IBMS Institute of Biomedical Science

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Certificate of Competence by Equivalence (Biomedical Scientist) Portfolio Guidance

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ABOUT THIS VERSION

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Contents

1. Introduction

This document provides guidance on the completion and assessment of the Institute of Biomedical Science (IBMS) Portfolio for the Certificate of Competence by Equivalence (Biomedical Scientist). Readers should also refer to the key IBMS documents associated with the portfolio stated below.

'Biomedical scientist' is a protected title awarded by the Health and Care Professions Council (HCPC) to those who carry out a range of laboratory investigations and scientific techniques on tissue samples and fluids to assist in the diagnosis and monitoring of disease, evaluate the effectiveness of treatments and provide expert advice for the treatment of patients and prevention of disease.

The IBMS Certificate of Competence by Equivalence (Biomedical Scientist) Portfolio is a record of the workplace activities completed by the candidate, that demonstrate the HCPC Standards of Proficiency (2022) for biomedical scientists. It demonstrates that individuals have achieved the knowledge, skills and professional competencies required for HCPC registration. Successful completion of the portfolio leads to the award of the IBMS Certificate of Competence by Equivalence and eligibility to apply for registration with the HCPC as a biomedical scientist. The portfolio is completed and assessed digitally using the digital platform, OneFile.

Regulatory Context
Individuals seeking to use the title 'Biomedical Scientist' must meet the HCPC Standards of Education and Training (SETs), the Standards of Proficiency (SoPs), and the Standards of Conduct, Performance and Ethics. Refer to the relevant information on the HCPC website.

External links

- Health and Care Professions Council (HCPC) www.hcpc-uk.org.
- HCPC Standards of Education and Training (SETs) and Standards of Proficiency
- HCPC standards of conduct, performance and ethics - the ethical framework within which HCPC registrants must work.

The Role of the IBMS

The role of the IBMS in this process is as the awarding body for the Certificate of Competence by Equivalence (Biomedical Scientist). The Certificate of Competence by Equivalence is awarded to individuals who have completed an appropriate BSc degree programme **and** have sufficient experience in a clinical laboratory to demonstrate the HCPC Standards of Proficiency for biomedical scientists by successful completion of their Portfolio.

Key IBMS Certificate of Competence by Equivalence Documents

- Module Descriptors
- Application form
- Personal Development Plan
- Guidance for Candidates and Mentors
- OneFile User Guides
- Frequently Asked Questions

2. Purpose of the Certificate of Competence by Equivalence Portfolio

IBMS as an education provider

The Institute of Biomedical Science (IBMS) is approved as an education provider to deliver four Health and Care Professions Council (HCPC) routes to registration as a biomedical scientist. These are outlined below. The IBMS verifies competence to practice against the HCPC Standards of Proficiency by a process of independent assessment. Following successful portfolio assessment and completion of a relevant degree programme, the IBMS Certificate of Competence can be awarded to individuals who wish to apply to register as a biomedical scientist with the HCPC.

Routes to registration

Route 1: Certificate of Competence (Accredited Degree Containing the Registration Training Portfolio)

Approved: March 2010; Delivery: Full-time or Part-time

This route involves BSc degree programmes that include mandatory placement(s) within an IBMS-approved pre-registration training laboratory. The placement forms an integral part of the degree programme, and the education provider is responsible for ensuring that appropriate arrangements are in place for the completion of the IBMS Registration Training Portfolio during during the degree

Graduates from these degrees are eligible for the award of the IBMS Certificate of Competence upon graduation, demonstrating that they meet the requirements to apply for HCPC registration as a biomedical scientist. These degrees may also undergo HCPC approval through assessment against the HCPC Standards of Education and Training (SETs).

This route includes Healthcare Science Practitioner Training Programme degrees, where discipline-specific pathways are followed in the final year, and Level 6-degree apprenticeship programmes.

Route 2. Certificate of Competence (accredited degree followed by the Registration Training Portfolio)

Approved: March 2010; Delivery: Full-time or Part-time

This route includes:

- Full-time or part-time degrees without placement opportunities.
- Full-time or part-time degree with an optional placement* in an IBMS-approved training laboratory or extended to include a research or industrial laboratory. Completion of the IBMS Registration Training Portfolio (which must be in an IBMS-approved training laboratory) is optional and not a requirement for the degree award.

Optional placements may take different forms. Where a degree includes a placement, it may be within an IBMS-approved training laboratory or other professional settings. The placement is recognised as part of the programme and remains under the responsibility of the education provider for learner welfare and placement arrangements.

Note: Routes 1 and 2 are considered standard entry routes into the profession, as both are based on IBMS-accredited degrees.

