THE INSTITUTE OF BIOMEDICAL SCIENCE

Registration Training Portfolio

for the

Certificate of Competence

Please address any queries to:

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Record of Completion of Education and Laboratory Training

Name of Trainee: **Date of Birth:**	**Surname:** **First Name:** **Second Name:**	
Address		
Telephone number **Email address** **IBMS Membership Number (if applicable)**		
Relevant Academic Qualification		
Name and Address of Awarding Institution		
Date of Award		**Student Number:**
Name and Address of Training Laboratory		
Period of Training	**From:**	**To:**
Discipline(s) in which training received		
Name of training officer(s)		

Training Review		
Reviewed by:	**Date:**	**Comments:**

CONTENTS

Introduction

This section introduces the role of the Institute, in pre-registration education and training of biomedical scientists, as the awarding body for the Certificate of Competence, by which individuals can evidence that they have met the competency required of the HCPC standards of proficiency and are therefore 'fit to practice' as biomedical scientists.

Education and training routes are briefly described, together with definitions of relevant terminology. The instructions contained in this record of education and training should be read carefully by both trainee and trainers, and used in conjunction with other advice issued by the Institute.

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INTRODUCTION

Biomedical scientists are required to register with the Health and Care Professions Council (HCPC), which is the statutory regulatory body, created under the 1999 Health Act.

In July 2003, the Privy Council approved the HCPC Standards of Proficiency for safe and effective practice of registrant biomedical scientists. The standards have been subsequently revised by the HCPC and new standards published with effect from November 1st 2007. These standards are reproduced in their entirety in this portfolio under sections 1-3.

The role of the Institute of Biomedical Science (the 'Institute') in this process is as an awarding body for the Certificate of Competence, by which individuals can evidence that they have met the competency required of the HCPC standards of proficiency, are 'fit to practice' as biomedical scientists and are therefore eligible to apply for professional registration with the HCPC.

- These certificates can only be issued by the Institute of Biomedical Science
- The authority for this derives from the Privy Council
- The Institute verifies the competence of applicants strictly against the Standards of Proficiency issued by the HCPC
- All enquiries, or matters relating to this process should be addressed to the Institute NOT the HCPC

This record of education and training provides evidence that the knowledge, skills and competency required for registration has been achieved. It also, independently of HCPC registration, provides evidence of eligibility to apply to be admitted to the class of Licentiate member of the Institute of Biomedical Science.

EDUCATION AND TRAINING ROUTES TO HCPC REGISTRATION

Generally there are three main routes:

1. Coterminus (Integrated) Degrees

Coterminus degrees consist of a programme of integrated education and training, accredited by the Institute, that lead to completion of the registration portfolio during the degree and award of the Certificate of Competence, coterminus with the award of the honours degree in biomedical science.

Integrated degrees consist of a programme of integrated education and training that is approved by the HCPC and which, upon award of the degree, enables graduates to apply for registration. The Institute may also accredit these degrees in order for graduates to be awarded the certificate of competence for Licentiate membership.

2. Part-time or sandwich programmes accredited Biomedical Science degrees

These programmes have the potential to be recognised as an integrated route but may lack clear demonstration of how all the HCPC standards of proficiency are met, therefore graduation and the award of the Certificate of Competence may be separate even though the portfolios may have been completed and assessed during the placement year. Sections of the portfolio should be signed off by the trainee, training officer and the university course

tutor, where appropriate. This training portfolio will be issued on request to students through either the university or training laboratory as appropriate.

3. Those who have completed an accredited biomedical science degree, or supplementary education following acceptance of a non-accredited degree as a preliminary qualification, without any clinical placement.

In this circumstance the training portfolio will be issued to the graduate when employed as a trainee in an approved laboratory.

The Standards of Proficiency are the means by which an individual gains admission to, and remains on, the Register. Admittance to the Register confers the right to use the protected title of Biomedical Scientist. Registrant biomedical scientists are expected to meet these standards at all times.

You should retain this portfolio as proof of completion of your education and training period and the demonstration of your professional competence and fitness to practise. It is the foundation on which is built a commitment to lifelong learning within the profession of biomedical science.

TERMINOLOGY

The following terminology is used throughout the portfolio.

ACCREDITED (i.e. Degree)	Recognition that the university has met the criteria and requirements of the Institute of Biomedical Science.
APPROVED (i.e. Degree)	Recognition that the university has met the requirements of the Health and Care Professions Council.
BE AWARE OF	A general appreciation of the content of the key task.
COMPETENT	Has the ability to perform a test or procedure to a set standard on more than one occasion, in a consistent manner and with minimal or no supervision, together with a thorough comprehension of the principles and concepts of the content of the key task. It is a general description of the behaviour or actions needed to successfully perform within a particular [work] context (e.g. job, group of jobs, function, etc). It includes associated behaviours that link directly to the work to be performed, as well as the levels of proficiency for each level of behaviour, i.e. scope of professional practice
COTERMINUS	Coterminus degrees consist of a programme of integrated education and training, accredited by the Institute, that lead to completion of the registration portfolio during the degree and award of the Certificate of Competence coterminus with the award of the honours degree in biomedical science.

EVIDENCE OF ACHIEVEMENT	The Institute's Certificate of Competence will only be awarded if there is supporting evidence that competence has been achieved. This evidence will be presented as a portfolio, logically and cross-referenced to the relevant competence or standards it supports.
EXTERNAL VERIFIER	A senior member of the profession nominated by the Institute to review the evidence submitted in the registration portfolio in order to verify competency requirements of the HCPC standards of proficiency and training standards of the Institute.
INTEGRATED	Integrated degrees consist of a programme of integrated education and training that is approved by the HCPC and which, upon award of the degree, enables graduates to apply for registration. The Institute may also accredit these degrees in order for graduates to be awarded the certificate of competence.
KNOW	A working knowledge of the facts associated with the key task.
SKILL	Practiced ability, dexterity, tact (e.g. in communication).
UNDERSTAND	Thorough comprehension of the principles and concepts of the content of the key task in order to apply knowledge successfully.

SOURCES OF REFERENCE INFORMATION

Standards of conduct, performance and ethics – your duties as a registrant 2003
Issued by the Health and Care Professions Council

Standards of proficiency – Biomedical Scientists
Issued by the Health and Care Professions Council

Institute of Biomedical Science Good Professional Practice for Biomedical Scientists

Institute of Biomedical Science guidance leaflets

Institute website www.ibms.org

HCPC website www.hcpc-uk.org

Purpose of the Portfolio

The Institute of Biomedical Science assesses competence to practice against the HCPC Standards of Proficiency and awards a Certificate of Competence for individuals who wish to become Licentiate members of the Institute and/or register as biomedical scientists with the HCPC.

This section describes how the portfolio provides the framework for education and training in order for biomedical scientists to demonstrate their fitness to practice through evidence of competence that can be independently verified against the HCPC Standards of Proficiency.

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PURPOSE OF THE PORTFOLIO

The Institute of Biomedical Science verifies competence to practice against the HCPC Standards of Proficiency and awards a Certificate of Competence for individuals who wish to become Licentiate members of the Institute or register as biomedical scientists with the HCPC. This portfolio provides the framework for education and training in order for biomedical scientists to demonstrate their fitness to practice through evidence of competence that can be assessed against the Standards of Proficiency.

The Standards of Proficiency are not only generic in large part between the traditional pathology disciplines, but are also in part generic between the professions registered by the HCPC. It is important for training laboratories and trainees to recognise that the knowledge base in the main is provided by the Institute accredited Biomedical Science degree and that the practical skills to demonstrate the proficiencies can be provided by training either within a single pathology discipline or in more than one discipline.

Individuals awarded the Certificate of Competence will, at threshold level of fitness to practice, be able to:

i) Work in accordance with good professional practice in partnership with other professionals, support staff, patients and service users.

ii) Demonstrate a knowledge and application of health and safety requirements.

iii) Undertake the correct procedures for the handling of specimens, before, during and after analysis.

iv) Use the main laboratory computer system in accordance with service requirements.

v) Operate equipment used in the preparation and analysis of samples.

vi) Perform a range of laboratory tests without the need for immediate supervision and demonstrate knowledge of the scientific basis for tests and the disease processes under investigation.

vii) Demonstrate awareness of factors affecting sample integrity, risks associated with the sample reagents, or method and other tests indicated by the outcome of the analysis.

viii) Be able to apply principles of quality control and quality assurance.

This portfolio is a very important formal part of demonstrating an individual's fitness to practice. Each HCPC Standard of Proficiency is reproduced within this document with accompanying statements of knowledge and competence required to demonstrate that the Standard of Proficiency has been reached.

The HCPC Standards of Proficiency fall broadly into two groups, those that require practical skills and those that require the application of knowledge.

Proficiencies that are principally knowledge-based often use the words "explain", "describe", "be aware of" etc. and will be acquired principally through study on an accredited biomedical science degree. Those that require the demonstration of skills involve **action** words such as "be able to perform", "carry out", "prepare" etc. and whilst some of the basic skills will be learned during the degree programme,

the application of these skills in a clinical laboratory form a crucial component of the training for the demonstration of fitness to practice as a biomedical scientist.

This style of recording Standards of Proficiency is best suited to coterminus or integrated degrees, where education and clinical laboratory training is concurrent and the award of the Certificate of Competence (and thereby eligibility for registration) takes place at the same time as graduation. These education and training programmes are delivered by the university in conjunction with the employer and may exist in a variety of models that are designed to produce graduates fit for immediate employment as registered biomedical scientists.

For clarity, the HCPC **Standards of Proficiency** are set out in shaded boxes and include both generic and detailed generic elements (which must be met by all HCPC registrants) and *profession-specific elements* which are relevant to biomedical scientists.

When completed, this document will be a record that you have met the competence requirements for the standards. It sets out **knowledge and understanding** that registrant biomedical scientists are expected to have in order to meet the **competence** that must be achieved to demonstrate that the standards have been met. The format used is shown below.

STANDARDS OF PROFICIENCY

The generic standards in the shaded boxes define the key obligations that are expected of you and may include specific elements of these obligations; for instance, the key obligation of maintaining individual fitness to practise also includes a specific obligation about taking care of yourself. The profession-specific elements are in italics to help distinguish them.

KNOWLEDGE

This is not exhaustive but used to indicate the specific area of knowledge that applies to the scope of practice and standard operational procedures used by biomedical scientists. It can be gained from a combination of an approved academic qualification, laboratory-based teaching and assessment, and supervised practice in an approved laboratory.

COMPETENCE

Each registrant must provide evidence that the HCPC Standards of Proficiency have been met, thus reflecting the knowledge component in addition to the skill required to practice. The competences listed under each standard describe examples of what you must be able to do to demonstrate fitness to practice. These may be passive (what you need to know in order to do something) or active (what you must do to demonstrate the ability to do something).

Reference to ‘a range of sample types’ can include blood, serum, plasma, urine, CSF, etc.

