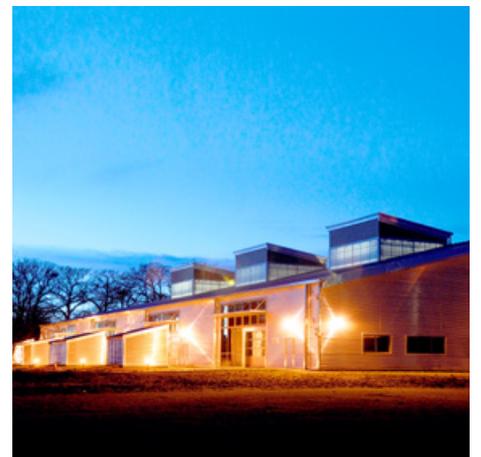


ENGINEERING

Postgraduate courses



School of
Engineering,
Computing and
Mathematics

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Welcome



The School of Engineering, Computing and Mathematics (ECM) is a close-knit community of staff and students. With its own dedicated campus in Wheatley, the site is equipped with excellent learning and teaching facilities, including state-of-the-art labs, computer rooms and social learning spaces. The School brings together teaching and research in the following disciplines - engineering, computing and mathematics.

Oxford Brookes University has a long history and tradition of providing high quality, accredited engineering courses. Whether your passion is for road cars, race cars or high performance sustainable engineering design, our courses can help you realise your career ambitions.

Our students have access to laboratories for their coursework and projects, which include Engines, Automotive, Dynamics, Fluids, Mechanical testing and stress and Joining Technology. With our industry links and location in the heart of the Motorsport Valley, Oxford Brookes is a great place to study. Our focus is to provide world class, high quality teaching and applied research - giving our students an excellent experience, preparing them for their future careers.

The School of Engineering, Computing and Mathematics bring exciting opportunities to work together - delivering the highest quality teaching and learning, impactful research and best possible student experience in an interdisciplinary context. It is an exciting time to be at Oxford Brookes.

Professor Chrisina Jayne, Head of School

Industry standard facilities

We have excellent experimental and computational facilities to conduct advanced research supporting our teaching. Our students have access to laboratories for their coursework and projects, which include the following areas:



Brookes' auto lab is home to a variety of vehicles

Engine test cells

We have four engine test cells with state-of-the-art instrumentation used in the development of engines. The facilities are comparable to those available at major vehicle manufacturers.

Automotive

There are dedicated areas for Formula Student and the four-post rig for analysing the vehicle dynamics. We have a number of vehicles (for example BAR Formula 1 race car, Formula Renault, BMW MINI and 1 Series and a F1 Force India car) used both for research and teaching.

Dynamics

A dedicated area for dynamic characterisation of vibrating structures and noise reduction.

Fluids lab

The equipment located in this area enables students to gain deeper understanding of internal and external flows through the use of equipment such as the small-scale wind tunnel with a dedicated data acquisition system,



Brookes' wind tunnel

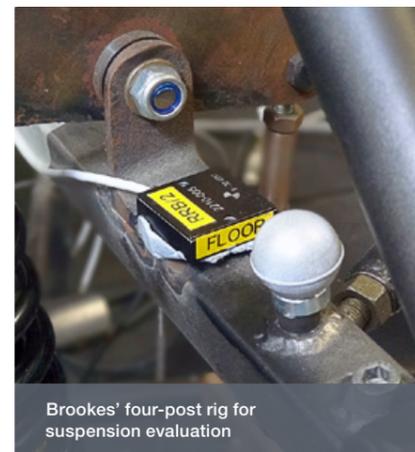


Brookes' fluids lab

centrifugal pump performance test rig, 2 x flow benches, laminar and turbulent flow rig and forced convection equipment.

Mechanical testing and stress

This area houses multi-functional equipment used in teaching, research, contract testing and consultancy. We have experimental facilities to conduct fatigue and impact tests and an in-house heat treatment facility.