Route 3: Certificate of Competence (Non -accredited degree followed by the Registration Training Portfolio)

Flexible - approved March 2010

Route 3 is for graduates with a partially relevant science degree or a non-IBMS accredited biomedical science degree and provides a route of academic equivalence to the accredited BSc degree. Individuals with these degrees are likely to require supplementary study of specified modules from an IBMS accredited BSc degree to meet the equivalent of an accredited biomedical science degree and the academic content required by the HCPC standards of proficiency. A formal IBMS degree assessment is needed to identify any supplementary education necessary. Applicants should submit their completed BSc (Honours) degree and any relevant completed MSc qualifications.
Further information: IBMS Degree Assessment for HCPC Registration

Route 4: The Certificate of Competence by Equivalence (Biomedical Scientist)

Approved August 2015; Launched January 2016

Route 4 is for experienced practitioners working in the field of biomedical science, at a level equivalent to that of a biomedical scientist and for whom registration with the HCPC is desirable. This includes graduates with several years' experience in a clinical pathology laboratory who undertake tasks that biomedical scientists would also complete. Relevant disciplines may include genetics, genomics, andrology, or other specialised areas where HCPC registration, though not mandatory, is beneficial.

For routes 1-3, most of the academic knowledge base a candidate will need is provided by their IBMS- accredited degree programme (or non-accredited degree supplemented by top-up modules from an IBMS accredited BSc programme). The IBMS Registration Training Portfolio provides the framework for the continued education and laboratory-based training of candidates that allows them to demonstrate that **all** HCPC standards of proficiency for biomedical scientists have been met. The candidate can demonstrate the HCPC standards of proficiency by training either within a single pathology discipline, or in more than one discipline.

The updated HCPC standards of proficiency and portfolios

Purpose and limitations of the portfolio

The HCPC Standards of Proficiency (SoPs) for biomedical scientists were updated in 2022. In response, the IBMS updated both the Registration Training Portfolio (routes 1-3 to registration) and the Certificate of Competence by Equivalence (Biomedical Scientist) portfolio (route 4 to registration), now offered using a digital platform. The updated portfolios align with the 2022 HCPC SoPs and provide a consistent framework for evidencing both academic and workplace-based learning.

The IBMS Certificate of Competence by Equivalence (Biomedical Scientist) portfolio groups the HCPC Standards of Proficiency into relevant modules and identifies them as knowledge or competence standards. These standards ensure all individuals meet the threshold for safe, autonomous practice on Day 1 of HCPC registration.

The portfolio is not intended to evidence advanced discipline-specific knowledge, nor to determine suitability for a specific role. Post-registration development is expected to further enhance professional knowledge and scope of practice. Higher and specialist IBMS qualifications are available to support this ongoing journey: IBMS Education Pathways

Threshold standards of competence

Individuals awarded the Certificate of Competence by Equivalence (Biomedical Scientist) will, at the threshold level of fitness to practice, 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 with laboratory safety, laboratory regulations, information systems and management.

Assessment and Award of the Certificate of Competence by Equivalence

Once the Certificate of Competence by Equivalence (Biomedical Scientist) portfolio is completed, the pieces of evidence are independently assessed via a review panel comprised of a professional (biomedical scientist), academic (from an IBMS accredited programme) and lay representatives who have been trained as assessors for this route to registration. Each member of the review panel will determine whether the evidence produced by the candidate in their portfolio demonstrates that they meet the HCPC standards of proficiency for biomedical scientists. A final collated report will be agreed by the reviewers, indicating whether there is sufficient evidence to initially confirm the standards of proficiency have been met. This collated report will make a recommendation whether the candidate should proceed to the second part of the assessment – the viva voce.

If the evidence provided is accepted and a recommendation made for the candidate to proceed to the viva assessment, the candidate will be invited to attend an online viva voce with the professional review panel member.

The viva voce is an oral examination on the candidate's current practice and experience that will confirm that all HCPC Standards of Proficiency have been met. Following a successful viva assessment, the IBMS Certificate of Competence by Equivalence (Biomedical Scientist) is awarded. This confers eligibility to apply for HCPC registration as a biomedical scientist.

3. Understanding the HCPC Standards of Proficiency

The HCPC standards of proficiency 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 the candidate must know, understand and be able to do as evidenced in their portfolio. By demonstrating these standards, the individual will be able to apply to register with the HCPC as a biomedical scientist. Once on the register, the individual must continue to meet the standards of proficiency which relate to the areas in which they work and record CPD (continuing professional development) activities regularly to evidence to the HCPC if selected to be audited.

It is important for the candidate to understand the implications of the standards of proficiency and how they relate to professional practice, as failure to work to these standards could lead to exclusion from the register. To be eligible to apply for registration as a biomedical scientist, the candidate must evidence how they meet **all** HCPC standards of proficiency for a biomedical scientist.

