

The logo for the University of the West of Scotland (UWS) is a white, jagged-edged circle containing the text 'UNIVERSITY OF THE WEST of SCOTLAND' in a smaller font above the large, bold letters 'UWS'.

UNIVERSITY OF THE
WEST of SCOTLAND

UWS

A photograph of two students, a man and a woman, in a workshop. They are both wearing safety glasses. The man is holding a red pencil and looking at a piece of paper. The woman is looking at the paper. In the background, there is a large piece of industrial machinery.

**GRADUATE
APPRENTICESHIPS**

**BEng (Hons)
Engineering Design
& Manufacture**

www.uws.ac.uk/GAS

The School of Computing, Engineering and Physical Sciences at University of the West of Scotland (UWS) is inviting applications for entry to the September 2019 cohort of an innovative Graduate Apprenticeship (GA) BEng (Hons) in Engineering Design & Manufacture.

This programme combines value creation with strategic development in an industrial environment, providing you with the latest manufacturing techniques and processes. We work at the forefront of emerging technologies, and through collaborative R&D with industry partners we drive the transfer of knowledge into new areas. As a Graduate Apprentice in Engineering Design & Manufacture, you will benefit from much of the dynamic research carried out in the areas of advanced materials and processes, automation and robotics, machining technology, and digital manufacturing.

You will develop an understanding of the concepts of Manufacturing Engineering Systems and the skills to analyse, design, and implement these systems in practice. You will also gain an understanding of strategic and operational management and learn how to apply technology, quality tools, and specific techniques in order to improve operations.

Subjects & Topics Covered

The GA enables apprentices to earn a BEng Honours degree designed by industry while in full-time paid employment. Apprentices complete 120 credits per year with 80 of the credits awarded for work based learning.

WORK BASED LEARNING

Work and learning in the workplace counts towards up to two thirds of the GA qualification. Apprentices are awarded academic credit for gaining industry relevant skills and experience putting their learning into professional practice straight away.

CORE TOPICS

- Introduction to Engineering Design
- Engineering Design Analysis
- Machine Design & Simulation including Finite Element method to practical engineering design problems.
- Computer Aided Manufacture (CAM)
- Final year 40 credit investigative development project within your chosen specialism or topic of interest

OPTIONS

- Project Management
- Manufacturing Management
- Design for Engineering Application

Bespoke modules containing content known as Negotiated Learning can be custom designed to incorporate additional topics outside the standard course curriculum. This provides the flexibility to study areas such as Manufacturing Strategy, Operation and Supply Chain Management.

Entry Requirements

Applicants must be employed full-time in a relevant role with involvement in engineering design and manufacturing activities.

Entry to Year 1:

- BBBC at SQA Higher (or equivalent) plus Nat 5 Maths and English
- An appropriate Foundation or Modern Apprenticeship

Applicants may be eligible for advanced entry if they can demonstrate relevant industry experience and/or qualifications.

Enquire with our GA team about the **UWS Recognition of Prior Learning** process and how it works.

Programme Delivery

Apprentices will spend the equivalent of a day per week on their studies.

The course timetabling is scheduled to support the work/study/life balance with the number of modules taken at any one time evenly distributed throughout the programme.

Apprentices are assessed mainly on work based tasks with minimal end of term exams and no formal exams in first year.

UWS Programme Team

UWS has put in place a team of dedicated professionals to support the apprentices and their employers.

GA Project Manager – The Project Manager oversees UWS' GA portfolio and supports participant companies and their apprentices to create learning journeys that meet their business needs.

Programme Leader – The Programme Leader is responsible for ensuring the delivery of excellent quality teaching and learning, addressing custom requirements and communicating with the apprentices.

Link Tutor – Link Tutors help the apprentices to integrate their learning into their workplace and support the delivery of the work based learning modules. The Link Tutors will meet with the apprentices and their workplace mentors both on campus and on site.

Academic Lecturers – Our GA teaching team is made up of subject experts from the School of Computing, Engineering and Physical Sciences who deliver the Engineering Design & Manufacture modules through personalised tuition, support and feedback.

Apprentice Journey

WORK BASED LEARNING	WORK BASED MODULES (Core & Options)	DELIVERED MODULES
1ST YEAR (LEVEL 7)		
Work Based Learning 1	Technical Communication	Introduction to Engineering Design
	Maths for Engineering	
	Negotiated Learning 1	
2ND YEAR (LEVEL 8)		
Work Based Learning 2	Materials & Process Selection	Engineering Design Analysis
	Project Management	
	Engineering Management	
	Negotiated Learning 2	
3RD YEAR (LEVEL 9)		
Work Based Learning 3	Design for Engineering Applications	Machine Design & Simulation
	Project & Manufacturing Management	
	Negotiated Learning 3	
4TH YEAR (LEVEL 10)		
Work Based Learning 4	Final Year Project	Computer Aided Manufacture CAM
		Engineering Management 2
		Manufacturing Systems Engineering
		Advanced Computer Aided Design

Why Choose UWS?

The UWS GA programmes are amongst the most flexible and customisable in Scotland. Apprentices are central to deciding over 60% of the topics learned during their programme and more than two thirds of the programme learning takes place in the workplace. This results in the creation of a bespoke learning experience reflecting the priorities and objectives of the apprentice and their employer.

UWS lecturers are world leaders in industry, teaching and cutting edge research.

This engaged and outward facing approach underpins a top quality learning experience centred on expert up-to-date education and training content. The School of Computing, Engineering and Physical Sciences is recognised for its excellence in teaching quality and achieved an overall student satisfaction rate of 93% in the iGraduate survey 2017.

UWS has some of the most modern GA facilities in Scotland. The Engineering Design & Manufacture GA programme will be delivered from our Paisley Campus which offers advanced learning environments, resource hub and specialist laboratory space in the heart of Paisley town centre. All UWS campuses are currently benefitting from a recent £12m IT infrastructure upgrade as our laboratories and equipment are upgraded every 3 years.

UWS is a multi-campus university with access hubs in Ayr, Dumfries, Paisley, Lanarkshire and London. Our work practices and IT support systems are specifically tailored to co-ordinating an eco-system of distributed and remote community members. This naturally suits the decentralised nature of the UWS GA delivery model with apprentices primarily based off campus and in different geographical locations.



Graduate Apprenticeship case study

Andrew Begg works as a Technical Services Engineer at Newsprinters' Eurocentral in Glasgow and is undertaking a Graduate Apprenticeship (GA) in Engineering Design & Manufacture at UWS.



Andrew's previous qualifications and industry experience enabled him to enter at second year of his GA.

He said: *"I was attracted to the GA course at UWS as I felt the content mix of core engineering and engineering management skills were a good progression from my previous experience. Studying at degree level is something I wanted to achieve for a long time but due to work commitments attending a traditional university course was not possible. I currently work a mix of day and night shift so the flexible approach of class time, online study and the work based learning made it possible for me to undertake this course."*

"I have been impressed that the GA course also focuses on soft skills, such as employability, communication, mindfulness and self-awareness."

Willie Ogilvie, Assistant Technical Manager at Newsprinters' Eurocentral operation, is currently benefiting from having Andrew undertake this GA at UWS. He said: *"I know how difficult it can be to fit in study time around working a shift pattern so the GA route is ideal; it allows the flexibility of studying on your days off, with the company supporting some work-based modules during working hours."*

Contact Details

For more information about the BEng (Hons) Engineering Design & Manufacture Graduate Apprenticeship, please contact our GA team on apprenticeships@uws.ac.uk

Alternatively contact the project or academic leads directly:

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