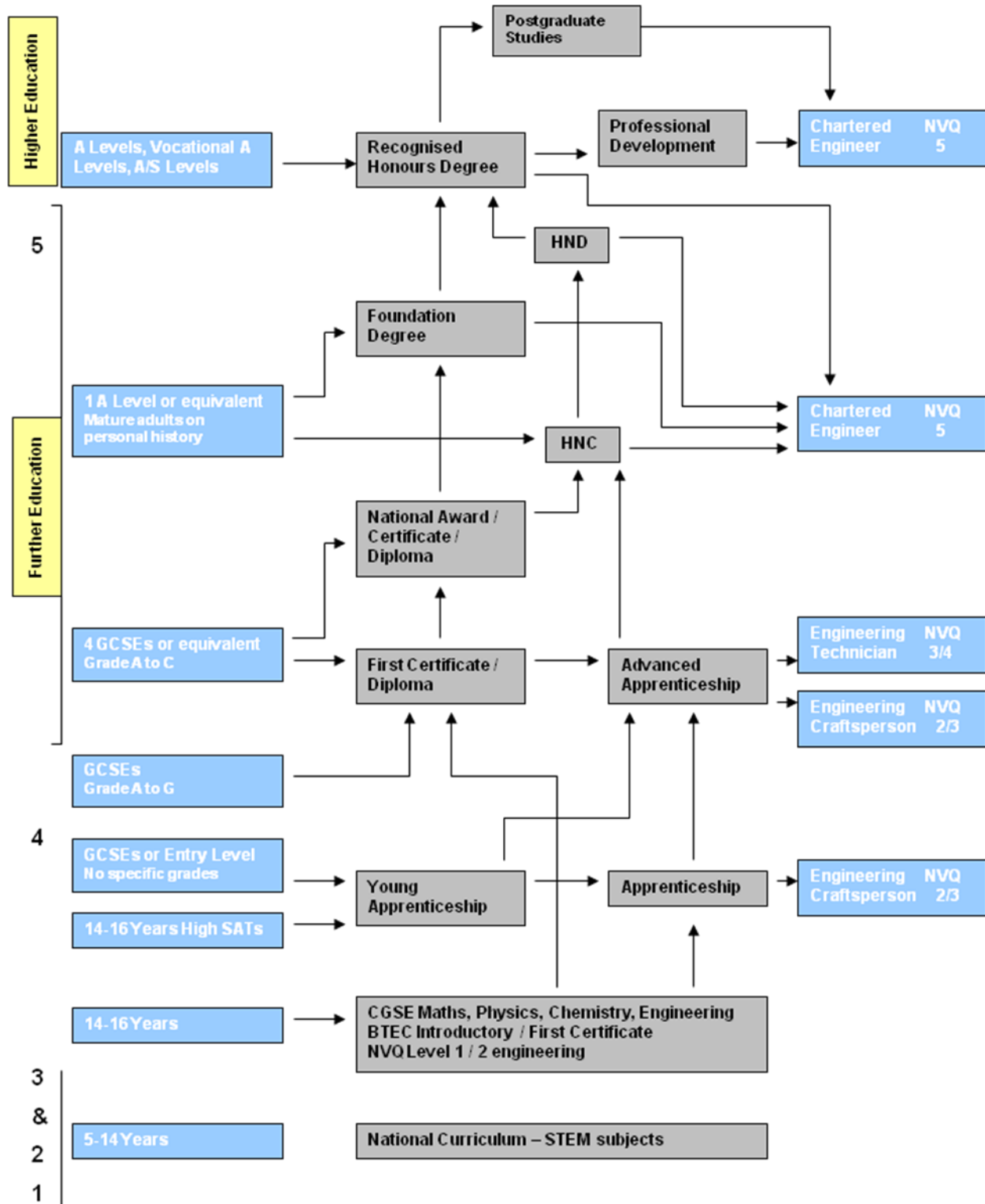
- Avoid the temptation of ringing employers directly on your child's behalf. The first contact is an important part of the application process and employers are keen to see initiative and enthusiasm directly from their potential employee.
- Encourage your son or daughter to attend careers events to talk to education providers and/or employers. Your school or local Connexions office should be able to help them find where and when they are held.
- Encourage your son or daughter to speak with their school's careers advisor. They have a wide range of literature and access to software packages which can help your son or daughter choose the right route.
- When practically possible, encourage your child to get involved in as many relevant activities outside school as possible. This will increase the chances of success when trying to secure employment.
- Manage your child's expectations without limiting their ambition. Motorsport is based on competition and not every one can be a World Champion driver, design engineer or team manager - but there are 40,000 people enjoying their roles in this Industry and contributing to the teamwork which delivers success.

