



IBMS CLINICAL SCIENTIST CERTIFICATE OF ATTAINMENT (EXPERIENTIAL ROUTE)

EXPERIENTIAL PORTFOLIO

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1. Introduction to the of IBMS Clinical Scientist Certificate of Attainment (Experiential Route)

1.1 The Institute of Biomedical Science (the Institute) has based the IBMS Clinical Scientist Certificate of Attainment Experiential Portfolio on the revised standards of proficiency for clinical scientists that the HCPC published in December 2014.

1.2 Due to the overlapping nature of some standards of proficiency individual standards have been grouped into modules that relate to areas of practice under two sectional heading: Professional Conduct; Professional Skills and Standards.

1.3 Professional Conduct

This is core to the principles of fitness to practise and is defined by standards that relate to professional roles and conduct. The relevant modules grouped under Professional Conduct are:

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

1.4 Professional Skills and Standards

This is core to the principle of applicants being able to show they have the skills required to practise as clinical scientist.

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

1.5 Learning outcomes have been identified for each module and are mapped to the HCPC standards of proficiency within the module. It is through these learning outcomes that applicants will be expected to demonstrate, through their portfolio of evidence, how they have met the clinical scientist standards of proficiency.

1.6 The subject specific Curriculum Handbooks for each specialty reflect the philosophy, core values, skills and knowledge base applicable to the learning outcomes and evidence must exhibit the breadth and depth of professional practice relevant to the curriculum.

2. Completion of IBMS Clinical Scientist Certificate of Attainment (Experiential Route) Mapping Document and Portfolio of Evidence

- 2.1 All submissions of evidence that the HCPC standards of proficiency for clinical scientists have been met by prior experiential learning are assessed against the IBMS Clinical Scientist Certificate of Attainment Experiential Portfolio regardless of the specialism. Applicants will be issued with the IBMS Clinical Scientist Certificate of Attainment Experiential Portfolio of Evidence Mapping Document once they have been successfully assessed against the admittance criteria. This portfolio is the framework against which their qualifications, professional training, experience and competence are mapped.
- 2.2 Applicants must present their evidence against the sections of the portfolio in the order in which the portfolio is constructed. The content and level of the curriculum detailed in the Programme Handbook and Curriculum Handbook for the relevant specialty should be used to guide the choice of evidence which must demonstrate the level of academic attainment and competence for each standard has been met.
- 2.3 Using the mapping document provided the applicant must demonstrate how the evidence they have submitted in their portfolio of evidence demonstrates each standard of proficiency has been achieved. There must be no gaps or blank areas. One piece of evidence can be used in support of more than one standard. All evidence must be dated and signed by the candidate.
- 2.4 The Portfolio of Evidence should contain: a contents list; a covering statement of no more than 2000 words that summarises the professional training and development already undertaken by the applicant (including relevant periods of secondment), their current role and how this comes together to demonstrate how the standards of proficiency are met (i.e. a summary of the primary sources of evidence); and the supporting evidence of skills applied in practice.
- 2.5 The supporting evidence must be clearly indexed and cross referenced to the mapping template. The Portfolio of Evidence may contain a number of differing types of evidence from periods of relevant education and training or employment/experience. Applicants are strongly advised to study the curriculum and learning outcomes carefully, and ensure that their training and experience covers the range of standards of proficiency contained therein.

- 2.6 The Portfolio of Evidence to which the HCPC standards are mapped is the applicant's opportunity to demonstrate experience gained and competency achieved. The layout of portfolio should be clear and the content should be well chosen, explicit, concise and readable. Statements of attendance or participation in meetings or training are on their own insufficient. They must be supported by personal reflection and a concise description on how the experience helped in achieving a particular competence. Evidence of 'hands-on' experience is important and should be supported by witness testimonies from qualified and where appropriate, professionally registered, individuals.
- 2.7 Candidates should note that the assessment of this evidence must take in to account the requirement for the involvement of a registered clinical scientist or medical practitioner.
- 2.8 The Portfolio of Evidence must demonstrate a thorough understanding of the subject matter. Evidence should be carefully selected – a few well-chosen examples will be more valuable than a mass of poorly organized material.
- 2.9 The Portfolio of Evidence should NOT include a detailed day to day diary or logbook, the full text of any case studies, theses, research projects or essays – summaries or research extracts (of published papers by the candidate) should be provided. The portfolio should NOT contain any original reference material, standard operating procedures, or other published documents.
- 2.10 Evidence must respect the requirements of data protection and confidentiality.
- 2.11 Further guidance is available in *Certificate of Attainment Experiential Portfolio Guidance to Candidates*

Section 1: Professional Conduct

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

Section 1: Professional Conduct

Module 1: Personal Responsibility and Development

You are required to demonstrate an understanding of contractual responsibilities and expected behaviour of a clinical scientist. The HCPC standards of conduct, performance and ethics and the Institute of Biomedical Science Code of Conduct and Guide to Good Professional Practice are reference points, together with other organisational and national/international standards. As a registered clinical scientist you must be able to recognise the responsibilities you have for your own professional behaviour and its impact on others, the level of accountability that comes with your responsibility for completing tasks and procedures, for using judgment within broad parameters and being able to reflect on this and other learning opportunities to inform self-development. Central to this is the contribution of healthcare science to patient care, patient safety, service delivery, research and innovation, often at the cutting edge of science. All clinical scientists must understand the impact of their work on patients and patient care and remember that their work has a direct or indirect impact on patient care.

