

The Engineering Academy

What is it?

A collaboration between the University of Strathclyde and partner colleges and industry which provides a pathway to BEng Honours or MEng-level programmes in an engineering discipline within one of the Faculty of Engineering's participating departments.

The first year of the Engineering Academy programme is taken as an enhanced HNC programme within one of the partner Colleges and those students who achieve the required performance will be guaranteed transfer to an undergraduate degree within one of the following Faculty of Engineering departments: Chemical & Process Engineering, Civil & Environmental Engineering, Design, Manufacture & Engineering Management, Electronic & Electrical Engineering, Mechanical & Aerospace Engineering, Naval Architecture, Ocean and Marine Engineering.

Why it was developed.

A detailed curriculum mapping exercise was carried out with local FE colleges in 2011 to examine barriers to student progression from college to university. This laid the groundwork for a partnership between local colleges and Strathclyde to design a suite of tailored HNC curricula that better prepare students for advanced entry to Engineering courses. This was the basis of an application to the Scottish Funding Council for a number of additional funded places, reserved for student articulating through this route. Close links with sponsoring companies gives opportunities for each student to gain work experience and scholarships, which aid their professional engineering skills development.

The first intake to college was in September 2013, and the first articulating cohort is currently in second year during the 2014-15 academic year.

Benefits to students:

- Financial support during the course of studies (from Year 2 onwards)
- An enhanced educational experience including specific mentoring and professional development with the sponsoring company
- Paid summer placements which allow students to put theory into practice (between Years 2-3 and 3-4)
- Increased employment opportunities as a result of an enhanced CV and prior industrial experience
- Associate Student Status at the University of Strathclyde whilst completing the first year in College

How the Engineering Academy Works

Students apply to the University of Strathclyde through UCAS. The first year of the Engineering Academy programme is undertaken as an enhanced HNC programme within

one of our seven partner colleges. Three separate HNC programmes have been developed in consultation with the participating departments at the University, to facilitate student transition direct to Year 2. On successful completion of the first year programme, students are guaranteed to progress, without the requirement for a separate application process.

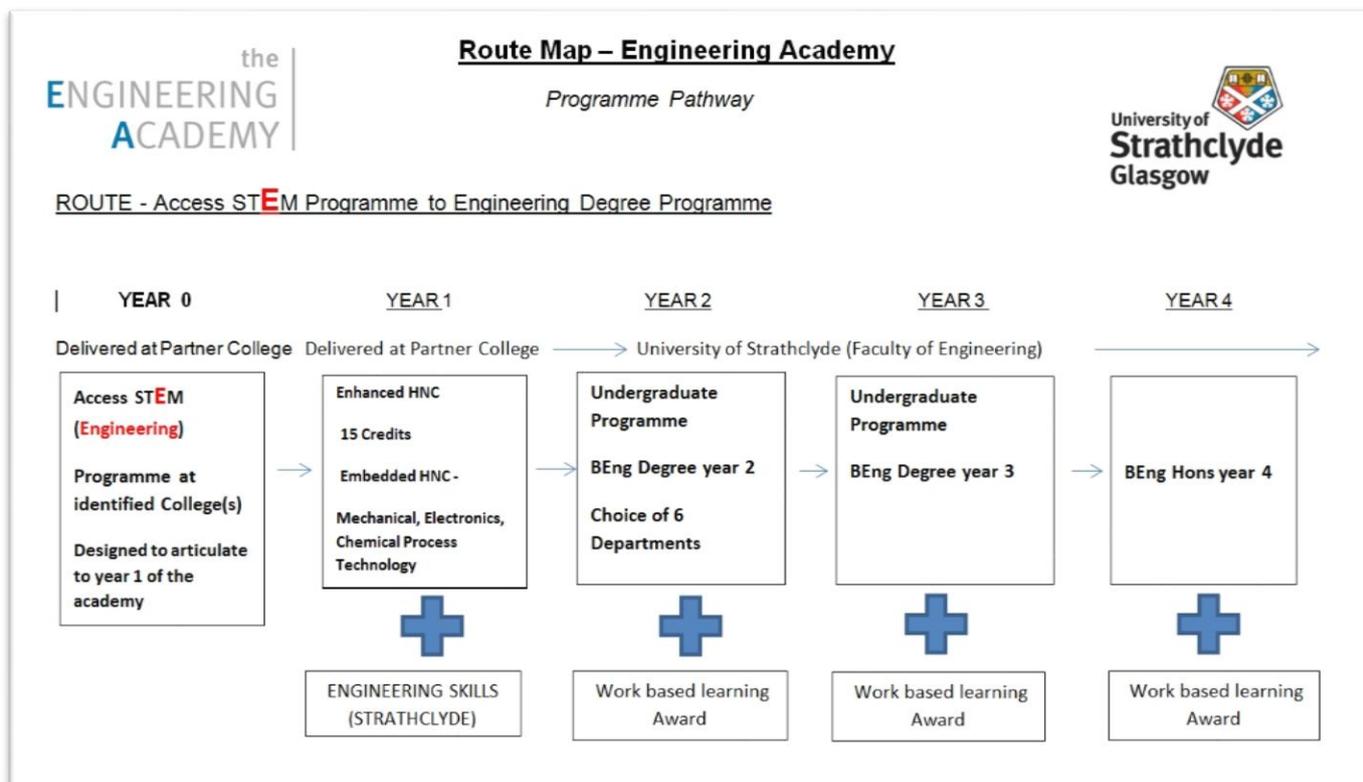
During Year 2 of the programme, students follow an identical curriculum to the other Year 2 students in their Department, with additional transition support and tutorials facilitated by departmental staff.