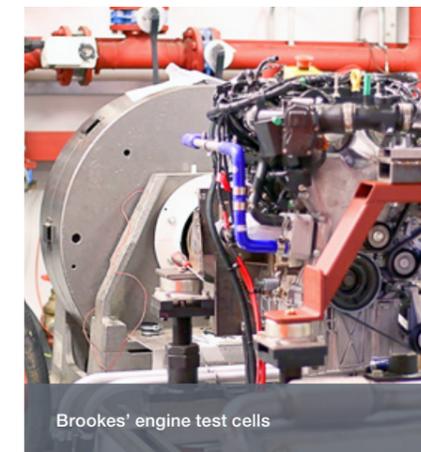
Brookes' four-post rig for suspension evaluation

Joining technology

For over 40 years, Oxford Brookes has been involved in the research and development of various joining technologies. More recently, with the increasing demand for lighter and more efficient structures, we have been engaged with the science and engineering of adhesives, sealants and bonding technology.



3D Printing



Brookes' engine test cells

The department employs a range of advanced engineering software for postgraduates to use, including:

- A collection of industry standard CAD packages.
- Stress and dynamics analysis packages.
- Computational Fluid Dynamics and Engine simulation software.
- Specialised vehicle performance simulation software.

Students have the chance to develop the skills needed to apply these packages creatively to produce designs customers want.

Industry collaboration and live projects in postgraduate study

Oxford Brookes University has a rich history of providing high quality accredited courses. For over 20 years we have run engineering courses and we are the only university to offer a course in Racing Engine Design.

Our graduates enjoy excellent employment opportunities. Many go on to pursue successful careers with leading engineering and technology companies from major automotive to motorsport companies, including Formula 1 teams and suppliers. Our connections provide students with the opportunity to take charge on ground-breaking projects that can lead to them gaining employment once they graduate.

Our industry connections are constantly growing and we are approached frequently by companies who specifically request our students to work with their teams on a wide range of projects.

In the area of motorsport we have lecturers who have designed and worked on winning Formula 1 race cars. We were chosen by Fernando Alonso and the Cajastur bank to host their motorsport MSc scholarships.



YASA Motors

Oxford Brookes has worked with YASA for a number years and the latest project is addressing the challenge of motor cooling. The aim is to find a solution which will cool the motor more efficiently as well as reducing the amount of material and the cost of ownership.



A mini on a four-post rig at Brookes

BMW

Oxford Brookes worked with BMW as an academic partner on the successful MINI E project. The results of this study can be found on our website (<http://mems.brookes.ac.uk/research/sei/emobility.html>). Our success on this project has given our students opportunities to secure positions at BMW's MINI plant in Oxford. Our location at the heart of Motorsport Valley means we work closely with local companies on a variety of projects.

Research and industry collaboration

There is a thriving research environment in the department, underpinned by well-established links with industry. The research is focused on issues of global concern and is organised into three cross-cutting, inter-disciplinary themes: Sustainable Engineering and Innovation (SEI); Low Carbon Vehicles (LCV); and Simulation, Modelling and Systems Integration (SMSI). Research in the department is supported by the UK Research Councils, the European Commission, industry and charitable foundations.

Sustainable Engineering and Innovation

The Sustainable Engineering and Innovation (SEI) theme of research at Oxford Brookes University draws together a collective of many different technological disciplines, highly successful research groups and individuals.

This approach provides for a strong multidisciplinary innovative and sustainable engineering solutions to both national and international issues concerning current and future environmental, social and economic needs.

The key focus areas of SEI include:

- Intelligent and integrated solutions for sustainable mobility.
- Closed-loop manufacturing through the development of smart materials, efficient processes and innovative design.
- Advanced sustainable materials and joining processes.
- Whole life energy analysis and low carbon solutions.
- Expertise in the use, manufacture and performance of carbon materials.

Simulation, Modelling and Systems Integration

The research carried out in the Simulation, Modelling and Systems Integration research theme enables complex systems to be analysed, designed and predicted. The work is outwardly focused and looks to develop solutions, which provide economic and social benefits, to real problems. The work is underpinned by high quality fundamental research in mathematics and engineering.

Low Carbon Vehicles

The Advanced Engines, Propulsions and Vehicles research group (AEPV) brings together scientific and industrial expertise for providing solutions for fuel

efficient and low emission engines and vehicles. The group has six main research areas: combustion and fuels, particulate matter emissions, emissions assessment, powertrain simulation and performance evaluation, computational fluid dynamic simulation of engine processes and the design and development of high performance engines.

