Version 5

PROGRAMME SPECIFICATION FOR CERTIFICATE OF COMPETENCE BY EQUIVALENCE (BIOMEDICAL SCIENTIST) 2023-2024

INSTITUTE OF BIOMEDICAL SCIENCE

PROGRAMME SPECIFICATION FOR CERTIFICATE OF COMPETENCE BY EQUIVALENCE (BIOMEDICAL SCIENTIST)

Title of Programme:	Certificate of Competence by Equivalence (Biomedical Scientist)
Award:	Certificate of Competence by Equivalence (Biomedical Scientist)
Awarding Body:	Institute of Biomedical Science
Mode of Study:	Flexible
Site for Delivery:	Flexible
Entry Requirements:	Minimum of a Bachelor Honours Degree or Equivalent
Programme intended Learning Outcomes:	Health and Care Professions Council Standards of Proficiency for Biomedical Scientists
Professional Body Standards:	QAA Subject Benchmark Statement for Biomedical Science 2023 IBMS Degree Accreditation Criteria Assessment Standards for Non-Accredited Degrees Clinical Laboratory Standards for IBMS Qualifications IBMS Registration Equivalence Portfolio
Statutory Regulating Body:	Health and Care Professions Council
Proposed Start Date:	September 2015

CONTENTS

1. Context of the Certificate of Competence by Equivalence (Biomedical Scientist) Award

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

1.2 In July 2003, the Privy Council approved the HCPC standards of proficiency for safe and effective practice of registrant biomedical scientists. The standards have since been reviewed by the HCPC and the current standards of proficiency were updated in 2022.

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

1.4 The IBMS has, since 2010, been approved by the HCPC to award the Certificate of Competence for completion of one of the following routes that enable individuals to be eligible to apply for HCPC registration as a biomedical scientist:

I. Certificate of Competence (accredited degree containing the Registration Training Portfolio)

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

III. Certificate of Competence (Non-accredited degree followed by the Registration Portfolio)

1.5 This route (route IV), the Certificate of Competence by Equivalence (Biomedical Scientist), allows graduates from an honours degree who successfully complete the award to be eligible to apply to the HCPC for registration as a biomedical scientist. This enables individuals with non-IBMS-accredited qualifications but significant laboratory training to reflect their extensive experience gained through practice. Their experience must be at a level and duration greater than that normally achieved through pre-registration training and commensurate with that of a registered biomedical scientist.

1.6 It is proposed that any areas of supplementary education required to ensure that the academic requirements for HCPC registration are met is provided in a flexible manner, tailored to individual requirements.

Aims of the Certificate of Competence by Equivalence (Biomedical Scientist), Distinctive Features and Fit with Existing Provision

The IBMS recognises the importance of the values the standards of proficiency for biomedical scientists being applied to any situation where investigative techniques relevant to biomedical science impact directly on patient healthcare. It was felt a mechanism should exist for experienced practitioners to demonstrate eligibility to apply for HCPC registration without undertaking one of the route I-III HCPC approved programmes.

Applicants for the Certificate of Competence by Equivalence are such experienced individuals, working beyond the level of registration in areas of biomedical science practice that have not required them to take the standards routes of education and training that would give them eligibility to apply for HCPC registration as a biomedical scientist. Typical candidates would be working in routine diagnostic laboratories such as genetics/cytogenetics, andrology and embryology/fertility departments that are not part of the usual clinical pathology service but their role is comparable to that of a biomedical scientist (albeit under a different title).

Whilst statutory regulation is considered desirable, requiring these individuals to undertake basic education and training for the current Certificate of Competence is not deemed appropriate. These individuals have already proven their competence to work beyond this threshold level and have the potential to evidence they meet the majority or all the HCPC standards of proficiency for biomedical scientists through education and training they have already undertaken.

The Certificate of Competence by Equivalence (Biomedical Scientist) route is intended for individuals who already hold a relevant bachelor honours degree or equivalent and have extensive professional experience. It differs from routes I-III to registration in that the assessment against HCPC standards of proficiency for biomedical scientists will recognise experiential learning to meet the academic knowledge and specific training required to meet the HCPC standards. Individuals that meet the requirements will be awarded a Certificate of Competence by Equivalence (Biomedical Scientist).

To avoid confusion with the HCPC's overseas applicants, the applicants for the Certificate of Competence by Equivalence (Biomedical Scientist) will only be considered from practitioners in biomedical science working in the UK.

2. Rationale for the Certificate of Competence by Equivalence (Biomedical Scientist)

2.1 HCPC standards of education (SET 1.1) state that the HCPC Council "normally expects that the threshold entry route to the register for biomedical scientists will be: Batchelor degree with honours with the Certificate of Competence awarded by the Institute of Biomedical Science, or equivalent."

2.2 In the context of education, training, qualifications and experience, equivalence is the alignment of two directly comparable processes, even though the paths to achieving

them are different. If a completed qualification and laboratory training is accepted to be equivalent, further supplementary education or training is not required.

2.3 This experiential pathway provides an opportunity for experienced practitioners who are not currently regulated to have their qualifications and experience recognised and assessed to determine if they are eligible to apply for registration with the HCPC as a biomedical scientist.