In the context of service users there are three areas of practice that are considered appropriate when interpreting the standards of proficiency:

- i) Patients or carers in clinics and/or wards where there is direct contact with biomedical and clinical scientists;
- ii) Professional groups that have direct patient healthcare role which relies on pathology services including clinical laboratory investigation, advice, treatment evaluation and research;
- iii) Service providers that employ biomedical and/or clinical scientists for services that contribute to the patient healthcare pathway.

Knowledge Registered clinical scientists must:
1. Know the limits of their practice and when to seek advice or refer to another professional (HCPC SoP 1.1)
2. Recognise the need to manage their own workload and resources effectively and be able to practise accordingly (HCPC SoP 1.2)
3. Understand the need to act in the best interests of service users at all times (HCPC SoP 2.1)
4. Understand what is required of them by the Health and Care Professions Council (HCPC SoP 2.2)
5. Understand the need to respect and uphold the rights, dignity, values and autonomy of service users including their role in the diagnostic and therapeutic

process and in maintaining health and wellbeing (HCPC SoP 2.3)
6. Recognise that relationships with service users should be based on mutual respect and trust (HCPC SoP 2.4 – joint with ‘c’ below)
7. Know about the current legislation applicable to the work of their profession (HCPC SoP 2.5)
8. Understand the importance of obtaining informed consent (HCPC SoP 2.6 – joint with ‘d’ below)
9. Understand the need to maintain high standards of personal and professional conduct (HCPC SoP 3.1)
10. Understand the importance of maintaining their own health (HCPC SoP 3.2)
11. Understand both the need to keep skills and knowledge up to date and the importance of career-long learning (HCPC SoP 3.3)
12. Recognise that they are personally responsible (HCPC SoP 4.5 – joint with ‘l’ below)
13. Understand the importance of participation in training, supervision and mentoring (HCPC SoP 4.7)
14. Understand the value of reflection on practice and the need to record the outcome of such reflection (HCPC SoP 11.1)

Competence Registered clinical scientists must be able to:
a) Practice safely and effectively within their scope of practice (HCPC SoP 1)
b) Practice within the legal and ethical boundaries of their profession (HCPC SoP 2)
c) Maintain high standards of care even in situations of personal incompatibility (HCPC SOP 2.4 – joint with ‘6’ above)
d) Obtain informed consent (HCPC SoP 2.6 – joint with ‘9’ above)
e) Exercise a professional duty of care (HCPC SoP 2.7)
f) Maintain fitness to practise (HCPC SoP 3)

g) Practice as an autonomous professional, exercising their own professional judgement (HCPC SoP 4)
h) Assess a professional situation, determine the nature and severity of the problem and call upon the required knowledge and experience to deal with the problem (HCPC SoP 4.1)
i) Make reasoned decisions to initiate, continue, modify or cease treatment or the use of techniques or procedures, and record the decisions and reasons appropriately (HCPC SoP 4.2)
j) Make judgements on the effectiveness of procedures (HCPC SoP 4.3)
k) Initiate resolution of problems and be able to exercise personal initiative (HCPC SoP 4.4)
l) Justify their decisions (HCPC SoP 4.5 – joint with ‘12’ above)
m) Make and receive appropriate referrals (HCPC SoP 4.6)
n) Reflect on and review practice (HCPC SoP 11)
o) Change their practice as needed to take account of new developments or changing contexts (HCPC SoP 14.1)

The candidate is required to provide evidence to show how they meet the HCPC standards of proficiency for this module. The basis for producing this evidence is that the candidate is able to:

- i) Describe the appropriate action and referral mechanisms available when personal limit of practice has been reached. (HCPC SoP 1, 1.1, 2, 4.5, 4.6)*
- ii) Show an understanding of the importance of financial accountability, budgetary control and resource management. (HCPC SoP 1.2)*
- iii) Demonstrate a detailed knowledge of all aspects of the department’s operations, of their inter-relationships and of the pre-, intra- and post-analytical factors that affect quality and service delivery and how it fits into the local clinical setting and the relationship of the service to the interests and needs of different service users. (HCPC SoP 2.1- 2.5)*
- iv) Explain and critically evaluate the structures, processes and methodologies that underpin the quality of the service provided by their employer and quality improvement initiatives to promote high-quality patient care and enhance patient safety, and discuss the quality mechanisms relevant to your division/specialism. (HCPC SoP 2.1- 2.5, 4.6)*
- v) Show an understanding of the way the specialty is structured and practiced in other locations within the UK. (HCPC SoP 2.1-2.5)*