Collaboration

The department has excellent connections with industry and it is these connections that enable staff and students to be involved in ground-breaking research. The department collaborates with industry leaders such as BMW and YASA Motors.



electric car charging point

What our students think of our postgraduate courses



Carles Martinez MSc Motorsport Engineering

Brookes doesn't guarantee you will get your dream job in F1, but it will provide the main tools and knowledge required. I knew I was going to do my MSc at Brookes when I was given a leaflet about the partnership between a Spanish company, (which was sponsoring Fernando Alonso) and Brookes on my first day at University in Barcelona.



Ana Sanchez MSc Motorsport Engineering

Oxford Brookes has a reputation as one of the best institutions for Motorsport Engineering, not only in the UK, but world-wide. Professionally, there are opportunities to network at industrial lectures and personally, working in a multi-cultural environment allowed me to understand other ways of finding answers to a problem.



Gabriel Elias MSc Racing Engine Design

You don't just walk into F1, you need to be good in your studies, have tons of practical experience and really be the cream of the crop. Brookes alumni give you advice to go for your dream job. My best moment so far, is seeing the 2015 car dominate the start of the season knowing I have designed and worked on parts of the car.



Student profile

Joana Pereira Fidalgo de Freitas

I first finished my degree in Automotive Engineering back in Portugal and was looking to enrol on an MSc abroad. At the time I had some friends who were just finishing their studies at Brookes and they gave me really good references on the teaching quality and how passionate the professors were about their lectures, so I looked into it. The fact that Oxford is right in the middle of the Motorsport Valley and that Brookes has such good connection to both the motorsport and the manufacturing industry also played a very important role.

One of the things I liked at Brookes was how flexible the MSc was and how you could tailor it to meet your expectations. Towards the end of the MSc I decided I would like to invest some time working with engines, even though most of my modules covered vehicle dynamics topics. So, for my dissertation I ended up picking an engine-related topic that gave me really valuable insight. Even though this was not my area of expertise, I always had the help and support of my mentor on all my questions and it definitely gave me a head start for the job I am in now.

Another really enjoyable experience was being part of the OBR Formula Student team. Being part of FS gives you the opportunity to take your skills from the theory to the real world and in the end you actually get to build an amazing car to show it. There were a lot of sleepless nights and hard work, but seeing how dedicated everyone was and how we overcame so many challenges together as a team was really inspiring and taught me a lot about working together with people. I've made amazing friends there that I'm sure I'll keep for life.

I'm currently working at the MINI Plant as the Diesel Quality Specialist, integrated in the Powertrain Validation and Integration team. We are responsible for testing and validating pre-series vehicles on road and on track concerning engine topics and are also responsible for complex analysis for series vehicles issues. It's a really interesting role as it means I don't spend all my time sitting at my desk but also get the chance to do some hands-on work in the workshop or go to the Millbrook Proving Ground and test the cars.



Rohan Shankar MSc Automotive Engineering

The level of detail of the modules, the quality of professors and facilities; as well as being pushed to the limit with difficult course work has made my time at Brookes a fantastic experience.



Matteo Cucchi MSc Racing Engine Design

The classes are infused with hands-on experience and my final project exposed me to cutting-edge research in engine design which has been published in key journals.



Cole Pearson MSc Motorsport Engineering

The Oxford Brookes MSc programme has a strong reputation and great connections with F1 teams. The experience gave me great topics to discuss at interviews and led to my current job at Scuderia Ferrari F1 team.

Automotive Engineering with Electric Vehicles MSc

The MSc in Automotive Engineering provides an opportunity for in-depth study of the engineering principles that enables and drives forward this vital worldwide industry.

Reflecting the latest advances in this ever-changing field, the introduction of a new compulsory module focusing on electric vehicles enhances the focus on new and emerging technologies within the automotive sector. The key components of the course cover: design, with a focus on vehicle chassis and performance, sustainability, reliability, aerodynamics, and issues of comfort like noise, vibration and harshness.

Modules

Students are required to take 5 compulsory modules, one optional module and the dissertation.

Compulsory modules:

- Noise, Vibration and Harshness
- Advanced Powertrain Engineering
- Engineering Business Management
- Advanced Vehicle Dynamics
- Electric Vehicles
- The Dissertation

Optional modules (choose one):

- Crash Impact Modelling
- Data Acquisition Systems and Computation Modelling

Why choose this course?

