



**The Royal Institute  
of Public Health**

# **Advanced Certificate in Applied HACCP Principles**

**Qualification Specification**

**January 2007**

## INTRODUCTION

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Public concerns about standards of food safety and raised expectations regarding food quality have grown significantly in the past few years. This has been matched by the industry's determination to raise standards of food safety and quality generally. European and UK legislation reflect these pressures and now require all food business operators (except primary producers) to implement a documented food safety management system based on the principles of the Hazard Analysis and Critical Control Point (HACCP) system. This provides an effective and practicable management tool for identifying food safety hazards and ensuring that adequate controls are in place.

This Advanced Certificate has been designed for those working in all sectors of the food industry who establish, implement and manage HACCP systems, ie:

- Owners/managers of food businesses
- HACCP team leaders
- Auditors of HACCP systems
- HACCP trainers/advisers

## QUALIFICATION AIM

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The aim of this qualification is to ensure that candidates have a knowledge and understanding of HACCP principles and how they might be applied in practical situations, particularly in relation to the design, implementation and verification of food safety management systems

## OVERVIEW

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The Advanced Certificate in Applied HACCP Principles is designed for all those employed in the food industry who wish to set up, manage and evaluate HACCP systems and lead HACCP planning and implementation teams. In particular, it targets owners/managers of food businesses, HACCP team leaders and members, auditors of HACCP systems and HACCP trainers/advisers

## OUTCOMES SUMMARY

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There are eight assessment objectives for the Advanced Certificate, testing the candidate's knowledge and understanding of:

1. the current status and characteristics of HACCP.
2. how HACCP systems support national and international standards, trade and legislative requirements.
3. prerequisite programmes and their relationship with HACCP.
4. planning an effective HACCP plan.
5. how to lead a HACCP team.
6. the practical application of HACCP principles.
7. the design, implementation and management of appropriate programmes for the verification and maintenance of HACCP systems.
8. the methods to be used for the effective implementation of HACCP.

## GUIDED LEARNING HOURS

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A minimum of 30 guided learning hours is recommended for this qualification.

## QUALIFICATION STRUCTURE

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The RIPH Advanced Certificate in Applied HACCP Principles is a single unit qualification.

The outcomes have been compiled to ensure relevance to any food business. The examination paper will adopt this generic approach.

## RELEVANCE TO INDUSTRY

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The outcomes of the RIPH Advanced Certificate in Applied HACCP Principles reflect the principles set out in the World Health Organisation's document Codex Alimentarius Food Hygiene Basic Texts.

Current legislation now all requires all food businesses (except primary producers) to implement a documented food safety management system based on the principles of HACCP. The Advanced Certificate in Applied HACCP Principles helps managers to meet this need.

## REGISTRATION OF TRAINING/EXAMINATION CENTRES

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Trainers and organisations wishing to offer courses leading to the RIPH Advanced Certificate in Applied HACCP Principles should first apply for registration to the RIPH.

Prospective trainers should have a minimum of a food-science related degree, a microbiology degree (or equivalent) and 2 years' practical experience in setting up a HACCP system (references may be requested). Trainers wishing to instruct candidates for the Advanced Certificate in Applied HACCP Principles must themselves hold the qualification at credit level (minimum). All trainers must have a training qualification and/or experience of training.

Full details of registration criteria, procedures and application forms are available from the RIPH website [www.riph.org.uk](http://www.riph.org.uk)

## PRE-COURSE ENTRY REQUIREMENTS

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There are no mandatory pre-course qualification requirements for entry to the course. However, it is strongly recommended that candidates hold an intermediate HACCP qualification such as the RIPH Intermediate Certificate in Applied HACCP Principles or have previously acquired food hygiene and safety knowledge and understanding appropriate to intermediate level.

## ENTRY TO EXAMINATION

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Candidates must have attended a full or part-time course of instruction, approved by RIPH and covering the syllabus detailed below.

Application for entry to the examination must be made through a Royal Institute registered examination centre to the **Qualifications Department, The Royal Institute of Public Health, 28 Portland Place, London, W1B 1DE**, to arrive at least two weeks before the date of the examination

Centres may wish to make special arrangements for candidates for whom the standard examination format might present difficulties. A special arrangements form can be downloaded from our website [www.riph.org.uk](http://www.riph.org.uk). Note all special arrangements requests must be received by RIPH at the time of booking the examination.