- vi) *Demonstrate the competence, and therefore the potential, to provide leadership and support for staff continuity in the different aspects or areas of departmental activity, e.g. scientific, technical, research and development; quality assurance, audit, accreditation; reporting, clinical liaison; health and safety, staff training; IT, budget and management (management principles and tools used in the services and factors that influence access to and use of services available). (HCPC SoP 4, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 14.1)*
- vii) *Demonstrate the ability to conduct duties and responsibilities in accordance with local, professional and regulatory policies and practice to ensure there is a high standard of care and trust with service users even in circumstances of personal incompatibility (HCPC SoP 2.4, 2.6, 2.7, 3.1)*
- viii) *Describe how principles of self-management and time keeping are applied in relation to service delivery and prioritising the workload. (HCPC SoP 1.2)*
- ix) *Demonstrate an understanding of the role of the Health and Care Professions Council (HCPC) by describing its role and requirements for statutory regulation with specific reference to:*
 - *How HCPC standards of proficiency apply to professional practice.*
 - *How the HCPC standards of conduct, performance and ethics (2016) apply to professional practice.*
 - *Professional Indemnity Insurance and the relevance of this to their scope of practice*. (HCPC 2.2, 3)*

**To note: you must make sure that the professional indemnity arrangement you have in place provides appropriate cover, i.e. appropriate to your practice, taking into account the nature and extent of its risks. If you are a member of the IBMS your professional indemnity insurance covers you for your role whether you are a biomedical scientist or clinical scientist. If not a member you should check with your employer with respect to your employment role, i.e. as either a biomedical scientist or clinical scientist.*

- x) *Demonstrate an understanding of the need to respect and uphold the rights, dignity, values, and autonomy of service users, including their role in the diagnostic and therapeutic process and in maintaining health and wellbeing. (HCPC SoP 2.3)*
- xi) *Demonstrate how the principles of patient confidentiality are upheld by working in accordance with policies that protect the dignity, privacy and confidentiality of service users. (HCPC SoP 2.3, 2.4)*
- xii) *Demonstrate an understanding of the importance of maintaining physical and mental well-being and how to take appropriate action in response to one's own health issues. (HCPC SoP 3.2)*

- xiii) *Demonstrate an understanding of the implications of the European Community (EC) Working Time Directive (1996) and its principles. Demonstrate how you comply with departmental time-keeping policy. (HCPC SoP 3.2)*
- xiv) *Demonstrate an understanding of the principles of continuing professional development (CPD) in relation to responsibility for maintaining personal competence and that staff that being supervised. (HCPC SoP 3.3, 11,11.1)*
- xv) *Discuss and appraise the ethical foundations of professionalism, including critical reflection, and how these relate to the clinical scientist, the patient, the practice of healthcare science and the wider healthcare environment. (HCPC SoP 3.3, 11,11.1)*
- xvi) *Demonstrate that active participation in the training and professional development of staff and work towards targets for personal, academic, professional and career development. (HCPC SoP 4.5, 4.7)*

Evidence for this module is expected to come from the following sources:

A personal statement that summaries employment history and how specialty specific competences have been developed at postgraduate level. This should be supported by copies of certificates of relevant postgraduate qualifications, competence assessment reports, reports on placements or secondments.

Involvement in management, supervision and/or training of staff within the laboratory.

Expert briefing/individual tutoring sessions.

Self-directed learning activities, personal critical reflection, personal development plan, CPD activities.

Evidence based (e.g. reflective statements) participation in local seminars and meetings, attendance at clinical audit meetings and clinical governance committees.

Personal involvement in recognition and solution of problems with laboratory or clinical scenarios that demonstrate the opportunity for experience-based learning and enhancement of self-development.

Section 1: Professional Conduct

Module 2: Equality and Diversity

You must be able to recognise and respect the equality culture and diversity of people and their rights and responsibilities. You are expected to be proactive against discrimination and act as a role model. You must be able to handle a number of competing tensions with an individual themselves or between a group of individuals.

Knowledge

Registered clinical scientists must:

1. Be aware of the impact of culture, equality and diversity on practice (HCPC SoP 5)
2. Understand the requirements to adapt practice to meet the needs of different groups and individuals (HCPC SoP 5.1)

Competence

Registered clinical scientists must be able to:

- a) Practice in a non-discriminatory manner (HCPC SoP 6)

The candidate is required to provide evidence to show how they meet the HCPC standards of proficiency for this module. The basis for producing this evidence is that the candidate is able to:

- i) *Demonstrate an understanding of HCPC standards of conduct, performance and ethics (2016) by describing how it applies to equality and diversity. (HCPC SoP 5, 6)*
- ii) *Demonstrate they understand how local policies and national legislation on diversity and equal opportunities apply to your professional practice. (HCPC SoP 5.1)*
- iii) *Demonstrate they apply the principles of equality and diversity in their own practice and to those you supervise. (HCPC SoP 6)*

Evidence for this module is expected to come from the following sources:

Local training and development courses.

Personal statement to demonstrate understanding and application in practice.

Witness statements.

Section 1: Professional Conduct

Module 3: Communication

You will be expected to apply a variety of communication methods and approaches, appropriate to others and the situation, in order to facilitate and promote constructive outcomes. You will be expected to be able to communicate effectively on difficult, complex and sensitive issues and demonstrate the ability to overcome barriers to communication. This must take into account factors such as age, capacity, learning ability and physical ability, characteristics and consequences of verbal and non-verbal communication and how this could be affected by factors such as age, culture, ethnicity, gender, socio-economic status and spiritual or religious beliefs, assisted communication (use of interpreter).

