

Faculty of
Occupational
Hygiene

BOHS

WE'RE SETTING
THE STANDARDS

The industry standard for qualifications
and courses in worker health protection

CCHR|C

Certificate in
Controlling Health Risks
Construction

Course Specification

www.bohs.org

Issue 1 | May 2017



Contents

		Page
Section 1	About BOHS	2
Section 2	CCHRC at a glance	3
Section 3	Background to the course	4
Section 4	Key features of the course	5
Section 5	Delivering the course	6
Section 6	Structure and content	8
Section 7	References and further reading	15
Section 8	Completing the course	16
Section 9	Quality assurance	18
Section 10	Offering the course	19
Section 11	Other courses and qualifications	20

Section 1

About BOHS

BOHS - The Chartered Society for Worker Health Protection

BOHS is the Chartered Society for Worker Health Protection. Our vision is to create a healthy working environment for everyone by preventing exposure to health hazards in the workplace.

Founded in 1953, we have developed over the last 64 years into a highly respected and influential body on workplace health issues, working closely with organisations in the UK and overseas to promote our vision. We are a registered charity, professional society and a member of the International Occupational Hygiene Association (IOHA), which is recognised as a non-government organisation by the International Labour Organisation (ILO) and the World Health Organization (WHO).

We were awarded a Royal Charter in 2013 in recognition of our pre-eminent role in protecting worker health.

BOHS is a membership organisation, open to anyone who has an interest in workplace health issues, and we have over 1,700 members in 57 countries.

BOHS courses and qualifications – the quality choice

BOHS courses and qualifications are recognised and respected by independent agencies such as the Health and Safety Executive (HSE) and the United Kingdom Accreditation Service (UKAS) and further afield by industry and employers worldwide. Thousands of people have taken one of our courses through our network of approved training providers which offer engaging, challenging and practical learning opportunities.

Our courses are overseen by a team of highly experienced professionals who are dedicated to developing the competence and career opportunities for the many thousands of people who play a key role in protecting worker health, in diverse fields such as asbestos, legionella and control technologies.

Information about all our courses and qualifications is available on our website:
www.bohs.org/qualifications-training/bohs-qualifications/

Section 2

CCHRC at a glance

What is the objective?

To provide students with the knowledge to identify and control common health risks on construction sites, in order to prevent workplace ill health.

Who is it for?

Anyone who has functional responsibility for controlling health risks on a construction site, such as site supervisors and site managers.

What are the entry requirements?

There are no pre-requisites for this course.

What are the main subject areas?

- Health risks on construction sites
- Risk assessments
- Chemical hazards
- Physical hazards
- Ergonomic hazards
- Principles of control
- Personal Protective Equipment (PPE)

How long does it take?

Around 8 hours (6 hours teaching time and up to 2 hours pre-reading).

What level is it?

Level 2.

How do students pass the course?

Students must pass a short multiple choice examination taken at the end of the course.

Who supports it?

The Health in Construction Leadership Group (HCLG), Construction Industry Training Board (CITB), and construction organisations involved in the BOHS *Breathe Freely* campaign.

Section 3

Background to the course

The need to reduce workplace ill health on construction sites is becoming increasingly recognised by the construction industry.

The focus over the years on reducing the number of accidents on construction sites has generated impressive results. The same effort is now needed to reduce worker ill health. According to HSE, a construction worker is currently 100 times more likely to die from an occupational disease than an accident at work.

The BOHS *Breathe Freely* campaign has raised awareness about the scale of workplace disease in the construction industry, and the Health in Construction Leadership Group is building a commitment towards making construction the leading industry for the prevention of workplace disease. Tackling ill health is also one of the themes of the Help GB Work Well strategy.

Breathe Freely has generated significant interest in health risk management and control. Industry feedback has led to BOHS developing the Certificate for Controlling Health Risks in Construction (CCHRC) course, to assist construction employers in up-skilling their existing safety-trained workforce in the basics of health risk management and control.

This course has been designed to give site supervisors and site managers an understanding and awareness of the health hazards they could come across on a construction site, such as dusts, noise and gases. It informs them about the most common health risks associated with construction work, and how to control these risks in order to reduce workplace ill health for themselves and their colleagues.