2.4 Applicants will be expected to have a bachelor degree with honours (or equivalent level of qualification) and sustained experience of autonomous professional practice (i.e. beyond the comparable threshold level for registration).

2.5 To successfully complete the programme, applicants will be expected to demonstrate they meet the threshold standards of knowledge and understanding defined in the current QAA subject benchmark statement for biomedical science and biomedical sciences (2023) and the current HCPC standards of proficiency for biomedical scientists. Evidence of this will be mapped in the IBMS Registration Equivalence Portfolio. The portfolio of evidence will be assessed by a panel of three reviewers: a lay person, an academic and a professional reviewer.

2.6 Applicants who are permitted to proceed to the final assessment based on their successful completion of the equivalence portfolio will have a *viva voce* (oral assessment) with the professional reviewer (ie biomedical scientist) to confirm their eligibility for the award of Certificate of Competence by Equivalence (Biomedical Scientist).

2.7 Upon award of the Certificate of Competence by Equivalence (Biomedical Scientist) individuals will be eligible to apply to the HCPC for registration as a biomedical scientist.

This Certificate of Competence by Equivalence route will give successful candidates the correct foundation for future employment as a biomedical scientist in their current role and beyond.

3. IBMS Certificate of Competence by Equivalence Portfolio Application Process

3.1 The following documents are required for **initial application** for admittance to the programme:

- Completed application form
- Completed basic DBS check
- The fee for the entire equivalence assessment process can be found on the current application form. A non-refundable administration fee of £50 will be required on submission of the candidate's application for review by the assessment panel. This will be deducted from the overall fee should the candidate be accepted onto the

programme. The full fee is non-refundable once the candidate has been admitted to the programme.

- Additional charges also apply for reassessment of the portfolio (£100) or a viva voce resit (£150).
- Proof of ID (Copy of passport or government issued photo ID e.g. driving licence)
- Photocopy of your qualification certificate(s)
- Photocopy of change of name (if relevant)
- A self-declaration of their health and fitness to practice
- Evidence of English language (IELTS level 7), if your English not first language
- Photocopy of ENIC comparability for any non-UK qualification(s)
- Completed laboratory training self-assessment form
- Personal statement
- Portfolio development plan

4. Certificate of Competence by Equivalence Portfolio Content

4.1 The content for this Certificate of Competence by Equivalence is standardised using the following processes that exist for all HCPC approved programmes currently delivered by the Institute:

- IBMS processes for the accreditation of degrees: criteria and standards of academic teaching provide the basis for measuring equivalence
- Work-based clinical laboratory training in an Institute approved laboratory: criteria and standards provide the basis for measuring equivalence
- Completion and assessment of the IBMS Registration Equivalence Portfolio which is directly linked to the HCPC standards of proficiency for biomedical scientists

4.2 The Equivalence Portfolio is organised into discrete modules containing specified content and learning outcomes and specific HCPC standards of proficiency. Each candidate must demonstrate they have achieved threshold standards of academic learning, professional skills and the application of these in professional practice by demonstrating through their pieces of evidence how they meet all HCPC standards of proficiency.

4.3 Candidates have the flexibility to select and present evidence as appropriate to their work-based setting but appropriate evidence must be produced that can include academic qualifications, CPD, clinical case studies, research and other specific pieces of work relevant to the standards and across the wider biomedical science disciplines. Section 1 Module 5 contains a mandatory piece of evidence – a reflective statement that must be completed. Other examples of evidence that could be used in each module are given in Appendix 1.

4.4 The evidence provided in the Certificate of Competence by Equivalence portfolio should be collated and organised in the same way as that for a registration training portfolio with reflection, analysis and evaluation of the evidence presented and with signatures of both the applicant and trainer clearly visible on each submitted piece of evidence. Each piece of evidence should also clearly state which HCPC SoP(s) are being demonstrated.

4.5 The IBMS Certificate of Competence by Equivalence Portfolio is based on the standards of proficiency for biomedical scientists that the HCPC published in 2022. Due to the overlapping nature of some standards of proficiency, individual standards have been grouped into modules within the equivalence portfolio that relate to areas of practice under two sectional headings: Professional Conduct plus Professional Skills and Standards.

Professional Conduct

This is core to the principles of fitness to practice and is defined by standards that relate to professional roles and conduct.

- Module 1: Personal Responsibility and Development
- Module 2: Equality Diversity and Inclusion
- Module 3: Communication
- Module 4: Patient Records and Data Handling
- Module 5: Professional Relationships

Professional Skills and Standards

This is core to applicants being expected to show they have the skills required to practice as a Biomedical Scientist.

- Module 1: Application of Professional Knowledge
- Module 2: Health and Safety and Wellbeing
- Module 3: Quality
- Module 4: Performing Standard Investigations
- Module 5: Research and Development

5. IBMS Certificate of Competence by Equivalence Portfolio Modules and Evidence Mapping

Applicants will be expected to demonstrate both the knowledge and skills required in the Certificate of Competence by Equivalence portfolio. Across the pieces of evidence presented in the IBMS Registration Equivalence Portfolio, ALL HCPC standards of proficiency must be met.