Due to the natural groupings of some HCPC standards of proficiency (SoPs), they have been organised into two sections in the IBMS Certificate of Competence Equivalence Portfolio as shown below:

Section 1: Professional Conduct - This section is core to the principles of fitness to practise and is defined by standards that relate to professional roles and conduct.	**Section 2: Professional Practice -** This section is core to the principle of applicants being able to demonstrate that they have the knowledge and skills required to practise as biomedical scientists.
Module 1: Personal Responsibility and Development	**Module 1:** Professional Knowledge
Module 2: Equality, Diversity and Inclusion	**Module 2**: Health and Safety and Wellbeing
Module 3: Communication	**Module 3**: Quality
Module 4: Patient Records and Data Handling	**Module 4**: Performing Standard Investigations
M**odule 5**: Professional Relationships	**Module 5:** Research and Development

The HCPC SoPs have been grouped together across ten modules in the IBMS Certificate of Competence by Equivalence portfolio. Each piece of evidence for each module enables the candidate to articulate their knowledge and skills that demonstrate several standards of proficiency. Each piece of evidence in the portfolio should be clearly mapped to the standards of proficiency that the candidate and mentor agree the evidence demonstrates. As a result, the standards are not listed in numerical order throughout the portfolio when compared to the HCPC full list of standards of proficiency but are instead listed in the module where they will be demonstrated. Please see the document *Module Descriptors* for further information.

Candidates must also abide by the HCPC Standards of Conduct, Performance and Ethics as this relates to standards of proficiency in Section 1 Module 1 (Professional Responsibility and Development) of the portfolio. Evidence in this module must demonstrate that the individual seeking registration understands the implication of these standards to their practice. Monitoring during the collation of the portfolio evidence must confirm that the candidate applies them to their practice.

4. Laboratory Support

The IBMS Certificate of Competence by Equivalence Portfolio can only be completed in laboratories that hold IBMS pre- registration training approval. This ensures that the laboratory has the necessary training plans / personal development plan, support and resources in place to ensure that the candidate can complete the portfolio.

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 (www.ibms.org).

Each candidate must have a **personal development plan** that sets out the:

- sections of the laboratory they routinely work in
- expected rotations in other clinical disciplines
- standards of proficiency to be evidenced
- how the standards of proficiency will be demonstrated

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.

Progress meetings

There should be regular (typically monthly) meetings between the candidate and their allocated mentor.

The aims of these meetings are to:

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

Progress review meetings may be recorded on the digital portfolio platform, OneFile.

Changing employment

If an employee wishes to seek alternative employment while completing the Certificate of Competence by Equivalence Portfolio and can transfer to another IBMS-approved laboratory, then their portfolio is transferrable. However, the laboratory that applies for the portfolio assessment 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 therefore wish to re-assess the individual's competence and/or require certain pieces of evidence to be re-done and signed off.

In such circumstances, the Institute must be informed and any relevant sections of the portfolio already completed in the previous laboratory must be identified, updated and countersigned by the mentor in the new laboratory.

5. Completing the portfolio

Overview

- The digital portfolio is hosted on the OneFile platform https://login.onefile.co.uk/
- The portfolio comprises 10 modules divided across two sections
- Each module contains candidate choice pieces of evidence. We strongly recommend 3-5 pieces of evidence per module
- Each piece of evidence is selected by the candidate in agreement with their mentor and clearly mapped to the HCPC Standards of Proficiency.
- Each piece of evidence must be uploaded, reviewed, annotated, and signed off on OneFile. SoPs should be signed off as they are achieved, not retrospectively.
- Responsibilities lie with the candidate to ensure they only work within the limits of their practice, and with the mentor to ensure that they are satisfied that **each** standard of proficiency has been met
- When all evidence is complete and signed off, the mentor contacts the IBMS to request a portfolio assessment. The IBMS will appoint a review panel (consisting of a professional (biomedical scientist), academic (from an IBMS accredited programme) and lay person) to assesses the portfolio against the HCPC Standards of Proficiency.
- If the review panel agree that the candidate can proceed to the final assessment (a vice voce oral examination), the professional reviewer will organize a date for the online assessment to take place.

Role	Main Responsibilities
Candidate	Completes the Certificate of Competence by Equivalence Portfolio by gathering and uploading approximately 30 pieces of mapped evidence. Works closely with the Mentor to develop and reflect on learning, and ensures all HCPC Standards of Proficiency are met and signed off.
Mentor	Supports and supervises the candidate through their structured personal development plan. Reviews and signs off evidence, holds regular review meetings, and ensures all HCPC standards of proficiency are achieved in an IBMS-approved training laboratory. *Please note: If the main mentor is not HCPC registered (for example in a genomics laboratory) the person who has final sign off the portfolio to say that the HCPC SoPs have been met must be HCPC registered as a biomedical scientist.*
Reviewers	A professional (biomedical scientist), academic (from an IBMS accredited programme) and lay person reviewer independently assesses the completed portfolio to confirm that the evidence produced demonstrates all HCPC Standards of Proficiency. The professional reviewer also completes the final assessment, the viva voce, that determines if the candidate is ready for professional registration by evaluating their professional discussion in conjunction with the quality, relevance, and completeness of portfolio evidence submitted.