You will be taught in a purpose-designed engineering building, by staff with exceptional knowledge and expertise in their fields. Lecturers include world-leaders in research on sustainable vehicle engineering, and those with experience of designing and working with major automotive manufacturers.

We have close links with industry through research projects and consultancies. Our partners include BMW MINI plant in Oxford and other local businesses.

As well as the traditional aspects of motor car design and manufacture, we have lively and well-funded research programmes in areas of current concern such as vehicle end-of-life issues, and modern composite materials. We also have a growing involvement in electric vehicles.

Dissertation

These are individual research and development projects on a topic of your choice. These projects can be undertaken as part of a wider research project or within collaboration with an industrial partner.

Careers

Automotive industry design is undergoing a very swift and radical change and this course prepares automotive engineers to deal with this complex and fast development. Our applied approach to design, manufacture and testing of automotive products ensures that our graduates are ready for automotive industry, with excellent employability prospects.

IET The Institution of Engineering and Technology

Accredited Programme

Engineering Council accredited degree

Accredited by the Institution of Mechanical Engineers (IMechE)

Institution of MECHANICAL ENGINEERS



Student profile

Rohan Shankar

The primary factors for choosing Brookes were the course content, reputation and motorsport focus. The course was a fantastic experience thanks to the level of detail of the modules and the quality of professors and facilities.

Since leaving Brookes, I completed an industrial placement with MOMA – Motorsport Management in India. I had a role in the TATA T1 Truck Racing Championship to manage the technical race operations under the Secretary of the Race. This involved managing administrative tasks, scrutinising of the trucks, and various other tasks.



Mechanical Engineering MSc

The main aims of the MSc in Mechanical Engineering are to introduce you to research, development and practice in advanced engineering design and equip you for professional practice at senior positions of responsibility.

Great engineering design turns great ideas into great products. Our MSc in Mechanical Engineering will give you the skills you need to achieve this. Developing the skills to take complex products all the way from idea to fully validated designs, you will use the most advanced CAD packages and learn the techniques required to analyse your work, testing designs in virtual reality to see how they perform and how reliable they are.

Why choose this course?

Mechanical Engineering has been taught at Brookes for over 20 years. You will

Modules

Students are required to take 5 compulsory modules, one optional module and the dissertation.

Compulsory modules:

- Sustainable Manufacturing and Design
- Engineering Business Management
- Engineering Reliability and Risk Management
- Advanced Strength of Components
- Advanced Mechanical Engineering Design
- The Dissertation

Optional modules (choose one):

- Crash Impact Modelling
- Noise, Vibration and Harshness
- Real-time Embedded Robotics Systems

learn from staff who are experts in their field and bring a variety of knowledge; from physicists, vehicle dynamicists to design engineers. The department has a Joining Technology Research Centre, who have been working with industry for over 40 years on developing technologies in this area.

We collaborate with industry in a wide range of key issues; such as sustainability, developing new technologies and innovative ideas. An example of this work is the bamboo bike project, which was an academic's idea that students wanted to be involved with and they were able to take the project forward in a successful way.

Recently staff and students have collaborated with the Bamboo Bicycle Club on the manufacturing process of a bamboo bike. In two days they built a bespoke bamboo bike at the Design Museum in London. Using 3D printing technology to make the lugs (connecting pieces) and bamboo, this project showed how the department is pioneering the manufacturing process of bicycles.

Dissertations

These are individual research and development projects on a topic of your choice. These projects can be undertaken as part of a wider research project or within collaboration with an industrial partner.

Careers

Our graduates enjoy the very best employment opportunities, with hundreds of engineering students having gone onto successful careers in their chosen industry.

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Institution of MECHANICAL ENGINEERS



Student profile Priya Nilayapalem

I chose Brookes because it is the best in mechanical, automotive and racing engineering. The mechanical engineering course concentrates on advanced design concept, which I was interested in focusing on; this made Brookes the best choice for me.

I feel that I have learnt more about design at Brookes than I would have at any other institution and the advanced design module is my favourite module. The course covers

all the modules you need to succeed, such as the advanced engineering design, CAD/CAM, solidworks and other advanced engineering design software.