Applicants who do not have English as their first language and do not have a UK degree are required to provide evidence of English language skills with a minimum International Language Testing System (IELTS) score of 7.0 with no element less than 6.5, or a Test of English as a Foreign Language (TTOEFL) Internet Based Test with a minimum score of 100/120. (HCPC SoP 8.2)

Knowledge	
Registered clinical scientists must:	
1)	Understand how communication skills affect assessment of, and engagement with, service users and how the means of communication should be modified to address and take account of factors such as age, capacity, learning ability and physical ability (HCPC SoP 8.3)
2)	Be aware of the characteristics and consequences of verbal and non-verbal communication and how this can be affected by factors such as age, culture, ethnicity, gender, socio-economic status and spiritual or religious beliefs (HCPC SoP 8.5)
3)	Understand the need to provide service users or people acting on their behalf with the information necessary to enable them to make informed decisions (HCPC SoP 8.6)
4)	Understand the need to assist the communication needs of the service users such as through the use of an appropriate interpreter, whenever possible (HCPC SoP 8.7)
5)	Recognise the need to use interpersonal skills to encourage the active participation of service users (HCPC SoP 8.8)

Competence Registered clinical scientists must be able to:
a) Communicate effectively (HCPC SoP 8)
b) Demonstrate effective and appropriate verbal and non-verbal skills in communicating information, advice, instruction and professional opinion to service users, colleagues and others (HCPC SoP 8.1)
c) Communicate in English to the standard equivalent to level 7 of the International English Language Testing System, with no element below 6.5 (HCPC SoP 8.2)
d) Select, move between and use appropriate forms of verbal and non-verbal communication with service users and others (HCPC SoP 8.4)
e) Communicate the outcome of problem solving and research and developmental activities (HCPC SoP 8.9)
f) Summarise and present complex scientific ideas in an appropriate form (HCPC SoP 8.10)

The candidate is required to provide evidence to show how they meet the HCPC standards of proficiency for this module. The basis for producing this evidence is that the candidate is able to:

- i) *Demonstrate the ability to communicate clearly and with confidence to clinical and other professional colleagues both within and outside the profession of the specialism. (HCPC SoP 8, 8.1, 8.2, 8.3, 8.5). This includes the following:*
 - how communication should be modified to address and take account of factors such as age, capacity, learning ability and physical ability;
 - how communication can be affected by factors such as age, culture, ethnicity, gender, socio-economic status and spiritual or religious beliefs;
 - how communication needs of the service users can be assisted (e.g. through the use of an interpreter).
- ii) *Demonstrate the ability to appropriately summarise and present complex scientific ideas and information in order to educate and train others both within and outside the profession for the specialism. (HCPC SoP 8.10)*
- iii) *Demonstrate the use of correct clinical and medical language and terminology pertinent to the specialism. (HCPC 8.6)*
- iv) *Demonstrate the ability to communicate with patients, carers and relatives, the public and other healthcare professionals as appropriate. (HCPC 8.4, 8.7, 8.8)*

- v) *Demonstrate the ability to receive and respond to a variety of sources of information and be able to solve problems by a variety of methods, including the use of appropriate software. (HCPC SoP 8.1)*
- vi) *Clearly convey information or results to the appropriate level of detail, demonstrate an understanding that different communication methods may be required to facilitate effective feedback and participation of others. (HCPC 8.9)*
- vii) *Explain the principles of effective written and verbal communication and feedback, considering the needs and dignity of patients, the public, health professionals and scientists. (HCPC SoP 8.4, 8.10)*

Evidence for this module is expected to come from the following sources:

Presentations at scientific meetings, oral and written communications within and outside the department, through seminars, case presentations, posters, peer-reviewed publications in the specialty.

Representative appointments, e.g. committee membership, advisory panel, specialist interest groups.

Section 1: Professional Conduct

Module 4: Patient Records and Data Handling

You must be able to demonstrate the knowledge and skills needed to follow correct procedures for recording, sharing, storing and accessing information in the laboratory with respect to your role as a clinical scientist.

Knowledge Registered clinical scientists must:
1) Understand the importance of maintaining confidentiality (HCPC SoP 7 – joint with ‘a’ below)
2) Be aware of the limits of the concept of confidentiality (HCPC SoP 7.1)
3) Understand the principles of information governance and be aware of the safe and effective use of health and social care information (HCPC SoP 7.2)
4) Recognise the need to manage records and all other information in accordance with applicable legislation, protocols and guidelines (HCPC SoP 10.2)

Competence Registered clinical scientists must be able to:
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a) Maintain confidentiality (HCPC SoP 7 – joint with ‘1’ above)
b) Recognise and respond appropriately to situations where it is necessary to share information to safeguard service users or the wider public (HCPC SoP 7.3)
c) Maintain records appropriately (HCPC SoP 10)
d) Keep accurate, comprehensive and comprehensible records in accordance with applicable legislation, protocols and guidelines (HCPC SoP 10.1)

The candidate is required to provide evidence to show how they meet the HCPC standards of proficiency for this module. The basis for producing this evidence is that the candidate is able to:

