REGISTRATION TRAINING PORTFOLIO

GUIDANCE FOR CANDIDATES,

TRAINERS AND EXTERNAL VERIFIERS

Contents

1. INTRODUCTION

This document provides guidance on completion of the Institute of Biomedical Science (IBMS) Registration Training Portfolio and the external verification process. This should be read in conjunction with the IBMS's Registration Training Portfolio. From time to time, this document will be updated to reflect changes that occur as part of a systematic review process and our commitment to continuous improvement in the delivery and management of the learning experience.

The IBMS Registration Training Portfolio is the means by which individuals can demonstrate they meet the standards of proficiency required of biomedical scientists and, following a verification visit and award of the Certificate of Competence, are eligible to apply to the Health and Care Professions Council (HCPC) for registration as a biomedical scientist. Individuals who work in healthcare science as biomedical scientists are required to register with the 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. Subsequently, the standards were revised by the HCPC, and new standards published with effect from December 2014.

'Biomedical Scientist' is a protected title (i.e. protected by law), and there is no other register applicable to statutory regulation of biomedical scientists. To be registered as a biomedical scientist the threshold level is a BSc (Hons) degree in Biomedical Science, with the Certificate of Competence awarded by the IBMS, or equivalent.

The role of the IBMS in this process is as an education provider and awarding body for the Certificate of Competence. This is a process by which individuals provide evidence that they have met the competences required of the HCPC standards of proficiency, are 'fit to practise' as biomedical scientists and are therefore eligible to apply for professional registration with the HCPC.

The authority for this derives from the Privy Council, and these certificates can only be issued by the IBMS. The Institute verifies the competence of applicants strictly against the HCPC standards of proficiency.

This IBMS Registration Training Portfolio is a record of education and training, providing evidence that the knowledge, skills and competences required for registration have been achieved. There are three routes to registration approved by the HCPC, all of which rely on completion of the Registration Training Portfolio.

Route 1. Certificate of Competence: Accredited degree containing Registration Training Portfolio

These degrees consist of a programme of academic study with integrated work-based clinical laboratory training accredited by the IBMS, which enables the student to complete the registration portfolio **as an integral part of the degree programme**. In so doing, the award of the Certificate of Competence is co-terminus with the award of a BSc (Hons) degree in biomedical science. The Registration Training Portfolio is assessed by a university-appointed External Verifier, in accordance with the Institute's verifier criteria and verification process. The Registration Training Portfolio must be completed and verified successfully before the degree can be awarded.

For the IBMS to accredit an integrated degree, the work-based clinical laboratory training must take place in a laboratory approved for pre-registration training by the IBMS. It is expected that employers and university staff will work together to identify which standards can be achieved as part of the degree and which are completed in the laboratory. Integrated degrees may also be approved independently by the HCPC.

Route 2. Certificate of Competence: Accredited degree followed by Registration Training Portfolio

Students who have successfully completed a full-time IBMS-accredited degree are required subsequently to undertake a period of training in an IBMS-approved laboratory. While undertaking this training, students must complete the IBMS Registration Training Portfolio. The student's training officer assesses the portfolio regularly to ensure that evidence of competence is being collected as part of a structured training programme. Upon completion, the portfolio is reviewed independently by an IBMS-appointed External Verifier to ensure that it meets the appropriate standards, and there is evidence that the candidate has met all the HCPC standards of proficiency. A laboratory visit is conducted and the student may be asked to provide points of clarification. The Certificate of Competence can only be awarded once the External Verifier is satisfied that the Registration Training Portfolio has been completed successfully and the HCPC standards of proficiency have been met.

Please note:
Part-time degrees or those with some incorporated laboratory placement time have the potential to be recognised as an integrated route but fall into this category because they may lack a full demonstration of how all the HCPC standards of proficiency are met during the degree programme and within the governance of the university. These are not considered true integrated degrees; therefore, award of the degree is not dependent on completion of the Institute's Registration Training Portfolio. Portfolios may be completed, or partially completed, during employment (part-time students) or clinical laboratory placement (sandwich students) while the student is enrolled on the degree programme. The Certificate of Competence can only be awarded once the IBMS is satisfied that the portfolio has been completed successfully in accordance with the requirements of the HCPC standards of proficiency and IBMS verification process.

Route 3. Certificate of Competence: Non-accredited degree followed by Registration Training Portfolio

Some applicants for trainee posts are graduates with non-biomedical science degrees or unaccredited biomedical science degrees. Individuals with these degrees are likely to require supplementary study of specified undergraduate modules from an IBMS-accredited degree in order to meet the equivalent of an accredited biomedical science degree, as required by the HCPC standards of proficiency. Graduates who have completed a degree not accredited by the IBMS can submit their qualification to the IBMS for assessment (details may be found on the IBMS website [www.ibms.org]).

Graduates with non-accredited degrees are required to obtain a place in an IBMS-approved training laboratory and complete the Registration Training Portfolio in order to be recommended for the award of a Certificate of Competence. This may take place simultaneously with any supplementary education requirement identified in the assessment outcome letter, and is the same process as outlined above for Route 2. The Certificate of Competence cannot be awarded until the candidate completes the required supplementary education.
All enquiries or matters relating to the IBMS Registration Training Portfolio should be addressed to the IBMS, NOT the HCPC.

2. PURPOSE OF THE REGISTRATION TRAINING PORTFOLIO

The IBMS Registration Training Portfolio provides the framework for education and professional training by which those seeking to become registered biomedical scientists can demonstrate their fitness to practise through evidence that the HCPC standards of proficiency for biomedical scientists have been met. The IBMS verifies competence to practise against these standards and awards a Certificate of Competence for individuals who wish to apply to register as a biomedical scientist with the HCPC.

The HCPC standards of proficiency for biomedical scientists are specific to the profession. It is important for training laboratories and trainees to recognise that the academic knowledge base is mainly provided by IBMS-accredited biomedical science and healthcare science (Life Sciences) degrees, 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 the threshold level of fitness to practise, be able to:

- demonstrate professionalism by working in accordance with good professional practice in partnership with other professionals, support staff, patients and service users
- demonstrate a knowledge and application of health and safety requirements
- undertake the correct procedures for the handling of specimens, before, during and after analysis
- use the main laboratory computer system in accordance with service requirements
- operate equipment used in the preparation and analysis of samples
- 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
- 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
- be able to apply principles of quality control and quality assurance
- demonstrate skills in troubleshooting and resolving typical problems in the clinical laboratory and be familiar laboratory safety, laboratory regulations, information systems and management.

The HCPC standards of proficiency have been grouped together into relevant modules and identified as either a knowledge or competence standard. The purpose of these standards is to ensure that all registered practitioners meet the same threshold standards of competence relevant to Day 1 of registered practice. The standards do not necessarily demonstrate fitness for purpose with respect to the employer's requirements for a particular role, nor are they a demonstration of specific in-depth knowledge and skills within a particular discipline. As this portfolio only demonstrates a threshold level of competence required for registration and autonomous practice, it is expected that practitioners will undergo further post-registration training to enhance their knowledge and scope of practice specific to a discipline or disciplines.

Achieving the standards of proficiency

For each module, there are indicative learning outcomes of work-based training and example performance indicators that will inform the training of the candidate. The statements made represent expected outcomes of work-based training that has taken place in an IBMS-approved training laboratory. Some elements of this training may be informed by an IBMS- accredited degree.

Standards of proficiencies that are mainly knowledge-based often use words such as “explain” and “describe”, 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”, and “prepare”, and while some of the basic skills will be learned during the degree programme, the application of these skills in a clinical laboratory forms a crucial component of the training for the demonstration of fitness to practise as a biomedical scientist.

The ‘Evidence of Achievement‘ section, as the name suggests, sets out the evidence the candidate needs to provide in order to demonstrate that they have met the HCPC standards of proficiency. This section and the corresponding evidence will be reviewed by the External Verifier, and the candidate will be expected to back this up during the verification visit and through interaction with the verifier on the laboratory tour.

For clarification, the verification visit should be about satisfaction of the standards and not about the technical aspects. Therefore, the verifier needs to be reassured that the standard has been met, but not HOW the standard has been met.