There are many ways into this Industry and the requirements vary role by role and from company to company. Employers are looking for skilled and well qualified staff, but more importantly they must be passionate, committed, determined, proactive and competitive individuals who recognise that coming second is simply not enough! Does that sound like your son or daughter...?



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Education Route Map: Find your way through the UK's 'education maze'





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Definitions

The National Curriculum

The National Curriculum is a framework used by all state-maintained schools to ensure that teaching and learning is balanced and consistent.

It sets out:

- the subjects, skills and knowledge taught
- an understanding required in each subject
- standards or attainment targets in each subject - teachers can use these to measure your child's progress and plan the next steps in their learning
- how your child's progress is assessed and reported

Within the framework of the National Curriculum, schools are free to plan and organise teaching and learning in the way that best meets the needs of their pupils.

Many schools use the Qualifications and Curriculum Development Agency (QCDA) Schemes of Work to plan their curriculum. These help to translate the National Curriculum's objectives into teaching and learning activities.

The National Curriculum is organised into blocks of years called 'key stages'. There are four key stages as well as an Early Years Foundation Stage (EYFS). The EYFS covers education for children before they reach five (compulsory school age).

For full details go to www.direct.gov.uk/en/parents

Key Stages

A Key Stage is a stage of the state education system in the UK – it sets the educational knowledge expected of students at various ages.

The stages are as follows:

Key Stage 0: Nursery and reception years (3–5 years old)

[Key Stage 1](#): Years 1 to 2 (5–7 years old)

[Key Stage 2](#): Years 3 to 6 (7–11 years old)

[Key Stage 3](#): Years 7 to 9 (11–14 years old)

[Key Stage 4](#): Years 10 to 11 (14–16 years old).

- The exams at the end are typically of the GCSE Level.



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[Key Stage 5](#) (more commonly referred to as [Sixth Form](#)): Years 12 to 13 (16–18 years old).

- The exams at the end are typically [A-Levels](#), [AS-Levels](#), [NVQs](#) or [HNDs](#).

The [National Curriculum](#) sets out targets to be achieved in various subject areas at each of the Key Stages.

For full details go to www.direct.gov.uk/en/parents

STEM

Science, Technology, Engineering and Maths are the higher value, more difficult, strategic subjects which are crucial to the country's future competitiveness.

General Certificate of Secondary Education (GCSE)

A GCSE is an academic qualification awarded in a specified subject, generally taken in a number of subjects by students aged 14–16 in [secondary education](#) in England, Wales, and Northern Ireland. (In Scotland, the equivalent is the [Standard Grade](#).)

General Certificate of Education (A Levels)

An A Level is a qualification offered by education institutions in [England](#), [Northern Ireland](#) and [Wales](#). It is also offered by a small minority of, typically private, institutions in [Scotland](#), where students usually take [Highers](#) and [Advanced Highers](#) of the [Scottish Qualifications Certificate](#) instead. A Levels are usually studied over a two year period and are widely recognised around the world - as well as being the standard entry qualification for assessing the suitability of applicants for academic courses in UK Universities.





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Diploma

A Diploma is a new qualification that you can do at school or college - there are up to 14 subjects to choose from. By 2011, there will be 17 subjects.

Diplomas enable you to gain practical experience alongside a classroom-based learning curriculum. You keep all your options open by studying towards a [Diploma](#): When you finish, you can go to college and do another course, like the next-level Diploma, [A levels](#) or an apprenticeship. After an advanced Diploma you could go on to university or go into a job with training.

For more information, go to <http://yp.direct.gov.uk/diplomas>.

National Vocational Qualifications (NVQs)

National Vocational Qualifications (NVQs) are work-based awards in England, Wales and Northern Ireland that are achieved through assessment and training. In Scotland they are known as **Scottish Vocational Qualifications** (SVQs).