In Year 2, students will be presented with opportunities to apply for scholarships and work placements with partner companies.

Future developments

The Engineering Academy team is working with the Scottish Widening Access Programme (SWAP) to develop a one-year access course which will articulate to the EA entry year (working title: “EA Year Zero”). This will provide opportunities for students who do not currently possess the STEM subject pre-requisites for engineering.

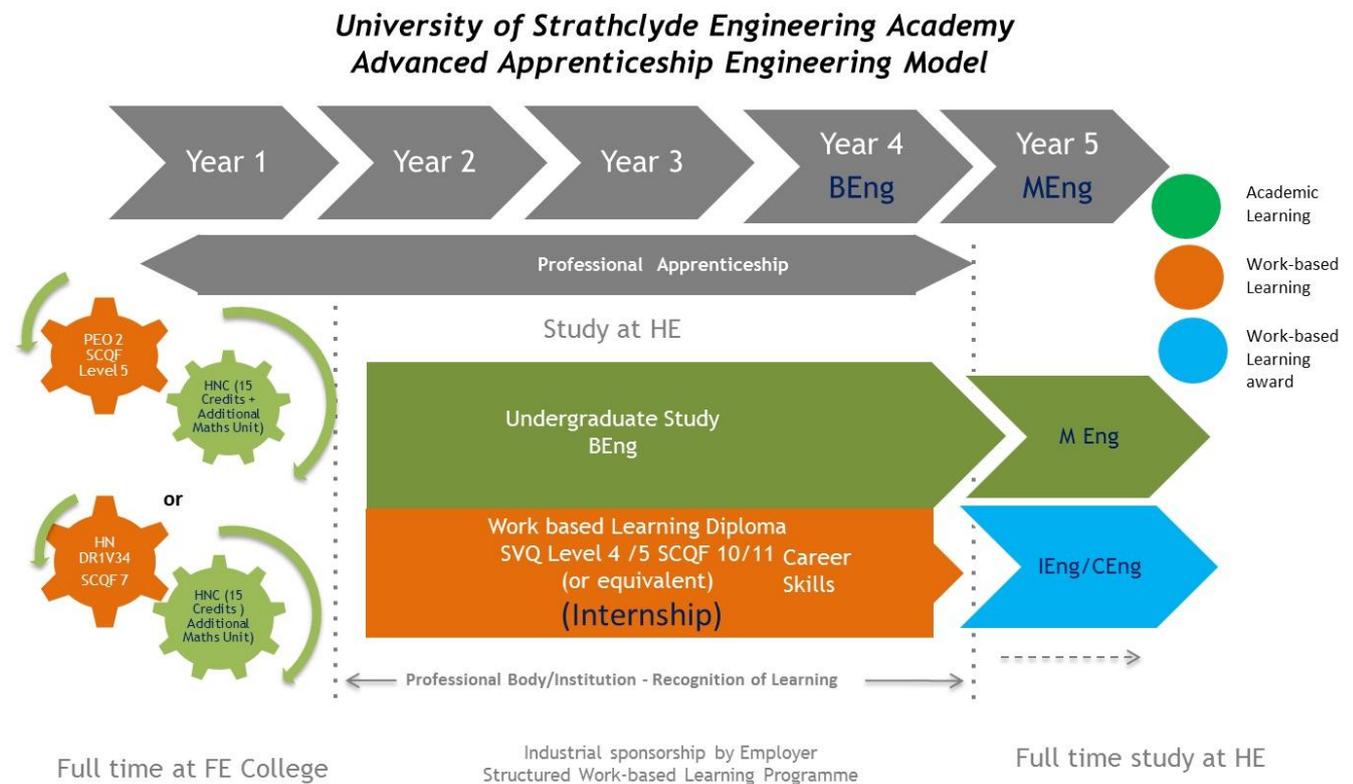
The diagram below shows the student pathway through the Academy, including the optional year zero provision.