As the standards are generic to all disciplines, it is not necessary to appoint discipline-specific verifiers. This will not disadvantage either the verifier or the candidate, as an in-depth knowledge of the pathology discipline is not required (this is assessed at the end of Specialist Portfolio training), and the focus is on obtaining minimum standards applicable to the scope of practice of a biomedical scientist rather than the in-depth role of a specialist.

3. UNDERSTANDING THE HCPC STANDARDS OF PROFICIENCY

These standards set out safe and effective practice in the professions that the HCPC regulates. They are the threshold standards considered necessary to protect members of the public. They set out what a trainee biomedical scientist must know, understand and be able to do by the time they have completed their training, so that they are able to apply to register with the HCPC as a biomedical scientist. Once on the register, they must continue to meet those standards of proficiency which relate to the areas in which they work.

The IBMS has grouped the standards together into relevant sections and modules, identifying each one as either a knowledge or competence standard. As a result, the standards are not listed in numerical order when compared to the HCPC full list of standards of proficiency, but they are referenced (e.g. HCPC SoP 1.1) to allow the reader to compare the two documents.

For each module there are indicative learning outcomes of education and work-based training that have been mapped to the HCPC standards of proficiency. Please note that these are **indicative** and may meet more than one standard. Example performance indicators used in conjunction with these learning outcomes will inform the training of the candidate. These can be found in Appendix 1 and 2 of this document.

It is important to recognise that the candidate must understand the implications of the standards of proficiency and how they relate to their professional practice as failure to work to these standards could lead to exclusion from the register. For example, registrants must abide by the standards of conduct, performance and ethics as this relates to standards of proficiency in Section 1 (Professional Conduct) Module 1 (Professional Responsibility and Development) of the Registration Training Portfolio. Evidence must demonstrate they understand the implication of these standards to their practice and monitoring during their training must confirm they apply them to their practice.

In order to be eligible to apply for registration as a biomedical scientist, the candidate must meet each standard of proficiency for a biomedical scientist.

4. LABORATORY TRAINING

The IBMS Registration Training Portfolio can only be completed in laboratories that hold IBMS pre-registration training approval. This ensures that a laboratory has the necessary training programme, support and resources in place to ensure that a candidate for the Certificate of Competence award is able to undertake the necessary training to complete the portfolio.

The length of time to complete the Registration Training Portfolio will vary between trainees but is typically expected to take about 12 months. From November 2016, the time limits for completing the various IBMS portfolios have been removed and, as a result, applications for extensions are no longer required.

There is still a requirement for evidence to be current (i.e. within three years of the verification/examination/declaration). Evidence older than three years should not be included unless, in exceptional circumstances, currency can be confirmed by the trainer.

There will be an expiry limit of three years on any superseded version of a portfolio, commencing from the date a new version is introduced.

Information on how to achieve IBMS laboratory training approval can be found in the document *IBMS Laboratory Training Standards*, which is available on the Institute website.
https://www.ibms.org/resources/documents/ibms-laboratory-training-standards/

Each trainee must have a training programme that sets out the sections of the laboratory they will rotate through, the expected duration in each area, the standards to be covered, and how that may be done. The training rotation is an intended programme and the IBMS recognises that service pressures can affect its delivery.

While the IBMS encourages rotation around multiple departments to gain broad experience of pathology, this is not compulsory and the portfolio can be completed successfully within a single discipline or department.

There should be regular (typically monthly) sessions between the trainee and an allocated trainer/mentor. The aims of these sessions are to:

- set training targets in line with the training programme
- review previous work and evidence
- highlight any issues or concerns
- ensure the portfolio is on target for completion.

An example template to record these sessions is available in Appendix 5.

If an individual wishes to seek alternative employment while completing the Registration Training Portfolio and is able to transfer to another approved laboratory then their portfolio is transferrable. However, the laboratory that applies for the verification is responsible for ensuring the candidate has achieved all the standards of proficiency and has completed the required evidence to the appropriate standard. The laboratory may therefore wish to re-assess the individual's competence and/or require certain pieces of evidence to be re-done. In such circumstances, any relevant sections of the portfolio

already completed in the previous laboratory must be countersigned by the responsible trainer in the new laboratory.

The IBMS Registration Training Portfolio is issued to the candidate (a unique case number has been introduced from January 2017) and cannot be transferred to another individual. This case number should be quoted in any communication about this portfolio (ideally in the subject line of any email).

5. CONSTRUCTING THE REGISTRATION TRAINING PORTFOLIO

Evidence of Achievement

There is a total of 105 HCPC standards of proficiency across 15 sections. The standards have been grouped together in modules so that it is more obvious where a knowledge and skill overlap in a task enables one or more standards to be met. Therefore, individual pieces of evidence for each standard are not required, although the trainer must sign each standard to confirm it has been met.

Evidence is provided by the candidate from the documentation that may be produced during their training and assessment of knowledge and skills: **the candidate is required to produce three separate pieces of evidence for each module, resulting in a total of 30 pieces of evidence for the entire portfolio.** The selection of evidence is the responsibility of the candidate, but choice should be guided by the training officer.

As there are fewer pieces of required evidence than previous versions of the portfolio, one piece of evidence cannot be used multiple times i.e. a total of 30 separate pieces of evidence must be provided. It is therefore expected that one piece of evidence may demonstrate multiple standards of proficiency but it is not expected to cover all of them in a particular module.

It is the Training Officer's responsibility to be confident that the various standards have been met before signing. Therefore, the compilation of the 30 pieces of evidence should be examples of ways in which the standards have been met so that the verifier can satisfy themselves that the training process has been robust. The purpose of the verification visit is not to methodically check every piece of evidence collected throughout the full duration of training in support of each standard but to use the representative 30 pieces as a guide to give a holistic overview of the whole training and evidence collection process.

For the purpose of the Registration Training Portfolio, *Evidence of Achievement* can be considered the actual evidence of training and assessment for one or more HCPC standards that the candidate wishes to submit for external scrutiny by the verifier. Training officers (and others assessing internally that the HCPC standard has been met) may see, in addition to this, other pieces of evidence to satisfy themselves that other HCPC standards have been met.

The *Evidence of Achievement* section sets out what the candidate needs to provide in order to demonstrate that they have achieved the HCPC standards of proficiency. This section, and the corresponding evidence, will be reviewed by the External Verifier, and the candidate will be expected to defend this during the verification and their interaction with the verifier.

Example types of evidence that may be generated in the course of training and assessment indicating that the HCPC standards of proficiency have been met are available in Appendix 2
(**Please note: the examples given in the Appendix are neither definitive nor comprehensive and trainers/candidates/verifiers do not have to follow them).**

The portfolio is expected to contain a range of different types of evidence, and should not focus on a limited selection of evidence types. Some common evidence types are: witness statements, reflective practice statements, audits, feedback from presentations, annotated documents/laboratory results, question and answer tutorials. The candidate is also expected to select evidence within the module that covers a range of standards of proficiency. If a candidate selects all three pieces of evidence to

support a single standard of proficiency, this will result in the verifier requesting evidence to be re-done.
The generic nature of the standards permits 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. performing an investigation).

There is a section in the portfolio to detail the title and type of each piece of evidence. The candidate is also required to justify the selection of that particular piece of evidence. They may also identify the standards of proficiency it supports. The verification visit is to review the justification for this selection.

An example is shown below.

Title	Vertical audit on a Full Blood Count Sample
Evidence Type	Audit
Justification	Participating in this audit has allowed me to …, which has implications for the way I do… in the future. It is a good example of… This is evidence for HCPC SoP 11.2, 12.3, 12.4

Portfolio Hints & Tips
The amount of evidence of achievement must not exceed the number of pieces of evidence required (i.e. 30) and should be presented in one A4-sized lever arch folder for on-site verification or provided electronically to the verifier for virtual verifications prior to the date of the assessment. Evidence must be sufficient to enable a considered judgement on whether or not the standard of proficiency has been met but not excessive.

***IMPORTANT*:** As one of the three pieces of evidence for *Section 1: Module 5 Professional Relationships*, the candidate must produce a reflective statement on how the engagement with service users and learning with and from professionals and learners in other relevant professions has contributed positively to their professional development (HCPC SoP 9.3, 12.2). Verifiers are required to ensure that this piece of evidence is present, and must comment on it.