Mapping of evidence to the HCPC SoPs will allow candidates to demonstrate that they fully meet the HCPC standards of proficiency to become a biomedical scientist. Table 5.1 shows where each HCPC standard of proficiency is in the Equivalence Portfolio Sections and Modules.

Table 5.1 HCPC Standards of Proficiency mapped to the Certificate of Competence by Equivalence Portfolio:

		Section 1 – Professional Conduct					Section 2 – Professional Practice				
○ = Knowledge ● = Competence	HCPC Standard reference	Module 1 – Personal Responsibility and Development	Module 2 – Equality, Diversity and Inclusion	Module 3 – Communication	Module 4 – Patient Records and Data Handling	Module 5 – Professional Relationships	Module 1 – Professional Knowledge	Module 2 – Health and Safety and Wellbeing	Module 3 – Quality	Module 4 – Performing Standard Investigations	Module 5 – Research and Development
At the point of registration, biomedical scientists must be able to:											
Practise safely within their scope of practice	1.1	●									
	1.2									●	
	1.3	●									
Practise within the legal and ethical boundaries of their profession	2.1	●									
	2.2	●									
	2.3		○								
	2.4	○									
	2.5		●								
	2.6		●								
	2.7			○							
	2.8	○									
	2.9	○									
	2.10	○									
	2.11		●								
	2.12	●									
Look after their health and wellbeing, seeking appropriate support where necessary	3.1							●			
	3.2							○			
	3.3							○			
	3.4							●			
Practise as an autonomous professional, exercising their own professional judgement	4.1	●									
	4.2									●	
	4.3									●	
	4.4									●	
	4.5	●									
	4.6										●
	4.7										●
	4.8					○					
Recognise the impact of culture, equality and diversity on practice and practise in a non-discriminatory and inclusive manner	5.1		●								
	5.2		○								
	5.3		●								
	5.4		○								
	5.5		●								
	5.6		●								
	5.7		●								
Understand the importance of and maintain confidentiality	6.1				●						
	6.2				○						
	6.3				●						
	6.4				○						
	6.5				●						

Institute of Biomedical Science

o = Knowledge
• = Competence

At the point of registration, biomedical scientists must be able to:	HCPC Standard reference	Section 1 – Professional Conduct					Section 2 – Professional Practice				
		Module 1 – Personal Responsibility and Development	Module 2 – Equality, Diversity and Inclusion	Module 3 – Communication	Module 4 – Patient Records and Data Handling	Module 5 – Professional Relationships	Module 1 – Professional Knowledge	Module 2 – Health and Safety and Wellbeing	Module 3 – Quality	Module 4 – Performing Standard Investigations	Module 5 – Research and Development
Communicate effectively	7.1			•							
	7.2			•							
	7.3			o							
	7.4		•								
	7.5			•							
	7.6			o							
	7.7			•							
	7.8			o							
	7.9			•							
Work appropriately with others	8.1					•					
	8.2					o					
	8.3					o					
	8.4					•					
	8.5					•					
	8.6					o					
	8.7					o					
	8.8		•								
	8.9					•					
	8.10					•					
	8.11					•					
	8.12					o					
	8.13					•					
Maintain records appropriately	9.1				•						
	9.2				•						
	9.3				•						
	9.4				•						
	9.5				•						
	9.6				o						
	9.7				o						
Reflect on and review practice	10.1	o									
	10.2					•					
Assure the quality of their practice	11.1								o		
	11.2								•		
	11.3								•		
	11.4								•		
	11.5								•		
	11.6								•		
	11.7								o		
	11.8								o		

Institute of Biomedical Science

o = Knowledge
• = Competence

At the point of registration, biomedical scientists must be able to:	HCPC Standard reference	Section 1 – Professional Conduct					Section 2 – Professional Practice				
		Module 1 – Personal Responsibility and Development	Module 2 – Equality, Diversity and Inclusion	Module 3 – Communication	Module 4 – Patient Records and Data Handling	Module 5 – Professional Relationships	Module 1 – Professional Knowledge	Module 2 – Health and Safety and Wellbeing	Module 3 – Quality	Module 4 – Performing Standard Investigations	Module 5 – Research and Development
Understand and apply the key concepts of the knowledge base relevant to their profession	12.1						o				
	12.2										•
	12.3					•					
	12.4					o					
	12.5									o	
	12.6						•				
	12.7						o				
	12.8									•	
	12.9									o	
	12.10							o			
Draw on appropriate knowledge and skills to inform practice	13.1										•
	13.2									•	
	13.3									•	
	13.4									•	
	13.5									•	
	13.6									•	
	13.7									•	
	13.8										o
	13.9										o
	13.10										•
	13.11										•
	13.12									•	
	13.13									•	
	13.14									•	
	13.15									•	
	13.16									•	
	13.17									•	
	13.18									•	
	13.19								•		
	13.20								•		
	13.21									•	
	13.22									o	
	13.23									o	
	13.24								•		
	13.25									•	
	13.26									•	
	13.27						•				
	13.28									•	
	13.29										o
	13.30										o
	13.31									•	