- i) Demonstrate an understanding of the data protection policies by describing the extent to which the Data Protection Act 1998, and other legislation and professional guidance covers patients, research and laboratory records. (HCPC SoP 7, 7.1, 7.3, 10.1, 10.2)*
- ii) Apply knowledge of data security and apply due diligence to password strength, email attachments, downloading file, backup storage etc. (HCPC SoP 10.1, 10.2)*
- iii) Demonstrate ability to maintain accurate, clear laboratory records in accordance with legislation requirements and local procedures for handling and recording clinical and other types of information. (HCPC SoP 10, 10.1)*
- iv) Demonstrate ability to educate and train others in the purpose of accurate, clear laboratory records, and the need to follow standard operating procedures for handling and recording clinical and other types of information. (HCPC SoP 7.2, 10)*
- v) Demonstrate an understanding of all aspects of information technology pertinent to service provision and a competence to use it for effective practice in the specialism. (HCPC SoP 7.2, 10)*

Evidence for this module is expected to come from the following sources:

Personal statement to demonstrate understanding and use of IT pertinent to service provision and support of effective practice to the level required in the specialism.

Training certificates.

Witness statements.

Section 1: Professional Conduct

Module 5: Professional Relationships

You must demonstrate that you can sustain a consistent approach to work relationships in the context of the role of a clinical scientist in order to achieve the best results for service users. This is achieved by recognising and valuing the contributions of other team members and demonstrating the ability to work effectively with others and develop productive working relationships. This includes the building and sustaining professional relationships as an independent practitioner.

In the context of service users there are three areas of practice that are considered appropriate when interpreting the standards of proficiency:

- i) Patients or carers in clinics and/or wards where there is direct contact with biomedical and clinical scientists;
- ii) Professional groups that have direct patient healthcare role which relies on pathology services including clinical laboratory investigation, advice, treatment evaluation and research;
- iii) Service providers that employ biomedical and/or clinical scientists for services that contribute to the patient healthcare pathway.

Knowledge Registered clinical scientists must:
1. Understand the need to build and sustain professional relationships as both an independent practitioner and collaboratively as a team member (HCPC SoP 9.2)
2. Understand the need to engage service users and carers in planning and evaluating diagnostics, treatments and interventions to meet their needs and goals (HCPC SoP 9.3)
3. Recognise the role of other professions in health and social care (HCPC SoP 13.3)
4. Understand the structure and function of health and social care services in the UK (HCPC SoP 13.4)
Competence Registered clinical scientists must be able to:
a) Work appropriately with others (HCPC SoP 9)
b) Work, where appropriate, in partnership with service users, other professionals, support staff and others (HCPC SoP 9.1)

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| c) Contribute effectively to work undertaken as part of a multi-disciplinary team (HCPC SoP 9.4) |
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The candidate is required to provide evidence to show how they meet the HCPC standards of proficiency for this module. The basis for producing this evidence is that the candidate is able to:

i) *Demonstrate how the role of a clinical scientist impacts on other professional groups in the provision of patient focussed healthcare. (HCPC SoP 9, 9.1, 9.2, 9.3, 13.3, 13.4). These may include:*

a) groups that have professional interactions with patients and carers relying on the output of pathology services and including:

Other pathology disciplines

Accident and Emergency

Intensive Care Unit

Theatres

Wards (including specialist units)

Outpatient clinics

Mortuary

General practitioners

Health education

Occupational health/ Social Care services

Public health/Epidemiology

b) patients in clinics and wards (e.g. POCT, phlebotomy) where there is direct contact;

c) employers who interact with professional groups to which pathology services are provided and who therefore rely on the knowledge and skills of registrants for service delivery and improvement.

ii) *Demonstrate an understanding of how the role of a clinical scientist relates to their personal scope of practice and the relationship to other professionals, and the ability as an independent practitioner to build and sustain professional relationships in order to contribute effectively as part of a multi-disciplinary team. (HCPC 9.2, 9.4)*

iii) *Demonstrate an understanding and application of the principles of team working with respect to leadership, individual contributions and differing opinions in the laboratory team. (HCPC SoP 9.2)*

IMPORTANT: Please note evidence must include a reflective report demonstrating an understanding of the importance of the experience gained by interaction with service users and carers, and the contribution this makes to professional development, for example in planning and evaluating diagnostics, treatments and interventions.

Evidence for this module is expected to come from the following sources:

Job description.

Self-statement (with examples) on how contributions to multi-disciplinary team meetings have been effective.

Evidence based examples of responsibility taken for supervision, team leadership.

Representative appointments, e.g. committee membership, advisory panel, specialist interest groups and evidence of professional contribution.

Section 2: Professional Practice

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

Section 2: Professional Practice

Module 1: Application of Professional Knowledge

This is the basis for statutory regulation as a clinical scientist and you must be able to demonstrate a strong knowledge base appropriate to specialty and to the investigations, application of skills, therapeutic intervention strategies and to development and evaluation of new and current methods.