All work should be signed and dated by the candidate and the trainer. This demonstrates ownership of the work by the candidate, and that it has also been reviewed and assessed by the trainer, with evidence of this and constructive feedback expected. The use of feedback is very important and improvement should be seen throughout the portfolio in response to the feedback given. An example of good evidence would be where a candidate undertakes a task, receives constructive feedback, responds to this, and progress can be seen. Evidence of this feedback loop demonstrates a good relationship between trainer and trainee, and is useful to the verifier in assessing the quality of the training experience.

A plagiarism statement is a good way of confirming that the portfolio is the candidate's own work. It is important for the candidate to acknowledge the various resources used during their training and in

their evidence. **Any evidence of plagiarism will result in failure of the portfolio, and the candidate will be required to complete a new Registration Training Portfolio.**

Annotation of evidence:

- There should be annotation on any piece of evidence that is not the candidate's original work (e.g. print out of results)
- Every page should be annotated; if you can't comment on it, then it should not be in the portfolio
- Highlighting and underlining alone is insufficient; it must be obvious why it has been offered as evidence
- The candidate needs to demonstrate their knowledge and understanding
- Link it back to the standards to make it relevant
- Lack of annotation will result in that piece of evidence being discounted

During a training programme many pieces of evidence will be generated. The candidate will need to select which pieces are suitable as evidence for the Registration Training Portfolio. The training officer should check that these are appropriate and meet the requirements of the standards for external verification. They should be a good representation of the evidence accumulated during the training programme.

Evidence needs to be clearly structured. A content/index list should be provided and each piece of evidence should be clearly linked to the relevant module. Full cross-referencing is important as this allows the verifier to navigate the portfolio easily.

6. REGISTRATION TRAINING PORTFOLIO VERIFICATION PROCESS

Arranging a Verification

The training officer is responsible for applying for a verification visit once the Registration Training Portfolio has been completed to a level where the trainers reasonably believe the candidate capable of a pass; unless the portfolio was issued by the university as part of an integrated degree, in which case the verification is organised by the university. Applications from candidates cannot be considered.

An application for verification can only be submitted once the Registration Training Portfolio is completed (i.e. all standards of proficiency have been signed off, the necessary evidence has been compiled and the trainer or university tutor *considers the candidate suitable for verification*).

The application form for verification can be downloaded from the IBMS website and should be sent to the IBMS by email (registration@ibms.org). Please include any supporting material, such as the degree certificate or completion of supplementary education if not previously submitted.

The IBMS will publicise the request amongst their pool of verifiers by adding it to the weekly email and await volunteers. Please be aware that the IBMS are totally reliant on the good will of our pool of verifiers in volunteering and therefore it is difficult to predict how long allocation might take. Many factors affect how quickly verifiers volunteer and these can include geographical location and time of year.

Once a verifier is allocated, details and supporting documentation will be sent to the verifier and training officer, both of whom are expected to read this. The verifier is required to contact the training officer within one week to arrange a mutually convenient date for the visit. It is up to the training officer to ensure that the candidate is made aware of this, and is able to attend the agreed verification date.

The verification will follow the format outlined below:

Informal Interview with Candidate and Training Officer (15–20 mins)

This is an opportunity for everyone to be put at ease. The verifier will ask questions that give them a feel for the routine work of the laboratory (DGH, teaching or specialist, such as National Blood Service) and the day-to-day workload. These questions are generated from a need for the IBMS to have an awareness of the environment in which the training is taking place in order to meet the HCPC standards of education and training.

It is important that the trainee is encouraged to talk about their training experience and give their views on the training provided. A judgement is made of the quality of the training support to see if it was effective (i.e. Was it one to one? Was there one trainer, designated trainers, rotation and secondment if needed?). The verifier will discuss the production of the portfolio evidence with the trainee and the training officer, including whether or not there were any difficulties.

Verifiers will also confirm there was inter-professional learning with other learners and that candidates can demonstrate what to do if they feel that they may have been discriminated against. They will also be asked to confirm whether or not they felt there is effective support if they have

concerns about the safety and well-being of service users that they wish to raise and how to ensure action has been taken in response to the concerns.

Portfolio Verification (maximum 90 mins)

The external verifier needs to be able to do this in a quiet room. They must ensure that the portfolio has been completed and that all the standards of proficiency have been signed off.
The following documents must be made available to the external verifier:

- Registration Portfolio Training programme.
- Completed portfolio signed by training officer, trainee and, if appropriate, university tutor.
- Additional evidence in accordance with the *Evidence of Achievement* requirements.

Tour of Laboratory (40 mins)

This must be conducted by the verifier and the trainee only. The trainee may be asked to grant permission for an additional person to accompany the verifier on the tour for training and audit purposes only (their role should be as an observer and play no part in the decision making process).

This part of the process gives the trainee the opportunity to demonstrate their fitness to practise through the knowledge and competence they have achieved during their training. An overview of facilities, equipment and the environment should be given, and they must be able to articulate basic knowledge of the procedures. This is a proactive question-and-answer session where the verifier will ensure that the candidate has the threshold knowledge and skill required for the role of a biomedical scientist. It will also provide an opportunity for the verifier to probe any areas they feel may need clarification/further probing after having looked at the evidence.

An assessment of the training culture can also be made; for example, are there up-to-date notice boards for training? Do they reflect a positive attitude towards training? All of these help to build up a picture of the training experience.

The laboratory tour will typically take 40 minutes. For virtually verifications this can be done in a presentation format (e.g. PowerPoint presentation, virtual walk through tour).

Meeting with Training Officer (15 mins)

This is an opportunity to raise any issues or concerns identified during the verification visit. This is also an opportunity to discuss laboratory training in the context of IBMS training approval.

If no issues have been identified, the verifier may choose to proceed directly to the next stage.

Feedback Comments to Trainer and Candidate (15 mins)

The verifier will communicate the outcome of the verification visit and the recommendation they will make to the IBMS in their report.

This is also an opportunity for the verifier to give constructive feedback. For example, the portfolio evidence or training strategy could be improved by encouraging trainees to spend a day in other laboratories, or by developing a collaborative and coordinated approach to training across the

disciplines. Maximising the use of resources can avoid the same training being replicated unnecessarily to a number of trainees.

Possible outcomes:

- Successful (pass)
  - The candidate has demonstrated the minimum competence required for each standard of proficiency. The verifier recommends that the candidate should be awarded the Institute Certificate of Competence.

- Unsuccessful (fail)
  - The candidate has not demonstrated the minimum competence for one or more standards of proficiency.
  - Feedback and guidance will be given regarding how the candidate can address the identified deficiencies.
  - The verifier determines whether submission of additional documentation will address the deficiencies, or a further full verification is required.
  - The verifier will agree a reasonable deadline to provide any additional evidence (if appropriate).

Verification Documentation (must be completed)

External Verifier's Report

- The verification report is completed by the verifier and submitted to the Institute **within one week of the visit.**
- A copy must be sent to the training officer/manager.
- The report should be completed in detail and indicate examples of good practice and areas which could be improved, range of evidence, and summary topics covered in the laboratory tour.
- Reports which merely confirm the standards were met (though use of check boxes or inadequate comments) will be returned to the verifier for further detail.
- Please do not just list the types of evidence submitted. Short descriptive sentences which include the type of evidence, whether it met the standards and if so, how, are required for the IBMS to be able to see what was presented. For example '*a short reflective statement detailing the candidate's role in investigating an incident. This statement clearly described the incident itself and what role the candidate played in the investigation. The reflection was strong and the candidate was able to demonstrate what they had taken from it. There was clear evidence that they met this standard.'*

Laboratory Feedback Report

- The laboratory feedback report must be completed by the training officer/manager and submitted to the Institute **within one week of the visit.**
- A copy must be sent to the external verifier
- This provides an opportunity to communicate their, and the candidate's, experience of the verification process.
- It also provides feedback on the performance of the verifier.
- Completion of this form is a mandatory requirement for continued approval of the laboratory for training and enables the IBMS to audit all aspects of the verification process in order to maintain consistency and parity of verifiers on a national level. It is designed to be constructive.
- While the expectation is that minor concerns are documented in this form, the IBMS appreciates that it may not be appropriate to mention some more serious concerns in this way. In such

circumstances, the external verifier or training officer should contact the IBMS Education Department directly to discuss the issue/s.