		Section 1 – Professional Conduct					Section 2 – Professional Practice				
o = Knowledge • = Competence At the point of registration, biomedical scientists must be able to:	HCPC Standard reference	Module 1 – Personal Responsibility and Development	Module 2 – Equality, Diversity and Inclusion	Module 3 – Communication	Module 4 – Patient Records and Data Handling	Module 5 – Professional Relationships	Module 1 – Professional Knowledge	Module 2 – Health and Safety and Wellbeing	Module 3 – Quality	Module 4 – Performing Standard Investigations	Module 5 – Research and Development
Establish and maintain a safe practice environment	14.1							o			
	14.2							•			
	14.3							•			
	14.4							•			
	14.5							•			
	14.6							o			
Promote health and prevent ill health	15.1							o			
	15.2							o			
	15.3							•			
	15.4							o			

Profession Specific Academic Subjects

Applicants will also be expected to demonstrate and evidence that they have the required knowledge and understanding of relevant academic subjects as detailed in the QAA Subject Benchmark Statement for Biomedical Science and Biomedical Sciences (2023). A summary table of the relevant subjects areas and expected knowledge of each clinical specialism is shown in Table 5.2.

Table 5.2 Biomedical Science Profession Specific Subjects and Outcomes

Profession Specific Subjects	Candidate will be able to:
Human anatomy and Physiology refers to the structure, function and control of the human body, its component parts and major systems.	• Demonstrate a sufficient knowledge of the structure and function of the cardiovascular, endocrine, gastrointestinal, nervous, renal, reproduction, neurological, respiratory and skeletal systems of the human body. • Describe clearly the control of the functioning of the component parts of the above systems. • Have knowledge of basic human anatomy and physiology sufficient to underpin

Profession Specific Subjects	Candidate will be able to:
	studies in the clinical laboratory specialities.
Cell biology is the study of the structure and function of cells (and the organelles they contain) and includes their life cycle, division, self-replication and eventual death.	• Have a knowledge and understanding of prokaryote and eukaryote cell structure and function (including organelles) and how cells respond to stress and injury. • Have some knowledge and understanding of cell structure and function at the molecular level, and have some appreciation of the interplay of complex molecular events that help to maintain cell homeostasis.
Biochemistry is the study of chemical processes that support life. It requires knowledge of key chemical principles which are relevant to biological systems and includes the structure and function of biological molecules and cellular metabolism and its control.	• Relate the structure and function of carbohydrates, lipids, nucleic acids and proteins to the chemical properties of their building materials. • Describe metabolic pathways as interconnected sequences of coupled enzyme-catalysed reactions and interrelate catabolism and anabolism. • Explain the synthesis of storage forms of fuel molecules and their degradation to provide usable energy through metabolic processes. Describe intracellular and extracellular strategies to regulate cellular metabolism.
Genetics is the study of the structure and function of genes (including their role in human disease) and inheritance.	• Understand the main principles of gene expression.
Molecular Biology is the branch of biology that deals with the manipulation of nucleic acids (deoxyribonucleic acid (DNA) and ribonucleic acid (RNA)) so that genes can be isolated, sequenced or mutated. It covers methods that allow the insertion of new genes into the genome or the deletion of genes from the genome of an organism. It allows the effects of genes and genetic factors to be investigated in health and disease.	• Understand how the principles of genetics underlie modern molecular biology.
Immunology is the study of components of the immune system, their structure, function and mechanisms of action. It includes innate and	• Have knowledge and understanding of innate and acquired immunity.

Profession Specific Subjects	Candidate will be able to:
acquired immunity.	
Microbiology is the study of the structure, physiology, biochemistry, classification and control of micro-organisms, including the role of normal flora.	• Have knowledge of important morphological features of the major classes of microorganisms and be able to handle culture and observe microorganisms in a safe and aseptic manner.
Cellular Pathology is the microscopic examination of normal and abnormal cells (cytopathology), and tissues (histopathology) for indicators of disease. It requires knowledge of: • the preparation of cells and tissues for microscopic examination; • microscopy and its applications; • the gross structure and ultrastructure of normal cells and tissues and the structural changes which may occur during disease; • the principles and applications of visualisation and imaging techniques.	• Describe the microscopic appearance of normal and abnormal cells and tissues. • Describe the changes cells and tissues undergo when removed from the body, the principles of fixation, methods for the preparation of cells and tissues (including cytological and frozen material), decalcification and embedding techniques. • Describe the principles and practice of microtomy, and of section mounting. • Describe the principles of simple routine staining procedures and demonstrate practical ability in their application. • Describe the principles and practice of light, fluorescent and electron microscopy and understand their role in the diagnosis of disease.
Clinical Biochemistry is the evaluation of analytes to aid the screening, diagnosis and monitoring of disease. It requires knowledge of: • principles and applications of routine methods used in clinical biochemistry; • the investigation of the function and dysfunction of organs and systems and of the biochemical changes in disease; • the principles of the biochemical investigations used in the diagnosis, treatment and monitoring of disease; • therapeutic drug monitoring and investigation of substance abuse.	• Have a knowledge and understanding of the biochemical responses that may occur in a range diseases states. • Have an appreciation of how biochemical changes associated with disease are assessed in the clinical laboratory and how information about such changes is applied to the diagnosis and monitoring of disease.