EVIDENCE OF ACHIEVEMENT

This section may be completed solely by the laboratory in the case of a graduate employed as a trainee biomedical scientist but is designed to recognise the contribution of both university and laboratory in the delivery of coterminus/integrated programmes.

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice and a key feature is the observation of professional practice in accordance with the HCPC Standard of Proficiency. The trainee should collect and prepare supporting evidence by cross-referencing to course assignments or laboratory-based tasks (see evidence section) that can be collected and filed in a separate portfolio.

Evidence of achievement is based on observation and questions set by the trainer or individual pieces of work related to the knowledge and competence statements for each Standard of Proficiency.

Observation of practical skills, questionnaires, short essays and case study evidence can be used to demonstrate knowledge and competence, and may cover several related areas of practice and therefore HCPC standards. Evidence may be provided from an approved combination of academic qualification, laboratory-based teaching and assessment, and supervised practice in an approved laboratory. Where the portfolio is linked to an Institute accredited (or HCPC approved) coterminus/integrated degree an audit trail to the evidence derived from the academic programme can be used by cross-referencing the competency to the work submitted to the university.

Both the trainee and the laboratory training officer must sign to verify training has been received and competence has been assessed and meets all standards covered by working laboratory practice. Where the portfolio is completed as part of a coterminus (integrated) education and training programme, or sandwich placement, the university tutor should also sign to verify attainment of competence (where appropriate).

N.B. If at the time of commencing this portfolio, the trainee has already graduated from an accredited biomedical science degree or other IBMS approved qualification, only the trainee's and trainer's signatures in each of the competence sections will be required. It is not necessary to obtain retrospective sign-off from the university tutor

The Registration Portfolio is a unique record of experience and achievement that demonstrates knowledge and skills development. The uniqueness of a training experience facilitates and encourages creativity in the construction of the portfolio and encourages independent thought. The work can be hand written or word processed but must be recognisable as the trainees, i.e. name and date, with acknowledgements and references if appropriate.

A well-constructed Registration Portfolio should provide a sound basis for the transition to the Specialist Portfolio.

Constructing a Portfolio of Evidence

This section provides guidance on understanding the HCPC Standards of Proficiency, information on how to compile and organise the portfolio of evidence and the types of evidence that may be appropriate. It should be used as a toolkit for trainees, trainers and other members of staff involved in laboratory training.

The work can be hand written or word processed but must be recognisable as the trainees, i.e. name and date, with acknowledgements and references if appropriate.

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CONSTRUCTING A PORTFOLIO OF EVIDENCE

The registration portfolio enables an individual to provide

- evidence of knowledge
- evidence of understanding
- evidence of training
- evidence of professional skills
- evidence of the ability to apply the above elements in the laboratory environment

The following paragraphs provide a guide on use of portfolios, based on actual practice.

UNDERSTANDING THE HCPC STANDARDS

Possibly the biggest problem encountered by trainers and trainees is understanding and applying the HCPC standards in the context of biomedical science. The standards themselves are separated into three sections and it is helpful to translate them into a more meaningful context in order to decide what constitutes evidence that the standard had been met.

1. Expectations of a Health Professional

These standards essentially refer to behaviour and professional conduct of a registered practitioner in a multi-professional environment. They cover the areas of communication, confidentiality, team working, fitness to practice and the legal and ethical frameworks within which healthcare professionals operate.

2. Identification and Assessment of Health and Social Care Needs

These standards refer to the acquisition and demonstration of applied skills. They can be summarised as the ability to make assessments, interpret information, critically evaluate results or outcomes based on professional knowledge and skills, all within the framework of an individual's professional practice.

3. Knowledge, Understanding and Skills

These standards refer to the unique essence of the profession – the body of knowledge and skills that is biomedical science.

COMPILATION AND ORGANISATION OF THE REGISTRATION PORTFOLIO

Once the meaning and intention of the standards becomes clear it is apparent that there is a degree of overlap between many of them such that one piece of evidence may be sufficient to demonstrate that more than one standard has been met. Against each standard there are multi-part competence statements; depending on the nature and scope of these statements they may be sufficiently different to require individual evidence or a single piece may cover all sub-parts. This is an entirely acceptable approach but does require that the evidence is indexed and cross-referenced to the appropriate standards (e.g. Fig.1). The questions and suggested examples of evidence provided in the portfolio **serve only as a basic guide** and should not be regarded as the sole piece of evidence required to demonstrate that a standard has been met.

Fig.1 Example of Index of Evidence

	Competence									
EVIDENCE NUMBER / DESCRIPTION	**1a1 a-d**	**1a.2a**	**1a.3a**	**1a.4a**	**1a5 a-c**	**1a6 a-d**	**1a7 a-c**	**1a8 a-e**	**1b.1 a-c**	**etc**
1. e.g. Witness statement **2. e.g. Competency record** **3. e.g. Personal statement**										

EVIDENCE

Volume of material

The experience of external verifiers has shown that there is a tendency for trainees (and trainers) to go for 'overkill' rather than risk being found to be deficient. Multiple folders of evidence are not required. A single, well-organised portfolio of evidence makes life easier for the trainee, the internal trainer/assessor and the external verifier. Competence is finite and greater volumes of evidence do not demonstrate a greater level of competence.

Standard of material

The practical knowledge, skills and competence expected of a newly registered biomedical scientist would usually equate to approximately a thousand hours practical training. There is not a requirement to demonstrate the in-depth discipline specific knowledge and skills inherent in the CPSM training system that existed before the HCPC. The HCPC Standards have served to bring biomedical science into line with the expectations of new registrants in the other registered professions.

Nature of material

The training experience of each individual is unique and the portfolio should be regarded as a personal training record. However, when deciding the nature of the material that could be included it is worth considering the requirements of the competence statements in question. They can be broken down into two types:

Active statements – these contain terminology such as maintains, perform, participate, conduct and 'must be able to'.

Passive statements – these contain terminology such as 'can describe', 'knows' and 'is aware of'.

WHAT CAN BE USED AS EVIDENCE?

There are no hard and fast rules but trainers assessing competence should be aware of the need to demonstrate evidence of active skills (maintains, performs, conducts) and not restrict documentation to only evidence knowledge (describe, list). The suggested examples of training tasks and evidence are a basic guide only. Additional evidence will be required for some standards, particularly those that ask for evidence that the trainee 'can do' or 'perform' something. Witness statements or personal statement are one form of evidence that may be appropriate for this.

The following suggestions can be very effective in supplementing the framework of questions:

Witness statements

Witness statements are signed statements of observations made by the trainer that serve well to evidence the embedded skills of conduct and communication and also the active skills of being able to carry out a specific task, test or function. These are used by a number of laboratories and can be recorded on a standard template constructed by the training laboratory. They should include as a minimum the reference number of the Standard, details of the competence, the date and the signature of the internal trainer/competence assessor. This format may also be used for ***Personal Statements*** made by the trainee and countersigned by the trainer.

In –house Competency Worksheets

These are a record of training in a particular section and should include details of knowledge and skills taught. They must be signed and dated by the trainer and trainee as verification that assessment of competency has been achieved. They are particularly useful for evidencing competency that requires an assessment of practical skills for investigative techniques.

Annotated material

Reference material on its own does not constitute evidence it merely shows an ability to use a photocopier. However, annotations, highlighted text and comments applied to reference material can demonstrate it has been read and that the individual has interpreted the document in the context of their own scope of practice.

Audits

Audit is an integral part of laboratory practice and should include all members of staff in an appropriate capacity. Simple vertical and horizontal audits (for example, sample receipt through to investigation result) provide good evidence of understanding of the purpose and process of audits but also of the purpose and functions of the laboratory.

Case studies

Case studies serve not only to demonstrate an understanding of a disease process and the role of the laboratory in disease diagnosis and management, but also of patient care pathways and of other professional groups.

Case studies should follow the Institute recommended format of pre-analysis (clinical details and any previous investigations), analysis (the way the specimen is handled in the laboratory, the tests performed and the results obtained) and post analysis (the possible or probable outcome for the patient and any likely laboratory involvement). The advantage of using the case study approach is that it can evidence multiple standards in one piece of work. Where this is used, cross-referencing to the relevant standards is essential.

Tutorials and presentations

In-house tutorials and case presentations should form an integral part of laboratory training and CPD. Inclusion of these in a portfolio demonstrates a good training culture within the laboratory and an inclusive learning environment. Evidence of a case presentation by the trainee is an effective means of demonstrating not just an understanding of a particular patient case but also demonstrates the ability to plan and communicate.

Other

Pictures and printouts with appropriate annotations are to be encouraged. Pictures are especially useful when demonstrating health and safety matters and areas of good and bad practice. Reflective practice statements are increasingly becoming a valuable learning tool in healthcare and evidences self review as opposed to peer review in the witness statements. It is advised that the trainee keeps a small notebook with them at all times within the lab and keeps a reflective diary of their day to day laboratory work and how that practice demonstrates understanding of and compliance with the standards.

Laboratory Based Training

This section gives guidance on responsibilities for laboratory based training and should be used in conjunction with the Institute's criteria for training laboratory approval. Employers and universities delivering a coterminus/integrated degree programme should use these in conjunction with the HCPC Standards of Education and Training. Examples of training report forms are included.

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LABORATORY BASED TRAINING

To permit eligibility for the award of the Certificate of Competence, in-service training must demonstrate competence and 'fitness to practice' as a biomedical scientist in the individual's clinical laboratory placement or area of employment.

Suitable training can be obtained only by working in a laboratory approved by the Institute. Several trainers may be involved and it is essential that all training is co-ordinated and carried out under the control of a designated training co-ordinator or training officer. Short periods of secondment to other Institute approved laboratories may supplement training in order for the individual to gain additional practical skills and experience.

Please note: Rotation around all disciplines is not required. Evidence of some departmental collaboration in respect of training does complement the biomedical science degree and is recommended by the Institute as it gives the student a more complete experience of the profession.

GENERIC STANDARDS

The purpose of generic standards is that they are applied equally to all HCPC registered professions. Within biomedical science this gives great flexibility in terms of how training can be delivered in a training environment may be uni-discipline, bi-discipline or multi-discipline. The standards are met and expressed equally whether it is in a physiotherapy unit, an x-ray department, or a particular discipline within a pathology laboratory.

RESPONSIBILITIES

The Registration Portfolio places a greater degree of responsibility and accountability on the laboratory training officer. It is this individual whose responsibility it is to ensure that the delivery of training, assessment of competence and verification of knowledge and skill against each individual standard is signed off. Similarly, the role of the university tutor in an integrated (coterminus) degree is to sign that the standards have been met through course assignments. It is the external portfolio verifier who verifies that the process has been completed and that evidence of the process has been provided.

A training schedule must be prepared and adhered to in accordance with the Institute's Standards for Training in the Laboratory and also to meet CPA standards. The training co-ordinator/officer should ensure that regular reports on progress from trainers are reviewed at least once a month, discussed with the individual being trained, and documented. This will help to ensure that a constructive, detailed, and up to date record is kept, on which future training activities can be based.