To achieve an NVQ, candidates must prove that they have the ability (competence) to carry out their job to the required standard. NVQs are based on [National Occupational Standards](#) that describe the 'competencies' expected in any given job role. Typically, candidates will work towards an NVQ that reflects their role in a paid or voluntary position. For example, someone working in an office administrator role may take an NVQ in Business and Administration.

There are five levels of NVQ ranging from Level 1, which focuses on basic work activities, to Level 5 for senior management.

Higher National Diplomas (HNDs) / Higher National Certificates (HNCs)

Higher National Diplomas (HNDs) and Higher National Certificates (HNCs) are work-related (vocational) higher education qualifications. While Bachelors degrees tend to focus on gaining knowledge, HNCs and HNDs are designed to give you the skills to put that knowledge to effective use in a particular job.

HNCs are highly valued by employers both in the UK and overseas, and can also count towards membership of professional bodies and other employer organisations.

HNCs and HNDs are provided by over 400 higher education colleges and further education colleges. HNCs can take one year to complete full time and two years part time (or in other situations such as distance learning). HNDs take two years full time and can also be taken part time (which takes longer).

HNCs and HNDs are at level 5 on the National Qualifications Framework. The framework shows how different types of qualifications compare, in terms of the demands they place on learners.

For more information, go to www.direct.gov.uk/educationandlearning/qualificationsexplained.



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British Educational Technical Council (BTEC)

A BTEC (British Educational Technical Council) is a work-related qualification suitable for a wide range of students. They are designed to accommodate the needs of employers whilst also allowing progression to university. BTECs provide a more practical 'real-world' approach to learning (alongside a theoretical background) and can be taken as well as - or instead of - GCSEs and A levels in schools and colleges.

BTECs are recognised by schools, colleges, universities, employers and professional bodies in the UK and in over 100 countries worldwide. Having been around for 25 years, their reputation is second to none, and they continue to grow and develop. In 2007, more than a million students enrolled on BTEC courses in the UK.

For more information, go to www.edexcel.com.

Foundation Degree

Foundation Degrees are designed to equip you for a particular area of work – as well as giving you the general skills that are useful in any type of job. They are university-level qualifications (like other degrees), but Foundation Degree courses are designed with a particular area of work in mind - with the help of employers from that sector.

Typically, you'll get the chance to learn in the workplace as well as the classroom. And, because it's often possible to study flexibly, whether you're looking to change job, return to work or boost your career prospects, Foundation Degrees offer a route into higher education for people of all ages and backgrounds.

For more information, go to www.direct.gov.uk/educationandlearning/qualificationsexplained.

Degree

A Bachelor's degree (sometimes known as an 'ordinary' or 'first' degree) is a course of academic study leading to a qualification such as a Bachelor of Arts (BA), Bachelor of Science (BSc), or Bachelor of Medicine (MB).

It usually takes three or four years to complete if studying full time (normally four years if you're doing a sandwich course, which includes a year in industry or abroad). For some subjects, bachelor's degrees can take longer - for example, medical courses usually take five or six years. You can also study for a bachelor's degree part time or through flexible learning.

The qualification is designed to give you a thorough understanding of a subject. It helps you develop your analytical, intellectual and essay or dissertation writing skills. You'll also have much more of a say about the direction your learning takes than you've had previously.

Bachelor's degrees are at 'intermediate' and 'honours' levels in the Framework for Higher Education Qualifications. The framework shows how different higher education qualifications compare, in terms of the demands they place on learners.

For more information, go to www.direct.gov.uk/educationandlearning/qualificationsexplained.



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Postgraduate / Master's Degree

Taught postgraduate courses leading to a Master of Arts (MA) or Master of Science (MSc) degree usually consist of a one year full-time course consisting of a series of lectures and coursework followed by an exam.

Research degrees such as the Master of Philosophy (MPhil), which usually takes one year full-time, or Doctor of Philosophy (PhD), which takes a minimum of three years full-time, involve an in-depth study of a specific subject or topic followed by a written dissertation or thesis. Most research degrees are taken under the supervision of an experienced researcher.

For more information, go to www.ucas.co.uk.