The Advanced Certificate examination is available at any time throughout the year.

## FORM OF ASSESSMENT

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The assessment consists of:

- Two written papers
- One practical post-course assignment

### **Paper I.** (Two hours)

#### Part A:

Short answer questions testing knowledge and understanding of HACCP principles and definitions.

#### Part B:

Long answers testing depth of knowledge and understanding and application of principles to practical situations.

Paper I has 100 marks possible and 50% must be obtained to achieve a pass.

This paper forms 40% of the total assessment for this Certificate.

### **Paper II.** (75 Minutes)

Questions on a case study focusing on a sample HACCP plan testing application of principles to a practical situation.

Paper II has 50 marks possible and 50% must be obtained to achieve a pass.

This paper forms 30% of the total assessment for this Certificate.

### **Post-course Assignment.** (To be completed within 12 weeks of completion of a course).

Candidates/tutors are given guidance on the aim, objectives, length and structure of the Assignment. The requirement is for approximately 2000 words with graphs/diagrams as appropriate. Candidates, in agreement with their tutor, may choose any topic relating to the use of HACCP and its practical application.

The Assignment has 100 marks possible.

The Assignment forms 30% of the total assessment for this Certificate.

**Overall Assessment.** In addition to the minimum number of marks to be achieved for a pass in each element of the total assessment, candidates must achieve an overall pass mark of 60%.

The minimum evidence required for the awarding of this qualification, regardless of special circumstances, is the submission of Paper I, Paper II and the Post Course Assignment.

### **Rules for re-sitting and/or resubmission of Assessments:**

1. If a candidate fails their assignment but passes both examination papers the candidate has the opportunity to resubmit their original *modified* assignment free of charge within one year of the date of the original examination.

If the candidate still does not pass the resubmitted/modified assignment then a complete set of assessments (two examination papers and the assignment) must be completed and submitted, charged at standard examination fee.

2. If a candidate fails one or both of the examination papers but passes the assignment the candidate must retake both examination papers. The full standard examination fee will be charged. The assignment grade will be carried forward for a period of one year from the date of the original examination.

If the candidate does not pass the failed examination papers within one year of the date of the first examination then a complete set of assessments (two examination papers and the assignment) must be completed and submitted, charged at standard examination fee.

3. If a candidate fails to achieve an overall pass mark of 60% then they must retake the examination papers, however they may also resubmit their original *modified* assignment if they wish, provided both the examination and the resubmission of the assignment takes place within one year of the original examination date. If a candidate still fails to achieve an overall mark of 60% then a complete set of assessments (two examination papers and the assignment) must be completed and submitted, charged at standard examination fee.

## EXAMINATION RESULTS AND CERTIFICATES

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Centres will receive a Results List, giving details of grade achieved by each candidate.

Grades will be awarded as follows:

		3. An advanced understanding of the background and context of HACCP and food hygiene legislation and a proactive approach to food safety.
	2. A reasoned justification of answers, using recognised sources of guidance, information, illustrations and examples.	2. A reasoned justification of answers, using recognised sources of guidance, information, illustrations and examples.
1. A knowledge and understanding of the syllabus objectives and how they might be applied when working independently and carrying out non-routine tasks.	1. A knowledge and understanding of the syllabus objectives and how they might be applied when working independently and carrying out non-routine tasks.	1. A knowledge and understanding of the syllabus objectives and how they might be applied when working independently and carrying out non-routine tasks.
<b>Pass</b>	<b>Credit</b>	<b>Honours</b>

Each successful candidate will receive a Certificate upon which the grade awarded will be shown. Certificates are normally sent to examination centres for distribution to candidates.

## USEFUL SOURCES OF INFORMATION AND RESOURCES

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The Food Standards Agency ([www.food.gov.uk](http://www.food.gov.uk)) is the government watchdog for all food-related matters. It publishes useful information about HACCP.

Environmental health departments of local authorities may be able to offer a limited supply of leaflets regarding food safety.

The World Health Organisation ([www.who.int](http://www.who.int)) and the Food & Agriculture Organisation ([www.fao.org](http://www.fao.org)) web-sites contain useful information about HACCP.

