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**Let's teach and recruit for the
future needs of the Food
Industry**

Competencies for Food Graduate Careers

Emma Weston
Associate Professor
University of Nottingham

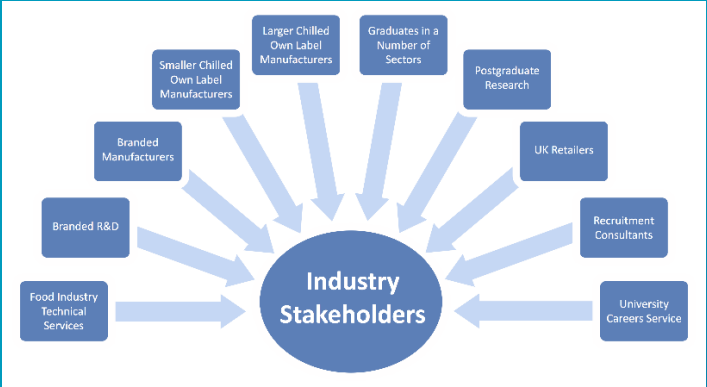




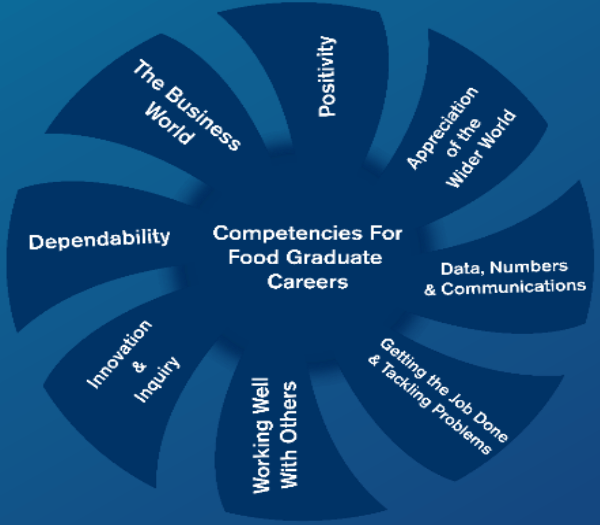
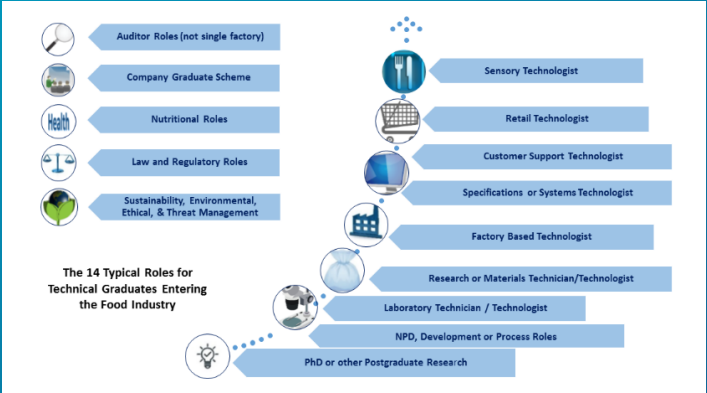
Project to establish **what industry wants in a food sciences graduate**....involving industry

NB: aside from technical-scientific training

- ✓ What competencies may be desired by employers in a new graduate
- ✓ What roles do graduates usually enter the industry
- ✓ What do industry think of each of these roles specifically?
 - Engage students, employers and educators



Bit of stats.....



NPD*, DEVELOPMENT OR PROCESS ROLE

Focussed on development of new products (NPD), existing ones or improvement of processes themselves. Most are a combination of 2 or more of these. Can be employed in small to large businesses and some are retailer facing, others branded. A large variety of role titles and salaries but a classic graduate entry point.

*NPD = New Product Development

KEY FEATURES

Typical Role Names

- NPD Technologist
- Development Technologist
- Process Development Technologist
- Process Technologist
- NPD Process Technologist
- Product Developer

So What is Desirable for a NPD, Development or Process Role?

There are standards for the technical content of Food Sciences degrees, but there are more aspects you can develop to support success in the workplace. 14 typical graduate roles types have been identified & this is one of them. Industry have outlined what they think may be the most valuable skills, knowledge and behaviours for this role. They are outlined in 8 themes then more detail is provided on specific elements. Below is the profile for this role.