`Portfolio identification

The IBMS Certificate of Competence by Equivalence Portfolio is issued to the candidate (using a unique identifier) and cannot be transferred to another individual. This unique number should be quoted in any communication with the IBMS Education Team or the portfolio reviewers about the IBMS Certificate of Competence by Equivalence Portfolio (ideally in the subject line of any email).

Completion timeline and currency of evidence

The length of time to complete the Certificate of Competence by Equivalence Portfolio is typically expected to take approximately 12 months. The submission date for the portfolio will be calculated as 12 months after the launch event for the cohort.

There is a requirement for evidence to be current (within three years of the portfolio assessment). Evidence older than three years should not be included unless the piece of evidence has been updated appropriately.

Evidence of achievement overview

Each piece of evidence in the portfolio should be clearly mapped to the standards of proficiency that the candidate and mentor agree the evidence demonstrates. The candidate is required to produce approximately three separate pieces of evidence for each module, resulting in a total of approximately 30 pieces of evidence for the entire portfolio. The selection of each piece of evidence is the responsibility of the candidate, but choices should be guided by the mentor and informed by the portfolio development plan.

Evidence types and expectations

The evidence pieces for each module of the portfolio are a free choice for the candidate and mentor to agree and must evidence all HCPC SoPs for the module. There is more flexibility in the number of pieces of evidence for this route, given the more extensive experience of the candidates compared with the registration training portfolio. We do, however, recommend that the pieces of evidence remain concise and no more than 5 pieces of evidence should be uploaded per module.

Example types of evidence that could be used to demonstrate the HCPC standards of proficiency per module are given in the *Module Descriptors* document for this route.

Note: the examples of evidence types given within the module descriptors are neither definitive nor comprehensive and mentors and candidates do not have to follow them. The pieces of evidence chosen must map clearly to all HCPC SoPs for the module.

The portfolio is expected to contain a range of different types of evidence and not a limited selection of evidence types. Some common evidence types include reflective statements, audits, feedback from presentations, annotated documents/laboratory results and question and answer tutorials. The candidate is expected to select pieces of evidence that cover several standards of proficiency. The generic nature of the standards of proficiency permits different types of evidence to be acceptable. The best examples of evidence will demonstrate the candidate's knowledge and understanding, plus their application of this knowledge and understanding in a laboratory-based activity.

Justification and feedback

The candidate is required to justify the selection of each piece of evidence and identify the standards of proficiency it demonstrates. The viva voce will be used to review the justification for the selected pieces of evidence, in addition to how well the evidence demonstrates the stated HCPC SoPs.

The justification for an example pieces of evidence per module is given in the summary table in Appendix A. The candidate and mentor are responsible for writing clear justifications for all pieces of evidence in the portfolio.

Annotation and Presentation of Evidence

Evidence of the mentor's review, annotation and inclusion of constructive feedback is expected on each piece of evidence. The use of feedback is very important, and improvement should be seen in evidence 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 in the final version of the piece of evidence. Evidence of this feedback loop demonstrates a good relationship between mentor and candidate and is useful to the review panel in assessing the quality of the mentoring in the laboratory.

- The candidate should annotate any evidence that is not their original work (e.g. printout of results)
- Every page of evidence should be annotated; if the candidate cannot comment on it to show how it has enhanced their practice, then it should not be in the portfolio.
- Highlighting and underlining text in a piece of evidence alone is insufficient; it must be obvious why it has been offered as evidence
- The candidate needs to demonstrate their knowledge and understanding and apply this to the laboratory context
- Each piece of evidence should be clearly linked back to the SoPs it demonstrates
- Lack of annotation can result in that piece of evidence being discounted or require updating

Final sign-off and submission

The portfolio is owned by the candidate, who is responsible for ensuring that each piece of evidence is appropriate and meets the required standard for assessment by the review panel. It is important to confirm this with the designated mentor. All evidence submitted in OneFile must be signed off by both the candidate and the mentor. This dual sign-off confirms that the candidate takes ownership of the work and that it has been reviewed and assessed accordingly.