## PROGRESSION OPPORTUNITIES

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Successful candidates may progress to degree level HACCP and food hygiene and safety qualifications.

## KEY SKILLS

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The teaching of outcomes for the RIPH Advanced Certificate in Applied HACCP Principles provide opportunities for developing and assessing certain Key Skills. The examination does not directly assess Key Skills, but the knowledge required, if put into practice during a course, would require the application of Key Skills which might be independently assessed at the same time in line with published guidance. The sign-posting throughout the outcomes of this specification directs teachers/trainers to areas that provide opportunities for independent assessment of Key Skills.

# OUTCOMES

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## 1: BACKGROUND TO HACCP

The candidate will be able to:

- i) describe the background to, and the current status of, HACCP.
- ii) explain that HACCP is a planned, logical, sequence of activities providing a framework for food safety management systems.
- iii) detail the major benefits and limitations of HACCP systems.
- iv) explain the main characteristics of other methods of food safety management.
- v) demonstrate familiarity with the terminology of HACCP, using the Codex Alimentarius definitions

**Key Skills:**

Section 1 may provide opportunities for demonstrating Key Skills activities in Problem Solving.

## 2: HACCP NATIONAL & INTERNATIONAL DIMENSIONS.

The candidate will be able to:

- i) discuss HACCP and international trade including the World Trade Organisation's General Agreement on Tariff and Trade (GATT).
- ii) discuss Sanitary and Phytosanitary Standards (SPS) and Technical Barriers to Trade (TBT) issues, including "equivalence" of food safety systems and the role of Mutual Recognition Agreements and Memoranda of Understanding, in terms of resolving trade disputes.
- iii) explain the role of the World Health Organisation (WHO), the Food and Agriculture Organisation (FAO) and the Codex Alimentarius Committee (CAC) and its relevant committees.
- iv) describe the role of HACCP within other international management standards frameworks, in particular ISO 9001, ISO 14001 and ISO 22000.
- v) provide examples of relevant legislative requirements.
- vi) explain the concept of the "Competent Authority" including the role of the US Food and Drugs Administration (FDA).
- vii) detail the advantages and disadvantages of adopting certification for HACCP systems.

**Key Skills:**

Section 2 may provide opportunities for demonstrating Key Skills activities in Communication.

### 3: PREREQUISITE PROGRAMS

The candidate will be able to:

- i) explain the term “prerequisite programmes” and why these programmed control measures must be in place to support a HACCP system.
- ii) describe how prerequisite programmes contribute to the effectiveness of HACCP systems.
- iii) explain why existing prerequisite programmes must be evaluated and assessed to establish whether they meet company requirements for prerequisites to support HACCP.
- iv) explain the need to identify deficiencies or gaps in existing prerequisites and explain the importance of developing appropriate development programmes.
- v) explain the importance of ensuring that prerequisite programmes being used in support of HACCP systems are effective.
- vi) explain that the HACCP plan must always consider hazards independently of prerequisite programmes

**Key Skills:**

Section 3 may provide opportunities for demonstrating Key Skills activities in Problem Solving and Application of Number.

### 4: MANAGING CHANGE TO HACCP

The candidate will be able to:

- i) describe how to manage change to a HACCP system including obtaining top management support, justifying the need for change and strategies for overcoming resistance to change.
- ii) outline the personnel resources needed for developing a HACCP system.
- iii) discuss the ideal composition of a HACCP team, the roles of its members and their training requirements.
- iv) describe the structure of a HACCP system and its documentation format emphasising that the structure should be determined before the project is planned.
- v) explain and differentiate between the linear, modular and generic approaches to HACCP documentation.
- vi) outline the main features of HACCP Project Management including, defining of objectives, developing schedules, budgeting, quality/cost/time elements and team selection.
- vii) explain how planning techniques such as Gantt or PERT may be used.
- viii) discuss the benefits and disadvantages of using software to develop and manage HACCP systems. Predictive Modelling, should be included.

**Key Skills:**

Section 4 may provide opportunities for demonstrating Key Skills activities in Communication and Working with Others

## 5: LEADING A HACCP TEAM

The candidate will be able to:

- i) define leadership taking account of management definitions and general use of leadership and explain how this relates to the HACCP team.
- ii) discuss the essential aspects of HACCP team leadership including identification of training needs, models of leadership, delegation, dealing with conflict, time management and identification of HACCP team members.