Knowledge

Registered clinical scientists must:

1. Understand the key concepts of the knowledge base relevant to their profession (HCPC SoP 13)
2. Understand the structure and function of the human body, together with knowledge of health, disease, disorder and dysfunction relevant to their profession (HCPC SoP 13.1)
3. Be aware of the principles and application of scientific enquiry, including the evaluation of treatment efficacy and research process (HCPC SoP 13.2)
4. Recognise the need to be aware of emerging technologies and new developments (HCPC SoP 12.10)

5. Understand the concept of leadership and its application to practise (HCPC SoP 13.5)
6. Understand the theoretical basis of, and the variety of approaches to, assessment and intervention (HCPC SoP 13.6)
7. Understand the wider clinical situation relevant to the service users presenting the specialty (HCPC SoP 13.8)
8. Understand the clinical applications of the specialty and the consequences of decisions made upon actions and advice (HCPC SoP 13.9)

Competence Registered clinical scientists must be able to:
a) Draw upon appropriate knowledge and skills to inform practice (HCPC SoP 14)
b) Change their practice as needed to take account of new developments or changing contexts (HCPC SoP 14.1)
c) Formulate specific and appropriate management plans including the setting of timescales (HCPC SoP 14.8)
d) Develop an investigation strategy which takes account of all the relevant clinical and other information available (HCPC SoP 14.9)
e) Gather appropriate information (HCPC SoP 14.10)
f) Identify the clinical decision which the test or intervention will inform (HCPC SoP 14.11)
g) Select and use appropriate assessment techniques (HCPC SoP 14.12)
h) Undertake and record a thorough, sensitive and detailed assessment, using appropriate techniques and equipment (HCPC SoP 14.13)
i) Use research, reasoning and problem solving skills to determine appropriate actions (HCPC SoP 14.17)
j) Interpret data and provide diagnostic and therapeutic opinions, including any further action which the individual directly responsible for the care of the patient or service user should take (HCPC SoP 14.22)

The candidate is required to provide evidence to show how they meet the HCPC standards of proficiency for this module. The basis for producing this evidence is that the candidate is able to:

- i) Explain fundamental principles for an understanding of the pathogenesis, clinical features and classification of the major categories of disorders investigated relevant to their specialism. (HCPC SoP 13, 13.1, 14)*

- ii) *Demonstrate accountability for individual leadership and team responsibilities for specific work of the laboratory service related to the specialty. (HCPC SoP 13.5)*
- iii) *Discuss, compare and contrast a range of leadership models, including those that underpin current NHS Leadership and Competency Frameworks, and identify and critically evaluate how your personal values, principles and assumptions affect your personal leadership style. (HCPC SoP 13.5).*
- iv) *Describe and evaluate the basic principles and structures underpinning history taking, clinical examination and clinical decision making and show the application of this in the context of their role in their specialty through the integration of specialty parameters with other diagnostic parameters in the overall clinical assessment of the patient. (HCPC SoP 14, 14.8, 14.9, 14.13)*
- *History taking, clinical examination should cover:*
 - *Importance of patient-centred care, treating patients with respect, honesty and compassion, maintaining patient dignity and confidentiality and putting the patient first.*
 - *Duty of candour and the importance of this in healthcare.*
 - *Informed consent.*
 - *Principles, guidance and law with respect to informed consent.*
 - *Introduction to the patient, including role of the clinical scientist.*
 - *Explanation to the patient.*
 - *Structured models for presenting a patient history.*
 - *Process of patient-centred interviewing and the features of a good consultation with respect to: initiating the session, gathering information, building the relationship, explaining and planning, closing the session*
 - *Link between the patient history and examination and development of clinical investigation and management plans*
 - *Shared clinical decision making*
 - *How information from a history and examination is used to develop clinical management plans*
- v) *Demonstrate an experience-based understanding of all aspects of the diagnostic process and the wider clinical situation relevant to the service user including:*
- *comprising history-taking;*
 - *clinical examination;*
 - *formulation of differential diagnosis;*
 - *the role of pathology and other clinical service investigations;*
- and the consequent integration of knowledge relevant to the clinical situation of individual patients, including how practice may change to take account of new developments or changing contexts such as the effect of drugs or treatments. (HCPC SoP 13.2, 13.6, 13.8, 13.9, 14, 14.1, 14.8, 14.10, 14.12, 14.17, 14.22)*

vi) *Recognise the need to be aware of emerging technologies and new developments in order to demonstrate the application of evidence-based investigation and clinical management of the patient. (HCPC SoP 12.10)*

vii) *Demonstrate the application of evidence-based professional knowledge to interpret data in order to provide diagnostic and therapeutic opinions, including any further action which the individual directly responsible for the care of the patient or service user should take. (HCPC SoP 12.10, 14.9, 14.17, 14.22)*

viii) *Demonstrate an experience based understanding of the clinical relevance of the results of specialty specific investigations for the patient, and where appropriate, family members, and the ability identify the clinical decision which the test/intervention will inform. (HCPC SoP 14.11)*

Evidence for this module is expected to come from the following sources:

Employer reference

Evidence of training

Job description

Case studies

Research

Reporting of laboratory investigations, clinical interpretation/advice

Examples of clinical leadership.

Participation in scientific meetings.

Notes from clinical liaison meetings.

Attendance at ward rounds, clinical audit and governance meetings.

Clinical report authorisation.

Witness testimonies.

Section 2: Professional Practice

Module 2: Health and Safety

You must demonstrate your responsibility to ensure yourself and others work in accordance with national legislation and organisational policy for health and safety, and your contribution to the evaluation and improvement of procedures.

