

# OAL Level 3 Diploma in Food Technology

Qualification number (QN): 603/1389/4

## Qualification specification

### Qualification purpose

This qualification is designed to develop and confirm a graded level of performance of Food and Drink Technologists, so they have the necessary skills, knowledge and understanding to work effectively in technical functions in food and drink processing or manufacturing operations.

On achievement of the qualification learners will have developed the level of competence which will enable them to perform consistently, reliably and productively in their work role, and make a positive contribution to their employment.

### Qualification coverage

On achievement of this qualification, learners will have an in-depth knowledge and understanding of food industry regulations, raw materials and storage, microbiology, food science and the application of food technology. Learners will be able to contribute to health and safety and food safety management, technical and quality management, product development and costing and continuous improvement. Learners will be competent in core technical activities including the resolution of technical problems and conducting quality and sensory evaluation. Learners will also exhibit competence in the interpretation and analysis of technical information and data.

Learners will have developed valuable skills which will enable them to make an immediate, productive and positive contribution to their employment. They will be empowered to learn, develop themselves and progress their learning experiences or promotional opportunities. They will be able to develop and maintain professional relationships with colleagues and champion the technical role with a food business.

This qualification is an ideal springboard for potential future technical managers in the food and drink industry.

### Qualification Objective

Qualification objective: supporting a role in the workplace.

### Who is this qualification for?

This qualification is designed for learners who are looking to learn and apply their skills in a

food technologist role in a food and drink processing/manufacturing environment. Learners who have some experience of advanced process operations and wish to continue their professional development will also benefit from the knowledge, understanding and skills that this qualification provides.

Food Technologists work in one of the largest, most dynamic and fastest growing sectors of industry. Everyday producers, food manufacturers and retailers make and sell millions of innovative food products, such as drinks, cakes, biscuits, ready to eat and ready to cook food, sandwiches, wraps and fresh fruit and salads to consumers in the UK and around the world. Food Technologists are passionate about their industry and ensure all products are safe to eat, of consistent appearance, taste, and texture and take great pride in their work.

There are many varied employment and career opportunities in food science and technology occupations; within a laboratory-based environment to ensure the safety and quality of food products, in development roles to improve existing products and launch new products, in factory-based roles working with teams to develop good manufacturing practices and within the supply chain to develop good relationships with suppliers and customers. Food Technologists may be employed by a grower, in a large or small food manufacturer or by a food retailer and there may be opportunities to travel extensively as part of their role.

Whichever environment Food Technologists choose to work in, they will have developed a set of core skills, knowledge and behaviours to prepare them for an exciting and rewarding career in the food and drink industry. Food Technologists are able to utilise their food science and technological knowledge to ensure the smooth transition of food and drink products from farm to fork driving the manufacturing process, ensuring that technical and quality standards are achieved whilst maximising profitability to meet customer requirements.

Individuals achieving this qualification will be ready to work in an industry, offering many ongoing career development opportunities to suit their own particular interests, whether they aspire to being a Technical Manager of the future, a Quality, Process Development or New Product Development specialist or an Auditor.

### **Entry requirements**

There are no formal entry requirements for learners selecting this qualification. Centres must ensure that learners have the potential and opportunity to achieve the qualification successfully. This qualification is not approved for use by learners under the age of 16 years and OAL cannot accept any registrations for learners in this age group.

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## Progression

This qualification will support the progression of learners to:

- increased responsibility or promotion opportunities in work
- Level 4 vocational qualifications in technical operations/management/quality and improvement
- apprenticeships for the food and drink industry
- technical/development/quality or management related job roles in food and drink operations.

## Regulatory information

|                                      |                                |
|--------------------------------------|--------------------------------|
| Regulated by                         | Ofqual                         |
| Countries offered in:                | England                        |
| Ofqual subject/sector areas:         | 4.2 Manufacturing technologies |
| Qualification operational start date | 1st May 2017                   |
| Qualification type:                  | Occupational qualification     |
| Applicable age ranges (years):       | 16-18; 19+                     |

## Assessment Methods

The qualification must be assessed using the following assessment method:

- portfolio of evidence

Learners are required to achieve all learning outcomes within units of assessment. Assessment will involve observation of learner performance carrying out the internal quality assurer's role. All assessments are subject to internal quality assurance within approved centres providing this qualification.

Externally quality assurance of assessment and internal quality assurance within approved centres is provided by OAL.

## Grading

This qualification is graded; achievement certificates for this Diploma are issued on the basis of awarding a fail, pass, merit or distinction.