Section 4

Key features of the course

Objective

The primary aim of the course is to provide the students with an awareness of the potential health hazards on a construction site, the tasks that produce them and the subsequent ill health effects that they can cause. The course specifically focuses on ways to control these health hazards in order to protect worker health.

Target audience

Workers who have functional responsibility for managing the health risks and controls on a construction site. This includes:

- Site supervisors.
- Site managers.

It may also be suitable for people who wish to progress into these job roles.

Entry requirements

There are no educational entry requirements, but students are strongly recommended to complete the online pre-reading module, in order to give them a basic understanding of the different health hazards on construction sites. Students will need access to a computer or mobile device.

Age range

There is no minimum age for students taking the course, but there may be age restrictions for working on construction sites.

Level

The level of a course indicates the relative complexity and depth of knowledge and skills required to attain the qualification.

This course is set at level 2, comparable to the NEBOSH Health and Safety at Work Qualification.

Fees

The fee for each candidate is published on the BOHS website:
www.bohs.org/qualifications-training/examination-fees/

Section 5

Delivering the course

Teaching and learning time

The course comprises 8 hours learning time. This includes approximately six hours teaching time over one day, and up to two hours of independent study prior to the taught course.

There is an online pre-reading module that students are strongly recommended to complete prior to the taught course, which makes up their two hours of study time.

Tutors

The course should be taught by tutors who are suitably experienced and qualified. As a guide, tutors will normally:

- Have at least 3 years' current experience of working in or with the construction industry
- Hold a recognised health and safety qualification which includes occupational hygiene content, such as:
 - The NEBOSH National Certificate in Construction Health and Safety
 - The NEBOSH National Diploma in Occupational Health and Safety
 - The BOHS Certificate of Operational Competence
- Hold a Level 3 teaching qualification or have at least three years' experience as a tutor

This list is not necessarily exhaustive or definitive. Tutors with less experience may be required to participate in a tutor briefing session, to cover the teaching requirements for the course. The nature of the briefing will vary depending on the tutor's level of experience.

Candidate numbers

It is recommended that the maximum number of candidates per course is 20. The recommended minimum is 6 candidates.

Teaching resources

Training providers must have the following facilities and equipment:

- Samples of Personal Protective Equipment and Respiratory Protective Equipment (e.g. gloves, masks)
- Computer equipment such as a projector, speakers and laptop

Support for teaching and learning

BOHS provides:

- An online pre-reading module for students to complete before the course
 - A reference book for students to take away after the course, which covers the full range of subject areas discussed during the course
 - A comprehensive tutor pack, which includes:
 - PowerPoint slides and teaching cues
 - Case studies and workbook exercises
 - Teaching programme
 - List of materials for the course
 - Video clips and audio files
-

Language

The teaching materials and multiple choice examination are provided in English only.

Section 6

Structure and content

The course is structured into two modules: an online pre-reading module (Module 1) and a one day taught module (Module 2).

Module 1: Identifying health hazards on construction sites

Students are strongly recommended to complete the online pre-reading module before attending the one day taught course. This will ensure that all students attending the course have a similar level of understanding of health hazards on construction sites before attending the taught course. The course can be accessed at: www.bohs-hub.org

Module overview

The module teaches students how to identify the health hazards on construction sites, and the ill health effects caused by different health hazards.

Learning outcomes

Upon completion of the online module, students should:

- Understand the health aspect of health and safety and the role of occupational hygiene.
- Be able to identify the main health hazards on a construction site, and the work processes that cause them.
- Know how to identify the health effects caused by a hazardous substance or work process.
- Understand more about the long-term health effects and diseases that can be caused by certain work processes on a construction site.

Module content

The online module includes the following sections:

- What is health?
- Overview of health hazards
- Overview of hazardous substances
- Identification of hazardous substances
- Skin hazards
- Construction dusts – silica, asbestos and wood dust
- Noise
- Vibration
- Musculoskeletal hazards

Learning time

The online module will take approximately two hours, although candidates may stop and start as often as they wish.

Assessment

To test the candidate's learning, there is an End of Module quiz at the end of the module, which comprises of fixed response questions (e.g. multiple choice, fill in the gaps, mix and match exercises). There is also a terminology quiz at the end of the hazardous substances section.