Plagiarism

A plagiarism declaration confirms that the portfolio is the candidate's **own original work**. It is essential that the candidate acknowledges all resources used within their submitted evidence. **Any evidence of plagiarism will result in failure of the portfolio, and the candidate will be required to complete a new Certificate of Competence by Equivalence portfolio.**

If a mentor (or review panel) suspects that plagiarism has occurred during the preparation of evidence, this should be addressed with the candidate (or mentor) immediately. All evidence must be original and not simply reproduced from other materials/sources or cut and pasted "word for word" without re-writing in the candidate's own words.

All written pieces of work that use information from published sources (published journal articles, textbooks, web pages, manufacturer's instructions etc) must contain an intext citation and the full reference must also be provided in a reference list.

Formatting references

It is important that the candidate's mentor agrees in advance with the candidate on the referencing style to be used in their portfolio. When referencing, it is common to reference in the Harvard style, i.e., including the name of the author or organisation, the year of publication, the title of the article or book chapter, and page numbers. If the source is from the internet, it should be referenced using the name of the author or organisation, the year of publication, the title of the piece, the unique URL and the date on which the website was accessed.

Example 1 – A website reference

In-text citation example:

The five essential steps for efficient PCR are DNA isolation, primer design, enzyme selection, thermal cycling, and amplicon analysis, each critical for achieving fast and reliable DNA amplification results (ThermoFisher, 2023).

Reference format in the Reference List:

ThermoFisher (2025) 5 Steps to efficient PCR. Available at: https://www.thermofisher.com/uk/en/home/life-science/pcr/5-steps-pcr.html (Accessed: 1st June 2025).

Example 2 - journal article reference

In-text citation example:

These finding have been explored by others (Salvi, Michielli and Molinari (2020)).

Reference format in the Reference List:

Salvi, M., Michielli, N. and Molinari, F., 2020. Stain Color Adaptive Normalization (SCAN) algorithm: Separation and standardization of histological stains in digital pathology. Computer Methods and Programs in Biomedicine, 193, p.105506. https://doi.org/10.1016/j.cmpb.2020.105506

Plagiarism statements

Every time a candidate or mentor signs an assessment or unit summary in OneFile, they must make a clear declaration that the work is authentic and a true representation of the candidate's own knowledge and competence. Additionally, candidates declare that external sources of information have been appropriately referenced.

The following declarations are made when signing:

Signed by	Assessment sign off	Unit sign off
Candidate	"I confirm that the evidence presented for this assessment is authentic and a true presentation of my own work. Any external sources I have used have been appropriately cited/referenced."	"I confirm that the evidence presented for this unit is authentic and a true presentation of my own work. I am satisfied with the way the assessment(s) was conducted and with the outcome(s)."
Mentor	"Knowledge and competence have been demonstrated by the Candidate in this assessment. I am satisfied that the evidence meets the mapped SoPs and is a true representation of the Candidate's own work."	"Knowledge and competence have been demonstrated by the Candidate in all of the elements of this module using the required assessment procedures and any special conditions/contexts. I am satisfied that the evidence meets the threshold requirements for HCPC registration as a Biomedical Scientist."

6. Learning outcomes

This section summarises the learning outcomes for each module.

Refer also to the *Module Descriptors* document for more detailed information, comprising:

- suggested tasks for candidate choice evidence
- SoP descriptions by module and evidence type
- SoP matrix mapping differentiated between knowledge-based and competence-based standards.

Section 1: Professional Conduct

Section 1 – Module 1: Personal Responsibility and Development

By successfully completing this module, the candidate will be able to:

- Demonstrate transferable skills required for effective practice, including high standards of personal and professional conduct, personal responsibility, justifying their decisions and actions, and exercising appropriate personal initiative.
- Understand what is required of them by the Health and Care Professions Council, including their ability to apply legislation, policies and guidance relevant to biomedical scientists within their scope of practice.
- Justify the importance of continuing professional development throughout their career; be able to identify the limits of their practice and know when to seek advice.

Section 1 – Module 2: Equality, Diversity and Inclusion

By successfully completing this module, the candidate will be able to:

- Apply equality legislation to their practice and understand how their own values, beliefs and personal biases (which may be unconscious) could impact on their practice.
- Acknowledge the rights, dignity and values of others and actively challenge barriers to inclusion in their practice.
- Take personal action to ensure colleagues, service users and carers are treated appropriately with respect and dignity.

Section 1 – Module 3: Communication

By successfully completing this module, the candidate will be able to:

- Communicate the outcomes of clinical laboratory investigations accurately and reliably to service users, carers, colleagues and others.
- Use information, communication and digital technologies competently in their practice.
- Demonstrate an ability to adapt their communication methods to ensure clear communication with a variety of audiences.

