ENGINEERING YOUR FUTURE
A WELCOME FROM THE VICE-CHANCELLOR OF ASTON UNIVERSITY

Thank you for considering Aston University. We hope you like what you read about our Professional Engineering programmes. At Aston we focus on academic excellence, delivering high quality teaching and research in an inspiring and creative environment.

Let me outline what makes Aston special:

- Our links with employers and other practitioners help us to translate science and scholarship into products, processes and professional practices
- We link research and teaching closely, so Aston students are able to work with leading researchers and engage with the latest research findings
- Our research is internationally recognised and has real impact in many areas such as sustainable energy and photonics
- We value and welcome International students, and over 120 nationalities are enrolled
- Aston graduates are highly employable with 82% of our graduates getting a graduate level job within six months

Please contact us to discuss how we can help you on your professional journey, and I look forward to welcoming you into the Aston community.

With best wishes,

Professor Dame Julia King DBE FREng
Vice-Chancellor, Aston University

"Since completion of the course my career has gone from strength to strength. Aston University is truly a great place to learn, make new friends and gain the knowledge required to fulfill your professional career."
David Phillips, Western Power Distribution, Graduate of FD in Electrical Power Engineering

"The course is developed around workplace needs and projects. From a personal perspective, the benefits are substantial, having access to academics and peers, all working towards the same goal of developing World Class Engineers."
Ben Murphy, BAE Systems, MSc Professional Engineering programme

APEC
Aston Professional Engineering Centre

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Since it was formed, APEC’s objective has been to develop the knowledge, skills and competencies of employees to further the competitiveness of the companies for which they work. We aim to do this by delivering cutting edge teaching that links latest industry thinking with hands-on experiential learning, underpinned by world-leading research.

To this end, APEC has forged close links with industry, business and the public sector, including such leading players as National Grid, SSE, BP and E.ON UK, working in partnership to develop work-based learning programmes that develop industry best practice, meet strategic requirements and benefit the economy and society as a whole.

Flexibility and collaboration is key, enabling us to remain responsive to the needs of a changing world and bringing academic excellence to the industrial arena, whilst remaining true to our purpose to fulfil individual potential and create the future leaders, thinkers and innovators of tomorrow.

“The current skills shortage in engineering presents many interesting opportunities across the sector. It’s an excellent time to become an engineer. The course takes you a step closer towards professional accreditation, which is becoming ever more valuable as ultra-secure ‘jobs for life’ become a thing of the past.”

Peter Amos, National Grid
Graduate of FD in Gas Transmission Engineering

“Being ex-military, I was always taught to evaluate a project after completion and identify ‘lessons learnt’, but this programme has revolutionized the way I think.”

Alistair Smith, Group Plant Manager,
FCC Environment, MSc Professional Engineering programme

AT THE ASTON PROFESSIONAL ENGINEERING CENTRE (APEC), OUR PHILOSOPHY IS SIMPLE. WE BELIEVE THAT WORLD CLASS COMPANIES OF THE 21ST CENTURY NEED WORLD CLASS PROFESSIONALS WHO ARE HIGHLY SKILLED, KNOWLEDGEABLE AND INNOVATIVE, WITH THE EXPERIENCE AND CAPABILITY TO CHALLENGE EXISTING THINKING AND EXTEND THE FRONTIERS OF TECHNICAL EXCELLENCE SAFELY AND SUSTAINABLY.
Programmes are available at Foundation Degree, Bachelors, Masters and Professional Doctorate Level, enabling participants to enrol at the appropriate Level, working upwards from 4 and 5 towards Levels 6, 7 or 8, depending on their position and aspirations. Foundation Degree Level provides such options as logistics, power engineering, gas transmission engineering, engineering and construction management, while Bachelors Level covers such subjects as professional engineering, power systems and logistics and operations management. MSc programmes cover professional engineering and IT, and the doctorate programme is based on individual research. Programmes are delivered either in blocks or distance learning in order to minimise the impact on business.

At each level, engineers can apply for professional registration, with all programmes recognised by the Engineering Council and other professional institutions such as The Institution of Engineering and Technology (IET) and Institution of Engineering Designers (IED). At Foundation Degree Level students can apply for the status of Engineering Technician (Eng Tech), at Bachelor Level for Incorporated Engineer (IEng) status and at Masters Level for Chartered Engineer (CEng) status. Chartered Engineer status is internationally recognised and awarded in recognition of professional competency, experience and commitment.

I attended the Foundation Degree at Aston University and completed the course, passing with distinction and winning an award for being the top student, something I am very proud of."

Gavin Stewart, SSE, Foundation Degree

'The world’s best engineers are not characterised by just what they know, but by how they think about what they know.'

Bill Glew, Director MSc Professional Engineering, School of Engineering and Applied Science, Aston University

'I have found the course to be very interesting and worthwhile. It has been particularly insightful to explore the wider world of logistics, and to gain a real understanding of how the principles behind it work. Studying at Aston has been very enjoyable, and the facilities and tutors have both been excellent.'