Knowledge
Registered clinical scientists must:
1. Understand the need to establish and maintain a safe practice environment (HCPC SoP 15)
2. Understand the need to maintain the safety of both service users and those involved in their care (HCPC SoP 15.1)
3. Be aware of applicable health and safety legislation, and any relevant safety policies and procedures in force at the workplace, such as incident reporting (HCPC SoP 15.2 – see also ‘a’ below)
4. Understand sources of hazard in the workplace, including specimens, raw materials, clinical and special waste and equipment (HCPC SoP 15.6)
5. Be aware of immunisation requirements and the role of occupational health (HCPC SoP 15.7)
6. Know the correct principles and applications of disinfectants, methods for sterilisation and decontamination, and for dealing with waste and spillages correctly (HCPC SoP 15.8)

Competence
Registered clinical scientists must be able to:
a) Act in accordance with applicable health and safety legislation, and any relevant safety policies and procedures in force at the workplace, such as incident reporting (HCPC SoP 15.2 – see also ‘3’ above)
b) Work safely, including being able to select appropriate hazard control and risk management, reduction or elimination techniques in a safe manner and in accordance with health and safety legislation (HCPC SoP 15.3)
c) Select appropriate protective equipment and use it correctly (HCPC SoP 15.4)
d) Establish safe environments for practice, which minimise risks to service users, those treating them and others, including the use of hazard control and particularly infection control (HCPC SoP 15.5)

The candidate is required to provide evidence to show how they meet the HCPC standards of proficiency for this module. The basis for producing this evidence is that the candidate is able to:

- i) Demonstrate an understanding of how the laboratory health and safety policies, controlling legislation and appropriate procedures of risk assessment (e.g. RIDDOR, clinical governance) for the specialty. (HCPC SoP 15, 15.2, 15.3)*
- ii) Demonstrate an understanding of the potential hazards associated with the handling of tissue and other biological products in the specialty. (HCPC SoP 15, 15.2, 15.6)*
- iii) Demonstrate the ability to establish safe environments for practice, which minimise risks to service users, those treating them and others, including the use of hazard control and infection control. (HCPC SoP 15, 15.1, 15.2, 15.5, 15.6) This includes:*
 - determining when it is not possible to work safely and take remedial action in order to work in accordance with laboratory safety protocols. (HCPC SoP 15.2)*
 - confirming that work is carried out with due respect to different types of hazards including fire, electrical, biological, chemical, radiation, moving and handling and the use of visual display units. (HCPC 15.3)*
 - knowing the correct use of personal protective equipment and how this applies to each biohazard category. (HCPC SoP 15.4)*
 - knowing the risks associated with specimens (fixed and unfixed), clinical waste and equipment and describe the correct procedure for handling samples that may contain hazard group 2, 3 and 4 pathogens. (HCPC 15.5)*
 - knowing the immunisation requirements for the laboratory staff and the role of occupational health. (HCPC SoP 15.7)*
 - knowing the principles and applications of disinfectants, methods for sterilisation and decontamination and for dealing with waste and spillages correctly. (HCPC SoP 15.8)*

Evidence for this module is expected to come from the following sources:

Evidence of initiating and evaluating health and safety audits.

Writing/review of health and safety policies.

Evidence based attendance (e.g. reflective statements) of participation in health and safety training seminars.

Evidence of initiating and evaluating risk assessments.

Critical appraisal of laboratory practices.

Evidence based involvement in recognition and solution of problems with laboratory or clinical scenarios.

Section 2: Professional Practice

Module 3: Quality

You must demonstrate experience of maintaining quality improvement programmes and improving the quality of your own work and that of others against the organisational and professional standards that are used to measure it.

In the context of service users there are three areas of practice that are considered appropriate when interpreting the standards of proficiency:

- i) Patients or carers in clinics and/or wards where there is direct contact with biomedical and clinical scientists;
- ii) Professional groups that have direct patient healthcare role which relies on pathology services including clinical laboratory investigation, advice, treatment evaluation and research;
- iii) Service providers that employ biomedical and/or clinical scientists for services that contribute to the patient healthcare pathway.

Knowledge Registered clinical scientists must:
1. Recognise the value of case conferences and other methods of review (HCPC SoP 11.2)
2. Be aware of the role of audit and review in quality management, including quality control, quality assurance and the use of outcome measures (HCPC SoP 12.3)
3. Be aware of quality assurance programmes, where appropriate (HCPC SoP 12.5 – joint with 'e' below)
4. Understand the importance of participating in accreditation systems related to the modality (HCPC SoP 12.6)
5. Recognise the need to monitor and evaluate the quality of practice and the value of contributing to the generation of data for quality assurance and improvement programmes (HCPC SoP 12.8)

Competence Registered clinical scientists must be able to:
a) Assure the quality of their practice (HCPC SoP 12)
b) Engage in evidence-based practice, evaluate practice systematically and participate in audit procedures (HCPC SoP 12.1)
c) Gather information, including qualitative and quantitative data, that helps to

evaluate the responses of service users to their care (HCPC SoP 12.2)
d) Maintain an effective audit trail and work towards continual improvement (HCPC SoP 12.4)
e) Participate in quality assurance programmes, where appropriate (HCPC SoP 12.5 - joint with '3' above)
f) Evaluate intervention plans using recognised outcome measures and revise the plans as necessary in conjunction with the service user (HCPC SoP 12.7)
g) Use quality control and quality assurance techniques, including restorative action (HCPC SoP 12.9)