The following pages contain some examples of tables that can be used for training records. These can either be reproduced or used as a basis for the design of individual departmental training documentation. None of these documents are mandatory and serve only as guidance.

EXAMPLE WITNESS STATEMENT PROFORMA

Task	
Trainee	
Training Officer	
Dept	
Date	
HCPC Standard (s)	

Details:

Here the internal assessor, trainer or member of staff gives details of observed action by the trainee in relation to a particular competency or standard of proficiency.

Assessor (Signature if not T.O.)	**Date**
Training Officer Signature	**Date**
Trainee Signature	**Date**

EXAMPLE PERSONAL STATEMENT PROFORMA

Task	
Trainee	
Training Officer	
Dept	
Date	
HCPC Standard (s)	

Details:

Here the trainee briefly describes a piece of work they have undertaken, e.g. routine test or an action they have taken in relation to a particular competency or standard of proficiency. The internal assessor or trainer must countersign to verify the accuracy of the statement.

Assessor (Signature if not T.O.)	**Date**
Training Officer Signature	**Date**
Trainee Signature	**Date**

EXAMPLE IN-HOUSE SEMINAR
REFLECTIVE PRACTICE SHEET

Title of seminar/tutorial: ……..……...

Date of seminar: …….

Given By: ..……...

.

Please answer the following short questions:

1. Was the activity advertised in any way prior to the date?

2. What grade of staff attended?

3. Was the information: too simple
   (circle as appropriate)

   appropriate

   too complex

4. What were/was the main point(s) you learned?

5. How will you be able to use what you have learned in the laboratory to benefit your practice and/or service user?

6. Do you feel confident with the information from the seminar, or would you like more sessions expanding on the subject?

Student Signature & Date: Training Officer Signature & Date:

EXAMPLE PORTFOLIO COMPETENCY TASK SHEET

Name:	
HCPC Standard (s):	
Task to be completed:	
Trainee's Comments:	
Signed (trainer/supervisor):	**Date:**
Signed (trainee):	**Date:**
Signed (training officer):	**Date:**

EXAMPLE TRAINEE BIOMEDICAL SCIENTIST
MONTHLY ACTION PLAN

Name:

Month:

<table>
<tr><td colspan="3">What I hope to achieve this month:</td></tr>
<tr><td colspan="3">What I have achieved this month:</td></tr>
<tr><td>Tasks outstanding</td><td>Reason</td><td>Comments</td></tr>
<tr><td colspan="2">Trainee signature</td><td>Date</td></tr>
<tr><td colspan="2">Training Officer signature</td><td>Date</td></tr>
<tr><td colspan="3">For Training Officer use only</td></tr>
</table>

Workplace Tutor's End of Placement Report

Student Name:
Biomedical Discipline(s):
Period of Training:
(Review and verification of student's skills, learning and personal development)
Signed Workplace Tutor: **Date:**

External Verification

This section gives guidance on external verification process that ensures trainees evidence their competence against the HCPC Standards of Proficiency in order to be eligible for the award of the Institute's certificate of competence.
Some examples of common questions and answers are also provided.

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EXTERNAL VERIFICATION

(Note: It is now recognised that as it is the internal trainer(s) that actually assess competence, it is more accurate to describe the role of the external visitor in terms of verifying that in-house training has been conducted in accordance with good professional practice, and competence against the HCPC standards has been assessed).

The Institute has developed a standard procedure for verifying training and competence. However, in the case of coterminus (integrated) degrees and where a student is on a sandwich placement, this procedure may be adapted to best suit the circumstances of the trainee (for example part assessment whilst on placement, or 'stepped' assessment during a coterminus/integrated degree). Universities that have accredited coterminus degrees or integrated degrees approved by the HCPC may use a local pool of IBMS trained assessors without recourse to the Institute, other than to award the Certificate of Competence. In all cases the aim of the procedure is to ensure that the person completing the portfolio has met the requirements of the HCPC Standards of Proficiency. The process of external verification therefore:

- *Independently verifies that competence has been met and meets the requirements of the HCPC standards of proficiency.*
- *Ensures consistency between disciplines and between laboratories*
- *Checks that professional body guidelines and criteria are applied nationally*
- *Reassures the employer that their training is to the appropriate standard*
- *Disseminates examples of good practice*
- *Highlights areas of unsatisfactory practice*

STANDARD PROCEDURE

The external verifier will establish completion of the portfolio as a record of training for 'fitness to practice'. The external verifier will review the evidence associated with each standard of proficiency and the candidate will conduct the external verifier on a laboratory tour during which further aspects of the candidates training and work are explored.

Arrangements for Conducting a Portfolio Assessment

On completion of the portfolio, an application is made to the Institute's Registration Department, using the form that is at the back of the portfolio and downloadable from www.ibms.org, to arrange an assessment visit by an external verifier.

External verifiers are appointed by the Institute's Registration Department and selected for geographic proximity to the laboratory where the assessment will take place and not for their own discipline specific knowledge and experience.

Upon receipt of an assessment pack from the Institute the external verifier is expected to contact the training officer within two weeks to arrange a mutually convenient date for the assessment visit. Included with the assessment pack is a written confirmation of the candidates name, training officer's name and laboratory for the assessment.

Assessment Visit

The external verifier will require a quiet room for the duration of the visit. The host laboratory should provide refreshments. The assessment visit will comprise the following (times are guidelines):

1. Informal Interview with Candidate and Training Officer (15-20 mins)

This is an opportunity for everyone to be put at ease. After all, the work has already been done! The external verifier will ask questions to gain a feel for the routine work of the laboratory (DGH, teaching, or specialist such as National Blood Service) and the normal workload. It is important that the trainee is encouraged to talk about their training and give their view of the training provided. An assessment is made of the quality of the training support to see if it was effective. (Was it 1-1? Was there one trainer, designated trainers, rotation and secondment if need be?). Completion of the portfolio evidence will be discussed with both the trainee and the training officer to establish if there were any difficulties? Please note specialist laboratories will <u>not</u> be disadvantaged as the standards are generic.

2. Portfolio Assessment (should not normally exceed 90 mins)

This needs to be done in a quiet room, with refreshments available. The external verifier must look for evidence that **all** the standards have been met.

The following documents must be made available to the external verifier.

i) Letter of trainee's qualification acceptance from the Institute (or HCPC/CPSM)

- If the letter states the requirement for additional education (i.e. 'top-up') evidence of this must be provided as an official university document.

ii) Departmental Training Manual

iii) Completed portfolio signed by training officer, trainee and if appropriate university tutor.

iv) Additional evidence as appropriate to the standards.

3. *Tour of Laboratory (30 mins)*

The external verifier must conduct this with the trainee <u>only</u>. It gives the trainee an opportunity to show that they understand the work of the department and how they contribute to service delivery. An overview of facilities, equipment and environment can be undertaken. An assessment of the training culture will be made, for example:

- are there notice boards for training?
- are they visible, relevant and up to date?
- do they reflect a positive attitude towards training?

4. Feedback Comments to Trainer and Candidates (15 mins)

Feedback at the end of the assessment is given to both trainee and training officer, although the external verifier may wish to see the training officer in private prior to this, particularly if there are some major concerns: e.g. is there an issue over continued approval of the laboratory for training?

This is an opportunity for the external verifier to make constructive feedback. For example, could the portfolio evidence or training strategy be improved by encouraging the trainee to spend a day in other laboratories, or by developing a collaborative and co-ordinated approach to training across the disciplines? They may suggest that maximising the use of resources can avoid the same training being replicated unnecessarily to a number of trainees.

The external verifier must inform the trainee and training officer whether or not they are satisfied that evidence of competence has been met. If 'yes', they are authorised to award the Certificate of Competence on the day of the visit. If 'no' the external verifier must indicate the nature of the additional evidence required.

5. Completion of the Report

If the external verifier's report is satisfactory with regard to the training conducted within the laboratory the Institute will write to the laboratory approving it for a further period of training.

As the cost of the registration portfolio now includes a nominal amount for external verifier expenses, the external verifier will submit an expense claim form to the Institute for reasonable travel and subsistence expenses.

6. Laboratory Feedback

A report form is provided to give the training officer and candidate the opportunity to comment on the assessment process. This is to enable the Institute to audit all aspects of the assessment process and to maintain consistency and parity of verifiers on a national level. It is designed to be constructive. The completed form should be returned to the Institute in the SAE provided.

SOME COMMON QUESTIONS ANSWERED

Q. Can training take place in Special Reference laboratories?

A. Trainees can train in any service laboratory providing they can still evidence knowledge of other disciplines (gained from an accredited biomedical science degree) and practical competencies. If trainees do need to be seconded to another laboratory, formal arrangements must be in place.

Q. Overseas trainees are told by the HCPC to obtain 3 months experience in a laboratory – how can they complete the portfolio?

A. Individuals must evidence all the competencies in the portfolio to be eligible for the award of the Institute's Certificate of Competence. Three months is therefore regarded as a minimum requirement, set by the HCPC.

Q. Can laboratories without trainees keep their training status?

A. Yes. Approval of laboratories for training has continued on the basis of CPSM approval and granted a conditional extension on submission of a complete questionnaire and training manual. New laboratories can also apply for conditional training approval on this basis. Satisfactory completion of a portfolio affords the opportunity to endorse training approval for a laboratory.

Q. My trainee insists on putting in multiply examples of evidence. What shall I do?

A. The trainee should be encouraged to select the best example of evidence for a particular competency or standard. From a verifier's point of view, once they can establish a competency has been met it is not necessary to look at extra evidence. Any additional evidence can always be kept in a secondary file for reference purposes.

Q. There may be different types of evidence for the same standard. How do the verifiers know which is acceptable?

A. Evidence must be relevant and authentic and show the trainee has met the standard in question. The generic nature of the standards allows for different types of evidence to be acceptable but it is important to distinguish between standards that require knowledge (e.g. of data protection) and those that require a level of competence in the application of knowledge and skill (e.g. perform).

Q. How can one be sure about the validity of the evidence?

A. The trainee should sign and date the work as their own. The training officer/university tutor should have signed off the various standards as part of their professional responsibilities.

Q. Who signs off the competencies?

A. The internal training officer/facilitator/coordinator is responsible for ensuring that training is structured and provided in accordance with departmental policy. This person should be satisfied that any delegated training responsibility is carried out properly and in accordance with safe, effective practice.

Q. Who will assess the verifiers?

A. The reports submitted by the external verifiers follow a standard format. They will be audited to ensure correct completion and any weaknesses will be brought to the attention of the assessor.

Q. Could the portfolio be sent to the external verifier before the laboratory visit?

A. No. There is a danger of the portfolio being lost.

Further information:

Contact registration@ibms.org

Section 1: Expectations of a Health Profession

These standards essentially refer to the behaviour and professional conduct of a registered practitioner in a multi-professional environment. They cover the areas of communication, confidentiality, team working, fitness to practice and the legal and ethical frameworks within which healthcare professionals operate.