Apprenticeships & Further Education

With the appropriate GCSEs in your possession, you might consider starting work, completing an apprenticeship, or enrolling in courses of further study in Sixth Form or at College to secure NVQ, BTEC and/or A-Level qualifications.

Some employers offer apprenticeship schemes, which, if you are keen to get a job and start earning, allow you to study towards a recognised qualification. It allows you to put newly learned skills into practice in the work place straight away, while combining this with on-the-job training. To gain your qualification, you must complete your apprenticeship - so be sure of your commitment to do so before you start.

Nationally, there are over 200 apprenticeship schemes covering 80 different industries, some of which relate to Motorsport, engineering and business administration. The Government has recently invested £1bn in expanding the apprenticeship programme, and training leads to qualifications at NVQ level 2 and above - including key skills such as communication and problem-solving, and in some cases a technical certificate (such as a BTEC).

Apprenticeships vary in content and size and therefore the length of time taken to complete the programme varies according to the ability of the individual apprentice and the employer's human resource requirements. Expect anything from 1-5 year apprenticeships (although most will last 3 years) - an indicator of the commitment required to achieve an NVQ of Level 3 or higher.

The complementary study periods usually require day or block release, the latter delivered in chunks - usually a week or several weeks at a time - away from your place of work.



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Entry requirements for apprenticeship programmes vary by subject. Typically, an advanced apprenticeship would require several GCSE passes at grade C or equivalent in relevant subjects. To ensure that you are making the right GCSE choices, it is important to find out what these subjects are early on.

Personality and attitude are often a key part of an employer's selection criteria and they are looking for individuals who can demonstrate interest and application - so display a positive attitude. Research your potential employer to identify the company's activity and role in the supply chain - employers are always impressed by the applicant who demonstrates that he/she knows something about the business.

Young Apprenticeship

Some schools offer Young Apprenticeships for 14-16 year old pupils - these are carried out in school. You can check if your school offers Young Apprenticeships by speaking to your teacher, careers co-ordinator, and/or your Connexions Adviser.

Young Apprenticeships give you a taste of real work while you learn. They combine classroom-based and practical learning. As well as studying the normal school curriculum, you:

- Spend 50 days (spread over Years 10 and 11) gaining experience of work with an employer, training provider or college
- Work towards Level 2 work-related qualifications such as NVQs

Assessment includes written examinations, observation by an assessor and the creation of a portfolio of evidence.

Young Apprenticeships aim to give motivated pupils the opportunity to learn specific skills and are ideal as a stepping stone to a full-time Apprenticeship or other training, and to further learning and employment.

Apprenticeship

As an apprentice you will be employed to undertake education and training within a company that prepares for progression within your chosen career - you 'learn as you work'. This normally means you will go to a Further Education College and/or a Training Centre for either a day a week or for longer periods called 'block release'. This, combined with training 'on-the-job' in the company, provides the skills and knowledge that you will use in your future career.



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Advanced Apprenticeship

Generally, if you wish to become an Advanced Apprentice as a Technician (NVQ Level 3/4) you will need 4/5 GCSEs at grade C as a minimum, including English, Mathematics and Science. For those who are seeking an Advanced Apprenticeship concerned with mainly practical Craft skills (NVQ Level 3) then GCSE requirements are for 4 or more GCSEs at grade C-D.

Employers really value formal training gained from an apprenticeship programme and the contribution their apprentices make to the business. An apprenticeship is just like any other contract of employment and, on completion, individuals generally continue to work hard and progress internally. Some even choose to go on to complete a degree course in their chosen subject and are often at an advantage as a result of the practical skills they have learnt during their apprenticeship.

Information on all these options can be found at www.connexions-direct.com - where you can check-out the particular requirements of your chosen field and the study routes which best suit your ambitions. Further information can be found at www.apprenticeshipguide.co.uk and www.apprenticeships.org.uk - alternatively, call the helpline on 0800 150600. These services offer a number of useful links and provide information about specific programmes in your area. Also, take a look at www.hotcourses.com.

The Motor Sports Association (MSA) have recently announced an Advanced Apprenticeship in Sporting Excellence (AASA), designed with Motorsport and - more specifically - coaching capability, in mind. Full details can be found at www.msauk.org/AASE.