The tutors are very helpful, always available and willing to help even if the question isn't about their module. After exams the feedback is always constructive and clear, if I wanted to rate the tutors I would give them ten-out-of-ten.

The highlight of studying at Brookes is the group course work, these projects are like working in a small company or with team mates. Team work promotes team spirit as well as the opportunity to work with other students who bring different ideas and dynamics to the work. We have access to all journals, computers and software that we need for our course. There is never any problem in getting access to a computer or equipment. We have a well stocked library with the best authors and books.

After completing my course I want to get a position in a design department in the automotive industry alongside studying for my PhD, hopefully at Brookes.

The knowledge that I have gained from studying at Brookes has been helpful when I have applied for and gone for interviews. This knowledge means that I can apply for good design positions because I have the design experience and training from my course.

If you want to get into design this is the course for you. The course also includes other key modules such as business management which is a key skill to have in industry. However, be prepared to work hard to get the experience and knowledge needed to go into industry.

Wheatley is a great community with good facilities like the library and canteen. Our main campus is also amazing with excellent facilities.

Brookes' bamboo bike in action, TransAlp race



Motorsport Engineering MSc

The MSc in Motorsport Engineering course offered by Oxford Brookes provides the opportunity for you to specialise in areas such as engine technology, chassis performance, racing engineering, management, materials, simulation and data analysis, preparing you to hit the ground running in the world of motorsport engineering.

Our motorsport and automotive engineering courses are taught by staff with exceptional knowledge and expertise in their fields. We have, for example, lecturers who have designed and worked on winning F1 race cars or who are leading the world in research on sustainable vehicle engineering.

Compulsory modules:

Students are required to take 5 compulsory modules, one optional module and the dissertation.

- Crash Impact Modelling
- Advanced Vehicle Aerodynamics
- Laptime Simulation and Race Engineering
- Engineering Business Management
- Advanced Vehicle Dynamics
- The Dissertation

Optional modules (choose one):

- Data Acquisition Systems and Computation Modelling
- Electric Vehicles

Why choose this course?

We have close links with industry through research projects and consultancies. This wealth of experience means our students benefit from being taught by staff at the forefront of new developments. Our wide network of contacts brings real world experiences to the courses.

Students have the chance to join our very successful Formula Student team and put theory into practice by racing against other universities from around the world.

Dissertations

These are individual research and development projects on a topic of your choice. These projects can be undertaken as part of a wider research project or within collaboration with an industrial partner.

Careers

Our graduates enjoy the very best employment opportunities, with hundreds of engineering students having gone onto successful careers in their chosen industry. Many of our students go on to work with leading motorsport companies, including directly into F1 teams and suppliers.

IET
The Institution of
Engineering and Technology

Accredited Programme

**Engineering
Council**
accredited degree

Accredited by the Institution of
Mechanical Engineers (IMechE)

**Institution of
MECHANICAL
ENGINEERS**



Student Profile

Ana Sanchez

Before I came to Brookes, I studied my bachelor's degree in Mechanical Engineering in Universidad Autonoma del Estado de Mexico. I was also a

Design Engineer at General Motors Mexico from 2012-2014 and a Supplier Development Trainee at Robert Bosch Mexico from 2011-2012.

I chose to study at Oxford Brookes firstly because of its reputation as one of the best institutions for Motorsport Engineering, not only in the UK, but the whole world. Also, its strategic location within the so called 'Motorsport Valley' made it the obvious choice to develop my career in motorsport.

Though it has been very demanding, I have really enjoyed the course here. Elements of practice and theory are well-balanced, so we get to put to the test what we learn in the classroom and gain invaluable experience for our future careers.

The best bits about studying at Brookes are the networking opportunities we are provided with: both professionally through industrial lectures, placements and experienced lecturers – and personally: working within a multicultural environment that allows students from different countries and cultures to explore what other people think and how they perceive the world.

I would say the best thing to do while being here is to try and make the most of all that the university has to offer: extracurricular activities, exceptional lecturers, good facilities and more. The experience gained will definitely help your future career.

I am now working as a Safety Development Engineer at Ford Motor Company



Brookes' auto lab

Racing Engine Systems MSc

The MSc in Racing Engine Systems creates highly sought after experts, enhancing and extending your knowledge in engine design.