The suggested training tasks and examples of evidence are a basic guide only and additional tasks or evidence may be needed for some standards.

The Reflective Log at the end of each module is designed to encourage good professional practice by 'reflecting' on how understanding has changed from what was known before training to what has been learned during the training period, and also what else might be learned. It links to the requirements of the HCPC standards for CPD and the need to consider how CPD has a perceived benefit to individual practice and the service user.

Section 1 Expectations of a Health Professional

1A Professional Autonomy and Accountability

1a.1 Be able to practise within the legal and ethical boundaries of their profession:

Understand the need to act in the best interests of service users at all times.

Understand what is required of them by the Health and Care Professions Council.

Understand the need to respect, and so far as possible uphold, the rights, dignity, values and autonomy of every service user, including their role in the diagnostic and therapeutic process and in maintaining health and wellbeing.

Be aware of current UK legislation applicable to the work of their profession.

Be aware of the British, European and International Standards that govern and affect pathology laboratory practice.

KNOWLEDGE

- Understand role of the Health and Care Professions Council (HCPC) and the requirements for registration.
- Understand the responsibilities of and statement of conduct for, biomedical scientists.
- Understand how the HCPC Standards of Proficiency apply to professional practice.
- Be aware of the Institute's document *Good Professional Practice for Biomedical Scientists*.
- Be aware of pathology accreditation systems.
- Be aware of the legal and professional requirements for the handling, retention, storage and respectful disposal of human tissues and samples.

COMPETENCE
You must be able to:

a) Explain the role of the Health and Care Professions Council and the requirements for registration.

b) Work in accordance with policies that protect the dignity, privacy and confidentiality of service users.

c) Describe the principles of accreditation systems for pathology laboratories in the UK

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Observed by laboratory trainer to work in accordance with HCPC standard 1a.1.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested training tasks and examples of evidence:

Describe the role of the Health and Care Professions Council and what is required to be a registered biomedical scientist.

What is CPA (UK) Ltd? What is the purpose of laboratory accreditation?

Describe with reference to legal and professional requirements, how the laboratory(s) in which you have been trained stores and disposes of human samples.

Produce a signed witness statement or personal statement countersigned by your trainer to confirm the application of knowledge in accordance with the required standard.

Portfolio and evidence of competence for this standard verified and passed by:

External Verifier's Signature: _____

External Verifier's Name: _____

Date: _____

1a.2 Be able to practise in a non-discriminatory manner.

KNOWLEDGE

- Understand the HCPC standards of conduct and ethics.
- Be aware of local policies and national legislation on diversity and equal opportunities.

COMPETENCE
You must be able to:

a) Explain what is meant by 'equal opportunities'.

b) Demonstrate that you can practice in a non-discriminatory manner in accordance with instruction received.

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Observed by trainer to work in accordance with HCPC standard 1a.2.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested training tasks and examples of evidence:

With reference to local policies and national legislation what do you understand by 'equal opportunities'?

Produce a personal statement, countersigned by your line manager, describing how you demonstrate 'equal opportunities in practice.

Portfolio and evidence of competence for this standard verified and passed by:

External Verifier's Signature:	_____
External Verifier's Name:	_____
Date:	_____

1a.3 Understand the importance of and be able to maintain confidentiality.

KNOWLEDGE

- Understand the principles of patient confidentiality.
- Be aware of the *Data Protection Act 1998.*

COMPETENCE
You must be able to:

a) Describe the extent to which the *Data Protection Act 1998*, and other legislation and professional guidance, covers patients and laboratory records.

b) Practice within local policy and procedures regarding patient confidentiality.

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Observed by trainer to work in accordance with HCPC standard 1a.3.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested training tasks and examples of evidence:

Describe the purpose of the Data Protection Act?

Where in your laboratory is there confidential information? Who has access to this information and what is their role in the laboratory? Demonstrate where you have access to confidential patient information in your training laboratory(s). A witness testimony for this may be useful.

What would you do if a friend asked you to look up the result of a laboratory test to save time having to make a GP appointment? (Simulation and witness testimony)

What would you do if a patient arrived in the laboratory and asked for a copy of their test result? (Simulation and witness testimony)

Portfolio and evidence of competence for this standard verified and passed by:

External Verifier's Signature: _____

External Verifier's Name: _____

Date: _____

1a.4 Understand the importance of and be able to obtain informed consent.

KNOWLEDGE

- Understand the principles of patient confidentiality and the need for informed consent.
- Understand the policies regarding informed consent for service users.
- Know how to follow standard operational procedures to take obtain informed consent.

COMPETENCE
You must be able to:

a) Practice within local policy and procedures regarding patient confidentiality and informed consent.

b) Practice within national and local policies regarding informed consent.

c) Demonstrate the policies as they apply to pathology service users.

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Observed by trainer to work in accordance with HCPC standard 1a.4.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested training tasks and examples of evidence:

Produce a signed witness statement to confirm procedures have been followed correctly.

Portfolio and evidence of competence for this standard verified and passed by:

External Verifier's Signature:	_____
External Verifier's Name:	_____
Date:	_____

1a.5 Be able to exercise a professional duty of care.

KNOWLEDGE

- Understand the HCPC Code of Conduct and Ethics.
- Understand the Institute's document *Good Professional Practice for Biomedical Scientists*.

COMPETENCE
You must be able to:

a) Conduct duties and responsibilities in accordance with local, professional and regulatory policies and practice.

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Observed by trainer to work in accordance with HCPC standard 1a.5.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested training tasks and examples of evidence:

Describe the purpose of a professional code of conduct

Produce a signed witness statement to confirm that a professional attitude to work has been demonstrated on a regular basis?

Portfolio and evidence of competence for this standard verified and passed by:

External Verifier's Signature:	_____
External Verifier's Name:	_____
Date:	_____

1a.6 Be able to practise as an autonomous professional, exercising their own professional judgement.

Be able to assess a situation, determine the nature and severity of the problem and call upon the required knowledge and experience to deal with the problem.

Be able to initiate resolution of problems and be able to exercise personal initiative.

Know the limits of their practice and when to seek advice or refer to another professional.

Recognise that they are personally responsible for and must be able to justify their decisions.

See also knowledge and competence related to HCPC standard 1b1.

KNOWLEDGE

- Understand personal scope of practice.
- Know where and how to access information of relevance to the problem or request for advice.
- Understand the role of a biomedical scientist and the relationship to other professionals
- Know the limits of your professional practice and referral mechanisms.

COMPETENCE
You must be able to:

a) Recognise when personal limit of practice has been reached.

b) Ask for help or advice from the appropriate person where a task or situation is beyond the level of knowledge or competence of the individual.

c) Refer to relevant guidelines or personnel where interpretation of protocol is unclear.

d) Explain the departmental structure and expected duties of a biomedical scientist.

e) Recognise individual and professional limitations for the scope and ability of your practice.

f) Ensure that work outside the scope or ability of your practice is passed to the appropriate individual or professional group.

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Observed by trainer to work in accordance with HCPC standard 1a.6.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested training task and examples of evidence:

Draw or describe the line of accountability in your training laboratory for the reporting of incidents or problems.

Describe what would you do if a porter gave you a specimen and you were not sure whether it was intended for your department?

Produce a signed witness statement or personal statement countersigned by your line manager that shows you know when to ask for advice.

Write a personal statement (countersigned by your line manager) which confirms you are aware of what your personal limit of practice is. Give an account of a personal situation where this has happened to you during your training and describe what you did once you had realized that your personal limit of practice had been exceeded.

Portfolio and evidence of competence for this standard verified and passed by:

External Verifier's Signature: _____

External Verifier's Name: _____

Date: _____

1a.7 Recognise the need for effective self-management of workload and resources and be able to practise accordingly.

KNOWLEDGE

- Understand the principles of self-management and time keeping in relation to service delivery.
- Know how to prioritise workload.

COMPETENCE
You must be able to:

a) Comply with departmental time-keeping policy.

b) Work within departmental sample turnaround times.

c) Correctly identify urgent samples as specified in departmental protocol.

d) Prioritise performance of analysis to meet urgency of request.

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Observed by trainer to work in accordance with HCPC standard 1a.7.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested training tasks and examples of evidence:

List the samples that are categorised as urgent in your laboratory and briefly state why.

Demonstrate you know what the routine operating hours are for your laboratory?

Describe the pattern of workload in your training laboratory and the measures that are taken to manage it effectively.

Conduct a review of protocols to demonstrate you know how urgent samples to are identified.

Portfolio and evidence of competence for this standard verified and passed by:

External Verifier's Signature:	_____
External Verifier's Name:	_____
Date:	_____

1a.8 Understand the obligation to maintain fitness to practise.

Understand the need to practise safely and effectively within their scope of practice.

Understand the need to maintain high standards of personal conduct.

Understand the importance of maintaining their own health.

Understand both the need to keep skills and knowledge up to date and the importance of career-long learning.

KNOWLEDGE

- Understand the requirements of the Health and Care Professions Council in relation to:
  - personal responsibility for health and safety and for the safety of colleagues
  - laboratory health and safety policy and safety legislation that covers the working environment
- Understand the importance of maintaining physical and mental well-being.
- Be aware of the implications of the European Community (EC) Working Time Directive (1996) and its principles.
- Understand the principles of continuing professional development (CPD) in relation to maintaining competence.

COMPETENCE
You must be able to:

a) Take appropriate action in response to your own health issues.

b) Assess your capability to undertake designated work.

c) Recognise when you are unable to work safely and take remedial action.

d) Work in accordance with laboratory safety protocols.

e) Demonstrate personal responsibility for self-directed learning.

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Observed by trainer to work in accordance with HCPC standard 1a.8.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested examples of evidence:

Show how an area of your training can illustrate how a biomedical scientist can maintain fitness to practice.

Describe how the laboratory Health and Safety policy helps to protect your personal wellbeing and fitness to practice.

What is the purpose of the European Working Time Directive and how does this relate to the maximum number of hours that may be worked in a pathology laboratory?

Show how you take responsibility for self-directed learning (e.g. reflective practice sheet).

Portfolio and evidence of competence for this standard verified and passed by:

External Verifier's Signature: _____

External Verifier's Name: _____

Date: _____

Reflective Log

Summarise how HCPC standards 1a.1 – 1a.8 apply to the expectations of a biomedical scientist.

1B PROFESSIONAL RELATIONSHIPS

1b.1 Be able to work, where appropriate, in partnership with other professionals, support staff, service users, and their relatives and carers.

Understand the need to build and sustain professional relationships as both an independent practitioner and collaboratively as a member of a team.

Understand the need to engage service users and carers in planning and evaluating diagnostics, treatments and interventions to meet their needs and goals.