Certificate of Competence

Only when both the verifier's report and laboratory feedback form have been received will the IBMS be able to process the Certificate of Competence and pass the candidate's details to the HCPC.

Please note: if the verification was completed prior to completion of an accredited degree (i.e. sandwich courses) the candidate will not receive their Certificate of Competence until they have provided a copy of their degree certificate to the IBMS following graduation. It is the candidate's responsibility to send a copy of their degree certificate to the IBMS.

The candidate will receive an email letting them know that their details have been passed to the HCPC and that they can begin the application process to join the register. It is important that the candidate keeps their contact details up to date with the IBMS to ensure they receive this information.

General Points about Verification:

- An in-depth knowledge of a single discipline is not needed as the Registration Portfolio is generic.
- Rotation around all disciplines is not required but does provide a wider experience. Evidence of some departmental collaboration in respect of training does, however, complement the biomedical science degree and is recommended by the IBMS as it gives the student a more complete experience of the profession.
- The trainer should be satisfied that the candidate is able to demonstrate consistency in the achievement of competence.
- It is preferable (but not necessary) for the evidence to be handwritten rather than word-processed, as this does show it is the trainee's own work. This does not exclude work completed electronically but such work must be authenticated as originating from the candidate. The expectation is that it will be signed and dated by the candidate and countersigned by the training officer.
- Beyond the specified evidence, the candidate does not need to provide any additional documentation such as competences.
- Evidence should be valid, authentic and linked to the standards and competences being evidenced.
- Look at the nature of the material. Does it represent good professional practice? For example, laboratory reports must be fully anonymised, and writing needs to be legible.
- It is important to see if a holistic approach to training has been taken (i.e. evidence to demonstrate that the trainee has integrated into the team working of the laboratory and that they attend meetings where appropriate).
- If some evidence is missing or scanty there may be an opportunity on the laboratory tour to explore this in more depth and confirm that the HCPC standard has been met.
- **Any evidence of plagiarism will result in failure.** The candidate will be required to complete a new portfolio of evidence and apply for a new Registration Training Portfolio. For further information on plagiarism, please refer to *Guidance on Recognising and Avoiding Plagiarism*.

7. FREQUENTLY ASKED QUESTIONS

About Training

Q. Has there been major changes in the registration portfolio?

A. No, the questions at the beginning of the verification assessment are now designed to be open rather than closed as they may have been interpreted previously. The expectation is that candidates can briefly describe processes rather than just affirm that they are aware of them. To support this we have included a contacts page at the start of the portfolio and candidates will have to research who the various points of contact would be. Additionally, the mandatory piece of evidence has now been expanded to have reflection on how the candidate has learnt with and from other professionals.

Q. Who can complete the IBMS Registration Training Portfolio?

A. There is no restriction on who can complete the portfolio provided they are able to complete a structured training programme in an IBMS approved training laboratory and either have an IBMS accredited degree, are a student on an IBMS accredited degree or are seeking to "top-up" a non-accredited degree to gain equivalence to an accredited degree.

Q. Does the individual need to be in a trainee position?

A. The portfolio provides the framework for education and professional training by which those seeking to become registered biomedical scientists can demonstrate their fitness to practise through evidence that the HCPC standards of proficiency for biomedical scientists have been met. The term "trainee" is used to refer to these individuals completing the portfolio. This does not mean they need to be in a funded trainee biomedical scientist post.

Q. Does this mean someone with a non-accredited degree and employed as support staff can complete the portfolio?

A. Yes, provided they followed a structured training programme that enables them to meet the standards of practice required for registration as a biomedical scientist.

Q. Can training take place in special reference laboratories?

A. Trainees can train in any biomedical science service laboratory provided that they can still evidence knowledge and practical competences relevant to the HCPC standards of proficiency. If trainees do need to be seconded to another laboratory for particular aspects of their training, formal arrangements must be in place.

Q. International applicants for registration are told by the HCPC to obtain three months' experience in a laboratory – how can they complete the portfolio?

A. If they choose to use this way of obtaining experience, the process for issuing a registration training portfolio applies in its entirety as individuals must be able to demonstrate that they meet all the HCPC standards of proficiency. Alternatively, employers can simply use elements of their portfolio training

programmes to demonstrate what is required. The three-month period is set by the HCPC and regarded as a minimum requirement.

Q. Can laboratories without trainees keep their training status?

A. Yes. A laboratory is approved on the basis of its ability to provide the necessary training for the Registration Training Portfolio. This approval is granted for a fixed five- year period, during which there is no requirement for a minimum or maximum number of Registration Training Portfolios to be completed or undertaken.

Q. I have started the previous version of the Registration Training Portfolio. What do I do?

A. Following the release of a new full version of the portfolio the previous version will have a 3 year shelf life. If you are unable to complete your Registration Training Portfolio by this time you will need to purchase the new portfolio. If the portfolio is being completed as part of a part-time degree or integrated degree, please contact the IBMS.

Q. Can the portfolio be completed in more than one laboratory? I have moved jobs halfway through my portfolio.

A. A candidate is able to transfer to another approved laboratory while completing the Registration Training Portfolio. However, the laboratory which applies for the verification is responsible for ensuring that the candidate has achieved all the standards of proficiency and has completed the required evidence to the appropriate standard. The laboratory may wish to request that certain pieces of evidence are re-done, and countersign any relevant sections of the portfolio already completed.

Q. How long do I have to complete the Registration Training Portfolio?

A. There is currently no time limit for completing Version 4 until the release of Version 5, but evidence is expected to be within three years of the date. If you miss the deadline you will need to apply for a new portfolio.

Q. How long do you expect completion of the Registration Training Portfolio to take?

A. It is expected that the Registration Training Portfolio will normally take the equivalent of 12 months to complete, depending on the experience of the trainee and whether or not they are completing it as part of an integrated degree or while employed in a support grade, rather than a full-time trainee position.

Q. Can the portfolio be transferred to another candidate?

A. No, the portfolio is not transferable to another candidate.

Q. Who signs off the competences?

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

accordance with safe, effective practice and to the level expected of a threshold level biomedical scientist.

About Evidence

Q. Is it only the training officer who can sign the portfolio?

A. No, it should be the most appropriate person. The training officer is responsible for ensuring that whoever is carrying out the training fully understands the level and requirements expected from that trainee. The portfolio includes a 'key' of signatures and roles so that the verifier can check that the most appropriate person has conducted the training and signed the trainee off.

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

A. The trainee is required to fulfil the *Evidence of Achievement* requirements (a maximum of three pieces of evidence), and their attention should be drawn to this. As the registered professional, you should be advising them to select the best example of evidence for a particular competence or standard. Excessive evidence may impact on the verifier's ability to review the portfolio and could result in the candidate being asked to revise the portfolio and for the verification to be rescheduled. Use negotiation skills to come to an agreed way forward. It is important that the trainee has ownership of the evidence they produce, but equally they should understand what form that evidence should take, and why.

Q. Now that there is a restriction of 30 pieces of evidence, how big should a single piece be?

A. You should now be thinking 'quality rather than quantity', so evidence should be valuable but concise. There would be no need to include a whole case study that a student has, for example, presented to an audience – the valuable piece of evidence from a situation such as this would be a witness statement from a member of the audience detailing what was covered and providing some feedback on their performance, etc. In many cases a single piece/two sides of A4 would be sufficient. The verifier no longer checks the evidence for competence but now checks that there is evidence of how the appropriate level of competence has been achieved.

Q. Can workbooks/logbooks be included as evidence?

A. These are generally large pieces of work and they should not be included. Consider a more concise way of evidencing achievement for inclusion in the portfolio.

Q. Is reflection required anywhere in the portfolio?

A. Yes, the expectation is that, as biomedical scientists, we are able to reflect in order to progress, and so it is a skill that trainees should master early in their career. This is captured in HCPC standards of proficiency 11, 11.1, 11.2. There should also be evidence of reflection in the justification used for each piece of evidence.