Higher Education/Full-time study

If you have successfully secured the appropriate grades at A-Level, you may have plans to continue on to University and study your chosen subject in more depth before embarking on your chosen career. For Motorsport, courses with a high content of Mechanical Engineering, Electrical Engineering, Automotive Engineering, Aeronautical Engineering are favoured routes whilst the Business School is likely to provide the knowledge and qualifications for those attracted to the service roles essential to industry. Details of all courses are available at www.ucas.co.uk and the Institute of Mechanical Engineers measures quality of the engineering courses on offer at www.imeche.org Further useful information is available from the Institution of Engineering & Technology www.iet.org

Work Experience

In assessing enthusiasm and attitude, the majority of employers will be looking for experience and/or anything which demonstrates your determination to be involved in the industry. Take any opportunity to gain some work experience - perhaps volunteer help a local team, company, race track or karting centre at evenings or weekends. This experience will add a competitive edge to your CV whilst such experience will also give you an understanding of how the sector works.

The contacts and knowledge gained may also prove useful if there is a need for more formal work placement or work experience commitment. Short-term placements (two weeks or less) are difficult for this industry to manage and most employers only consider longer placements. www.motorsportcareers.co.uk and www.placement-uk.com are helpful websites.



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The essential benefit of work experience is a personal one - you will get at least an understanding of the business, how it works and the demands it is likely to make of you. Motorsport, at whatever level, is not considerate, or respectful, of the 'work/life' balance; races customarily take place when the majority of the population is 'at leisure', so weekends and evening work is the norm and there was never a race which failed to start on time because a car or a motorcycle was waiting for a component or a repair! So, this is not a nine-to-five, five-day-week job - companies involved in Motorsport will demand whatever commitment is required to support tight deadlines ahead of events! This defines the result-focussed, team-based approach to work, where individuals are familiar with - and thrive on - working under pressure and meeting the challenging timescales.

If you are happy with these demands and convinced that it is really what you want to do, then you can now consider...



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Useful Contacts

The Motor Sports Association (MSA) and the Auto Cycle Union (ACU) are the governing bodies of 4 wheeled and 2 wheeled competitions in the UK. Both have websites detailing how to become involved in their respective activities.

The Motorsport Industry Association (MIA), the global industry's representative trade body, runs a jobs and careers website, www.motorsportcareers.co.uk, together with www.the-mia.com - which is packed with information and news relevant to the businesses which support the huge array of sporting activities world-wide.

There are many websites already mentioned in this document which will help - but others which you might find useful and detailed below:

Autosport Magazine www.autosport.com

A popular Motorsport website and a great source of up-to-date information on the international sport.

Department Business Innovation & Skills www.bis.gov.uk

This site holds a wealth of information for adults, learners, employers, students, job seekers, parents, school governors, teachers and young people.

Job Centre www.jobcentreplus.gov.uk

Offers similar support to Connexions, covering all individuals of working age.

Learn Direct www.learndirect.co.uk Freephone 0800 100 900

Help with finding a suitable course, exam venue, employment opportunities and a wide range of general advice including funding, childcare etc.

National Bureau for students with Disabilities www.skill.org.uk

Promotes opportunities for young people and adults with any kind of disability in post 16 education, training, employment across the UK

National Careers Services www.careers-scotland.org.uk
www.careersserviceni.com
www.careerswales.com

All of the above offer advice and information on a range of careers and education in the home relevant countries.



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National Council for Work Experience

www.work-experience.org

Official website of the National Council for work Experience (NCWE) - featuring useful links and tips. The site allows you to search for work placements by sector and location.

Nextstep

www.nextstep.org.uk

Nextstep promotes learning to all adults aged 20 and over. Advice covers a range of issues from CV writing through to financial support.

Prospects

www.prospects.ac.uk

Aimed at graduates, this website provides links to postgraduate education opportunities, employment opportunities, news and careers events and general careers advice, including on-line planning tools.

SEMTA

www.semta.org.uk

(Science, Engineering, Manufacturing and Technology Alliance) is the adopted Sector Skills Council of the UK Motorsport Industry. They offer a useful website listing qualifications and apprenticeships, their frameworks, occupational standards and industry research.



All photos courtesy of Sutton Images – www.suttonimages.com

This advice is under continuous review and will be updated regularly.

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