



University of
Strathclyde
Engineering

THE DEPARTMENT OF **CIVIL AND ENVIRONMENTAL ENGINEERING**



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Civil and Environmental Engineering Apprenticeships

98 Apprentices in Academic Year 22/23

First cohort will graduate in July 2023

41 Employer Partners

Our Graduate Apprenticeship is Accredited by the JBM – fully IEng, partially CEng.

THE STRATHCLYDE APPROACH

2.0: Video: Welcome to Week 2 (00:34)



[Transcript Available](#)

[Back to Week 2](#)

- Institutional approach to design
- Delivery model minimizes time out of the workplace
- Structured online learning with around 1 day per month on campus
- WBL integrated designed into degree
- Industry-experienced Work Based Learning Advisors employed to support learners throughout study

WORK BASED LEARNING

- Focussed on existing rather than additional work place tasks – creating a portfolio of evidence
- UoS employed Assessor & Verifier access (every 6 weeks) in the workplace/1-1
- Each learner records evidence of competencies via e-portfolio
- Aligned to Engineering Council Competencies
- Reflection an important part of the learning



Reflective Accounts

- Encourage reflection on learning in the workplace
- Feedback by learning advisors given throughout the programme
- Focus on development rather than listing achievements

Reflective Accounts

Working with the new trainees has taught me new skills and improved some of the skills I have learnt previously. Teaching the trainees has made me improve my communication when explaining the process of setting out for the various tasks on site, such as: concrete works, drainage or earthworks. This has further led to me cementing the knowledge I have gained on site. A new skill I have learned is organising and managing the trainees to maximise the efficiency of the work on site. This has involved communicating with the trainees to gauge what tasks they are most comfortable with and what tasks they may need help with.

As being the safety engineer on site I have learnt about the process of protecting people on site and how to minimise the chances of incidents happening. This has involved working through the stages of planning and executing the task on site, for example reviewing RAMS (Risk Assessment Method Statements) and briefing the RAMS to the site operators. Challenges with this role has been trying to identify potential safety concerns.



TRANSVERSAL SKILLS

Capacity Building Your Employability



GLOBAL CITIZENS GLOBAL DEVELOPMENTS

- Globalisation
- Consumption Increase
- Migration and Demography
- Economic Interdependency

ATTITUDE

PERSONAL / SOCIAL QUALITIES

KNOWLEDGE

SKILLS

LANGUAGE



Organizational skills	Transversal job-specific skills	Personal basic skills
Organization	Management skills	Communication skills
Planning	Computer skills	Creativity
Adaptability	Language skills	Interpersonal skills
Ethics	Marketing and sales skills	Emotional Intelligence
Professionalism	Leadership	Loyalty and Commitment
Project Management	Critical Thinking	Learning to learn
Flexibility	Analytical Skills	Entrepreneurship
Problem solving	Customer service skills	Multicultural skills
Decision making	Business and strategic skills	
Time Management	Goal orientedness	
Team working	Work under pressure	
	Innovation	

TRANSVERSAL COMPETENCIES

- Critical + Innovative Thinking
- Interpersonal Skills – presentation, communication, organisational skills; teamwork
- Intrapersonal Skills – self discipline; enthusiasm; perseverance; self motivation
- Global Citizenship – tolerance; openness; respect for diversity; intercultural understanding
- Media and Information Literacy
- Other – to a lesser extent physical health and religious values

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- Stakeholders Interviews 2017-18 PEETS.
 - “Employers find all Transversal skills very important and all equally important as well”



ERASMUS IMPACT STUDY

(SEPTEMBER 2014)

92% of Employers are Looking for Transferable Skills

ACQUIRING TRANSVERSAL SKILLS

- Training
- Role Play
- Discussions
- Theory
- Videos
- Reflection Assignments

Transversal Skills - Resilience Lens

- Some skills which can be thought to build up resilience:
 - Problem Solving
 - Leadership and planning
 - Adaptability
 - Self-motivation
 - Reflection.
- University degrees can be viewed as a playground for developing resilience.
- In Apprenticeship degrees, this pathway to resilience is already being forged both in the university and workplace.

Reflection

‘It is not sufficient to have an experience in order to learn. Without reflecting on this experience it may quickly be forgotten, or its learning potential lost.’
(Gibbs, 1988, p9)

Methods

- Analysis of reflective accounts produced apprentices as part of their Work-Based Assignments using thematic analysis.
- Braun & Clarke (2006) identified a six-phase coding framework identifies patterns and themes in the data:
 1. Familiarisation of data
 2. Generation of initial codes
 3. Combining codes into themes
 4. Reviewing themes
 5. Determine significance of themes
 6. Reporting of findings, through interpretative analysis.
- A total of 8 reflective accounts were analysed - 2 selected from each year of Graduate Apprenticeship Degree

Findings

- Review of reflective accounts showed broad range of skills, and commonality was exposed.
- Earliest experiences feature building early knowledge base, and self-motivation.
- Unexpected part of the learning journey in the earlier years is gaining autonomy and independence.
- Resilience and adaptability build over time.

Findings

- Resilience and adaptability feature strongly
 - Not specifically mentioned by apprentices.
- More to be done to help apprentices understand their own development.
- Mentoring is natural at work, not so much at University without dedicated mentoring programmes.

Findings

- Difficult to replicate GA learning opportunities.
- Our degree programmes provide some opportunities for transversal skills development.
- Simulated learning experiences useful.

Next Steps

- Fully optimise the role of the Work-Based Learning Advisor in the Apprentice Degree.
- Consider how mentoring scheme would work in traditional degree programme.
- Consider how to implement simulated learning environments into the traditional degree programme.



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