Be able to make appropriate referrals

Understand the team and discipline approach to the provision of pathology services

Be aware of the general working of a hospital

KNOWLEDGE

- Understand the role of a biomedical scientist as an individual and as part of a team in relation to other hospital departments and service users.
- Understand the principles of team working, leadership and individual contribution in the laboratory team.
- Know the structure of a routine pathology laboratory and the purpose of different hospital departments or service user groups.

COMPETENCE
You must be able to:

a) Demonstrate good interpersonal skills within the laboratory team and with service users.

b) Sustain good working relationships within the laboratory team and with service users.

c) Interact, when required, with other services. These may include:
- o Other pathology disciplines
- o Accident and Emergency
- o Intensive Care Unit
- o Theatres
- o Wards (including specialist units)
- o Outpatient clinics
- o Mortuary
- o General practitioners
- o Health education
- o Occupational health
- o Public health
- o Epidemiology

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Observed by trainer to work in accordance with HCPC standard 1b.1.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested training tasks and examples of evidence:

Produce a signed witness testimony to confirm you have demonstrated good interpersonal skills.

List the other hospital departments and staff who have contact with your training laboratory, or who use the laboratory service in which you have been trained.

Describe how you have interacted with one of users listed.

Give an example of how you have contributed to team working operates in your laboratory.

Portfolio and evidence of competence for this standard verified and passed by:

External Verifier's Signature:	_____
External Verifier's Name:	_____
Date:	_____

1b.2 Be able to contribute effectively to work undertaken as part of a multi-disciplinary team.

KNOWLEDGE

- Understand the roles and relationships of other professional groups in the clinical setting.
- Significance of individual and team contributions to the work of the laboratory service.
- Understand the contribution of a biomedical scientist to patient focussed care.

COMPETENCE
You must be able to:

a) Clarify your role in the provision of patient focussed healthcare.

b) Take relevant action to co-ordinate your contribution with the requirements of others.

c) Co-operate effectively with service users by providing appropriate advice and assistance.

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Observed by trainer to work in accordance with HCPC standard 1b.2.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested training tasks and examples of evidence:

List the different areas of the laboratory in which you have worked and give a brief description of the type of work undertaken in each area.

Produce a reflective log describing which staff groups, other than biomedical scientists, you encountered in each of these areas and what role do they have in relation to biomedical scientists or pathology as a whole?

Portfolio and evidence of competence for this standard verified and passed by:

External Verifier's Signature:	_____
External Verifier's Name:	_____
Date:	_____

1b.3 Be able to demonstrate effective and appropriate skills in communicating information, advice, instruction and professional opinion to colleagues, service users, their relatives and carers.

Be able to communicate in English to the standard equivalent to level 7 of the International English Language Testing System, with no element below 6.5.[1]

Understand how communication skills affect the assessment of service users, and how the means of communication should be modified to address and take account of factors such as age, physical ability and learning ability.

Be able to select, move between and use appropriate forms of verbal and non-verbal communication with service users and others.

Be aware of the characteristics and consequences of non-verbal communication and how this can be affected by culture, age, ethnicity, gender, religious beliefs and socio-economic status.

Understand the need to provide service users (or people acting on their behalf) with the information necessary to enable them to make informed decisions.

Understand the need to use an appropriate interpreter to assist patients whose first language is not English, wherever possible.

Recognise that relationships with service users should be based on mutual respect and trust, and be able to maintain high standards of care even in situations of personal incompatibility.

Be able to inform colleagues and relevant members of the clinical team of outcomes of biomedical procedures to unambiguous standards.

KNOWLEDGE

- Know standard operating procedures for dealing with enquiries and giving advice to service users.
- Understand principles of verbal and non-verbal communication.
- Know procedures for communicating patient results.
- Know where and how to access information of relevance to the request for advice.
- Know the limits of your practice when communicating information, advice, instructions and professional opinion.
- Know the range of information needs of service users.

[1] The International Language Testing System (IELTS) tests competence in spoken and written English. Applicants who have qualified outside of the UK, whose first language is not English and who are not nationals of a country within the European Economic Area (EEA), have to provide evidence that they have reached the necessary standard. We accept a number of other tests as equivalent to the IELTS examination. Please visit the HCPC website for more information.

COMPETENCE
You must be able to:

a) Use correct biomedical and medical language and terminology.

b) Clarify factors which may influence the type and detail of advice you provide.

c) Respond to routine requests with accurate and current information.

d) Clearly convey information or results to the appropriate level of detail.

e) Confirm understanding of those to whom information has been given.

f) Identify when it is inappropriate to communicate patient information.

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Observed by trainer to work in accordance with HCPC standard 1b.3.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested training tasks and examples of evidence:

List the various ways or situations in which information is given to, and disseminated between staff, within your work area.

Records and specimen requests need to be understood by the people who read them. Many records use medical abbreviations, terms and jargon. Conduct a review of the records in your training laboratory and list some medical terms and abbreviations that are commonly used and write a brief explanation of each one.

Produce a signed witness testimony that shows you have demonstrated/explained how you perceive that information or a result is understood by the recipient?

You receive a telephone call from someone wanting to speak to a colleague in your laboratory who is involved in performing a particular technique. Describe how you would deal with this situation. (This could be a simulated task).

Portfolio and evidence of competence for this standard verified and passed by:

External Verifier's Signature: _____

External Verifier's Name: _____

Date: _____

1b.4 Understand the need for effective communication throughout the care of the service user.

Recognise the need to use interpersonal skills to encourage active participation of service users.

See also HCPC standard 1.b1

KNOWLEDGE

- Understand the principles of effective communication within the laboratory and to service users, including the use of feedback questionnaires, in order to achieve the aims of the service.
- Understand that different communication methods may be required to facilitate effective feedback and participation of others.

COMPETENCE
You must be able to:

a) Describe the use of a range of communication methods that may be employed by the laboratory to engage with the service user.

b) Demonstrate an awareness of how service user feedback questionnaires can be used to inform service delivery.

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Observed by trainer to work in accordance with HCPC standard 1b.4.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested examples of evidence:

Describe which do you think is the most effective way of engaging with service users, and why?

Construct a simple questionnaire regarding one aspect of your laboratory service (e.g. transport of specimens from the ward) that could be used to gain feedback from service users.

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External Verifier's Signature:	_____
External Verifier's Name:	_____
Date:	_____

Reflective Log

Summarise how HCPC standards 1b.1 – 1b.4 apply to your current role.

Section 2: The Skills Required for the Application of Practice

These standards refer to the acquisition and demonstration of applied skills. They can be summarised as the ability to make assessments, interpret information, critically evaluate results or outcomes, based on professional knowledge and skills all within the framework of an individual's professional practice.

The suggested training tasks and examples of evidence are a basic guide only and additional tasks or evidence may be needed for some standards.

The Reflective Log at the end of each module is designed to encourage good professional practice by 'reflecting' on how understanding has changed from what was known before training to what has been learned during the training period, and also what else might be learned. It links to the requirements of the HCPC standards for CPD and the need to consider how CPD has a perceived benefit to individual practice and the service user.

IBMS
Institute of Biomedical Science

Section 2 The Skills Required for the Application of Practice

2A IDENTIFICATION AND ASSESSMENT OF HEALTH AND SOCIAL CARE NEEDS

2a.1 Be able to gather appropriate information.

Be able to select suitable specimens and procedures relevant to patients' clinical needs, including collection and preparation of specimens as and when appropriate.

KNOWLEDGE

- Understand the laboratory procedure for test requesting and sample receipt.
- Be aware of collection techniques appropriate to the sample under investigation and the sample requirements for particular tests and procedures to employ when requirements are not met.
- Understand the laboratory procedures for specimen preparation prior to laboratory investigation.
- Understand the laboratory procedures for the storage of samples prior to investigation.
- Be aware of legislation and regulations covering the transport of samples.

COMPETENCE
You must be able to:

a) Confirm sample has been correctly prepared for intended tests.

b) Perform relevant check of sample integrity.

c) Take relevant action to deal with inadequately or incorrectly labelled specimens, inappropriate samples, leaking specimens and incomplete request forms.

d) Take relevant action to manage problems with specimen integrity or associated risks.

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Observed by trainer to work in accordance with HCPC standard 2a.1.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested training tasks and examples of evidence:

State the appropriate container, any additive or special requirements for the analysis of samples received in your laboratory (some samples such as urine may be analysed by different departments and have different collection requirements).

State what types of specimen your laboratory receives that require specialist preparation techniques and describe any particular action that is taken upon receipt of such specimens.

Produce a witness testimony or in-house competence training records to demonstrate you are able to deal with the following situations correctly:

a) Leaking into the bag in which the container was received

b) Leaking onto a laboratory work surface

c) Incorrectly or inadequately labelled

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External Verifier's Name: _____

Date: _____

2a.2 Be able to select and use appropriate assessment techniques.

Be able to undertake and record a thorough, sensitive and detailed assessment, using appropriate techniques and equipment.

Be able to demonstrate practical skills in the essentials of measurement, data generation and analysis.

Be aware of the need to assess and evaluate new diagnostics prior to routine use.

KNOWLEDGE

- Know the types of assessment or analysis required in relation to the sample and test request.
- Know the principles and applications of techniques used in standard profiles and tests.
- Know the correct and safe operation of equipment.
- Know the types of record required.
- Be aware of how to evaluate new laboratory techniques for diagnostic use.

COMPETENCE
You must be able to:

a) Perform relevant assessment/analysis to prescribed protocol and prepare data in suitable format for interpretation.

b) Check calibration and control method is correct and equipment maintenance is completed for laboratory tests required.

c) Complete appropriate records for quality assurance, error logs, maintenance, calibration.

d) Ensure results are validated as analytically correct.

e) Explain the terms: linearity, cross-reactivity, sensitivity and clinical audit, with regard to the evaluation of a new laboratory technique.

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Observed by trainer to work in accordance with HCPC standard 2a.2.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested training tasks and examples of evidence:

Choose two pathological conditions that are routinely diagnosed by your laboratory and describe the techniques and tests that are used to give a result or a diagnosis.

Produce annotated results from an investigation you have performed or signed witness testimonies.

Compare and contrast the use of quantitative and qualitative techniques used in your scope of practice.

Describe how your laboratory evaluates a new reagent or technique before incorporation into routine use.

Portfolio and evidence of competence for this standard verified and passed by:

External Verifier's Signature:	_____
External Verifier's Name:	_____
Date:	_____

2a.3 Be able to undertake or arrange investigations as appropriate.

Evidence will be required that training has been effective and fitness to practice achieved in at least one of these disciplines. It need not be all pathology disciplines.

See also HCPC standard 3a.1

KNOWLEDGE

- Know the principles and application of laboratory protocols relevant to a range of routine investigations.

COMPETENCE
You must be able to:

a) Perform analyses relevant to the routine sample under investigation using prescribed protocols applicable to your work placement or field of employment.