**Key Skills:**

Section 5 may provide opportunities for demonstrating Key Skills activities in Communication and Working with Others

## 6: PRACTICAL APPLICATION OF HACCP PRINCIPLES

The candidate will be able to:

- i) explain that HACCP is a systematic and thorough approach to hazard analysis including the importance of hazard identification.
- ii) describe the activities prior to conducting a hazard analysis, such as defining the scope, writing product descriptions and drawing process flow diagrams.
- iii) describe the techniques used in the identification of hazards and their sources/causes.
- iv) explain the techniques used to assess the significance of hazards, comparing and contrasting qualitative and quantitative methods.
- v) design effective Control Measures, emphasising the link between the source/cause of hazards and control measures.
- vi) discuss the methods/tools available for the identification of Critical Control Points.
- vii) explain how to design and determine Critical Limits including their relationship with Control Measures.
- viii) describe how to design, perform and record trials to confirm the effectiveness (validity) of Critical Limits.
- ix) explain the use of target values, tolerances and warning limits and their relationship with Critical Limits.
- x) explain how to design and document effective Monitoring Systems.
- xi) describe the relationship between Monitoring Activities and Control Measures.
- xii) describe the design and documentation of Corrective Action procedures, including the need for short and long term Corrective Action.

**Key Skills:**

Section 6 may provide opportunities for demonstrating Key Skills activities in Communication, Application of Number, Information Technology and Working with Others

## 7: VERIFICATION & MAINTENANCE

The candidate will be able to:

- i) define and explain definitions for 'verification', 'review' and 'maintenance activities'.
- ii) explain Verification of the HACCP system including its coverage of prerequisite programmes.
- iii) explain that Verification is a scheduled activity which will also be initiated by any change to the HACCP system.
- iv) explain that Validation may form part of Verification.
- v) describe Validation methods, including the need to challenge the effectiveness of a proposed HACCP plan and identify limitations (e.g. Failure Mode, Effect Analysis and experimental trials).
- vi) describe Verification methods such as audits of systems in place, review of working systems and tests other than monitoring tests that can be applied to verify that the objective is being met
- vii) describe Verification skills such as audit/assessment skills, data analysis/results interpretations, sampling and testing.
- viii) describe the roles of those responsible for internal and external verification and certification schemes.
- ix) describe and compare the roles of government and industry and independent third parties in assessing HACCP systems.
- x) explain the need for HACCP maintenance activities to be planned, including updating, document management, training and HACCP team maintenance.
- xi) explain mechanisms for updating a HACCP plan in response to operational changes and changes arising from validation or review activities.
- xii) describe the need for periodic/scheduled HACCP system review, including consideration of improvements proposed as a result of verification activities and impact of external factors such as emerging pathogens and legislation changes.
- xiii) identify the principal types and purposes of record keeping.
- xiv) verify a HACCP plan.

### **Key Skills:**

Section 7 may provide opportunities for demonstrating Key Skills activities in Communication, Application of Number, Information Technology and Working with Others.

## 8: IMPLEMENTATION OF HACCP SYSTEMS

The candidate will be able to:

- i) define implementation as the transition from the completed paper HACCP plan to the practical operation of the system.
- ii) describe preparation for implementation of the HACCP plan including ensuring that the plan is complete, accurate and valid.
- iii) explain the importance of ensuring that the basis for the development of the HACCP plan was sound, that is, that the scope was covered, the process flow diagram was still accurate, the HACCP principles have been correctly applied, Control Measures and Critical Limits have been validated and prerequisite programmes are operational.
- iv) describe methods of implementation including differing scales of implementation between small and larger companies, the need for training, the importance of management culture and role of the HACCP team (including communications training and support).
- v) explain the need for confirmation that the implementation phase is complete.
- vi) describe barriers to successful implementation such as company culture resistance to change, ineffective communications and inadequate planning.

### **Key Skills:**

Section 8 may provide opportunities for demonstrating Key Skills activities in Communication, Application of Number, Information Technology, Problem Solving and Working with Others.