It is not compulsory for students to complete the quizzes, although it is highly recommended they do so in order to consolidate their learning.

Module 2: Controlling health risks in construction

This is the one day taught course, which runs as face-to-face classroom learning. This includes a multiple-choice examination at the end of the course.

Module objective

Students will learn about the different health risks present on construction sites, and the control methods they can use to manage these health risks.

Learning outcomes

At the end of the taught course, candidates will:

- Understand the importance of controlling health risks on construction sites.
- Understand the role that occupational hygiene plays in managing these risks.
- Be able to identify health risks and their potential significance for common construction work processes.
- Be able to identify chemical-based hazardous substances by using the information on labels and safety data sheets.
- Be able to identify appropriate control options for common construction work processes.
- Be able to identify where expert help is needed.

Module content

The module is structured into six sections, each with an indicative time allocation:

Section		Time allocation
1	Health risks on construction sites	20%
2	Chemical hazards	30%
3	Physical hazards	10%
4	Ergonomic hazards	5%
5	Principles of control	25%
6	Personal Protective Equipment (PPE)	10%

1. Health risks on construction sites (20%)

1.1 Introduction to health risks

01.01.01 What is a health risk?

- Outline what 'health' and 'safety' means. Differentiate between health risks and safety risks.
- Discuss and summarise the main health hazards found on construction sites (dusts, gases, vapours, noise, vibration, musculoskeletal etc.)

01.01.02 The size of the problem

- HSE statistics from health and safety incidents in the construction industry.

01.01.03 Overview of managing health risks

- Discuss three main aspects of health – occupational health, wellbeing and occupational hygiene.
- Emphasise the importance of recognising and controlling health risks.
- Explain the role of occupational hygiene and examples of good practice.
- Briefly summarise main legal requirements (e.g. COSHH) and how health and safety legislation uses the Assess-Control-Manage principle.

1.2 Risk assessment

01.02.01 Overview of risk assessments

- Outline the principles of risk assessment, using the HSE's five step process.

01.02.02 Hazard vs. risk

- Discuss the difference between a hazard and a risk. Explain what exposure means.
- Discuss the formula for calculating levels of risk (Risk = Hazard x Exposure).

01.02.03 Discuss risk assessment examples for hazards and risks.

2. Chemical hazards (30%)

02.00.01 Sources of chemical hazards

- Overview of the different sources of chemical hazards - brought-in hazards and process-generated hazards.

02.00.02 Review of chemical hazards

- Brief overview of the change in legislation from the old hazard symbols and terminology to the new system (CLP Regulations).

02.00.03 Brought-in hazards

- Outline the most common brought-in hazards on construction sites (paint, oil etc.)
- Discuss how to identify the hazardous substances contained within a brought-in product, and the ill health effects they can cause (e.g. irritation, organ damage etc.)

02.00.04 Sources of information for hazards

- Discuss how to access and understand the information on product labels. This includes hazard terminology (e.g. carcinogenic, toxic etc.)
- Identify the standard hazard symbols and statements used on labels and what they mean.
- Briefly discuss Safety Data Sheets (SDSs) as an additional source of information.

02.00.05 Process-generated hazards

- Discuss the most common process-generated hazards on a construction site, and the work tasks that cause them (e.g. silica dust, diesel fumes, wood dust, welding fume etc.)
- Discuss how to identify process-generated hazards, and the sources of information that can be referred to.
- Discuss the most common ill health effects caused by chemical hazards, and what causes them (e.g. silicosis, asbestos diseases).

02.00.06 Skin hazards

- Discuss skin hazards, their causes and their health effects (e.g. cement burns, dermatitis).
-

3. Physical hazards (10%)

3.1 Overview of physical hazards

03.01.01 Discuss what is meant by a 'physical hazard'. Identify the common sources of physical hazards on a construction site.

3.2 Noise

03.02.01 **What is noise?**
Discuss the harmful effects of noise.