Clinical Biochemistry
- o Liver function tests
- o Cardiac markers
- o Urea and electrolytes
- o Hormones
- o Proteins
- o Therapeutic drug monitoring

Haematology and Transfusion Science
- o Blood and bone marrow smear preparation and staining
- o Cell morphology
- o Full blood counts
- o Blood grouping
- o Coagulation
- o Compatibility testing
- o Serological methods for antigen/antibody detection
- o Blood components processing and monitoring

Histopathology and Cytology
- o Tissue and cell preparation
- o Microtomy of wax embedded tissues
- o Cytological staining
- o Histological staining for the identification of connective tissue, fibrin, amyloid, carbohydrates, lipids, nucleic acids, bacteria, pigments

Immunology
- o Serological antigen/antibody reactions for organ specific and organ non-specific antibodies
- o Immunoglobulins
- o Complement
- o Immunophenotyping
- o Cell function tests

Microbiology and Virology
- o Sterilisation and disinfection techniques
- o Handling culture medium
- o Sample inoculation and sub-culturing
- o Culture methods for identification of common pathogens
- o Susceptibility testing
- ○ Serological procedures for common pathogens
- ○ Microscopic identification of bacteria, parasites, fungi or viruses

b) Describe the underlying principles and limitations of the prescribed protocol relevant to the sample under investigation. (see also HCPC standard 3a.1)

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Observed by trainer to work in accordance with HCPC standard 2a.3.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested training tasks and examples of evidence:

Within this standard you are required to provide evidence of the breadth, depth and range of duties, tests and techniques in which you have received training.

The selection of material and evidence is at the discretion of the individual in partnership with the laboratory training officer who should be able to provide guidance on what constitutes suitable and comprehensive evidence.

Signed witness testimonies, results or investigations, personal observations, extracts from reflective diaries may be used as evidence.

Portfolio and evidence of competence for this standard verified and passed by:

External Verifier's Signature: _____

External Verifier's Name: _____

Date: _____

2a.4 Be able to analyse and critically evaluate the information collected.

Be able to investigate and monitor disease processes and normal states.

Be able to use tables and graphs in order to analyse experimental data.

Be able to use standard operating procedures for analyses including point of care in vitro diagnostic devices.

Be able to use statistical packages and present data as graphs and tables.

KNOWLEDGE

- Know the relevant protocols and reference ranges for investigating a range of disease processes relevant to your scope of practice.
- Know how to recognise normal and abnormal findings and their significance in relation to investigations performed.
- Know methods for interpreting laboratory-generated information.
- Know methods for presenting information in graphical form and how to determine the significance of results.
- Know local standard operating procedures for point of care testing.

COMPETENCE
You must be able to:

a) Perform relevant analyses to prescribed protocol and prepare data in suitable format for interpretation using all relevant results.

b) Use and interpret descriptive, quantitative and technical information in tabular and graph forms that conform to scientific convention.

c) Provide a factual report at a level of detail that meets the needs of the intended recipients.

d) Follow procedures for Point of Care Testing, as appropriate to your scope of practice.

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Observed by trainer to work in accordance with HCPC standard 2a.4.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested examples of evidence:

Choose an example of a disease or condition, e.g. cancer, autoimmune disease, infections. Describe the nature of this disease or condition and the tests that are performed to investigate, identify or monitor it. Include method sheets and SOPs and give examples of results and comment on their significance.

List the investigations in which you have been trained and a brief description of their diagnostic purpose.

Present the numerical or visual results of an analysis or study that you have undertaken during your training and suggest how statistical analysis could enhance your findings.

Portfolio and evidence of competence for this standard verified and passed by:

External Verifier's Signature: _____

External Verifier's Name: _____

Date: _____

Reflective Log

Summarise how HCPC standards 2a.1 – 2a.4 apply to your current role.

2B FORMULATION AND DELIVERY OF PLANS AND STRATEGIES FOR MEETING HEALTH AND SOCIAL CARE NEEDS

2b.1 Be able to use research, reasoning and problem solving skills to determine appropriate actions.

Recognise the value of research to the systematic evaluation of practice.

Be able to conduct evidence-based practice, evaluate practice systematically, and participate in audit procedures.

Be aware of a range research methodologies.

Be able to demonstrate a logical and systematic approach to problem solving.

Be able to evaluate research and other evidence to inform their own practice.

Be able to design experiments, report, interpret and present data using scientific convention, including application of SI units and other units used in biomedical practice.

See also HCPC standard 2b.2

KNOWLEDGE

- Know how to access information about current trends and modern techniques in biomedical science and their impact on healthcare.
- Understand common methods and procedures used in biomedical research and development.
- Know how to apply research outputs clinically and analytically.
- Understand how to design and conduct an experiment, present results and draw satisfactory conclusions.
- Understand the role and value of audit procedures in professional practice.

COMPETENCE
You must be able to:

a) Discuss current trends and modern techniques and their impact on healthcare.

b) Interpret case-study data and present a conclusion.

c) Critically review and evaluate research papers.

d) Use library catalogues and electronic databases to support a literature search.

e) Use research, reasoning and problem solving skills to make judgements or decisions in determining appropriate actions with regard to laboratory procedures and diagnosis.

f) Design, execute and draw conclusions from a small, independent scientific study.

g) Apply practice in line with current trends in biomedical science.

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Completed a project report to demonstrate HCPC standard 2b.1.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested training tasks and examples of evidence:

Successful completion of an undergraduate projects will meet most if not all or the competences for this standard. It is not necessary to include the whole project.

A reflective diary to show how you prepared for project or dissertation

Write up an experiment or analysis that you have undertaken which demonstrates your ability to report and interpret data, e.g. project

Describe what do you understand by the term 'evidence based practice'?

Give an example of evidence based practice in the discipline(s) in which you have been trained.

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External Verifier's Signature: _____

External Verifier's Name: _____

Date: _____

2b.2 Be able to draw on appropriate knowledge and skills in order to make professional judgements.

Be able to change their practice as needed to take account of new developments.

Be able to demonstrate a level of skill in the use of information technology appropriate to their practice.

See also HCPC standard 2b.1

KNOWLEDGE

- Understand how to apply knowledge and skills to make professional judgements.
- Understand the limitations of the procedures.
- Be aware of current trends in biomedical science and laboratory practice.
- Understand the use of laboratory information management systems (LIMS)

COMPETENCE
You must be able to:

a) Use knowledge and skills within the limits of your practice to inform decisions regarding the investigation of clinical specimens.

b) Assess the merits of new techniques or procedures for routine use and service development, and apply them to practice.

c) Use basic laboratory information management systems (LIMS) in accordance with standard operating procedures to access and input data.

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Observed by trainer to work in accordance with HCPC standard 2b.2.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested training tasks and examples of evidence:

Describe how you apply your knowledge and skills to your work in a laboratory.

Critically evaluate the results of a routine investigation.

Describe how you apply your I.T. knowledge and skills. Produce a witness statement or screen prints, confirming your use of LIMS in a manner pertinent to the standard and in accordance with laboratory procedures.

Portfolio and evidence of competence for this standard verified and passed by:

External Verifier's Signature:	_____
External Verifier's Name:	_____
Date:	_____

2b.3 Be able to formulate specific and appropriate management plans, including the setting of timescales.

Understand the requirement to adapt practice to meet the needs of different groups distinguished by, for example, physical, psychological, environmental, cultural or socio-economic factors.

Be able to identify the cause of procedural anomalies and implement remedies.

See also HCPC standard 1a.7

KNOWLEDGE

- Understand the principles of planning, time management and target setting.
- Understand the need to prioritise workload in line with clinical demands.
- Understand the multidisciplinary role of pathology in monitoring and diagnosing a range of conditions.
- Understand the factors that influence access to and use of services available.

COMPETENCE
You must be able to:

a) Work within the departmental agreement of appropriate turn-around times.

b) Identify and verify factors affecting the prioritisation of analyses from a range of investigations.

c) Be able to analyse an incident and take corrective action.

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Observed by trainer to work in accordance with HCPC standard 2b.3.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested training tasks and examples of evidence:

Write a report of an adverse event or incident that has occurred in your laboratory. Include an analysis of the possible causes and provide a conclusion that considers how this may be prevented from happening again.

Produce a signed witness testimony to demonstrate your ability to prioritise samples.

Portfolio and evidence of competence for this standard verified and passed by:

External Verifier's Signature:	_____
External Verifier's Name:	_____
Date:	_____

2b.4 Be able to conduct appropriate diagnostic or monitoring procedures, treatment, therapy or other actions safely and skilfully.

Understand the need to maintain the safety of service users, and those involved in their care.

Be able to perform and supervise scientific and technical procedures to reproducible standards.

Be able to operate and utilise specialist equipment according to their discipline.

Be able to validate scientific and technical data and observations according to pre-determined quality standards.

Be able to demonstrate proficiency in liquid handling methodologies, preparation of standard solutions and buffers.

Be able to demonstrate practical skills in instrumentation and techniques in: microscopy; spectroscopy; centrifugation; electrophoresis; chromatography; electroanalytical techniques; automated analysis; immunological techniques; enzyme assays and molecular biology techniques; sterilisation techniques and microbial culture; identification and quantitation of microorganisms; microtomy.

Be able to demonstrate practical skills in the processing and analysis of specimens including specimen identification, the effect of storage on specimens and the safe retrieval of specimens.

Be able to demonstrate practical skills in the investigation of disease processes.

Be able to work in conformance with standard operating procedures and conditions.

Be able to work with accuracy and precision.

Be able to prepare reagents accurately and consistently.

Be able to perform calibration and quality control checks.

Be able to check that equipment is functioning within its specifications and to respond appropriately to abnormalities.

Understand the implications of non-analytical errors.

Be aware of the near-patient testing and non-invasive techniques.

KNOWLEDGE

- Understand the need for standard laboratory procedures and diagnostic tests relevant to the patient under investigation.
- Understand the importance of reference ranges, the use of scientific units and quality control.
- Understand the importance of the correct preparation of buffers, standard solutions, and other solutions used in the laboratory; include weighing, pipetting, use of volumetric glassware, and making appropriate dilutions of standard and test solutions.
- Understand the importance of manual dexterity and the safe use of a range of instrumentation and commonly used techniques including: microscopy; spectroscopy; centrifugation; electrophoresis; chromatography; electroanalytical techniques; automated analysis; immunological techniques; enzyme assays and molecular biology techniques; sterilisation techniques and microbial culture; identification and quantitation of microorganisms; microtomy.
- Know the methods for processing and analysing specimens including methods of specimen identification, the effect of storage on specimens and the safe retrieval of specimens.
- Know the correct procedures for calibration, for quality control checks and for correcting simple equipment faults.
- Understand the common causes of non-analytical errors and the implications of these for the test result.
- Be aware of the role of near-patient testing and non-invasive techniques used in diagnostic pathology and monitoring for patient care.