Desirable Themes for this Role

- DE Innovation & Inquiry** Creativity in mind, approach and method to find new opportunities and enable results. This role has the highest association with DE.
- DE The Bottom World** Appreciation of systems and drivers that ensure successful operational performance and profit.

Desirable Elements for this Role

- Adaptability**
- Collaboration**
- Commercial Awareness**
- Entrepreneurship**
- Initiative**
- Innovation**
- Open-Minded**
- Passion for Subject**
- Questioning Approach**
- Teamworking**
- The Mechanics of Business**
- Work Experience**

Competencies for Food Graduate Careers

Find out about more technical graduate roles in the food industry and what may be best suited to you in developing your career on (web link to be added in near future)

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For more information please contact emma.seaton@nottingham.ac.uk



226 sets of data from employers



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What are the results?

Definition

Examples of evidence

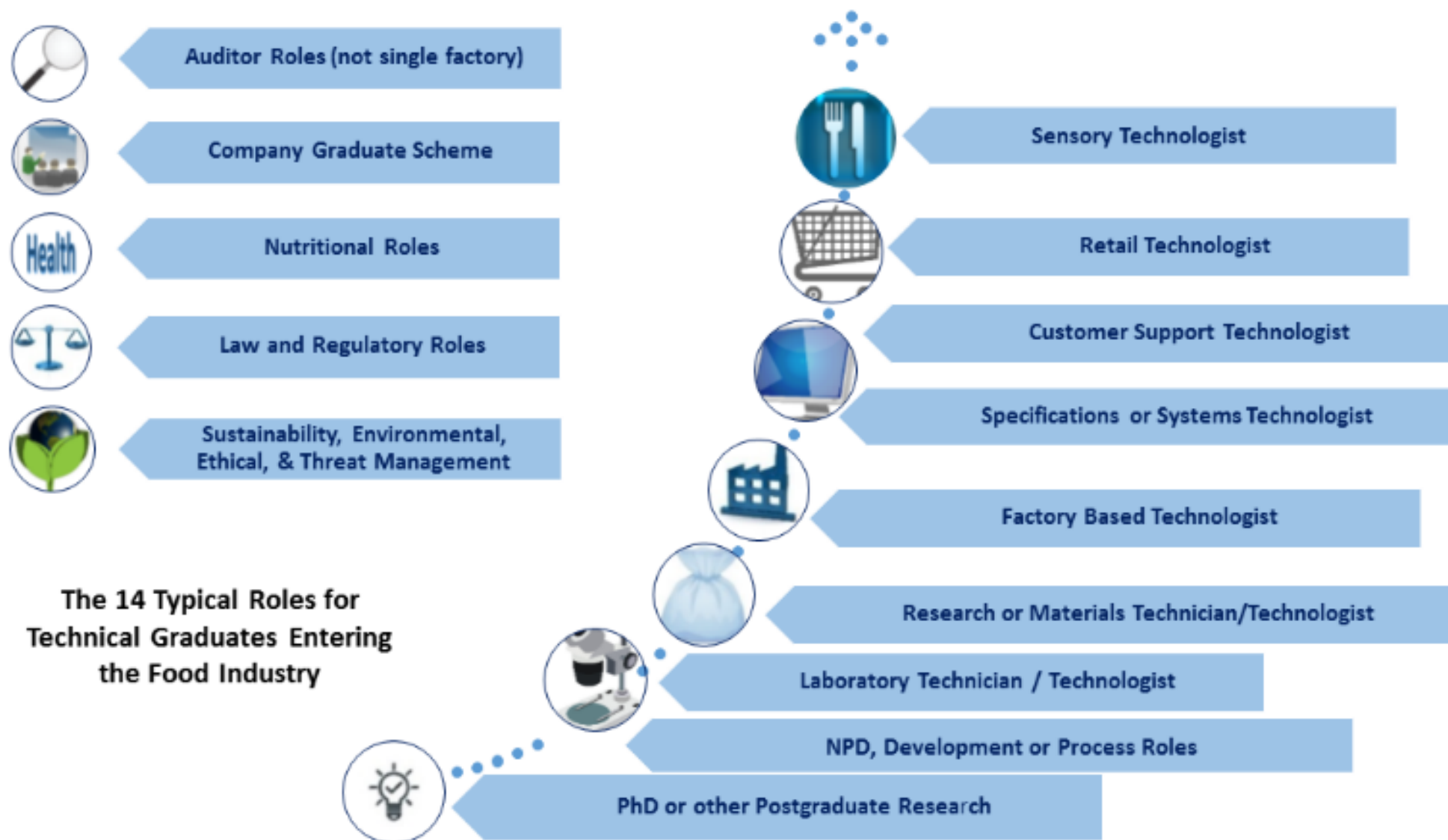
Stakeholder comments

Detail on
48
Elements

Adaptability	D1 - Positivity
Definition	A constructive approach to handling change.
Some examples of this element	<ul style="list-style-type: none"> • Proven ability of working well within a face paced environment. • Moving sites whilst on graduate programme. • Whilst on a project (placement or university) demonstrating having to change your plans due to unforeseen circumstances. • Having an unannounced audit and being able to get the best output. • Company restructures and redundancy.
Relevant quotations	<p>"...the food industry is moving so fast at the moment and, you know, one week you're on a track doing something and the next week it's something totally different."</p> <p>"...once you've been here more than two or three years, you're almost certainly not doing the job that you were recruited to do..."</p> <p>"rise to the occasion"</p> <p>"...in those scenarios we want people who embrace change rather than endure change..."</p> <p>"...I think the environments that people tend to work in within specifically food are ever changing and there is unexpected challenges that occur that you can't control so I think to have an attribute that is someone who is not fazed by that or potentially depending on the role even drives with that."</p> <p>"..So adaptability I think is important for career progression especially in a small business."</p> <p>"...respond very quickly to a fluxing environment..."</p> <p>"I think you have to appreciate that when you come in in the morning you are not going to do what you wanted to do that day..."</p>