Profession Specific Subjects	Candidate will be able to:
Clinical Immunology is the study of immunopathological conditions and abnormal immune function. It requires knowledge of: • the principles of the function and measurement of effectors of the immune response; • the 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.	• Have a knowledge and understanding of the causes and consequences of diseases associated with abnormal immune function, neoplastic diseases of the immune system and transplantation reactions. • Have an appreciation of how diseases associated with abnormal immune function, neoplastic diseases of the immune system and transplantation reactions are diagnosed, treated, and maintained.
Haematology is the study and investigation of the different elements that constitute blood in normal and diseased states. It requires knowledge of: • the structure, function and production of blood cells; • the regulation of normal haemostasis • the nature and diagnosis of anaemias; haemoglobinopathies and thalassaemias; haematological malignancy; and thrombotic diseases.	• Have a knowledge and understanding of diseases of haematopoiesis and haemostasis, and of the anaemias and leukaemias. • Explain the biochemical basis of the human ABO blood group system.
Transfusion science is the identification of blood group antigens and antibodies, which ensures a safe supply of blood and blood components. It requires knowledge of: • the genetics, inheritance, structure and role of red cell antigens; • the preparation, storage and use of blood components; • the selection of appropriate blood components for transfusion and possible adverse effects; • immune mediated destruction of blood cells.	• Appreciate the selection, preparation, storage and safe provision of appropriate blood components. • Be aware of the possible adverse effects associated with the use of blood and blood products. • Have knowledge of the role of histocompatibility antigens in transplantation. • Demonstrate knowledge of some diagnostic options where genetic disease is suspected.
Clinical Genetics is the identification of genetic mutations and polymorphisms and their influence on disease processes. It requires knowledge of: the principles of the methods used to study human chromosomes and DNA • Epigenetics;	• Understand the rationale behind the human genome project. • Explain how mutations in DNA can give rise to the pathological changes seen in some diseases and how these mutations may be inherited.

Profession Specific Subjects	Candidate will be able to:
• the identification of genes for Mendelian diseases; • testing and screening for genetic susceptibility.	
Medical Microbiology is the study and investigation of pathogenic microorganisms. It requires knowledge of: • the pathogenic mechanisms of a range of microorganisms; • the laboratory investigation and the epidemiology of infectious diseases; • food, water and environmental microbiology; • anti-microbial and anti-viral therapy (including drug resistance); • infection control.	• Understand and carry out quantitative and qualitative methods to enumerate, identify and determine antibiotic sensitivity of microorganisms of medical importance. • Describe selected serological and molecular methods used in the diagnosis of infectious diseases.

6. IBMS Registration Equivalence Portfolio Assessment Process

The equivalence route assessment process is based on individual applicants presenting evidence of their academic qualifications, professional experience and training for detailed assessment by Institute trained assessors.

6.1 Following confirmation that the applicant's laboratory has appropriate IBMS laboratory training approval, they will be issued with the IBMS Certificate of Competence by Equivalence (Biomedical Scientist) portfolio and given 12 months to submit their evidence to demonstrate how they meet the HCPC standards of proficiency for biomedical scientists. The portfolio of evidence must include:

- Evidence of academic qualifications content where relevant to the standards of proficiency
- Evidence of experiential learning through laboratory training, current practice and CPD
- Evidence of professional competence (direct observation of practice, case studies or presentations for example)
- Evidence of structured training and competence to the threshold level required for HCPC registration as a biomedical scientist

6.2 Applicants will be required to go through a multi-stage assessment process made up of the following stages:

- Initial application and applicant screening for admittance to the programme
- Candidates compile evidence against the IBMS Registration Equivalence Portfolio

- Assessment of portfolio evidence by a panel comprising of a lay person, academic and professional (biomedical scientist)
- Areas to explore in the final assessment will be selected by the whole review panel. The final assessment of the applicant by *viva voce* (an oral examination) is conducted by the professional reviewer.
- Candidate receives the outcome of the viva

6.3 Assessment of the evidence provided for the IBMS Equivalence Portfolio will be carried out by a review panel comprising of a lay person, academic and professional (biomedical scientist). They will determine whether the evidence provided is equivalent to the standard required for those completing one of the three established HCPC approved routes to registration previously mentioned. A report of the assessment outcomes will be submitted to the IBMS Education Department.

6.4 If the equivalence portfolio assessment is successful, the candidate will be asked to attend a *viva voce* with the professional reviewer to discuss their portfolio evidence and explore aspects of their education and training, plus their understanding of the HCPC standards of proficiency. Each viva assessment will normally last between 30 and 60 minutes and will be the final assessment to confirm the candidate's suitability for the award.