COMPETENCE
You must be able to:

a) Perform laboratory procedures and diagnostic tests in accordance with standard operating procedures and understand the health and safety requirements with respect to:

- Patient identification
- Sample type
- Protective clothing
- Hazard data sheets (including COSHH)
- Equipment

b) Describe the correct procedure for handling samples that may contain hazard group 2, 3 and 4 pathogens.

c) Use the following equipment correctly and safely:

- Balance
- Centrifuge
- Hand-held pipette
- Fridges and freezers
- Pressurised gas storage containers

d) Describe the principles and practice of standardisation and calibration and perform these procedures in accordance with standard operating procedures.

e) Explain the terms ‘specificity’, ‘sensitivity’ and ‘linearity’.

f) Explain the significance of reference ranges and reference materials.

g) Use the correct scientific units and be able to interconvert units.

h) Prepare buffers and other solutions in accordance with standard operating procedures.

i) Demonstrate practical skills in instrumentation and techniques relevant to your discipline:

- Microscopy
- Spectroscopy
- Centrifugation
- Electrophoretic techniques, including immunoelectrophoresis and blotting
- Chromatography
- Electroanalytical techniques
- Automated analysis: continuous flow, multi-channel, discrete, selective, random access, centrifugal, kinetic end-point
- Enzyme assays
- Molecular biology techniques
- Sterilisation techniques and microbial culture
- Identification and quantitation of microorganisms
- Tissue preparation for microscopy

j)	Confirm that samples have been correctly identified and prepared for intended tests.
k)	Confirm that samples have been stored correctly and can be retrieved for laboratory investigation if required.
l)	Produce results consistent with the laboratory procedure.
m)	Perform calibration and quality control checks.
n)	Correct simple faults in equipment.
o)	Describe common causes of non-analytical errors and the implications of these for the test result.
p)	Describe near-patient testing and non-invasive techniques employed by a pathology laboratory, and other settings such as primary care, for routine diagnosis and monitoring.

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Observed by trainer to work in accordance with HCPC standard 2b.4.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested training tasks and examples of evidence:

Describe the procedural steps of a specimen through your laboratory, taking into account health and safety issues, equipment used, methodologies, reagent preparation, prioritisation, quality control, result interpretation and generation and possible sources of error, sample storage and disposal.

What do you understand by near-patient testing and non-invasive techniques and give an example?

Produce in-house competency training records or signed witness statements to demonstrate your ability to use equipment and follow procedures.

Portfolio and evidence of competence for this standard verified and passed by:

External Verifier's Signature: _____

External Verifier's Name: _____

Date: _____

2b.5 Be able to maintain records appropriately.

Be able to keep accurate, legible records and recognise the need to handle these records and all other information in accordance with applicable legislation, protocols and guidelines.

Understand the need to use only accepted terminology in clinical records.

Recognise the risks and possible serious consequences of errors in both requests for, and results of, laboratory investigations.

Recognise the value of test results for clinical audit and as a reference source.

Be able to use systems for the accurate and correct identification of patients and laboratory specimens.

Understand the need to adhere to protocols of specimen identification, including bar coding and electronic tag systems.

Be able to use computer systems for the use of test requesting and reporting.

Understand the importance of backup storage of electronic data.

KNOWLEDGE

- Know local protocols and guidelines for handling clinical information and recording information.
- Understand the principles of standard operating procedures and the purpose of accurate, legible laboratory records.
- Understand the application of information technology in a pathology service
- Be aware of error logging and the possible implications of error.
- Know the laboratory procedure for receipt of samples, dealing with inadequately or incorrectly labelled specimens and incomplete request forms
- Know the principal criteria for patient identification.
- Understand the use of the hospital-based computer systems for test requesting and reporting.
- Understand the principles of backup storage of electronic data.

COMPETENCE
You must be able to:

a) Apply local protocols and guidelines to the handling of clinical information and keep accurate, legible records.

b) Work in accordance with standard operating procedures and keep accurate, legible laboratory records.

c) Complete an error log and know the possible implications of error.

d) Work in accordance with laboratory procedures for receipt of samples, dealing with inadequately or incorrectly labelled specimens and incomplete request forms.

e) Match samples to patient identification details and confirm unique identifier.

f) Use computer systems for test requesting and reporting.

g) Explain the importance for backup storage of electronic data.

h) Transcribe information accurately and legibly.

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Observed by trainer to work in accordance with HCPC standard 2b.5.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested training task and examples of evidence:

On a separate sheet list all the types of records kept in your laboratory, and the systems that operate to ensure continuity and confidentiality and access of records.

Use a witness report to give an example of an error that has occurred in your laboratory, the actions that were taken and the consequences (or possible consequences that may have resulted) from the error. How can the same error be prevented from happening again?

Produce a signed witness statement to show you know the minimum patient identification criteria required in your laboratory and can follow the protocol that is used for inadequately labelled samples?

In-house competency training records for sample labelling and handling

Portfolio and evidence of competence for this standard verified and passed by:

External Verifier's Signature: _____

External Verifier's Name: _____

Date: _____

Reflective Log

Summarise how HCPC standards 2b.1 – 2b.5 apply to skills required of your scope of practice.

2C CRITICAL EVALUATION OF THE IMPACT OF, OR RESPONSE TO, THE REGISTRANT'S ACTIONS

2c.1 Be able to monitor and review the ongoing effectiveness of planned activity and modify it accordingly.

Be able to gather information, including qualitative and quantitative data that help to evaluate the responses of service users to their care.

Be able to evaluate intervention plans using recognised outcome measures and revise the plans as necessary in conjunction with the service user.

Recognise the need to monitor and evaluate the quality of practice and the value of contributing to the generation of data for quality assurance and improvement programmes.

Be able to make reasoned decisions to initiate, continue, modify or cease treatment or the use of techniques or procedures, and record the decisions and reasoning appropriately.

Be able to select and apply quality and process control measures that have a statistical or measurable output.

Be able to identify and respond appropriately to abnormal outcomes from quality indicators.

KNOWLEDGE

- Know the purpose and range of standard laboratory tests relevant for diagnosis and treatment.
- Know how to confirm suitability of sample for intended analytical method.
- Know the limitations of standard tests and further associated tests, which may be required.
- Know the principles of quality control and quality assurance.
- Know how to evaluate unexpected laboratory results and confirm accuracy of the result by seeking additional information as appropriate.

COMPETENCE
You must be able to:

a) Confirm suitability and validation of intended analytical method for the measurement required.

b) Indicate sequential testing or specialised tests that are appropriate to patient diagnosis or treatment.

c) Liaise with appropriate staff to clarify discrepancies or anomalies.

d) Explain the difference between internal quality control and external quality assurance and the type of data required.

e) Evaluate unexpected results.

f) Use quality assurance methods in accordance with laboratory procedure and take appropriate corrective action if required.

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Observed by trainer to work in accordance with HCPC standard 2c.1.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested training tasks and examples of evidence:

Give an example during your laboratory training where you have confirmed the suitability of an intended analytical method and have subsequently validated the method for the measurement required.

Explain the difference between internal quality control and external quality assurance?

List the external quality assurance schemes in which your department participates and state why external schemes are important for establishing and maintaining laboratory quality.

Produce a signed witness statement to show you are familiar with quality control/assurance procedures and can take appropriate action.

Portfolio and evidence of competence for this standard verified and passed by:

External Verifier's Signature: _____

External Verifier's Name: _____

Date: _____

2c.2 Be able to audit, reflect on and review practice.

Understand the principles of quality control and quality assurance.

Be aware of the role of audit and review in quality management, including quality control, quality assurance and the use of appropriate outcome measures.

Be able to maintain an effective audit trail and work towards continual improvement.

Participate in quality assurance programmes, where appropriate.

Understand the value of reflection on clinical practice and the need to record the outcome of such reflection.

Recognise the value of case conferences and other methods of review.

KNOWLEDGE

- Know the role of, and mechanisms for, audit and review in quality management.
- Know how an effective audit trail is maintained and can be improved.
- Know the laboratory quality assurance programmes.
- Know the value of case conferences and other methods of review.

COMPETENCE
You must be able to:

a) Explain the principles of audit and how to conduct an audit trail in the laboratory.

b) Confirm a sample has been tested in accordance with a quality assurance programme.

c) Record relevant quality indicators in accordance with standard laboratory procedures.

d) Explain the benefit of a case review.

e) Participate in (or conduct) a case presentation.

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Observed by trainer to work in accordance with HCPC standard 2c.2.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested training tasks and examples of evidence:

Produce a witness testimony to show the quality and audit activities in which you have been involved.

Conduct a vertical quality audit on a specimen from the point it enters the department to the point at which the result is dispatched. Include your audit in this portfolio.

Do a case presentation and include full details of the case in your portfolio. Choose a case that demonstrates the benefits of case conferences or multi-disciplinary team review.

Give an example of personal reflective practice and how this has assisted you in your training.

Portfolio and evidence of competence for this standard verified and passed by:

External Verifier's Signature: _____

External Verifier's Name: _____

Date: _____

Reflective Log

Summarise how HCPC standards 2c.1 – 2c.2 apply to your scope of practice.

Section 3: Knowledge, Understanding and Skills

These standards refer to the unique essence of the profession – the body of knowledge and skills that is biomedical science.

The suggested training tasks and examples of evidence are a basic guide only and additional tasks or evidence may be needed for some standards.

The Reflective Log at the end of each module is designed to encourage good professional practice by 'reflecting' on how understanding has changed from what was known before training to what has been learned during the training period, and also what else might be learned. It links to the requirements of the HCPC standards for CPD and the need to consider how CPD has a perceived benefit to individual practice and the service user.

IBMS
Institute of Biomedical Science

Section 3 Knowledge, Understanding and Skills

3A KNOWLEDGE, UNDERSTANDING AND SKILLS

3a.1 Know and understand the key concepts of the bodies of knowledge, which are relevant to their profession-specific practice.

Understand the structure and function of the human body, relevant to their practice, together with knowledge of health, disease, disorder and dysfunction.

Be aware of the principles and applications of scientific enquiry, including the evaluation of treatment efficacy and the research process.

Recognise the role of other professions in health and social care.

Understand the theoretical basis of, and the variety of approaches to, assessment and intervention.

Know the structure, function and metabolism of molecules of biological importance.

Understand the structure, function and control of normal and altered genetic material and associated investigative techniques.

Understand the immune response in health and disease.

Understand the basic structure, classification, biochemistry and control of pathogenic agents

Know the role of the laboratory in the diagnosis and monitoring of specific disease conditions.

Understand the role of the following in the diagnosis and treatment of disease: cellular pathology; clinical biochemistry; clinical haematology; clinical immunology; medical microbiology; medical genetics; transfusion science.

Be able to evaluate analyses using qualitative and quantitative methods to aid the diagnosis, screening and monitoring of health and disorders.

Understand the techniques and associated instrumentation used in the practice of biomedical science.