Please note: Early guidance mentioned a specific reflective piece on service user interaction – it was ambiguous and suggested that this piece of evidence is in addition to the 30 required; this has now been revised and the latest guidance still requests this reflective piece but makes it clear that it should

be one of the 30, not an additional item. This piece has also been expanded to enable candidates to meet the revised standards of education and training and now requires the reflective statement to cover a trainee's learning with and from other professionals.

About Verification

Q. What are the changes to the verifications as a result of the recent review?

A. The questions have been reviewed and expanded to encourage a more open response, allowing candidates to describe what they know about the support in place for them and who to raise issues with. The verifier's report form contains prompts for the questions so verifiers should work from this. Additionally, verifiers should check to ensure that the newly introduced contacts page has been completed. The mandatory piece of evidence has now been expanded to include how candidates have learnt with and from other professionals so verifiers should ensure that this is included.

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

A. There is a danger of the original portfolio being lost and we therefore recommend for in person verifications if the portfolio is sent prior to the verification, a copy of the original portfolio should made prior to sending. For virtual verifications the portfolio can be requested by the verifier prior to the verification. This can be requested anytime prior to the verification date.

Q. There may be different types of evidence. How does the verifier know which is acceptable?

A. This involves applying professional judgement. Evidence must be relevant to the HCPC standard of proficiency and authentic, showing that the trainee has met the standards in question. This is backed up by the justification for choosing the example of evidence. The generic nature of the standards permits 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. performance). We do not wish to stifle innovation so we do not stipulate evidence types, except in the case of the mandatory reflective statement mentioned above.

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

A. Evidence is produced as part of the training process so a qualified individual will have had responsibility for assessing the endpoint of this. The trainee should sign and date the work as their own, and there should be evidence of marking and constructive feedback from the trainer. The training officer/university tutor should have signed off the evidence and various standards as part of their professional responsibilities.

Q. Who will assess the verifiers?

A. The reports submitted by the external verifiers follow a standard format. They are initially reviewed by staff in the IBMS Education Department, who will return any incomplete reports to the verifier. In cases where there is an issue, further investigations will be undertaken. Sample reports are submitted to the programme External Examiner as part of our annual quality assurance process.

Q. Are verifiers responsible for removing training approval from the laboratories they visit if they are concerned about the training ethos there?

A. No, definitely not. Verifiers have always been representatives of the IBMS and part of that role has been to feed back their opinion on the training experience and make a recommendation. However, it is not the responsibility of the verifier to decide whether that laboratory retains training approval. Education staff review all verifier reports and follows up any areas of concern by carrying out a full investigation. The findings are then passed to the Education and Professional Standards Committee for discussion prior to a decision being made. These decisions are not taken lightly.

Q. What do I do if I feel uncomfortable in raising concerns via the documentation?

A. Minor concerns can be raised primarily within the scope of the documentation, but more serious concerns should be raised directly with the Education Department.

Q. Can verifiers view other evidence if it helps to clarify something?

A. The approach to training varies greatly between laboratories. Some continue to train in the same way that they did for Version 3 and then draw out 30 pieces of strong evidence to form the main portfolio; some have reviewed their approach to training and now only produce 30 pieces in total. Either approach is acceptable as evidence is produced as part of the training and assessment process. If other evidence is available and there is confusion over a piece of evidence, it may be possible for the verifier to have a look at a related piece of evidence to allow clarification, or they can probe to obtain further information during the laboratory tour. The duration of the tour has been extended specifically to emphasise the more proactive role the verifier will take.

Q. How can verifiers access training courses?

A. IBMS education staff have facilitated many sessions, both at the IBMS headquarters and across the UK. This has allowed the IBMS to provide updates for a large number of verifiers, as well as recruiting new verifiers. We always encourage experienced verifiers to attend update sessions at Coldbath Square, and for them to return to their area and update their local verifiers to ensure that the messages are delivered.

Q. Why doesn't the IBMS put verifiers in contact with training officers?

A. We do! The acceptance/allocation email from the IBMS to the verifier has the training officer copied in so that further arrangements can be made. Unfortunately, training officer details on the IBMS database often are different to the actual training officer's details, and thus emails do not reach them. We are aware that the documentation and guidelines provided for each visit are not always read. Please help by making sure that the information the IBMS holds about you and your laboratory is current and accurate, and that you read the information provided, even if you feel you know it already.

APPENDIX 1: INDICATIVE LEARNING OUTCOMES

The following statements are representative of the expected outcomes of work-based training that has taken place in an IBMS-approved laboratory. Some elements of this training may be informed by an IBMS-accredited degree programme.

Section 1: Professional Conduct

Module 1: Personal Responsibility and Development

i) Describe how you apply the principles of self-management and time-keeping in relation to service delivery and prioritisation of workload. HCPC SoP 1.2

ii) Work within departmental sample turnaround times, correctly identify urgent samples as specified in departmental protocol and prioritise performance of analysis to meet urgency of request. HCPC SoP 1.2

iii) Demonstrate you understand the role of a biomedical scientist and the relationship to other professionals and your personal scope of practice with reference to the departmental structure and the relationship of pathology to service users. HCPC SoP 2.1, 2.2, 3.1

iv) Demonstrate an understanding of the role of the Health and Care Professions Council (HCPC) by describing its role and requirements for statutory regulation with specific reference to:
- How HCPC standards of proficiency apply to professional practice.
- How the HCPC code of conduct, performance and ethics applies to professional practice.

HCPC SoP 2, 2,1, 2.2, 2.3, 2.4, 2.8, 3.1

v) Demonstrate an understanding of how the Institute of Biomedical Science document *Code of Conduct and Good Professional Practice for Biomedical Scientists* applies to your scope of practice. HCPC SoP 2, 2.1, 2.2, 2.3, 2.4, 2.8, 3.1

vi) Conduct duties and responsibilities in accordance with local, professional and regulatory policies and practice. HCPC SoP 2.3, 2.5, 2.6, 2.7

vii) Demonstrate awareness of pathology accreditation systems by being able to describe the principles of accreditation systems for pathology laboratories in the UK. HCPC SoP 2.6

viii) Demonstrate you are aware of the legal and professional requirements for the handling, retention, storage and respectful disposal of human tissues and samples. HCPC SoP 2.6

ix) Demonstrate you are aware of the implications of the European Community (EC) Working Time Directive (1996) and its principles. Demonstrate how you comply with departmental time-keeping policy. HCPC SoP 2.6

x) Understand the importance of maintaining physical and mental wellbeing and demonstrate that you know how to take appropriate action in response to your own health issues. HCPC SoP 3, 3.2

xi) Describe how you apply the requirements for personal responsibility in the context of health and safety, and for the safety of colleagues. HCPC SoP 3.2

xii) Describe the limits of your professional practice and describe the referral mechanisms available in order to take appropriate action when personal limit of practice has been reached. HCPC SoP 1.1, 4, 4.1, 4.2, 4.5

xiii) Describe where and how to access information of relevance to the problem or request for advice and be able to give examples of relevant guidelines or personnel where interpretation of protocol is unclear. HCPC SoP 1.1, 4.3 – 4.5

xiv) Demonstrate you understand the principles of continuing professional development (CPD) in relation to personal responsibility for maintaining competence and have the skills necessary for self-management of lifelong learning. HCPC SoP 3.3, 11.1, 14.1

xv) Demonstrate you actively participate in training and professional development and work towards targets for personal, academic, professional and career development. HCPC SoP 4.6, 14.1

xvi) Demonstrate that you take personal responsibility for self-directed learning and have developed an adaptable, flexible and effective approach to this. HCPC SoP 11, 11.1

Module 2: Equality and Diversity

i) Describe how the Institute of Biomedical Science *Code of Conduct and Good Professional Practice for Biomedical Scientists*, and the HCPC code of conduct, performance and ethics apply to your scope of practice. HCPC SoP 5

ii) Demonstrate you are aware of local policies and national legislation on diversity and equal opportunities, and know how they apply to your professional practice. HCPC SoP 5, 5.1

iii) Explain what is meant by 'equal opportunities'. HCPC SoP 5, 5.1

iv) Demonstrate that you can practice in a non-discriminatory manner in accordance with instructions received. HCPC SoP 6