14 Typical Roles for Food Sciences Graduates





Each Role: differing associations with each Theme

Auditor (not based in a single factory)	Company Graduate Scheme	Customer Support Technologist	Factory Based Technologist	Company Graduate Scheme Role	Laboratory Technician/Technologist	Law and Regulatory New Graduate Role	NPD, Development or Process Role	Nutritional Graduate Role	PhD or other Postgraduate Research Role	Research or Materials Technician/Technologist	Retail Technologist	Sensory Technologist Graduate Role	Specifications or Quality Systems Technologist	Food Safety, Ethical or Sustainability Roles
D4	D2	D8	D4	D2	D7	D7	D6	D5	D3	D3	D2	D5	D3	D2
D5	D1	D5	D7	D1	D1	D1	D8	D3	D6	D6	D4	D8	D7	D3
D1	D6	D3	D5	D6	D2	D3	D5	D7	D4	D5	D8	D3	D2	D5
D7	D5	D1	D8	D5	D5	D2	D7	D2	D1	D8	D1	D4	D1	D1
D3	D8	D4	D1	D8	D8	D5	D2	D6	D2	D7	D6	D2	D5	D6
D8	D4	D7	D2	D4	D3	D4	D1	D8	D7	D4	D7	D7	D8	D4
D2	D7	D2	D3	D7	D6	D6	D3	D1	D8	D1	D5	D1	D4	D8
D6	D3	D6	D6	D3	D4	D8	D4	D4	D5	D2	D3	D6	D6	D7

D =
theme #

Dark Colour –
more relative
desirability

14 Role Names

Role Titles

How it Relates to the 8 Themes

Infographics for 14 Roles

- Teaching
- Online Tool
- Employers
- Education Review

NPD*, DEVELOPMENT OR PROCESS ROLE

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So What is Desirable for a NPD, Development of Process Role?

There are standards for the technical content of Food Sciences degrees; but there are more aspects you can develop to support success in the workplace. **14 typical graduate roles types** have been identified & this is one of them. Industry have outlined what they think may be the most valuable skills, knowledge and behaviours for this role. They are outlined in **8 themes** then more detail is provided on specific **elements**. Below is the profile for this role.

Desirable Themes for this Role

D6	Innovation & Inquiry	Creativity in mind, approach and method to find new opportunities and enable results. (this role has the highest association with D8)
D8	The Business World	Appreciation of systems and drivers that produce successful operational performance and profit.