## Qualification structure

| Qualification title: OAL Level 3 Diploma in Food Technology                                  |            |  |      |   |        |     |
|--|------------|--|------|---|--------|-----|
| Qualification number (QN): 603/1389/4  |            |  |      | Total Qualification Time (TQT): 652 hours |        |     |
| Total qualification credits: 65  |            |  |      | Guided Learning Hours (GLH): 420          |        |     |
| All 15 mandatory units must be successfully achieved to be awarded a minimum of a Pass grade |            |  |      |   |        |     |
| Mandatory group of units   |            |  |      |   |        |     |
| Unit number  |            | Title  | Type | Level                                     | Credit | GLH |
| 1  | T/615/6677 | Principles of regulation and the food and drink supply chain                           | U    | 3   | 4      | 30  |
| 2  | A/615/6678 | Principles of raw materials and storage in food and drink operations                   | U    | 3   | 3      | 24  |
| 3  | F/615/6679 | Principles of microbiology for food and drink operations                               | U    | 3   | 5      | 36  |
| 4  | T/615/6680 | Principles of food science for food and drink operations                               | U    | 3   | 5      | 36  |
| 5  | A/615/6681 | Principles of technology for food and drink operations                                 | U    | 3   | 5      | 36  |
| 6  | F/615/6682 | Contribute to food safety management in food and drink operations                      | C    | 3   | 4      | 24  |
| 7  | J/615/6683 | Contribute to HACCP management in food and drink operations                            | C    | 3   | 4      | 24  |
| 8  | L/615/6684 | Contribute to health, safety and environmental management in food and drink operations | C    | 3   | 5      | 30  |
| 9  | R/615/6685 | Contribute to technical and quality management in food and drink operations            | C    | 3   | 5      | 30  |
| 10   | Y/615/6686 | Resolve technical and quality problems in food and drink operations                    | C    | 3   | 4      | 24  |
| 11   | D/615/6687 | Conduct quality and sensory evaluation in food and drink operations                    | C    | 3   | 5      | 30  |
| 12   | H/615/6688 | Contribute to product development and costing in food and drink operations             | C    | 3   | 4      | 24  |
| 13   | K/615/6689 | Develop self and maintain professional relationships in food and drink operations      | S    | 3   | 4      | 24  |
| 14   | D/615/6690 | Interpret and analyse data in food and   | C    | 3   | 4      | 24  |

|    |            |   |   |   |   |    |
|----|------------|---|---|---|---|----|
|    |            | drink operations  |   |   |   |    |
| 15 | H/615/6691 | Contribute to continuous improvement in food and drink operations | C | 3 | 4 | 24 |

### Key to unit type

1. Competence (C) units are designed to assess learner performance in respect of the learner's applied skills and knowledge in the workplace when carrying out operational tasks required by their role
2. Skills (S) units are designed to assess learner performance in respect of the learner's applied skills and behaviours that demonstrate valid, consistent and reliable practice
3. Underpinning knowledge (U) units are designed to assess the learner's knowledge and understanding of detailed subject principles/scientific/technological knowledge

### Qualification support

This qualification is supported by a number of Further Education Colleges and Independent Providers of post-16yrs training and education facilitating completion of the skills, knowledge and behavioural requirements for:

- Food Technologist Apprenticeship Standard

This qualification is also supported by employers in the Food and Drink Process Operator Apprenticeship Trailblazer Group as facilitating completion of the skills, knowledge and behavioural requirements for:

- Food Technologist Apprenticeship Standard

### Further information

Further information about this qualification can be obtained from:

<http://www.oawards.co.uk/quals/food-drink/>

You can also contact OAL directly at:

Occupational Awards Ltd, Innovation centre, Innovation Way, York, YO10 5DG

Tel: 01904 236 483

Email: [info@oawards.co.uk](mailto:info@oawards.co.uk)

### Qualification achievement

This qualification is made up of units of assessment that are mandatory. All units are allocated a credit value which provides an indication of the size of the units in terms of learning hours, 1

credit = 10 learning hours. All units also have assigned Guided Learning Hours (GLH), which indicate the average number of hours a learner may require guidance and support from teaching, learning and assessment professionals.

Learners must achieve all mandatory units to achieve the qualification at a Pass grade. The units set out the things learners need to know and need to do in order to perform effectively in their role at work. These are described in Learning Outcomes in units of assessment. The Learning Outcomes are defined by Assessment Criteria and these criteria must be assessed successfully for a learner to achieve each unit. Details of the grading arrangements for the qualification are set out in section 4 Grading Requirements.

Achievement of all mandatory units will mean the qualification has been completed and will be subject to grading and to approval of a claim for certification, OAL will issue a certificate complete with the learner's name, the qualification title and the credits and grade achieved. Where a learner has not achieved the full qualification and will not go on to do so, a Certificate of Unit Achievement can be issued for the units successfully completed, however these units will not be graded.

