

## Overview:

Engineering academics and employers were provided with a list of the University of Aberdeen's 19 Graduate Attributes and were requested to complete the "Diamond Nine" exercise. The exercise involved participants selecting the nine graduate attributes they valued most to create a diamond-shaped hierarchy, with the most important attribute of these 9 at the top and the least important at the bottom. The exercise aimed to explore the perceptions of engineering employers and engineering academics regarding the skills, knowledge and characteristics which are valued most by these two distinct stakeholder groups.

## Background:

Universities around the world are engaging in the graduate attribute agenda, with the aim of enhancing the education of 21st Century learners and developing highly employable graduates. However, the language of graduate attributes (GAs) is frequently perceived by academic staff, students, and employers as difficult to relate to the real world. This case study investigates how engineering academics and engineering employers are interpreting, valuing and prioritising the University of Aberdeen's nineteen GAs. The GAs are an underpinning aspect of the University's recent Curriculum Reform Project.

45 academics from the School of Engineering attended a Teaching Away Day in January 2013 at which one of the discussion sessions focused on University's [Graduate Attributes](#). A brief overview of the GAs was given, reminding staff of the four graduate attribute clusters: Academic Excellence; Critical Thinking & Effective Communication; Learning & Personal Development & Active Citizenship. Engineering academics were divided into five groups who each completed the Diamond Nine Graduate Attributes exercise by discussing the relative importance of each of the 19 GAs within their discipline.

A similar exercise was carried out in December 2012 with groups of engineering employers. The underlying rationale for the Diamond Nine exercise was to raise staff/employer awareness of the University's statement of graduate attributes and to compare their perceptions of which attributes are the most valued by the different stakeholders.

## Key Findings:

**Academic Excellence:** The Aberdeen Graduate Attribute ranked as being the most important by all engineering staff groups was: *In-depth and extensive knowledge, understanding and skills at internationally-recognised levels in their chosen discipline(s)*.

In contrast, employers, however, stressed that they would expect such academic excellence in any graduate of the University and their initial employment application process would discard students who had not achieved academic excellence in terms of degree classification. As a result, assuming all remaining applicants have shown academic excellence, other graduate attributes would become more important from the employers' perspective.

- **Critical Thinking & Effective Communication:** The GA ranked most frequently as being important by the engineering employers present was: *An ability to communicate effectively for different purposes and in different contexts*. In contrast, this GA was not ranked so highly by the engineering academics.
- **Learning & Personal Development:** Attributes from this cluster appeared infrequently in the academic staff hierarchies. The most common attribute from this cluster to appear in the staff top 9 was *a capacity for self reflection, self discovery and personal development*, which appeared in only 40% of the academic groups' hierarchies. This attribute was however rated more highly by employers who also regarded *an openness to, and an interest in, life-long learning through directed and self-directed study and an awareness of personal strengths and weaknesses* as being highly valued in the workplace.
- **Active Citizenship:** The Active Citizenship GAs did not feature highly in either the academic or engineering employer selections. The exception to this, however, was the attribute *an awareness and appreciation of ethical and moral issues* which selected as one on the top 9 attributes in all the academic staff hierarchies and in the employer hierarchies.

**Key points and challenges:**

This report presents a preliminary snapshot of engineering employers' and engineering academics' perspectives of GAs. The research reveals a perceived mismatch between the attributes most valued by academics and employers. The data collected paints an interesting picture of different perceptions of employability which warrants further investigation.

**Videos of interviews undertaken with a Lecturer in Chemical Engineering and a Business Development Manager from the energy/engineering sector, discussing the importance of Graduate Attributes, are available as part of this case study at: <http://youtu.be/UwHv6Qrd67c> and <http://youtu.be/pdWLnnqCUvE>.**