03.02.02 **How loud is too loud?**

- Brief overview of how sound is measured, including a brief explanation of A-weighted decibels (dB[A]).
- Discuss the legal limits for noise, including upper and lower action values and the exposure limit value. Give examples of construction site tasks and the levels of noise they create.
- Briefly discuss how to calculate noise levels produced by machinery, and the maximum time period that can be spent on a noisy task before the Action Values are exceeded.
- Discuss how noise risk assessments are carried out.

3.3 Vibration

03.03.01 **Overview of vibration**

- What causes vibration?
- Discuss sources of vibration such as power tools and plant.
- Discuss the health effects of hand-arm vibration and whole body vibration.

03.03.02 **How much vibration is too much?**

- Briefly discuss how vibration is measured (m/s^2).
- Briefly discuss the legal requirements for vibration – the action value and exposure limit value.
- Overview of how hand-arm vibration risk assessments are carried out.

3.4 Ultraviolet radiation

03.04.01 **Overview of ultraviolet radiation (UV)**

- What is ultraviolet radiation?
- Discuss the causes of UV and the health effects (skin cancer, sunburns etc.)

4. Ergonomic hazards (5%)

04.00.01 **Overview of ergonomics**

- Definition of ergonomics.
- Discuss the common ergonomic risks on construction sites, such as manual handling tasks and repetitive tasks.
- Discuss musculoskeletal hazards and their ill health effects, including musculoskeletal disorders (MSDs) and Repetitive Strain Injuries (RSIs).

04.00.02 Discuss the control options for ergonomic hazards.

5. Principles of control (25%)

5.1 Control methods

05.01.01 **Overview of controlling health risks**

- Discuss the Hierarchy of Controls, and its order of effectiveness: Prevention (elimination and substitution); engineering; work practices (administrative); PPE.
- Discuss the different control options available for reducing or preventing health hazards (e.g. water suppression, on-tool extraction etc.)

5.2 Local exhaust ventilation systems

05.02.01 **Overview of ventilation systems**

- Discuss what is meant by local exhaust ventilation (LEV) and general ventilation.

05.02.02 Outline the basic principles of LEV systems, including their components (hoods, inlet, ducting, filter, fan, outlet) and how they work.

05.02.03 Discuss good and bad examples of ventilation systems on construction sites, and how they should be positioned in order to work properly.

5.3 Skin hazards

05.03.01 **Skin hazard controls**

- Discuss control options to prevent skin hazards.

5.4 Noise

05.04.01 **Noise control**

- Discuss control options to reduce noise.

5.5 Vibration

- 05.05.01 **Vibration control**
- Discuss control options to reduce vibration.
-

6. Personal Protective Equipment (PPE) (10%)

- 06.00.01 **Overview of Personal Protective Equipment**
- Definition of Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE). Discuss the different types available.
 - Discuss why PPE is considered to be a 'last resort' and its limitations in protecting workers from health hazards.
- 06.00.02 **Application of PPE**
- Discuss which work tasks PPE and RPE are used for, and how they work.
- 06.00.03 **Selecting RPE**
- Discuss the different types of RPE (air purifying and air supplying), with a brief overview of the level of protection they offer (Assigned Protection Factor).
 - Discuss how to select different types of RPE.
 - Briefly introduce the online HSE RPE selector tool.
- 06.00.04 **Selecting Chemical Protective Gloves**
- Discuss the limitations of chemical protective gloves and clothing, including how they can fail (penetration, degradation and permeation) and useful life (breakthrough time).
 - Discuss how to identify appropriate chemical protective gloves and explain the standard labelling pictograms and information
- 06.00.05 **Managing PPE**
- Summarise the basic principles of managing PPE and RPE, including face fit testing, care and maintenance.
-

Section 7

References and further reading

Students are provided with a reference book for use in their workplaces after the course.

Useful websites

The following websites include useful information about managing workplace health risks:

- BOHS Breathe Freely campaign: www.breathefreely.org.uk/
- HSE website: www.hse.gov.uk/construction/
- The Hi Management Standard (self-assessment tool for health hazards):
<http://www.breathefreely.org.uk/the-hi-standard.html>
- RPE selector tool: <http://www.healthyworkinglives.com/rpe-selector>

Section 8

Completing the course

Students pass the course by successfully completing a multiple-choice examination.