The course provides an intensive exposure to an integrated design, simulation, modelling and analysis of racing engines. The analysis elements of the modules include structural optimisation, dynamics, internal combustion engine thermo-fluid dynamics, engine performance, tuning, mapping and monitoring.

Why choose this course?

The motorsport industry in the UK is a world leader and many of the world's most advanced high-performance engines are designed here.

All our motorsports and automotive engineering courses are taught by staff with exceptional knowledge and expertise in their fields.

Modules

Students are required to take 4 compulsory modules, one optional module and the dissertation.

Compulsory modules:

- Advanced Powertrain Engineering
- Engineering Business Management
- Advanced Strength of Components
- Racing Engine Systems
- The Dissertation

Optional modules (choose one):

- Engineering Reliability and Risk Management
- Data Acquisition Systems and Computational Modelling

We have strong links with industry through research projects and consultancies. This wealth of experience means that our students benefit from being taught by staff abreast of the latest industry developments. Our wide network of contacts helps to bring real world experiences to the courses.

Students have the chance to join our very successful Formula Student team and put theory into practice by racing against other universities from around the world.

Dissertations

These are individual research and development projects on a topic of your choice. These projects can be undertaken as part of a wider research project or within collaboration with an industrial partner.

Careers

Our graduates enjoy the very best employment opportunities, with hundreds of engineering students having gone onto successful careers in their chosen industry. Many of our students go on to work with Mercedes, HPP, ETrac, Prodrive and Hewland.

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Student Profile

Andrea Carretti

Before coming to Brookes I studied for a bachelor's degree in Mechanical Engineering in Italy and after graduation I worked for two years as a motor bike mechanic in Australia.

I chose Oxford Brookes because it is the only university to offer the master's that I am studying (Racing Engine Design) in Europe.

All the tutors and professors are very supportive and are always available if you have any doubt or need to talk or if you find yourself in difficulties. I am impressed with the level of knowledge and expertise of professors and tutors, which makes our lectures really enjoyable.

My favourite module is the racing engine design because engines are my passion, and in this module we have the opportunity to learn what real engines are. What I particularly like is the technologies that you find in F1 or space shuttles are treated as normal which is very exciting.

The highlights of studying at Brookes are the many projects available and all are fully supported by the professors. I am working on combustion for my dissertation which is really interesting.

My employment prospects have been positively influenced by my studies as it is a high level degree which means I can look at top level positions.

My advice to someone who wants to study Racing Engine Design at Oxford Brookes is if you are as crazy as I am for engines then there is no better place to study than Oxford Brookes. I really like the university, campus and facilities and I suggest to anyone to come to study here.

Research degrees

We welcome applications to study for Master of Science by Research, Master of Philosophy and Doctor of Philosophy qualifications. The department offers excellent facilities for study, including a range of dedicated laboratories and research areas.

An MSc by Research is a one year programme (full-time) while an MPhil normally takes two years of full-time study or three years part-time to complete. The PhD normally takes a minimum of three years full-time study or five years part-time to complete.

Many of the research projects are funded externally and are undertaken in collaboration with industry, universities and research establishments in the UK and worldwide. Doing an MRes, MPhil or PhD is an opportunity to work with these projects and make a significant contribution to the research and knowledge exchange. A PhD degree is widely recognised internationally as the 'licence' to practise as a research scientist

or research engineer. Our research is internationally recognised.

Research students have the opportunity to undertake a programme of Research Methods Training provided by the University's Graduate School. They also have access to training in subject-related skills, such as Matlab, and generic skills, such as entrepreneurship and teaching in higher education.

Entry Requirements

Applicants should have, or expect to have, at least a 2.1 honours degree in an appropriate area, or equivalent experience and strong research skills will also be considered. The department is also able to consider proposals for new research projects from applicants in full-time employment who wish to obtain a research degree on a part-time basis, or on the basis of existing published research.

Assessment

The award of MRes, MPhil or PhD is made on the basis of a satisfactory thesis submitted and examined by at least two examiners. The candidate will normally be required to attend an oral examination, in the UK, on the programme of work and field of study.



Staff and students with Speedway bike at Brookes

Entry requirements (applies to all postgraduate programmes)

You should normally hold a first degree equivalent to at least a British lower second-class bachelor's degree in mechanical engineering or a related discipline. Applicants with relevant professional experience will also be considered.