Module 3: Communication

i) Clearly convey information or results to the appropriate level of detail, confirming understanding of those to whom information has been given. HCPC SoP 8, 8.1, 8.2

ii) Describe the use of a range of communication methods that may be employed by the laboratory to engage with the service user, and the limits of your practice when communicating information, advice, instructions and professional opinion, particularly when communicating patient information. HCPC SoP 8.3

iii) Demonstrate where and how to access information of relevance to the request for advice. HCPC SoP 8.4, 8.7

iv) Describe the principles of verbal and non-verbal communication. HCPC SoP 8.6

v) Demonstrate the use of correct biomedical and medical language and terminology. HCPC SoP 8.7

vi) Identify factors that may influence the type and detail of advice you provide, and respond to routine requests with accurate and current information. HCPC SoP 8.7

vii) Demonstrate knowledge of, and the ability to follow, standard operating procedures for dealing with enquiries, giving advice to service users and the procedures for communicating patient results. HCPC SoP 8.7, 8.8

viii) Demonstrate that you can receive and respond to a variety of sources of information: textual, numerical, verbal, graphical, and solve problems by a variety of methods, including the use of appropriate software. HCPC SoP 8.1, 8.2, 14.34

ix) Understand that different communication methods may be required to facilitate effective feedback and participation of others. HCPC SoP 8.3, 8.5, 8.8, 8.9

Module 4: Patient Records and Data Handling

i) Demonstrate awareness of the data protection policies by describing the extent to which the *Data Protection Act*, and other legislation and professional guidance, covers patients and laboratory records. HCPC SoP 7, 7.1, 7.2

ii) Respect the confidentiality of patients, employer and service users unless disclosure is permitted by law and justified in the patient's interests. HCPC SoP 7, 7.1, 7.3

iii) Understand the purpose of accurate, legible laboratory records and demonstrate the ability to transcribe information accurately and legibly. HCPC SoP 10.3

iv) Describe the purpose of error logging and the possible implications of error. HCPC SoP 10.3

v) Follow standard operating procedures for handling clinical information and recording information. HCPC SoP 10, 10.1, 10.5,

vi) Understand the application of information technology in a pathology service, and describe the use of laboratory information management systems (LIMS). HCPC SoP 10.2, 10.4

vii) Know the principal criteria for patient identification and describe the laboratory procedure for receipt of samples, dealing with inadequately or incorrectly labelled specimens, and incomplete request forms. HCPC SoP 10.4, 10.5

viii) Demonstrate awareness of the key threats to data security and apply due diligence to password strength, email attachments, downloading of files, backup storage etc. HCPC SoP 7.2, 10.2, 10.6

Module 5: Professional Relationships

i) Take relevant action to coordinate your contribution with the requirements of others. HCPC SoP 9, 9.1, 9.2

ii) Demonstrate you are able to evaluate your own performance as an individual and team member. HCPC SoP 9.1, 9.2

iii) Describe how good interpersonal skills within the laboratory team and with service users can sustain good working relationships. HCPC SoP 9.2

iv) Identify individual and collective goals and responsibilities, and perform in a manner appropriate to these roles, in particular those being developed through practical and/or laboratory studies. HCPC SoP 9.2, 9.3

v) Demonstrate that you understand and can apply the principles of team working, and can recognise and respect leadership and individual contributions and opinions in the laboratory team. HCPC SoP 9.2, 9.4

vi) Describe how the role of the biomedical scientist and pathology services impact on other professional groups (e.g. as part of a multidisciplinary team) in the provision of patient-focused healthcare. HCPC SoP 9.2, 9.3, 9.4, 9.5

vii) Demonstrate that you are aware of the relevance of pathology services to other health and social care services in the UK. HCPC SoP 9.3, 9.5, 13.3, 13.4
These may include:

- Other pathology disciplines
- Accident and emergency
- Intensive care unit
- Theatres
- Wards (including specialist units)
- Out-patient clinics
- Mortuary
- General practitioners
- Health education
- Occupational health
- Public health
- Epidemiology

viii) Demonstrate the ability to cooperate effectively with service users by providing appropriate advice and assistance as part of a multidisciplinary team. HCPC SoP 9.1, 9.4, 13.3

ix) Describe how individual and team responsibilities contribute to the effective work of the laboratory service. HCPC SoP 9.2, 13.5

x) Demonstrate an awareness of how service user feedback questionnaires can be used to inform service delivery. HCPC SoP 9.2, 9.3, 12.2

xi) Demonstrate that you have developed an appreciation of the interdisciplinary nature of science and of the validity of different points of view. HCPC SoP 9.3, 13.3

Section Two: Professional Practice

Module 1: Professional Knowledge

IMPORTANT: The following areas of knowledge are expected of every student who has completed an IBMS-accredited degree, or equivalent.

Knowledge of:

i) *Human anatomy and physiology*: the structure, function and homeostatic/hormonal control of the human body, its component parts and major systems (musculoskeletal, circulatory, respiratory, digestive, renal, urogenital, nervous, endocrine) and their relationship to each other. HCPC SoP 13, 13.1

ii) *Cell biology*: the structure and function of prokaryotic and eukaryotic cells; the cell as the fundamental unit of life; cell division, cell cycle, stem cells, cell specialisation and cooperation. HCPC SoP 13, 13.1

iii) *Biochemistry*: key chemical principles relevant to biological systems, the structure and function of biological molecules, and the biochemistry of processes that support life, including cellular metabolism and its control. HCPC SoP 13, 13.1

iv) *Microbiology*: the structure, physiology, biochemistry, identification, classification and control of microorganisms, including the roles of normal flora. HCPC SoP 13, 13.1

v) *Immunology*: acute and chronic inflammation, structure, function and mechanisms of action of the components of the immune system; innate and acquired immunity. HCPC SoP 13, 13.1

vi) *Genetics*: the structure and function of genes, the principles of their inheritance and genetic disorders with particular biomedical significance. HCPC SoP 13, 13.1, 13.8

vii) *Molecular biology*: the structure and function of biologically important molecules including DNA, RNA and proteins, and the molecular events that govern cell function. Molecular biology overlaps with biochemistry, genetics and cell biology. HCPC SoP 13, 13.1, 13.8

viii) *Principles of scientific laboratory investigation* including the difference between quantitative and qualitative methodologies. HCPC SoP 13.2, 13.6

ix) *Qualitative and quantitative methods* used in the diagnosis, screening and monitoring of health and disorders. HCPC SoP 13.6

x) *Principles of automated instrumentation and analysers* in a pathology laboratory. HCPC SoP 13.6, 13.7

xi) *Knowledge and understanding of various therapeutic strategies* applicable to disease states. HCPC SoP 13.6, 13.7

xii) *Bioinformatics and systems biology*: the computation of high volumes of biological data and the properties of a network of interacting components in a system, as well as the components themselves, including an appreciation of the algorithms to decipher biological relationships. HCPC SoP 13.7, 13.8

xiii) *Cellular pathology*: the microscopic examination of normal and abnormal cells (cytopathology) and tissues (histopathology) for indicators of disease. Knowledge includes:

- gross structure and ultrastructure of normal cells and tissues, and the structural changes that may occur during disease
- reproductive science, including infertility and embryology
- preparation of cells and tissues for microscopic examination
- principles and applications of visualisation and imaging techniques, including microscopy, to aid diagnosis and treatment selection.

HCPC SoP 13.7, 13.8

xiv) *Clinical biochemistry*: the investigation of the function and dysfunction of systems, organs and tissues by the measurement of biochemical markers. Knowledge includes:

- range and methods used for the collection of clinical samples that may be subjected to biochemical analysis
- principles and applications of biochemical investigations used for screening, diagnosis, treatment and monitoring of disease
- therapeutic drug monitoring and investigation of substance abuse.