6.5 Assessors can make one of the following summary recommendations:

- **Outcome 1**: Candidate has met all the requirements of the Registration Equivalence Portfolio and should be awarded the Certificate of Competence by Equivalence (Biomedical Scientist).
- **Outcome 2**: Candidate has partially met the requirements of the Registration Equivalence Portfolio and is required to submit further evidence to address specific standards of proficiency.
- **Outcome 3**: Candidate has failed to meet the requirements of the Registration Equivalence Portfolio and will need to resubmit for full assessment following further training and/or compilation of additional evidence.

6.6 Where additional evidence is required, recommendations will be made as to how this can be achieved (additional training in their own laboratory or an IBMS approved laboratory, taught courses, additional CPD etc). A maximum time frame for resubmission will be set, dependant on the nature of the further evidence that is required.

6.7 The report form for the equivalence route viva voce will be ratified by the IBMS Education and Professional Standards Committee.

6.8 Applicants will be notified of the outcome of their portfolio and viva assessments and invited to complete a feedback form on their experience of the equivalence route.

6.9 Applicants will have the opportunity to appeal on procedural matters related to the assessment process. Appeals against the judgement of the assessors or the Education and Professional Standards Committee will not be accepted.

7. Quality Assurance and Enhancement Processes

Responsibility for the quality of programmes provided by the IBMS ultimately lies with the Executive Head of Education and are carefully and regularly monitored, as summarised below:

- The Executive Head of Education, Education Manager and the education team undertake the day-to-day responsibility for programme provision.
- Education and Professional Standards Committee considers the viva voce outcome report from the final assessment for the equivalence route.
- The Executive Head of Education in conjunction with Education and Professional Standards Committee, considers and resolves issues identified that affect the quality of the programme.
- External Examiners' Reports are produced annually on all routes to registration and form an important external measure of the quality of programme provision.
- HCPC Performance Review – this report monitors overall programme performance in each academic session and contains action plans to address any major issues.

7.1 Mechanisms for review and evaluation of learning, teaching, assessment and portfolio contents:

The guidance for IBMS degree accreditations is updated annually and the equivalence route is mapped to the latest QAA Subject Benchmark Statement (updated in 2023) and HCPC standards of proficiency (updated in 2022).

Specific processes related to quality assurance and integration of the service-user in this equivalence route are:

- Applicants are required to produce specified evidence for the Equivalence Portfolio (Biomedical Scientist) (Module 5 Professional Relationships) that requires them to reflect on the contribution of service users to their development.
- The applicant assessment process involves a lay representative in the assessment panel.
- Assessment Panel reports from the equivalence portfolio review and the viva voce assessments.
- Student and mentor feedback reports.
- An External Examiner who is HCPC registered as a Biomedical Scientist who produces an annual report taking into account the above reports and monitoring processes.

7.2 The IBMS Education and Professional Standards Committee has responsibility for monitoring and evaluating quality and standards.

7.3 Processes for gaining candidate feedback on the quality of the teaching and their learning experience:

- Reviewer Panel feedback on the portfolio evidence
- Candidate feedback report

7.4 Professional development opportunities for those involved in various aspects of the programme include:

- Council and Advisory Panel meetings
- University/employer Training the Trainers events
- IBMS training events and the biennial Congress
- CPD activities
- Local presentations
- Registration Equivalence Portfolio assessor training events

8. Support for Applicants and Key Sources of Information

The IBMS is committed to supporting the welfare and wellbeing of candidates (and service users) once they have been admitted to the programme and to ensuring candidates are supported to enable them to raise concerns about themselves, or the safety and wellbeing of service users. This includes support to recognise where there may be risk and ensuring action is taken in response to concerns that have been raised. The following resources are available from the IBMS and may be used in addition to the usual employment policies.

8.1 Provided directly by the IBMS:

- Questions and enquiries can be directed to the IBMS education team (including via designated email address: equivalence@ibms.org)
- IBMS education administrative staff
- IBMS Council (some of whom are members of the Education and Professional Standards Committee)
- A launch event for both applicants and mentors for the equivalence route following the initial screening of applications.

8.2 Further IBMS resources:

- IBMS CPD scheme (IBMS members only)
- Open access to the IBMS website www.ibms.org which includes the following specific programme information as **key sources of information**:
  - Certificate of Competence by Equivalence (Biomedical Scientist) Programme Handbook
  - Certificate of Competence by Equivalence (Biomedical Scientist) Guidance for Candidates
  - Role of the Mentor: Guidance for Candidates and Mentors

8.3 External resources:

- Workplace trainers
- Applicant's mentor

9. Equity, Diversity and Inclusion

The IBMS operates an equality and diversity policy which can be found here: https://www.ibms.org/about/equity-diversity-and-inclusion/

In relation to this programme, the purpose of the policy is to provide equality and fairness for all in our dealings with applicants seeking assessment of their experiential learning. All applicants for the IBMS Certificate of Competence by Equivalence (Biomedical Scientist) will be treated fairly and with respect. All applicants will be assessed against the evidence provided to show that they meet the HCPC standards of proficiency for biomedical scientists.