Section 1 – Module 4: Patient Records and Data Handling

By successfully completing this module, the candidate will be able to:

- Maintain confidentiality and comply with data governance requirements
- Manage and keep clear, accurate and detailed records in accordance with applicable legislation, protocols and guidelines.
- Adhere to specimen identification protocols, use systems for the accurate and correct identification of laboratory specimens and recognise the importance of backup storage of electronic data.

Section 1 – Module 5: Professional Relationships

- By successfully completing this module, the candidate will be able to: Build and sustain professional relationships that enable autonomous and collaborative working, using a range of personal transferable skills.
- Actively participate in training that supports high standards of practice, professional conduct and positive interpersonal relationships.
- Recognise the qualities, behaviours and benefits of effective leadership and demonstrate leadership behaviours appropriate to their practice.

Section 2: Professional Practice

Section 2 – Module 1: Professional Knowledge

By successfully completing this module, the candidate will be able to:

- Understand in detail, the role of clinical specialisms in the diagnosis, treatment and management of disease: cellular science, blood science, infection science, molecular and genetic science and reproductive science.
- Apply their knowledge of the scientific principles underpinning clinical laboratory investigations used to investigate human diseases, disorders and dysfunction.
- Clearly articulate the causes of named disorders, including the molecular, cellular and / or genetic changes associated with disease progression.

Section 2 – Module 2: Health and Safety and Wellbeing

By successfully completing this module, the candidate will be able to:

- Identify hazards and mitigate risks by complying with local operational procedures, policies and relevant health and safety legislation.
- Establish safe environments for practice and apply principles of good laboratory practice to maintain the safety of themself and others.
- Recognise the potential impact of their own mental and physical health on their ability to practise safely and effectively, including how to seek help and support when necessary.

Section 2 – Module 3: Quality

By successfully completing this module, the candidate will be able to:

- Recognise the value of quality control, quality assurance and clinical governance to ensure continual improvement.
- Identify and respond appropriately to abnormal outcomes from quality indicators.
- Accurately and precisely perform calibration and quality control checks appropriate to their role.

Section 2 – Module 4: Performing Standard Investigations

By successfully completing this module, the candidate will be able to:

- Apply their knowledge and understanding of standard laboratory investigations to select, review and appraise appropriate techniques.
- Prepare, process, analyse and interpret clinical laboratory data and present the data in a suitable format.
- Conform with standard operating procedures when working with specific laboratory equipment and demonstrate relevant practical skills.

Section 2 – Module 5: Research and Development

By successfully completing this module, the candidate will be able to:

- Analyse qualitative and quantitative data and demonstrate a logical and systematic approach to problem solving.
- Critically evaluate research articles and other evidence to inform their own practice.
- Use current research in their discipline to generate hypotheses, design experiments and analyse novel data to develop their knowledge and expertise.

7. The Portfolio Assessment Process

The purpose of the portfolio review by the panel of reviewers is to confirm that the candidate has achieved the required level of knowledge and competence to be eligible for registration as a biomedical scientist. If the professional, academic and lay person agree that all standards of proficiency have been demonstrated in the portfolio evidence, they will recommend that the candidate proceeds to the final assessment.

The final assessment is a viva voce (oral examination) that will explore the content of the portfolio, the experience of the candidate and determine if they are considered fit to practice and can be awarded the Certificate of Competence by Equivalence (Biomedical Scientist) that confers eligibility to register with the HCPC.

If, after reviewing the digital portfolio, it is determined that the candidate has not yet met the necessary standard, the review panel will recommend evidence pieces that need to be updated before the candidate can proceed to the (online) viva voce. The candidate and mentor can then be asked to revise and strengthen specific pieces of evidence. A second portfolio review will take place, with all members of the review panel scrutinizing the updated pieces of evidence. If the updated evidence successfully demonstrates the HCPC standards of proficiency, the candidate will be recommended to proceed to the viva voce assessment with the professional reviewer. The professional reviewer will contact the mentor and candidate to organize an online viva voce date.

Following the viva voce, if there are still concerns about the candidate's knowledge, understanding, or competence, a repeat viva voce can be recommended. Areas requiring further development should be clearly identified, and a suggested timeframe for the second viva voce should be provided after the candidate has received additional mentoring.

General points about assessment

- Rotation around all disciplines is not required but does provide a wider experience. Evidence of some departmental collaboration during the portfolio completion does provide a more complete experience of the profession.
- The mentor should be satisfied that the candidate is able to demonstrate consistency in their achievement of competence.
- All pieces of evidence must be authenticated as originating from the candidate, accomplished using module sign-off in your OneFile portfolio, which replaces traditional signatures and dates.
- Beyond the pieces of evidence uploaded to OneFile, the candidate should not provide any additional documentation.
- Evidence should be valid, authentic and linked to the standards of proficiency and competencies being evidenced.
- The candidate should be aware of good professional practice. For example, laboratory reports or patient data must be fully anonymised, and any hand-written annotation needs to be legible.
- It is important to see that a holistic approach to mentoring has been taken (i.e. evidence to demonstrate that the candidate has integrated into the team working of the laboratory and that they attend meetings where appropriate).
- If some evidence does demonstrates the standards of proficiency but the review panel feel the area requires some further exploration, there may be an opportunity during the viva voce to explore the candidate's experience in more depth and confirm that the required HCPC standards have 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 Certificate of Competence by Equivalence Portfolio.