Julian Morgan, Royal Mail, Graduate of FD in Logistics

Our Programmes aim to provide a clear progression route from Foundation Degree up to Masters or Doctorate Level, enhancing career prospects, professional status and personal development.
CHRISTOPHER JONES, ELECTRICAL POWER ENGINEER, NATIONAL GRID.
PROGRESSING FROM FOUNDATION DEGREE TO BENG LEVEL AND ACHIEVING IENG STATUS

As an Electrical Power Engineer, I’m on the front line, ensuring that the lights remain on, working as part of the team that undertakes the maintenance, fault investigation and repair of National Grid’s 132-400kV electricity power network.

After completing school, I joined the Royal Air Force, embarking on an electrical maintenance apprenticeship and achieving an NVQ3 in electrical maintenance, an HNC in Electronic Engineering, and an HND in Mechanical Engineering.

After eight years in the military, I joined the National Grid, working on high voltage power systems, and within eight weeks had started a Foundation Degree at Aston University, learning the basics of electrical and mechanical hardware, which involved both theoretical and practical study, along with the principles of mathematics and electro-mechanical systems. The second year focused on power system protection and control devices, taught by experienced protection engineers, and saw me acquiring theoretical and practical knowledge, and visiting substations to ascertain the purpose of capacitors and reactors.

After graduating with distinction from the Foundation Degree, I acquired a NEBOSH certificate, completed Authorised Person (AP) training and began studying for Senior Authorised Person (SAP) status. With my long-term ambition to achieve Incorporated Engineer and then Chartered Engineer status, I set about converting my Foundation degree into a BEng in Professional Engineering (Power Systems).

The BEng Professional Engineering (Power Systems) at Aston University is the first and only one of its kind in the UK, combining distance learning with attendance for examinations, and providing a pathway to professional qualification for working engineers unable to commit to full-time study.

The course provided me with a full appreciation of the power network, identifying the requirement for green energy and the need for smarter technology to fulfil our energy needs. Foundation Degree and BEng students provide benefits to their company by possessing a solid theoretical base and the ability to apply first principles to any fault within the system. Marrying theoretical knowledge and practical knowledge from National Grid has enabled me to become a more rounded engineer equipped with the tools to tackle most engineering problems. As I am required to carry out formal investigations and write reports, I found the formal report writing aspect of the course to be extremely important and relevant.

I graduated from Aston in 2012 with a first in BEng Professional Engineering (Power Systems), and was able to convert my knowledge and experience into professional recognition, being the first person in the UK with an engineering systems degree to achieve the status of Incorporated Engineer. I now aim to advance my experience and knowledge and achieve Chartered Engineer status.
Aiming for Chartered Engineer status

My engineering career started in 2008 when I worked as a part-time Graduate Instruments Engineer, gaining a BSc (Hons) in 2009 and an MSc (Hons) in 2011 in Instruments Engineering, Optimization and Control from Baku State University, Azerbaijan. Since then I’ve been working towards becoming a Professional Instruments Engineer by developing my knowledge and gaining in-depth experience in engineering and technology.

To date, I have more than five years’ experience working as an Instruments Engineer in the oil and gas Industry, and currently work for AMEC Engineering Group, a global supplier of consultancy, engineering and project management services to a diverse oil and gas customer base. AMEC’s success is measured by its performance in supplying managed engineering deliverables that support all phases of a project.

As an Instruments Engineer, my role is to become involved in a project at the outset, taking responsibility for its organisation and progress analysis. My duties include hazard identification, holding operability studies with clients and vendors, producing instrumentation deliverables, conducting offshore and site survey visits, participating in factory acceptance tests, producing project organizational charts and formulating engineering and procurement strategies.

The various offshore and onshore projects in which I have been involved at AMEC have given me the opportunity to broaden my technical engineering knowledge, become familiarized with oil and gas exploration and production technologies, and play a significant role in the safe implementation of engineering packages, dependant on the environmental and other conditions within a country.

I have been a full member of the Institute of Engineering and Technology (IET) for more than four years and plan to continue my professional development by gaining Chartered Engineer status. It is for this reason that in January 2014 I enrolled on the MSc in Professional Engineering programme at Aston University. AMEC are supporting my wishes to gain a second MSc and, as part of my on-going role with the group, I am looking forward to undertaking a number of work-based projects, which I believe will be invaluable for both my own self-development and the company’s prosperity.
Learning that works hard for your business

APEC EMBRACES THE CONCEPT OF WORK-BASED LEARNING AS A 21ST CENTURY NECESSITY, COUPLING THEORY WITH PRACTICE TO ENSURE ALL PARTICIPANTS ARE EQUIPPED WITH THE NECESSARY SKILLS TO MAKE A REAL CONTRIBUTION TOWARDS THE FUTURE SUCCESS OF THEIR ORGANISATIONS.

As much about mind-set and approach as skills and knowledge, our programmes concentrate on developing the thinking and questioning capabilities of participants, enabling them to continuously and critically reflect on aspects of their work they would otherwise take for granted, while building technical proficiency and practical ability.