Desirable Elements for this Role

Adaptability
Collaboration
Commercial Awareness
Entrepreneurship
Initiative
Innovation

Open-Minded
Passion for Subject
Questioning Approach
Teamworking
The Mechanics of Business
Work Experience

Competencies for Food Graduate Careers

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What the Role is

Desirable Elements for the Role top selection

<https://www.ifst.org/resources/competencies-food-graduate-careers>

Or google
'competencies
IFST'

Competencies for Food Graduate Careers

New framework to outline key competencies for food sciences graduates

Update June 2018. The online interactive tool for Competencies for Food Graduate Careers is now live on <http://www.nottingham.ac.uk/go/foodcareers>

Following the publication of the [Wakeham Review](#) in May 2016, the ability of higher education institutions to produce employable graduates for the agri-food sector has been brought into focus. The report highlighted that higher education institutions and businesses need to ensure graduates entering work have the right skills for the future.

Responding to the challenge, Emma Weston, Associate Professor, Division of Food Sciences, University of Nottingham initiated a research project to explore what makes a 'great graduate for the food industry' and how educational providers can optimise the curricula to facilitate this.

'Competencies for Food Graduate Careers', developed in collaboration with IFST and representatives from SMEs, retailers, manufacturers, research and development, higher education Institutions, aims to disseminate a competency framework tailored to typical technical careers pathways for graduates entering the food industry.

The core document comprises of a list of 48 elements that provide a consistent and relevant set of behaviours, knowledge and skills that may be desirable in a food science graduate. A list of 14 role types and associated definitions were then reviewed and ratified by the industry stakeholder group. They are illustrated below:

- Auditor Roles (not a single factory)
- Company Graduate Scheme
- Nutritional Roles
- Law and Regulatory Roles
- Sustainability, Environmental, Ethical, and Threat Management
- Sensory Technologist
- Retail Technologist
- Customer Support Technologist
- Specifications or Systems Technologist
- Factory Based Technologist
- Research or Materials Technician/Technologist
- Laboratory Technician/Technologist
- NPD, Development or Process Roles
- PhD or other Postgraduate Research

The online interactive tool will be openly accessible in the New Year so it can be used by students to help them identify and pursue careers suited to their strengths; employers to help with recruitment and selection; and educators to help ensure courses reflect the needs of the food sector.

Key stakeholders involved in the project included: Campden BRI, Fresh Cut Foods, Greencore, MorePeople, PepsiCo, Sainsbury's, Warburtons, University of Nottingham as well as Cardiff Metropolitan University and Queens University Belfast. In addition, over 200 responses were obtained from the wider food and drink industry in a bespoke survey.

Emma Weston commented: "At University of Nottingham we are really passionate about developing the highest quality food sciences graduates to enter the UK food and drink industry. This means more than just delivering excellent scientific education; students also need to have developed a wider set of competencies to enable them to be successful in their first graduate job. The support from industry has been superb and provided material that is as true to life as possible. Of course at Nottingham we are integrating the project results into our teaching this academic year. However the 'Competencies for Food Graduate Careers' is aimed to be of practical value to all students in personal development and securing their first role in the industry. Further opportunities for use are also being explored for employers and educators."



<http://www.nottingham.ac.uk/go/food-careers>

Welcome to the Competencies for Food Graduate Careers Toolkit

[Show / Hide Explanation](#)

[Find a Career](#)

Explanation:

Select roles, themes or elements to see a list of all roles, themes or elements.

You can then choose to see more information for an individual option by selecting 'See More'.

For more details on how the Competencies for Food Graduate Careers was developed, you can view the [IFST](#) website.