Applicants will be asked to complete an optional equality and diversity monitoring form which will be separated from the other application documents prior to assessment and review and will be considered as part of the IBMS Equality and Diversity Policy.

10. Complaints Process

The Institute has a process for processing complaints which can be found at the following link https://www.ibms.org/contact-us/customer-service/

Appendix 1. Example Evidence Types

Section and Module	HCPC SoPs	Examples of Evidence
Section 1	**Professional Conduct**	
Module 1: Personal Responsibility and Development	SoPs 1.1, 1.3, 2.1, 2.2, 2.4, 2.8, 2.9, 2.10, 2.12, 4.1, 4.5 and 10.1	A personal statement that describes how you have been supervised, trained and mentored to undertake specified tasks in the laboratory. The statement should include reflection on the types of activities you can undertake autonomously following a period of training, what training was required and how you know that you are working to the required standard. Describe, with reference to legal and professional requirements, how your training laboratory stores and disposes of human samples. This could be a diagram, table or flowchart that includes annotation or description of the legislation and how it is applied in your laboratory. Create a summary document that explains the role of the Health and Care Professions Council and what is required to be a registered biomedical scientist. Provide a record (a written summary or answer some structured questions) of how you effectively demonstrate the behaviours detailed in the IBMS Guide to Good Professional Practice and Code of Conduct. Show how you take responsibility for self-directed learning (e.g. reflective learning sheet, or a summary of your CPD activities). The examples of CPD should include reflection (annotation or comments) on how and why the activity has informed your laboratory practice.

Module 2: Equality, Diversity and Inclusion (EDI)	SoPs 2.3, 2.5, 2.6, 2.11, 5.1, 5.2, 5.3 5.4, 5.5, 5.6, 5.7, 7.4 and 8.8	A description of a situation that happened in your training laboratory and what you learned about equality (or equity), diversity and inclusion from it. A summary of some EDI training you have undertaken to increase your knowledge and understanding, including a reflection on how you then applied what you learned in your practice. A description of the protected characteristics defined in the Equality Act 2010, including an explanation of how you treat all colleagues with dignity and respect, demonstrating your commitment to EDI principles. Produce a personal statement, through discussion with colleagues, t h a t describes how you demonstrate your commitment to EDI and awareness of diversity in your own professional behaviour. With reference to the HCPC Code of Conduct, Performance and Ethics, explain how mutual respect and trust of colleagues in your training laboratory helps you to maintain high standards in your practice. Create a case study to demonstrate how you tackle barriers to inclusion, model positive behaviours and recognise what reasonable adjustments may be appropriate in the workplace. Produce a diagram / flow chart / poster / leaflet for service users and / or carers that describes why it is important to know about protected characteristics and how these are respected during sample analysis.
Module 3: Communication	SoPs 2.7, 7.1, 7.2, 7.3, 7.5, 7.6, 7.7, 7.8 and 7.9	Create a flow chart / table / spider diagram or other image that includes different communication types and a description of who you employ the communication method with. This might include oral communication, written communication, non-verbal communication, the use of IT (emails or sending results) and the telephone. The evidence should include notes / annotation on how and why you choose the communication method, how you know these methods are effective.

		Provide a reflective summary of your interpersonal skills (a short video, vlog, or blog) and how you have adapted these to actively try to remove barriers to communication with different people. Record a workplace discussion (a written summary or create a diagram such as a feedback loop) with your Training Officer or another colleague that demonstrates how you ensure that information is given accurately and is understood by the recipient. Compare and contrast how information is communicated within your training laboratory (ie between scientists) and how and why this is adapted when communicated to service users, carers, and external colleagues. Give an example of how a questionnaire could be used to inform service delivery, including how you would ensure the questionnaire was accessible and correctly interpreted by a variety of service users
Module 4: Patient Records and Data Handling	SoPs 6.1, 6.2, 6.3, 6.4, 6.5, 9.1, 9.2, 9.3 9.4, 9.5, 9.6 and 9.7	Review a specific sample pathway, from receipt to result, explaining the importance of consent and confidentiality. Ask your Training Officer / mentor or a colleague to undertake and record a direct observation of practice (DOP) to review your ability to use a basic laboratory information management system (LIMS) in accordance with standard operating procedures to access and input data. Using an example from specimen reception, demonstrate why minimum patient identification criteria is important and how the protocols used for inadequately or incorrectly labelled samples allow issues to be corrected. Explain record keeping systems in your laboratory, including how these systems ensure continuity, confidentiality and appropriate access to the records, whilst complying with data protection legislation. Produce an infographic that demonstrates how pre-analytical errors (eg insufficient specimen being received, or the sample/specimen has not been received in the correct preservative/fixative/container) impact the validity of the sample analysis and / or result.