Arranging a Viva Voce

Once the Certificate of Competence by Equivalence Portfolio has been completed to a level where the mentor reasonably believes the candidate capable of a pass, the portfolio should be signed off fully and will show as 100% complete on OneFile.

Refer to the *OneFile User Guides* documents and support videos for detailed instructions on completing the portfolio for assessment using OneFile. The named mentor must ensure that the portfolio has been completed fully and that all the standards of proficiency have been signed off against the pieces of evidence in the portfolio before notifying the Institute that the portfolio is complete. The mentor should email the equivalence@ibms.org inbox to notify the Education Team that the portfolio is ready for review.

The Education Team will source a panel of three reviewers (a professional (biomedical scientist), academic (from an IBMS accredited programme) and a lay person) from the IBMS pool of trained reviewers. Once allocated to the portfolio, the review panel will automatically have access to the candidate's portfolio on OneFile. All reviewers will complete a report to determine if the candidate has successfully completed the portfolio and is eligible to proceed to the final assessment, the viva voce (oral examination). The mentor and professional reviewer will then liaise by email to confirm the date of the online viva voce assessment with the candidate.

As the standards of proficiency are generic to all disciplines, it is not necessary to appoint discipline-specific reviewers. This will not disadvantage either the reviewers 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.

The format of the viva voce

The viva voce assessment for this route is designed to mirror the laboratory tour during a registration training portfolio verification. The professional reviewer will record their discussions with the candidate during the viva voce on a viva report template. The viva voce is structured as a professional discussion between the candidate and the reviewer to demonstrate how the candidate meets the HCPC standards of proficiency and that they are working at an equivalent level to a biomedical scientist.

The viva voce will typically take 45 minutes to an hour and must be conducted by the professional reviewer and the candidate **only**. The viva voce is normally completed online, at a date and time agreed between the candidate, mentor and professional reviewer. The professional reviewer will ask questions that give them a feel for the routine work of the laboratory and the day-to-day workload of the candidate. The viva gives the candidate the opportunity to show their fitness to practice by demonstrating the knowledge and competence they have achieved during their career to date. Typically, they will give an overview of facilities, equipment and the laboratory environment, articulate their knowledge of the procedures and discuss laboratory scenarios. This is a proactive question-and- answer session where the professional reviewer will ensure that the candidate has the threshold knowledge, skills and competencies required for the role of a biomedical scientist. It will also provide an opportunity for the professional reviewer to probe any areas they feel may need further clarification following their review of the portfolio evidence.

Possible outcomes of the viva voce:

Successful (pass)

- The candidate has demonstrated the minimum competence required across their portfolio evidence and the viva voce against the HCPC standards of proficiency.
- The professional reviewer recommends that the candidate should be awarded the Institute Certificate of Competence by Equivalence (Biomedical Scientist)

Unsuccessful (fail)

- The candidate has not demonstrated the minimum competence for several standards of proficiency.
- The professional reviewer will provide feedback and guidance regarding how the candidate can address the identified deficiencies.
- The professional reviewer will determine whether a further viva voce is required.
- The professional reviewer will agree a reasonable deadline to address any deficiencies in the candidate's knowledge and competencies with the candidate and mentor.
- If a second viva voce assessment is required, the professional reviewer will inform the Education Team to note this decision and will liaise with the mentor and candidate to organize a second viva voce date.

Viva 'paperwork'

Viva Report Form

- The professional reviewer completes the viva report form **within one week of the viva voce assessment.**
- The report should be completed in detail and indicate examples of good practice and comment on the range of evidence and summary topics covered in the viva voce discussion.
- The viva report form will be logged by the Education Team and will be sent to the Chair of the IBMS Education and Professional Standards Committee to sign off on behalf of Committee to endorse the award of the Certificate of Competence by Equivalence (Biomedical Scientist) to the candidate.
- The Education Team will notify the candidate of the viva voce outcome, with an email from the equivalence@ibms.org inbox and confirm next steps with respect to the candidate's details being sent to the HCPC and delivery of the Certificate of Competence by Equivalence to the candidate.

Candidate and Mentor feedback forms

This feedback form should be completed by both the candidate and the mentor on OneFile to give confidential feedback on the process of completing the portfolio and viva voce assessment. These reports will be visible to the candidate or mentor and the IBMS only.