English language requirements

If your first language is not English you must satisfy our English language requirement by providing us with evidence of a minimum IELTS score of 6.0 in each component.

English requirements for visas

If you need a student visa to enter the UK you will need to meet the UK Visas and Immigration minimum language requirements as well as the university's requirements.

Full details on entry requirements and English language requirements is available on our website tde.bz/PG-entry-reqs



Oxford Brookes Racing

Oxford Brookes Racing (OBR), the award-winning Formula Student team from Oxford Brookes University. OBR has competed in Formula Student since its inception in 1999. The team designs, builds and races a single-seat Formula Student car. The team is made up of approximately 200 students from across the department's engineering courses.

Oxford Brookes Racing (OBR) was one of the first teams to compete in the Formula Student UK (FSUK) in 1999. The first entry was a wooden prototype chassis competing in the class 2 category. The early years of competition saw the team develop a variety of ideas and concepts including an aluminium folded monocoque chassis and the team's first and only 'wing' car. Throughout the team's history it continually competes at FSUK (Silverstone Circuit), FSG (Hockenheim, Germany), and FSA (Red Bull Ring, Austria).

The 2002 competition marked the beginning of the team's rise to the front, with OBR finishing 13th overall at FSUK. After the successes of the previous year, the 2003 season saw OBR finishing 5th overall and winning the coveted title of 'Best UK Team' for the first time, a feat that the team has won a total of six times.

The team's innovation continued throughout the mid-2000's with multiple powertrain architectures developed. For the 2007 season, the team competed with both a combustion and electric car resulting in the only team to have two cars finish the FSUK endurance.

In 2013, the team expanded its competitions into the Czech Republic, where the team collected podiums in autocross, design and skid-pad events. Starting in 2014, the team has continued to evolve its aerodynamic package through wind-tunnel validation, improved CFD simulations, and support from F1 experts. Development is also continually validated through on-track testing.

The 2018 season brought the team's best performance to mdate. The teams 2018 contender secured a top placing at FSUK of 2nd place overall and "Best UK Team". As well, the team placed 2nd in the design competition and skid-pad event with a 3rd place in the endurance event. This success has elevated the team into the most won "Best UK Team" titles of all FSUK contenders.

Further evolution of the vehicle has continued alongside team performance. The 2019 contender features a single cylinder KTM 450cc engine, 10" wheels, a moulded $\frac{3}{4}$ monocoque, and a high performance aerodynamic package. Additionally, the team has furthered its ambitions by integrating two projects (Class 1 & Class 2 vehicles) into each season. This ambition allows the team to develop high performance concepts over multiple years.

2018 was the most successful year in OBR history. Achieving 2nd Place overall at FSUK in Silverstone



OXFORD BROOKES RACING IS GOING ELECTRIC

After a long and successful history of combustion entries in the formula student competition, OBR is making the shift to electric for the 2020 season. With a new team structure and a class 2 project to serve as a R&D platform, OBR aims to develop a platform to not only take on the top FS teams in the world, but to also serve as a test bed of innovation for electric vehicles and controls software.

The concept is based around a 4WD in-hub motor configuration with AMK AC servo motors mated to a compact epicyclic gearbox capable of producing over 300 N-m of torque at each wheel. Energy is supplied from a 600 V, 6.6 kW-hr battery pack using LCO pouch cells with a peak output of over 130 kW. All of this is managed through an open controls platform ideal for implementing torque vectoring and advanced vehicle controls to unleash the full performance potential of an EV competitor.

With the design of the car in full swing and test and manufacture on the horizon, there is an opportunity to be on the forefront of not only performance, but also the industry by gaining both the knowledge and hands on experience working with electric vehicles.



BROOKESbus

The Oxford Bus Company launched a redesigned and new look BROOKESbus, which uses Gyrodrive technology to help reduce fuel consumption by around 20%. These buses were designed with input from one of our alumni, Glen Pascoe – Glen studied motorsport engineering and graduated in 2006.

“As a Brookes alumnus I feel honoured that Gyrodrive will make a positive impact on the current students and the university in general by helping to achieve its sustainable travel plans. I hope that my story will inspire all students to realise their potential and make a difference.”

Glen Pascoe, Motorsport Engineering alumni, 2006