HCPC SoP 13.7, 13.8

xv) *Clinical immunology*: the study of immunopathological conditions and abnormal immune function. Knowledge includes:

- principles of the function and measurement of effectors of the immune response
- causes and consequences of abnormal immune function, neoplastic diseases and transplantation reactions, together with their detection, diagnosis, treatment and monitoring
- immunological techniques used in clinical and research laboratories
- prophylaxis and immunotherapy.

HCPC SoP 13.7, 13.8

xvi) *Haematology*: the study and investigation of the different elements that constitute blood in normal and diseased states. Knowledge includes:

- structure, function and production of blood cells
- regulation of normal haemostasis
- nature and diagnosis of anaemia, haematological malignancy, haemostasis, haemorrhagic and thrombotic diseases
- techniques for their investigation.

HCPC SoP 13.7, 13.8

xvii) *Transfusion science*: the identification of blood group antigens and antibodies to ensure a safe supply of blood and blood components. Knowledge includes:

- genetics, inheritance, structure and role of red cell antigens
- immune-mediated destruction of blood cells
- preparation, storage and use of blood components

- selection of appropriate blood components for transfusion and possible adverse effects. HCPC SoP 13.7, 13.8

xviii) *Clinical genetics*: the identification of genetic mutations and polymorphisms and their influence on disease processes. Knowledge includes:

- genomic, transcriptomic and proteomic methods used to analyse and study human chromosomes and DNA
- application of molecular biology and bioinformatics in medicine
- pharmacogenetics and personalised medicine.
  HCPC SoP 13.7, 13.8

xix) *Medical microbiology*: the study and investigation of pathogenic microorganisms. Knowledge includes:

- pathogenic mechanisms of a range of microorganisms
- public health microbiology
- laboratory investigation of a range of infectious diseases, including isolation and identification of microorganisms
- antimicrobial and antiviral therapy (including drug resistance)
- infection control.
  HCPC SoP 13.7, 13.8

xx) Role of a pathology laboratory in the assessment, diagnosis and treatment of patients, and the relationship between pathology and other professions in health and social care. HCPC SoP 14.14, 14.19, 14.20, 14.21

xxi) Awareness of the current laboratory methods available for the study, investigation, diagnosis and monitoring of human health and disease in clinical and research environments. HCPC SoP 13.7, 13.8,

xxii) An appreciation of the development and evaluation of new and current methods and therapeutic intervention strategies. HCPC SoP 13.6, 13.8

xxiii) Ability to integrate the knowledge of various key disciplines to further the understanding of the study, investigation, diagnosis and monitoring of human health and disease. HCPC SoP 13.6, 13.7, 13.8, 14, 14.25

The following statements are representative of the expected outcomes of work-based training that has taken place in an IBMS-approved laboratory. Some elements of this training may be informed by an IBMS-accredited degree programme.

i) 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. HCPC 13.2, 14.17 - 14.21, 14.23 - 14.25, 15.6

Module 2: Health and Safety

i) Demonstrate an awareness of health and safety legislation and knowledge of the local safety policy. HCPC SoP 15, 15.2

ii) Demonstrate that you understand how the laboratory health and safety policy and safety legislation covers the working environment. HCPC SoP 15.2

iii) Describe the action required to deal with hazards or potential risks. HCPC SoP 15.1, 15.2, 15.3

iv) Demonstrate the correct use of personal protective equipment. HCPC SoP 15.4

v) Describe the risks associated with specimens (fixed and unfixed), clinical waste and equipment, and describe the correct procedure for handling samples that may contain hazard group 2, 3 and 4 pathogens. HCPC SoP 13.11

vi) Describe the immunisation requirements for the laboratory, and the role of occupational health. HCPC SoP 15.1, 15.2

vii) Describe the principles and applications of disinfectants, methods for sterilisation and decontamination, and for dealing with waste and spillages correctly. HCPC SoP 15.2, 15.3, 15.5

viii) Describe the correct procedures for using fume cupboards and microbiological safety cabinets. HCPC SoP 15.2, 15.3

ix) Demonstrate the ability to work in a safe manner and act in accordance with health and safety legislation and safety policies applicable to the working environment. Show how you would recognise when you are unable to work safely and take remedial action in order to work in accordance with laboratory safety protocols. HCPC SoP 15.3

x) 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. HCPC SoP 15.5

xi) 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; risk assessment; equipment. HCPC SoP 15.2, 15.3, 15.4

Module 3: Quality

i) Describe the value of case conferences and other methods of review. HCPC SoP 11.2

ii) Describe the purpose of different types of audit in quality management and how an effective audit trail is maintained and can be improved. HCPC SoP 11.2, 12.4

iii) Demonstrate an understanding of the importance of reference ranges, the use of scientific units and quality control. HCPC SoP 12,12.1

iv) Demonstrate knowledge and application of quality assurance and quality control principles as part of an awareness of the need for quality management systems and a culture of continued quality improvement. HCPC SoP 12.3

v) Indicate sequential testing or specialised tests that are appropriate to patient diagnosis or treatment. HCPC SoP 12.6

vi) Describe the principles of quality control and quality assurance and explain the difference between internal quality control and external quality assessment and the type of data required. HCPC SoP 12.5, 12.7, 12.8

vii) Know the meaning of the terms 'specificity', 'sensitivity' and 'linearity' and be able to explain the significance of reference ranges and reference materials. HCPC SoP 12.8

viii) Know the correct procedures for calibration, for quality control checks and for correcting simple equipment faults. HCPC SoP 12.8 (see also HCPC SoP 14.3, 14.11, 14.13 in Performing Standard Tests section).

ix) Describe the principles and practice of standardisation and calibration, and perform these procedures in accordance with standard operating procedures. HCPC SoP 12.8

x) Know how to evaluate unexpected laboratory results and confirm accuracy of the result by seeking additional information as appropriate. HCPC SoP 12.9

xi) Use quality assurance methods in accordance with laboratory procedure and take appropriate corrective action if required. HCPC SoP 12.9

xii) Understand the common causes of non-analytical errors and the implications of these for the test result. HCPC SoP 12.9, 14.15

xiii) Be aware of the role of near-patient testing and non-invasive techniques used in diagnostic pathology and monitoring for patient care. HCPC SoP 14.16

Module 4: Performing Standard Investigations

i) Recognise the need to follow standard laboratory procedures and diagnostic tests relevant to the patient under investigation. HCPC SoP 13.10, 14.7

ii) Know the purpose and range of standard laboratory tests relevant for diagnosis and treatment relevant to the discipline. HCPC SoP 13.10, 14.3, 14.7

iii) Describe the methods for processing and analysing specimens including methods of specimen identification, the effect of storage on specimen, the safe retrieval of specimens, and confirming suitability of the sample for the intended analytical method. HCPC SoP 14.3, 14.4

iv) Recognise the common causes of non-analytical errors and the implications of these for the test result. HCPC SoP 14.3

v) Explain 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. HCPC SoP 14.6, 14.12

vi) Know the limitations of standard tests and the further associated tests that may be required. HCPC SoP 14.5, 14.7

vii) Confirm that samples have been correctly identified and prepared for the intended tests or procedures. HCPC SoP 14.8

viii) Confirm that samples have been stored correctly and can be retrieved for laboratory investigation if required. HCPC SoP 14.8

ix) Perform the correct procedures for calibration, for quality control checks and for correcting simple equipment faults. HCPC SoP 14.3, 14.5, 14.11, 14.13, 14.26 (see also HCPS SoP 12.8 in Quality section).

x) Use standard laboratory procedures to aid the diagnosis, screening and monitoring of health and disorders, and produce results consistent with the laboratory procedure. HCPC SoP 13.9, 14.5, 14.7, 14.9, 14.10, 14.26

xi) Confirm suitability and validation of the intended method for the measurement or procedure required. HCPC SoP 14.5, 14.13

Module 5: Research and Development

IMPORTANT: The standards for this section will be met by any graduate completing an IBMS-accredited biomedical science (including healthcare science in life sciences) degree.