Issuing the Certificate of Competence by Equivalence

When the viva report form is received from the professional reviewer, the IBMS Education Team can process the Certificate of Competence by Equivalence (Biomedical Scientist) and pass the candidate's details to the HCPC.

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

Appendix A – Example justifications

Section 1 – Professional Conduct	HCPC SoPs demonstrated	Example justification
Module 1 - Personal Responsibility and Development		
Example Evidence - Personal statement that demonstrates your understanding of the limits of your practice and how you act accordingly.	4.1, 4.5 and 10.1	This evidence demonstrates my ability to operate laboratory equipment, troubleshoot (where it is within my ability to do so) and to seek assistance when it is not. It also demonstrates my ability to reflect and learn from my own actions and those of others.
Module 2 – Equality, Diversity and Inclusion		
Example Evidence – Using specific examples, demonstrate how you apply the principles of equality, diversity and inclusion in your practice.	5.1, 5.2, 5.3 and 5.7	This evidence demonstrates my knowledge of equality legislation in the UK and how this applies to me and my practice. It demonstrates my ability respond to different groups, to recognise my own biases and ensure they do not negatively impact my practice
Module 3 – Communication		
Example Evidence – Explain the different methods you use to communicate effectively within your department and with service users.	7.7, 7.8 and 7.9	This [insert evidence type] demonstrates the range of communication methods I use within my laboratory and with other service users. It evidences how I have successfully communicated with colleagues and service users, as well as my understanding of the importance in providing accurate information in a timely manner.
Module 4 – Patient Records and Data Handling		
Example Evidence – Review a specific sample pathway, from receipt to result, explaining the importance of consent and confidentiality.	6.2, 6.5 and 9.3, plus 6.1 (partially)	This [insert evidence type] demonstrates my knowledge of confidentiality principles and consent relevant to my work. It demonstrates my application of these principles and my responsibility for ensuring information is stored and maintained appropriately from the point of sample entry into the lab to when results are released.
Module 5 – Professional Relationships		
Example Evidence – Reflective Statement describing how your engagement with service users and colleagues has positively contributed to your professional development.	8.1, 8.12 and 8.13	This reflection demonstrates that I understand how my interactions with a variety of service users has helped my personal development, improved my practice and impacted on patient care.

Section 2 – Professional Practice	HCPC SoPs Demonstrated	Example justification
Module 1 - Professional Knowledge		
Example Evidence – Case study based on a test that your laboratory performs, showing your understanding of normal physiology and disease progression for a specific disorder associated with this test.	12.1 and 13.27	This evidence demonstrates my theoretical knowledge and understanding of normal physiology and disease progression. It shows how I apply my theoretical knowledge in my practice to assist in the diagnosis of [insert disease] using [specific test]. This evidence also shows my awareness of follow up tests in other disciplines and potential treatment plans.
Module 2 – Health and Safety and Wellbeing		
Example Evidence – Produce an example risk assessment that demonstrates how you work in accordance with health and safety legislation, including appropriate use of PPE, hazard controls and risk management strategies.	14.2 (partially), 14.3 and 14.4	This risk assessment demonstrates my awareness of health and safety legislation and how it relates to my laboratory. It shows how I apply appropriate health and safety procedures to work safely, identify issues and minimise risks.
Module 3 – Quality		
Example Evidence - Participate in a scheduled quality audit in your laboratory and review the audit outcomes to identify any impact on service and potential improvements.	11.1, 11.4 and 11.6	This evidence demonstrates my participation in [insert activity] to improve laboratory quality management. I collected and assessed information about [insert here] to establish if there were issues to address. This audit demonstrates my understanding of how quality issues are tracked and managed, and why this is important.
Module 4 – Performing Standard Investigations		
Example Evidence - Personal statement that demonstrates your experience of performing standard investigations, including your analysis of the data produced and evaluation of the decisions and/or referrals made.	4.2, 4.3, 4.4, 12.8, 13.2, 13.3, 13.4 and 13.5	This personal statement demonstrates my ability to perform [specific standard investigation example] using standard analytical procedures, to select and run appropriate tests and ensure that equipment is fit for purpose prior to analysis. This evidence shows that I can identify when quality control or sample results require further investigation and can perform these as necessary.
Module 5 – Research and Development		
Example Evidence – Written report on a workplace-based activity (or summary of final year university research project) that includes statistical analysis, data interpretation and evaluation of the study design.	13.9, 13.29 and 13.30	This [workplace-based activity OR summary of my final year project] demonstrates my ability to design and set up experiments relevant to biomedical science, interpretate data and perform statistical analysis to support my findings. This summary report also shows that I understand the importance of translating research into practice by my evaluation of the study design and data produced.