Multiple-choice examination

The multiple-choice examination usually takes place at the end of the course. It enables candidates to demonstrate that they have attained the breadth and depth of knowledge which necessarily underpins good management of workplace health and health risks on construction sites.

The examination is comprised of 20 multiple-choice questions, to be answered in 30 minutes. For each question, students will choose one of four possible answers. The questions include a mix of text and diagram-based questions.

The questions are worth one mark each. Candidates will be awarded 1 mark for a correct answer, and 0 marks for an incorrect answer.

Candidates should attempt all questions as no marks are deducted for incorrect answers.

The examination covers sections 1 to 6 of the syllabus content for Module 2, in proportion to the time allocation given for each section. This gives a question allocation as follows:

Section		Number of questions
1	Health risks on construction sites	4
2	Chemical hazards	6
3	Physical hazards	2
4	Ergonomic hazards	1
5	Principles of control	5
6	Personal Protective Equipment (PPE)	2

The sections are clearly marked in the examination paper. It is a closed-book examination, which means that candidates are not permitted to have access to any external materials.

Invigilation

The examination is invigilated by the training provider.

Marking and results

All examination papers are marked by BOHS.

Candidates receive their results in writing from BOHS. The results are reported as pass or fail plus a percentage. The pass mark for this examination is 75%.

Training providers are sent a list of results for all candidates on a course.

Feedback

Candidates receive feedback on their examination performance. For example, the feedback for an examination in which a candidate scored 75% would be shown as follows:

Syllabus area		Result	
1	Health risks on construction sites	2/4	(50%)
2	Chemical hazards	6/6	(100%)
3	Physical hazards	1/2	(50%)
4	Ergonomic hazards	0/1	(0%)
5	Principles of control	5/5	(100%)
6	Personal Protective Equipment (PPE)	1/2	(50%)
Total		15/20	75%

Training providers will also receive feedback on the performance of all candidates.

Written exam performance against syllabus		Number of candidates in each scoring band	
		0-74%	75-100%
CHRC1 Written Exam	Health risks on construction sites	4	6
CHRC1 Written Exam	Chemical hazards	6	4
CHRC1 Written Exam	Physical hazards	2	8
CHRC1 Written Exam	Ergonomic hazards	2	8
CHRC1 Written Exam	Principles of control	4	6
CHRC1 Written Exam	Personal Protective Equipment (PPE)	5	5

Resits

Candidates may re-sit the examination, but must pass within 12 months of the original sitting. Re-sit fees are quoted on the BOHS website.

Certification

Candidates who pass the course will receive the *Certificate in Controlling Health Risks on Construction Sites*.

Section 9

Quality assurance

Internal quality assurance

Training providers must operate an internal quality assurance system which evaluates and improves the delivery of the course.

External quality assurance

BOHS reviews the results from the multiple choice examination and may conduct surveys of students and make unannounced visits to training providers to ensure that the multiple choice examination is invigilated in line with requirements.

Section 10

Offering the course

Approved training providers

Please complete and return the 'Application Form for Additional Qualifications' to qualifications@bohs.org. The form is available on the BOHS website.

New training providers

Please send an email to qualifications@bohs.org expressing your interest in offering the qualification and we will advise you about the approvals process.

Section 11

Other courses and qualifications

Candidates may also wish to take the following:

P304: COSHH - Fundamentals of Risk Assessment and Control

Objective

To give practical guidance on assessing the health risks caused by hazardous substances, in order to meet the requirements of the Control of Substances Hazardous to Health (COSHH) Regulations 2002 for a 'suitable and sufficient' risk assessment.

Target audience

Anyone who is responsible for managing health risks in a place of work. This includes:

- Occupational hygienists.
- Health and safety practitioners.
- Managers and other duty-holders under COSHH.

For a full list of our courses and qualifications, please visit

<http://www.bohs.org/qualifications-training/bohs-qualifications/>

© British Occupational Hygiene Society 2017

Information in this course specification is correct at the time of issue but may be subject to change.

BOHS

5/6 Melbourne Business Court
Millennium Way
Pride Park
Derby
DE24 8LZ

Incorporated by Royal Charter

No. RC000858

Registered Charity

No. 1150455