Centres must ensure they understand all qualification requirements prior to the registration of learners and prior to carrying out assessment of learners and the grading of the qualification. Assessment of learners must not take place prior to the registration date of the learner with OAL. Centres must retain copies of learner's assessment records for at least three years after certification. Registration and certification fees may be subject to change. Centres should be fully aware of registration and certification end dates to ensure learners are not disadvantaged.

## 1.12 Map of qualification to Food Technologist Apprenticeship Standard

| <b>Qualification title: OAL Level 2 Diploma in Food Technology</b> |  |   |
|--|--|---|
| <b>Mandatory units of assessment:</b>                              |  |   |
| Number   | Title  | Unit contains skills, knowledge and behaviours required by the standard:  |
| T/615/6677   | Principles of regulation and the food and drink supply chain         | <p>Core knowledge:</p> <ul style="list-style-type: none"> <li>Legislation and regulations in the food and drink industry</li> <li>Basic principles of environmental legislation</li> <li>Appreciation of ethical issues in the food industry</li> <li>The food supply chain from end to end, and relationships within it</li> </ul> <p>Behaviours:</p> <ul style="list-style-type: none"> <li>Company/industry perspective: knowledge of company and food industry</li> </ul> |
| A/615/6678   | Principles of raw materials and storage in food and drink operations | <p>Core knowledge:</p> <ul style="list-style-type: none"> <li>Principles of raw materials: specifications, supply, storage, handling and quality assurance</li> </ul> <p>Behaviours:</p> <ul style="list-style-type: none"> <li>Safe working: food safe</li> </ul>  |
| F/615/6679   | Principles of microbiology for food and drink operations             | <p>Core knowledge:</p> <ul style="list-style-type: none"> <li>Basic principles of microbiology: common food pathogens and toxins, food hygiene</li> </ul> <p>Behaviours:</p> <ul style="list-style-type: none"> <li>Safe working: food safe</li> </ul>  |
| T/615/6680   | Principles of food science for food and drink operations             | <p>Core knowledge:</p> <ul style="list-style-type: none"> <li>Basic principles of food chemistry: composition of food, food nutrition</li> </ul> <p>Behaviours:</p> <ul style="list-style-type: none"> <li>Safe working: food safe</li> </ul>   |
| A/615/6681   | Principles of food technology for food and drink operations          | <p>Core Skills:</p> <ul style="list-style-type: none"> <li>Review and maintain technical procedures for food businesses</li> <li>Investigate and resolve problems</li> </ul> <p>Core knowledge:</p> <ul style="list-style-type: none"> <li>Use and purposes of food industry standards e.g. SOPs</li> </ul>   |



| Number     | Title  | Unit contains skills, knowledge and behaviours required by the standard:  |
|------------|--|---|
| F/615/6682 | Contribute to food safety management in food and drink operations                      | <p>Core knowledge:</p> <ul style="list-style-type: none"> <li>• Legislation and regulations in the food industry, including understanding of food safety</li> <li>• Methods of pest control and pest prevention</li> <li>• Management systems used in food businesses: Good Hygiene Practices (GHP)</li> </ul> <p>Core skills:</p> <ul style="list-style-type: none"> <li>• Implement and maintain risk management systems</li> </ul> <p>Behaviours:</p> <ul style="list-style-type: none"> <li>• Safe working: food safe</li> </ul>  |
| J/615/6683 | Contribute to HACCP management in food and drink operations                            | <p>Core knowledge:</p> <ul style="list-style-type: none"> <li>• Legislation and regulations in the food industry, including understanding of HACCP</li> <li>• Management systems used in food businesses: Good Hygiene Practices (GHP)</li> </ul> <p>Core skills:</p> <ul style="list-style-type: none"> <li>• Implement and maintain risk management systems (e.g. HACCP)</li> </ul> <p>Behaviours:</p> <ul style="list-style-type: none"> <li>• Safe working: food safe</li> </ul>  |
| L/615/6684 | Contribute to health, safety and environmental management in food and drink operations | <p>Core knowledge:</p> <ul style="list-style-type: none"> <li>• Legislation and regulations in the food industry, including understanding of Health and Safety</li> <li>• Basic principles of environmental legislation</li> <li>• Management systems used in food businesses: risk management</li> </ul> <p>Core skills:</p> <ul style="list-style-type: none"> <li>• Implement and maintain risk management systems</li> </ul> <p>Behaviours:</p> <ul style="list-style-type: none"> <li>• Safe working: ensures safety of self and others, challenges safety issues</li> </ul> |