Module 5: Professional Relationships	SoPs 4.8, 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.9, 8.10, 8.11, 8.12, 8.13, 10.2, 12.3 and 12.4	**Mandatory Piece of Evidence -** Reflective Statement describing how your engagement with service users and colleagues has positively contributed to your professional development. Explain how you have expanded your knowledge and understanding of the tests carried out by other departments and how your treatment of a sample might impact later analysis by other colleagues (eg vacutainer order of draw for blood). Describe how your interactions with clinical colleagues has informed your own practice and reflect on the importance of multi-disciplinary teams in the patient care pathway. List the areas of the laboratory where you have worked, giving a brief description of the different professional relationships you have formed, including the role(s) these staff (other than biomedical scientists) have in service delivery. Identify a specific leadership role in your laboratory and explain what skills are needed to be effective in that role. Reflect on how you already demonstrate some of these leadership skills and how you will learn from others to develop them further.
Section 2	**Professional Practice**	
Module 1: Professional Knowledge	SoPs 12.1, 12.6, 12.7 and 13.27	***Please note:*** *if you have not completed an IBMS accredited BSc programme, you will need to demonstrate relevant theoretical knowledge and understanding you developed through your degree (and any supplementary education you have completed in the clinical specialisms). You can use the IBMS approved "Fundamentals in…" series of textbooks to supplement your knowledge.* 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.

		Review the laboratory investigations in which you have been trained, explaining the scientific principles by which they work and give an overview of their validation and diagnostic purpose in your clinical laboratory. Evaluate the diagnosis, prognosis and management of a specific disease and how you directly link your theoretical knowledge to practice. Discuss the aetiology of a specific condition, including detailed scientific knowledge of the tissue, cellular or molecular changes that take place as the disease progresses.
Module 2: Health and Safety and Wellbeing	SoPs 3.1, 3.2, 3.3, 3.4, 12.10, 14.1, 14.2, 14.3, 14.4, 14.5, 14.6, 15.1, 15.2, 15.3 and 15.4	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. Create a poster showing the common health and safety risks in your training laboratory and how these risks can be minimised. Compare and contrast the biological hazards and / or containment levels of different clinical laboratory specialisms and why these are required to manage risk, protect the safety of colleagues and maintain good laboratory practice. Review how you monitor your own mental and physical health, describing the strategies you adopt for physical and mental self-care to ensure you can practise safely and effectively. Write a self-reflection on how you maintain a high standard of professional effectiveness and a safe working environment, including how you would seek help and support when necessary.
Module 3: Quality	SoPs 11.1, 11.2, 11.3, 11.4, 11.5, 11.6, 11.7, 11.8, 13.19, 13.20 and 13.24	Participate in a scheduled quality audit in your laboratory and review the audit outcomes to identify any impact on service and potential improvements. List the external quality assurance accreditations that your training laboratory holds and explain why this external recognition is important for establishing and maintaining laboratory quality and competence.

		Summarise the quality control/quality assessment procedures you use in your practice, including the concepts of accuracy and precision, that inform the actions that you take to correct abnormal IQC data. Evaluate your ability to calibrate equipment and record relevant quality indicators in accordance with standard laboratory procedures by reflecting on a direct observation of practice (DOP) conducted by your Training Officer / mentor. Using a questionnaire that you have created, collect data to establish the quality of practice in your training laboratory and evaluate how these data will maintain and improve quality assurance processes
Module 4: Performing Standard Investigations	SoPs 1.2, 4.2, 4.3, 4.4, 12.5, 12.8, 12.9, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7, 13.12, 13.13, 13.14, 13.15, 13.16, 13.17, 13.18,13.21, 13.22, 13.23, 13.25, 13.26, 13.28 and 13.31	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. Using your competency training record (with annotation / explanation) demonstrate your proficiency in using a variety of equipment and your ability to follow standard operating procedures. Explain how automation is used in your laboratory to manage workload and resources safely and effectively. Outline the different roles and responsibilities of the laboratory to authorise results in primary care and community-based laboratory services or point of care tests. Using annotated images or photographs, demonstrate your proficiency to carry out a standard investigation in your laboratory, including the equipment used, methodologies, reagent preparation, prioritisation, quality control, result interpretation and validation. Reflect on a specific experience during your laboratory training where you have encountered problems with an intended analytical method, describing how you assessed, evaluated and resolved them.

Module 5: Research and Development	SoPs 4.6, 4.7, 12.2, 13.1, 13.8, 13.9, 13.10, 13.11 13.29 and 13.30	Write a 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. Demonstrate your logical and systematic approach to reasoning and problem solving by reviewing a series of experiments completed in your workplace to determine appropriate actions. Produce a scientific review (1500-2000 words) based on several relevant journal articles that demonstrates your awareness of the principles and applications of scientific enquiry, your evaluation of treatment efficacy and understanding of the research process. Create an infographic of new developments, novel technologies and changing contexts that inform evidence-based practice in the discipline(s) in which you have been trained. Evaluate a few different research methodologies relevant to your training laboratory and explain how and why service users should be involved.

About this document

Title:	Programme Specification for the Certificate of Competence by Equivalence (Biomedical Scientist)
Produced by:	Education Department
Version:	Version 5
Active date:	November 2023
Review date:	September 2024
Contact:	Education Department T: +44 (0)20 7713 0214 E: registration@ibms.org

About IBMS Publications

The Institute publishes a wide range of professional and scientific publications and guidance.

Further information and downloadable publications: www.ibms.org/publications