In partnership with Skills Development Scotland, the Engineering Academy is developing a work-based learning pathway which aims to provide Academy students with a recognized skills based qualification in parallel with their degree studies. The skills development

elements will be delivered through a structured work-based learning programme, carried out with partner companies.

The diagram below represents the draft framework for an Advanced Apprenticeship model, which will be further developed during the course of the 12-month pilot project, in collaboration with SDS and partner companies.



Summary

The Strathclyde Engineering Academy is providing a pathway to university study for students at college, and is addressing the skills shortage in engineering. By working with partner colleges, Skills Development Scotland and employers, students are given opportunities to develop the knowledge and skills they need to enter the Engineering profession. Close attention to the various transition points is required to ensure that students are given the best possible opportunity for success.

The Engineering Academy currently has 42 students in Year 2 at the University and 83 students undertaking first year study in college. A further 120 students are expected to enter college courses in September 2015 to start their learner journey towards an engineering career.

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2. Transition Support for Looked-After Young People and Care Leavers

The University has a suite of activities and approaches designed to support people from care backgrounds throughout the student lifecycle, including

- a residential summer school for high school pupils in S2 and S3 to encourage aspiration and attainment;
- a single named Care Advisor providing individual support and feedback for every applicant;
- development of a one-to-one mentoring programme for students from a care background to provide continual guidance and advice throughout their various transitions whilst at university.

The Case for Support

Such transition support is essential and evidenced in the poor outcomes experienced by people who have spent time in care. Recent research by MCR Pathways suggests that just 2% of care leavers enter higher education. According to Fassetta et al. (2014), those from care backgrounds

- tend to leave school earlier (80% leaving at 16 or younger, compared to 30% of the general Scottish population);
- have fewer qualifications and lower attendance;
- run a higher risk of exclusion.

Our institutional data suggests that care applicants are much less likely to be made an offer than other students and, whilst the number of entrants has recently improved, retention remains a challenge.

The Benefits of Transition Support

The transition support is designed to encourage confidence, success and participation at every stage of the learner journey. The S2 and S3 summer experience, for example, provides young people with an experience of university life and develops their understanding of the subject choices open to them and the entry requirements, thus aiding their transition into the senior phase of the Curriculum for Excellence and the process of application to university.

The Care Advisor's application support aims to smooth transition as students prepare for their new programme, arrange their finances and accommodation requirements. Close monitoring of retention and progression allows for proactive, timely engagement at the point where a student appears to be faltering in their transition to later years of study and to signpost opportunities such as internships to facilitate transition into employment.

Additional Examples of Support

- University wide committee responsible for monitoring applications, retention and progression of students from a care background;
- Award of the Buttle UK Quality Mark in 'exemplary' category in recognition of the support we provide;
- Alongside MCR Foundation, Glasgow City Council and CELCIS, Strathclyde is a partner in MCR Pathways, a schools-based mentoring programme designed to support and inspire disadvantaged young people to realise their full potential through education;
- In development: project to recruit and train members of staff to mentor students from looked after backgrounds throughout their time at university;
- In development: project to offer earlier application support to young people in care.

Reference: Fassetta, G., Siebelt, L. & Mitchell, I. (2014). *Transforming lives: The first two years of the MCR Pathways mentoring programme*. Glasgow MCR Pathways.

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