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

i) Demonstrate the ability to prepare, process, interpret and present data, using appropriate qualitative and quantitative techniques, statistical programs, spreadsheets and programs for presenting data visually. HCPC SoP 14.27

ii) Demonstrate the capacity to give a clear and accurate account of a subject, marshal arguments in a mature way, and engage in debate and dialogue both with specialists and non-specialists, using appropriate scientific language. HCPC SoP 14.27, 14.28, 14.33

iii) Know how to access information about current trends and modern techniques in biomedical science and their impact on healthcare. HCPC SoP 14.28, 14.32

iv) Demonstrate critical and analytical skills including a recognition that statements should be tested and that evidence is subject to assessment and critical evaluation. HCPC SoP 14.29

v) Use research, reasoning and problem-solving skills to make judgements or decisions in determining outputs of laboratory procedures and diagnosis. HCPC SoP 14.29, 14.30, 14.32

vi) Describe methods of acquiring, interpreting and analysing biomedical science information with a critical understanding of the appropriate contexts for its use through the study of texts, original papers, reports and datasets. HCPC SoP 14.29, 14.31, 14.33

vii) Demonstrate the ability to design, plan, conduct and report on investigations, which may involve primary or secondary data (e.g. from a survey database). HCPC SoP 14.33

APPENDIX 2: Example Evidence of Achievement

The following are **only suggested examples** that may be used for evidence of training and assessment to show how **some** of the standards of proficiency have been met. They are **NOT** defined tasks that need to be completed.

Section 1: Professional Conduct

Module 1: Personal Responsibility and Development

- Produce a signed witness statement or personal testimony countersigned by your line manager to show that you are aware of your personal limit of practice and when to ask for advice.
- Produce a signed witness statement to confirm that a professional attitude to work has been demonstrated on a regular basis.
- Produce a signed witness statement to demonstrate your ability to prioritise samples.
- Describe, with reference to legal and professional requirements, how the laboratory 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.
- Produce a signed witness statement to confirm procedures have been followed correctly.
- Produce a signed witness statement based on direct observation of practice to confirm procedures related to informed consent have been followed correctly.
- Describe the role of the Health and Care Professions Council and what is required to be a registered biomedical scientist.
- Describe the purpose of the IBMS *Guide to Good Professional Practice and Code of Conduct*.
- Provide examples of CPD and reflective practice.
- Show how you take responsibility for self-directed learning (e.g. reflective learning sheet, IBMS CPD portfolio).
- Give an account of a personal situation in your training when you felt your personal limit of practice might be exceeded, and what you did about it.

Module 2: Equality and Diversity

- Produce a personal statement, countersigned by your line manager, describing how you demonstrate 'equal opportunities' in practice.
- Describe how the HCPC Code of Conduct, Performance and Ethics applies to your professional practice.

- Give examples of how you practice in a non-discriminatory manner.

Module 3: Communication

- Produce a witness statement based on direct observation of practice (DOPs) to confirm ability to use a basic laboratory information management system (LIMS) in accordance with standard operating procedures to access and input data.

- Provide a worked example or case study, including reflection, to confirm that you have demonstrated good interpersonal skills.

- Produce a signed witness testimony to show that you have demonstrated/explained how you perceive that information or a result is understood by the recipient.

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

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

- 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.

- Propose ideas which you think are the most effective ways of working with service users, and why.

- Give an example of how a service user feedback questionnaire can be used to inform service delivery.

Module 4: Patient Records and Data Handling

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

- Produce a witness statement/competence assessment sheet confirming that your use of LIMS is in accordance with standard operating procedures.

- List the types of records kept in your laboratory, and the systems that operate to ensure continuity, confidentiality and access of records.

- Produce a witness statement to evidence that you can work in accordance with laboratory procedures for receipt of samples, dealing with inadequately or incorrectly labelled specimens and incomplete request forms.

- Describe the purpose of the current *Data Protection Act*.

- Describe how you would deal correctly with the following situations:

- insufficient specimen
- sample/specimen received in the incorrect preservative/fixative
- incorrectly or inadequately labelled specimen or request form

Module 5: Professional Relationships

IMPORTANT: Specifically for this module, applicants are required to produce a reflective statement on how the engagement with service users has contributed positively to their professional development. This should be one of the three required pieces of evidence.

- Produce a signed witness testimony to confirm that you have demonstrated good interpersonal skills.
- List 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 the users listed.
- Construct a simple questionnaire about one aspect of your laboratory service (e.g. transport of specimens from the ward) that could be used to gain feedback from service users.
- 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 they have in relation to biomedical scientists or pathology as a whole.
- Describe which you think is the most effective way of engaging with service users, and why.

Section 2: Professional Practice

Module 1: Professional Knowledge

- Describe, with reference to legal and professional requirements, how the laboratory in which you have been trained stores and disposes of human samples.
- List the investigations in which you have been trained and give a brief description of their diagnostic purpose.
- Choose an example of a disease or condition (e.g. cancer, autoimmune disease, genetic disease, infection) for a case study. Describe the nature of the disease or condition and the tests performed to investigate, identify or monitor it in the laboratory. Give examples of results and comment on their significance.
- Describe, using an example from your training, how you would confirm the suitability of an intended method and have subsequently validated the method for the measurement required.

- Describe the analysis of a condition diagnosed routinely by your laboratory, and answer questions related to the standard operating procedure.

Module 2: Health and Safety

- In-house competence training records or signed witness statements to demonstrate the ability to use safety equipment conform to health and safety procedures in the laboratory and can deal with selected hazards.
- Produce a risk assessment for a defined area.
- Produce a simple table of risk assessments on the substances you have used during your training.
- List the principal laws and regulations relating to health, safety and security.
- Describe the health, safety and security risks common to a laboratory environment, and how you would deal with them.
- Describe the procedural steps of a specimen through the laboratory, taking into account health and safety issues, equipment used, methodologies, reagent preparation, sample storage and disposal.
- Give examples of the different types of hazardous and non-hazardous waste in your laboratory, and how you dispose of each type.
- Produce a witness testimony to confirm that you know how to conform to health and safety requirements in the laboratory.

Module 3: Quality

- List the external quality assessment schemes in which your department participates and explain why external schemes are important for establishing and maintaining laboratory quality.
- Produce a signed witness statement to show that you are familiar with quality control/quality assessment procedures and can take appropriate action when dealing with aberrant outcomes.
- Produce a witness statement to confirm that a sample has been tested in accordance with a quality assessment programme.
- Record relevant quality indicators in accordance with standard laboratory procedures.
- Produce a witness testimony to confirm 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.

- Present a case that demonstrates the benefits of case conferences or multidisciplinary team review.

- Explain the difference between internal quality control and external quality assessment.

Module 4: Performing Standard Investigations

- Produce in-house competence training records or signed witness statements to demonstrate your ability to use equipment and follow procedures for investigations to the required standard.

- Produce a signed witness statement based on direct observation of practical skills (DOPs) to confirm that procedures related to the investigation have been followed correctly and to the required standard.

- Produce annotated results from an investigation you have performed, or signed witness testimonies, regarding your ability to process samples for investigation.

- 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.

- Give an example during your laboratory training where you have encountered problems with an intended analytical method, and how you have resolved them.

Module 5: Research and Development

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

- Write up an experiment or analysis undertaken which demonstrates your ability to report and interpret data (e.g. project).

- Describe what you understand by the term 'evidence-based laboratory practice'.

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

- Describe how you approached the statistical analysis of results for your project.

APPENDIX 3: WITNESS STATEMENT TEMPLATE

Witness Statement Template

Task	
Candidate	
Training Officer	
Department	
Date	
HCPC Standard(s)	

Details
Note: Here, the internal assessor, trainer or member of staff gives details of observed actions by the trainee in relation to a particular competence or standard of proficiency.

Signatures:

Assessor (If not Training Officer)	
Role of assessor	
Training Officer	
Candidate	

APPENDIX 4: REFLECTIVE LEARNING TEMPLATE

Reflective Learning Template

Activity title	
Activity date	

What learning did you undertake? State your reasons for identifying this learning.

What have you learned or achieve through this activity?
Note: This should not be a list of learning outcomes

How have you applied or will apply this to your day-to-day practice?

How could this benefit the service user?

APPENDIX 5: **TRAINING REVIEW TEMPLATE**

Training Review Template

Candidate Name		Date:	

Discussion and Feedback

Sections Complete

Targets and Deadlines

Candidate Signature		Date	
Trainer Signature		Date	

About this document

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