By delivering programmes that incorporate real work projects, we are able to customise learning to meet the specific needs of participants in relation to their job function, enhancing both thinking and practical skills in a framework that is flexible, contextualised and relevant.

Our aim is to produce engineers who not only excel in their discipline, with the knowledge and skills to do their job well, but who have learnt from their on-going experience, and are able to carry their learning and critical thinking into the future for the good of their own and their organisation's development and progression.

Widely recognised as pioneers in the engineering field, with state-of-the-art facilities and industry-led expertise, we are in the business of creating exciting and inspirational new programmes that stand at the forefront of engineering excellence and innovation.

Zenzo Mpofu, Graduate BEng Professional Engineering (Power Systems), High Voltage Network Control Engineer, UK Power Networks Control Centre

"Furthering my knowledge has boosted my confidence and made me an even better team player... I have a dream and vision of becoming a Professional CEng."

Zenzo Mpofu, Graduate BEng Professional Engineering (Power Systems)

Below: Graeme McSkimming, Technical Staff Trainee, Onshore Wind Generation, SSE, Graduate FD Electrical Power Engineering

Above: Kay Stevenson, Business Customer Advisor, Royal Mail Logistics, Graduate FD Logistics
Below: Andy Lings, Graduate BEng Professional Engineering (Power Systems), Project Field Engineer, SSE
IMI Components Ltd has been dedicated to the nuclear sector for over 40 years. We have a unique skill set which allows the company to successfully undertake complex and demanding projects for its customers as well as providing a high quality source for low, medium and high volume component supply. The company specialises in precision CNC machining, assembly and welding of components in specialist alloys such as Zircaloy, Magnesium, Aluminium, Stainless Steels and Carbon Steels. We also undertake heat treatment, surface treatment and inspection services providing components for fuel enrichment, fuel fabrication and reactor plant life extensions.

Due to the large number of technical manufacturing processes, the business has to manage internally and the continued development of our customers’ requirements it was becoming more and more difficult to support the on-going business needs. It quickly became evident that we needed to develop our engineering resource in a number of challenging and new technologies.

Neil Perry stood out as an engineer with great development potential, and as a business, we needed to find the most appropriate way of developing his technical skills in the specialised subjects to support our growing needs.

The Professional Engineering MSc work-based learning programme suited the needs of our business and Neil’s own development. Neil was able to develop his academic ability and as a result applied a greater technical understanding to challenging manufacturing processes such as, specialised aluminium TIG welding, nickel plating of pure aluminium and advances in aqueous cleaning methods.

The course was challenging but both Neil and IMI Components have gained considerably. Neil has now achieved his MSc in Professional Engineering and been awarded CEng status as a result of his efforts. This is great for Neil and his career development and in recognition of his efforts Neil was recently promoted to Technical Development Manager at IMI Components.

For us, it’s great to be able to present to the market that we employ registered chartered engineers.

Adrian Floyd MSc MAPM
Technical Commercial Manager
MASTERS LEVEL, GENERAL ENGINEERING

CHRIS HINTON, PROBLEM RESOLUTION ENGINEER, BMW PLANT HAMS HALL.
MSc PROFESSIONAL ENGINEERING

BMW Plant Hams Hall manufactures small, fuel efficient, low emission engines for both BMW and MINI vehicles sold across the world. The state-of-the-art plant, located just outside of Birmingham, first opened in 2001 and employs around 800 local people. As part of BMW Group’s £750 million investment in its UK manufacturing facilities, brand-new equipment is being installed to develop the Hams Hall plant, ready for the manufacture of the next generation of engines, which will include the production of engines for the new BMW i8 hybrid plug-in sports car.

After completing a maintenance apprenticeship with BMW Plant Hams Hall, I undertook roles as a Maintenance Technician, an Asset and Reliability Engineer and most recently a Problem Resolution Engineer. I achieved a First Class Honours Degree in Electrical Engineering Systems with Aston University in 2012 and started the MSc Professional Engineering programme early 2013.

Whilst studying the MSc Professional Engineering programme, I have moved through two promotion levels at BMW, firstly to the role of Asset and Reliability Engineer and, more recently to Quality Control / Problem Resolution Engineer.

The MSc helped me to develop particular skills and strengths within the workplace, engendering a greater technical ability and more innovative approach to engineering activities and projects. Not only has the MSc helped to shape my professional approach, making me aware of the broader prospects engineering has to offer, but it has also helped me to introduce significant savings and benefits to the BMW engine plant. Following completion of the MSc, I will apply for Chartered Engineer registration with the IET, as I believe this is a key step towards establishing myself as a well distinguished professional engineer.
ASTON PROFESSIONAL ENGINEERING CENTRE IS COMMITTED TO DEVELOPING PROGRAMMES THAT MEET OR EXCEED INDUSTRY NEEDS BY DEVELOPING THAT TRAINING IN COLLABORATION WITH INDUSTRY. FOR TRAINING SHAPED BY AND TAILORED TO YOUR NEEDS PLEASE CONTACT US.