KNOWLEDGE

- Understand normal human anatomy, physiology and biochemistry and the pathophysiological effects of disease, disorder and dysfunction
- Be aware of the principles of scientific laboratory investigation including a knowledge of the research process including quantitative and qualitative methodologies
- Know the relationship between pathology and other professions in health and social care.
- Understand the role of a pathology laboratory in the assessment, diagnosis and treatment of patients.
- Know the structure, function and metabolism of carbohydrates, lipids, nucleic acids and proteins.
- Know the structure and function of genes and the techniques used in the study of the causes and consequences of alterations of genetic material.
- Understand the basic immune responses in health and disease.
- Know the structure, physiology, biochemistry, classification and control of micro-organisms and the role of medical microbiology in the diagnosis and treatment of disease.
- Know the contribution of biomedical science to the diagnosis and treatment of cancer, haematological disorders, infection, autoimmunity, neurological disease, and endocrine disorders affecting the organ systems of the body
- Understand the role of cellular pathology in the diagnosis and treatment of disease.
- Know the qualitative and quantitative methods used in the diagnosis, screening and monitoring of health and disorders.
- Know the constituents of blood in normal and diseased states and the identification of blood group antigens and antibodies.
- Understand the principles of automated instrumentation and analysers in a pathology laboratory.
- Understand the role of clinical biochemistry in the diagnosis and treatment of disease.

COMPETENCE
You must be able to:

a) Describe the key concepts of:
- Cellular pathology
- Clinical biochemistry
- Clinical immunology
- Haematology
- Immunohaematology and transfusion science
- Medical microbiology
- Clinical virology

b) Describe normal and pathological states related to human anatomy and physiology of the major organ systems in health and disease.

c) Describe the principles of scientific laboratory investigation including the difference between quantitative and qualitative methodologies.

d) Describe the relationship between pathology and other professions in health and social care.

e) Describe the role of a pathology laboratory in the assessment, diagnosis and treatment of patients.

f) Describe the structure, function and metabolism of carbohydrates, lipids, nucleic acids and proteins.

g) Describe the structure and function of genes and techniques used in the study of genetic material.

h) Describe the immune response in health and disease.

i) Describe the structure, physiology, biochemistry, classification and control of micro-organisms.

j) Describe how biomedical science contributes to the diagnosis and treatment of:
- Cancer
- Haematological disorders
- Infection
- Autoimmunity
- Neurological disease
- Endocrine disorders

k) Describe microscopic appearances of cells and tissues and relate these to underlying disease processes.

l) Describe simple histological procedures.

m) Use laboratory procedures to evaluate analyses using qualitative and quantitative methods to aid the diagnosis, screening and monitoring of health and disorders.

n) Describe normal and abnormal blood films, compare methods for analysis of haemoglobins, blood group antigens and antibodies.

o) Explain the principles of automated analysers:

p) Describe the use of clinical biochemistry methods to investigate, diagnose and treat the following diseases:
- Coronary heart disease
- Abnormal liver function
- Diabetes
- Drug toxicity

q) Describe the use of medical microbiology methods to investigate, diagnose and treat the following diseases:
- Bacterial, parasitic, fungal infections
- Viral infections
- Food poisoning

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Trainee has been awarded an accredited degree in biomedical science or has appropriate academic qualification gained in accordance with IBMS letter of assessment.

Date of completion:

Laboratory Assessor (signature)

Print name ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

ii) Trainee has been awarded an accredited degree in biomedical science or has appropriate academic qualification gained in accordance with IBMS letter of assessment.

Date of completion:

University tutor (signature)

Print name ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested training tasks and examples of evidence:

Those in training to become a registered biomedical scientist must have written confirmation from the Institute that they are on (or have completed) an accredited biomedical science degree or that their academic qualification has been assessed as acceptable for registration. No further evidence is required to show that this standard has been met. However, a photocopy of the relevant confirmation of the academic award (and confirmation of acceptance if appropriate) must be included in the portfolio of evidence.

Portfolio and evidence of competence for this standard verified and passed by:

External Verifier's Signature:	_____
External Verifier's Name:	_____
Date:	_____

3a.2 Know how professional principles are expressed and translated into action through a number of different approaches to practice, and how to select or modify approaches to meet the needs of an individual, groups or communities.

KNOWLEDGE

- Know how the application of common laboratory techniques compares and contrasts in different biomedical science disciplines.
- Be aware of developments in biomedical science in relation to healthcare delivery.

COMPETENCE
You must be able to:

a) Describe how different information can be obtained from the application of common techniques in the analysis of patient samples, e.g. cell counts, ELISA, chromatography, stains.

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Observed by trainer to work in accordance with HCPC standard 3a.2.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested training tasks and examples of evidence:

Describe how the skills you have developed during your training can be applied across pathology.

Describe an example where a technique or test has had to be modified to accommodate a particular sample or situation.

Portfolio and evidence of competence for this standard verified and passed by:

External Verifier's Signature:	_____
External Verifier's Name:	_____
Date:	_____

3a.3 Understand the need to establish and maintain a safe practice environment.

Be aware of the applicable health and safety legislation, and any relevant safety policies and procedures in force at the workplace, such as incident reporting and be able to act in accordance with these.

Be able to work safely, including being able to select appropriate hazard control and risk management, risk reduction or elimination techniques in a safe manner in accordance with health and safety legislation.

Be able to select appropriate personal protective equipment and use it correctly.

Be able to establish safe environments for clinical practice, which minimises risks to service users, those treating them, and others, including the use of hazard control and particularly, infection control.

Understand the sources of hazard in the workplace, including specimens, raw materials, clinical waste and equipment.

Be aware of immunisation requirements and the role of occupational health. Know the correct principles and applications of disinfectants, methods for sterilisation and decontamination and dealing with waste and spillages correctly.

Know the use and application of engineering control, e.g. mechanical ventilation systems such as fume cupboards or microbiological safety cabinets.

Understand the application of principles of good laboratory practice relevant to health and safety.

KNOWLEDGE

- Know the health and safety legislation and local safety policy
- Know the action required to deal with hazards or potential risks.
- Know how to use personal protective equipment
- Know the risks associated with specimens (fixed and unfixed), clinical waste and equipment.
- Know the immunisation requirements for the laboratory and the role of occupational health.
- Know the principles and applications of disinfectants, methods for sterilisation and decontamination and for dealing with waste and spillages correctly.
- Know the correct procedures for using fume cupboards and microbiological safety cabinets.

COMPETENCE
You must be able to:

a) Work in a safe manner and act in accordance with health and safety legislation and safety policies applicable to the working environment.

b) Respond appropriately to information, instruction and training corresponding to local safety policy and procedures.

c) Comply with local risk assessments, including Control of Substances Hazardous to Health (COSHH) regulations 1994.

d) Correctly use personal protective equipment: laboratory coats, protective gloves, eye protection.

e) Confirm that work is carried out with due respect to different types of hazards including fire, electrical, biological, chemical, radiation, manual handling and the use of visual display units.

f) Confirm compliance with the staff health screening, prophylaxis and vaccination policies.

g) Use the correct disinfectants and procedures for dealing with chemical waste, confidential waste, clinical waste, sharps and chemical and biological spillages.

h) Ensure work is in accordance with laboratory procedures for the correct and safe use of fume cupboards, microbiological safety cabinets and other ventilation systems.

i) Handle samples in the correct manner according to protocols for minimising risk of infection.

EVIDENCE OF ACHIEVEMENT

This section requires the internal assessor to sign that the trainee has successfully achieved fitness to practice. The trainee should collect and prepare supporting evidence as a separate portfolio and cross-reference the following statements to this.

i) Observed by trainer to work in accordance with HCPC standard 3a.3.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

ii) Answered questions and/or completed a set piece of work set by trainer related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

And/or

iii) Answered questions and/or completed a set piece of work set by academic tutor related to the competency statement.

Date of completion:

Assessed by (signature) ***Print name*** ***Position:***

Cross-referenced to ……..

Trainee's signature:

Suggested training tasks and examples of evidence:

List the principal laws and regulations relating to health, safety and security.

There are a number of health, safety and security risks common to a laboratory environment. Identify the risks and the actions required to minimise them:

Produce a witness testimony to confirm you know how to conform to health and safety requirements in the laboratory.

Give examples of the different types of hazardous and non-hazardous waste in your laboratory and how you dispose of each type.

What action do you take if the fire alarm sounds while you are performing an urgent test?

Using the example given below as a guide, do a risk assessment on the substances you have used during your training.

Substance	**Associated risk**	**Actual risk to user**	**Safety measures**	**Action required following an incident**
Methylated spirit	Flammable Toxic	Fire Eye splash Ingestion	Store in flammable cupboard Use PPE	Eyes – wash with water 10 mins Skin – wash with water Ingestion – wash mouth with water, seek medical attention

Portfolio and evidence of competence for this standard verified and passed by:

External Verifier's Signature: _____

External Verifier's Name: _____

Date: _____

Reflective Log

Summarise how HCPC standards 3a.1 – 3a.3 apply to your scope of practice.

IBMS vision and purpose

About biomedical science

Biomedical science is the application of the natural sciences to the study of medicine. Although relating principally to the causes, consequences, diagnosis and treatment of human disease, biomedical science is used in other areas, such as academia, research and veterinary medicine.

It has been estimated that approximately 70% of medical decisions or interventions require the knowledge and expertise of biomedical science. This may range from the results of simple blood tests, the identification of disease causing organisms, the monitoring of chronic conditions (for example diabetes), through to more complex situations such as interpreting and reporting abnormal cervical cytology. Those who practice biomedical science must be competent and professional because lives may depend upon their knowledge and skills.

IBMS vision

The Institute of Biomedical Science (IBMS) is the professional body for those who work within the field of biomedical science. Its principal aims are to represent its members, set standards of behaviour for its members, enable career development, educate its members, promote biomedical science to the public and award qualifications appropriate to the collective knowledge and skill base of its members.

The Institute was founded in 1912 and represents over 20,000 members employed predominately within the healthcare arena, but also within university and veterinary laboratories, government agencies and other services. Other members also work in related commercial fields and academia. Although most Institute members live and work in the United Kingdom and the Republic of Ireland, many other members are employed throughout the world.

IBMS roles

- To aid and support the development of biomedical science, both nationally and internationally.
- Develop professional standards to guide those who practice biomedical science and to ensure patient safety.
- Assess competence to practise as Health and Care Professions Council (HCPC) registered biomedical scientists.
- Represent the interests of biomedical science, provide advice and work with UK governments, public & independent healthcare providers, media, universities, industry and commercial sector, professional organisations and all other partners.
- Provide professional support and benefits for members.
- Develop qualifications, training and diplomas for members to demonstrate levels of expertise and competency along a career pathway.
- To enable members to achieve their highest potential via continuing professional development and other professional activities.
- Inform and guide biomedical scientists through media, professional and scientific publications, meetings and events.
- Promote public awareness of biomedical science.

- Award the designation of Registered Science Technician, Registered Scientist and Chartered Scientist to qualifying members.
- Fund research and support charitable causes in biomedical science.
- Maintain a historical archive of the Institute and biomedical science profession.

Copyright and disclaimer

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