| Number     | Title   | Unit contains skills, knowledge and behaviours required by the standard:   |
|------------|---|--|
| R/615/6685 | Contribute to technical and quality management in food drink operations | <p>Core knowledge:</p> <ul style="list-style-type: none"> <li>• Use and purposes of food industry standards e.g. British Retail Consortium, Standard Operating Processes/Procedures</li> <li>• Quality management systems and internal and external specifications</li> <li>• Internal and external audit processes used in food businesses</li> <li>• Management systems used in food businesses: Good Manufacturing Processes (GMP), process flow and risk management</li> </ul> <p>Core skills:</p> <ul style="list-style-type: none"> <li>• Review and maintain technical procedures for food businesses</li> <li>• Carry out internal audits and participate in external audits</li> </ul> <p>Behaviours:</p> <ul style="list-style-type: none"> <li>• Safe working: food safe</li> </ul> |
| Y/615/6686 | Resolve technical and quality problems in food and drink operations     | <p>Core knowledge:</p> <ul style="list-style-type: none"> <li>• Understanding of a range of problem solving techniques, to include root cause analysis and investigation methods</li> </ul> <p>Core skills:</p> <ul style="list-style-type: none"> <li>• Investigate and resolve problems, including customer complaints and quality issues</li> <li>• Use problem solving techniques, to include root cause analysis and investigation methods</li> </ul> <p>Behaviours:</p> <ul style="list-style-type: none"> <li>• Problem solving: works to identify and ensure root causes of problems are resolved, demonstrating a tenacious approach</li> <li>• Innovation: demonstrates curiosity to foster new ways of thinking and working</li> </ul>  |

| Number     | Title   | Unit contains skills, knowledge and behaviours required by the standard:  |
|------------|---|---|
| D/615/6687 | Conduct quality and sensory evaluation in food and drink operations               | <p>Core knowledge:</p> <ul style="list-style-type: none"> <li>• How to carry out sensory analysis</li> <li>• Quality Management Systems and internal and external specifications</li> </ul> <p>Core skills:</p> <ul style="list-style-type: none"> <li>• Conduct sensory evaluation activities</li> </ul> <p>Behaviours:</p> <ul style="list-style-type: none"> <li>• Effective communication: in writing, visually and verbally</li> </ul>   |
| H/615/6688 | Contribute to product development and costing in food and drink operations        | <p>Core knowledge:</p> <ul style="list-style-type: none"> <li>• Understanding the drivers of cost and quality</li> <li>• The functions and processes used in new and existing product development (NPD and EPD)</li> <li>• Understanding of how to cost products</li> </ul> <p>Core skills:</p> <ul style="list-style-type: none"> <li>• Carry out a product costing</li> <li>• Support product trials</li> </ul> <p>Behaviours:</p> <ul style="list-style-type: none"> <li>• Effective communication: in writing, visually and verbally</li> </ul>   |
| K/615/6689 | Develop self and maintain professional relationships in food and drink operations | <p>Core skills:</p> <ul style="list-style-type: none"> <li>• Develop and maintain effective relationships with customers, suppliers and colleagues</li> <li>• Act as a champion for the technical department within the wider business</li> <li>• Influence and negotiate with colleagues</li> </ul> <p>Behaviours:</p> <ul style="list-style-type: none"> <li>• Ownership of work: accepts responsibility, is proactive, plans work</li> <li>• Pride in work: integrity, aims for excellence, time management</li> <li>• Self-development: proposes objectives to support the business, seeks learning, drives the development of self and others</li> </ul> |

| Number     | Title   | Unit contains skills, knowledge and behaviours required by the standard:  |
|------------|---|---|
|            |   | <ul style="list-style-type: none"> <li>• Integrity and respect: respect for colleagues, good communication at all levels, adapts style</li> <li>• Working in a team: builds good relationships with others, works collaboratively, contributes ideas and challenges appropriately</li> <li>• Company/industry perspective: acts as an ambassador</li> </ul> <p>Effective communication: in writing, visually and verbally</p>   |
| D/615/6690 | Interpret and analyse data in food and drink operations           | <p>Core knowledge:</p> <ul style="list-style-type: none"> <li>• How to collect, interpret and analyse data and complete documentation</li> </ul> <p>Core skills:</p> <ul style="list-style-type: none"> <li>• Use a range of IT systems to analyse and interpret data to identify trends and drive Continuous Improvement (CI)</li> <li>• Provide and interpret management data and information (reports and presentations)</li> </ul>  |
| H/615/6691 | Contribute to continuous improvement in food and drink operations | <p>Core knowledge:</p> <ul style="list-style-type: none"> <li>• The key principles of Continuous Improvement (CI) Management</li> </ul> <p>Core skills:</p> <ul style="list-style-type: none"> <li>• Contribute to Continuous Improvement (CI)</li> </ul> <p>Behaviours:</p> <ul style="list-style-type: none"> <li>• Responsiveness to change: flexibility to changing working environment and demands</li> <li>• Innovation: demonstrates curiosity to foster new ways of thinking and working</li> </ul> |