[Show / Hide Pinwheel](#)

Roles

[Show / Hide Roles](#)

Themes

[Show / Hide Themes](#)

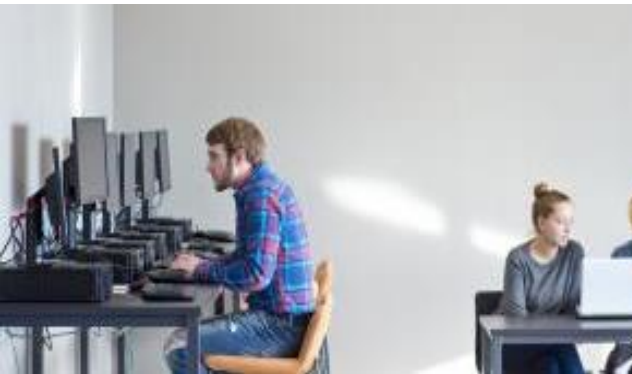
Elements

[Show / Hide Elements](#)

Or Google
'food
competencies
UoN'

For All

- Webpage on IFST
- Online Toolkit



COMPANY GRADUATE SCHEME

Fairly simple, 2-3 year contracts. There may be 2 or 3 posts undertaken, possibly on a number of sites plus extra central training or support provided over the period by the company. On completion usually offered a permanent role in a technical or other field.

KEY FEATURES

Typical Role Names

- Technical Graduate Scheme
- Retail Graduate Scheme
- Graduate Scheme

So What is Desirable for a Company Graduate Scheme?

14 typical graduate roles have been identified and this is one of them. Industry have outlined what they think may be the most valuable skills, knowledge and behaviours for this role. They are outlined in 8 **general themes** then more detail is provided on specific elements (there are **48 elements** grouped into **11 Zones**). Below is the profile for this role.

Desirable Themes for this Role

Interestingly the data indicates a desirability for a general level of competence across all themes

Desirable Elements for this Role

Acceptance of Ambiguity
Adaptability
Cultural Sensitivity
Decision Making
Leadership
Passion for Subject

Personal Responsibility
Positive Attitude
Self-Development
Self-Motivated
Teamworking
Working Under Pressure

Competencies for Food Graduate Careers

Find out about more technical graduate roles in the food industry and what may be best suited to you in developing your career on XXXX



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At Nottingham

- Autumn 2017 Use of material in teaching
- Autumn 2018 Curriculum content aligned





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Next Steps

- IFST Careers Launchpad (below Nov 2018)
- Link to IFST Degree Accreditation (tbc)
- Food Matters Live
- Employers use....
- Provide some type of inspiration at secondary school level?
- Link to degree apprenticeships?





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The Employer



- **Get the right and best applicants**
- Writing clear job specifications and adverts
- Building role profiles
- Developing targeted criteria for all stages of interviews and selection.
 - specific questions for a certain role for interviews
 - longer term thoughts such as tailored questionnaires, tests and screening





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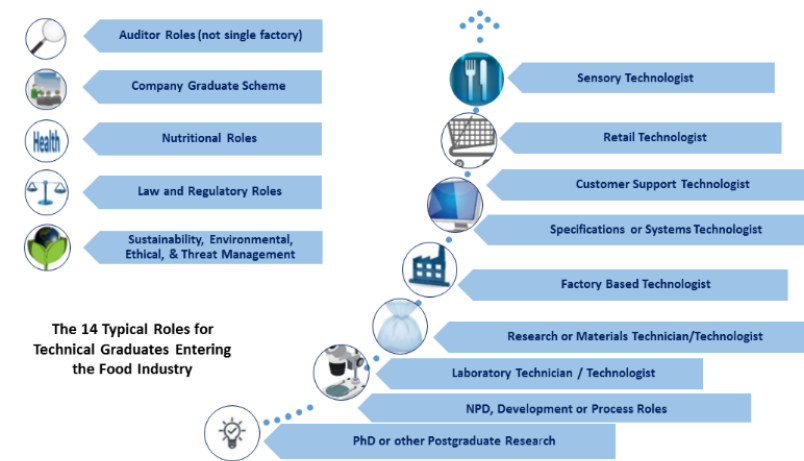
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Admissions and Before...



Engaging at Secondary Level

- Embedded in UoN admissions messages
- ALSO
- Using in talks to schools on degrees and careers
 - Clear list of roles may interest those with science interests
 - Online toolkit open to all
 - Supported with positive message of the industry
 - Sell the diversity and reward in the career options



We now have clarity of what is desirable in a great Food Sciences graduate

- Educators use it to teach optimally and advise effectively (possibly in future accreditation?)
- Students use it to prepare and apply for the right roles for them
- Employers, use it to get the best applicants
- Consider how to use to engage at secondary school level





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Thank You So Much

Please contact me if you'd like further information

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