The candidate is required to provide evidence to show how they meet the HCPC standards of proficiency for this module. The basis for producing this evidence is that the candidate is able to:

- i) *Contribute effectively in case conferences and other methods of review and recognise the value of these in the clinical diagnosis of the patient. (HCPC SoP 11.2)*
- ii) *Demonstrate an understanding of the role of accreditation in pathology and the requirement for accreditation schemes relevant to the modality. (HCPC SoP 12.6)*
- iii) *Demonstrate an experienced based understanding of the sources of variation that can occur in the performance of the major categories of specific procedures in their specialism and through a continued awareness how they demonstrate, by example, a climate of quality management, assurance and maintenance of quality improvement programmes in the laboratory. (HCPC SoP 12)*
- iv) *Demonstrate an experience based understanding and application of maintaining different types of audit used to maintain a quality management system. (HCPC 12.1, 12.3, 12.4)*
- v) *Demonstrate an understanding and experience in the use of quality control and quality assurance techniques including restorative action when performance deteriorates. (HCPC SoP 12.5)*
- vi) *Demonstrate an experienced base understanding (for example through active participation in seminars, discussion groups and training) of the application of the principles of quality assurance, clinical performance parameters, accreditation and clinical audit to evaluating and improving the reproducibility of the commonly requested investigations relevant to this modality. (HCPC 12.1, 12.2, 12.3, 12.4, 12.5, 12.7, 12.8, 12.9)*

vii) *Demonstrate the ability to make judgements on the effectiveness of common procedures relevant to the discipline used in the diagnosis and management of patients and revise an investigation strategy in conjunction with other service users taking into account the complete clinical picture. (HCPC SoP 12.7)*

Evidence for this module is expected to come from the following sources:

- Evidence-based participation in national quality schemes
- Evidence-based attendance (e.g. reflective statements) of participation in quality audits.
- Examples of initiating and evaluating quality assessments.
- Critical appraisal of laboratory practices.
- Examples of involvement in recognition and solution of problems with laboratory or clinical scenarios.

Section 2: Professional Practice

Module 4: Performing Standard Investigations

You must demonstrate you achieved a high level of competence in performing analytical techniques and procedures in common use in this specialty at a standard that produces consistently valid results.

You must be able to demonstrate an understanding of the requirements of accuracy and precision of a procedure in the context of diagnosis, prognosis, monitoring and treatment and the effects of pre- and post-analytical variables, including the effects of confounding factors such as age, pregnancy and drugs.

Knowledge Registered clinical scientists must:
1) Know the basic science underpinning the modality in which they practice, understand relevant basic clinical medicine and be aware of fundamental principles of clinical practice (HCPC SoP 13.7)
2) Understand the evidence base that underpins the use of the procedures employed by the service (HCPC SoP 13.10)
3) Understand the principles associated with a range of techniques employed in the modality (HCPC SoP 13.11)
4) Know the standards of practice expected from the techniques (HCPC SoP 13.12)
5) Know, appropriate to the modality, how to position or immobilise service users for safe and effective intervention (HCPC SoP 14.3)
6) Understand the need to conform to standard operating procedures and conditions (HCPC SoP 14.5)
7) Understand the need to work with accuracy and precision (HCPC SoP 14.6)

Competence

Registered clinical scientists must be able to:

- | |
|---|
| a) Conduct appropriate diagnostic or monitoring procedures, treatment, therapy or other actions safely and effectively (HCPC SoP14.2) |
| b) Perform a range of techniques employed in the modality (HCPC SoP 14.4) |
| c) Solve problems that may arise during the routine application of techniques (HCPC SoP 14.7) |
| d) Undertake or arrange investigations as appropriate (HCPC SoP 14.14) |
| e) Analyse and critically evaluate the information collected (HCPC SoP 14.15) |
| f) Demonstrate a logical and systematic approach to problem solving (HCPC SoP 14.16) |

The candidate is required to provide evidence to show how they meet the HCPC standards of proficiency for this module. The basis for producing this evidence is that the candidate is able to:

- i) Demonstrate an understanding of the legal and professional requirements for the collection, receipt, retention, storage and respectful disposal of human tissues and samples. (HCPC SoP 13.7)*
- ii) Demonstrate an understanding of the scientific, operational and outcomes associated with the range of techniques employed in the subject specific curriculum and be able to recognise, solve and minimise problems with standards of practice expected from these techniques. (HCPC SoP 13.7, 13.10, 13.11, 13.12, 14.3, 14.5, 14.6, 14.7, 14.16)*
- iii) Demonstrate a high level of practical competence in any specialist techniques relevant to an intended or actual area of specialisation. (HCPC SoP 13.12, 14.2, 14.4)*
- iv) Demonstrate the ability to identify the clinical decision which the test/intervention will inform and undertake or arrange investigations relevant to the clinical situation. (HCPC SoP 13.10, 14.14)*
- v) Demonstrate an understanding the requirements of accuracy and precision of a procedure in the context of diagnosis, prognosis, monitoring and treatment and the ability to make judgements on the effectiveness of procedures taking into account the effects of pre- and post-analytical variables (including the effects of confounding factors such as age, pregnancy and drugs) for the appropriate interpretation and assessment of diagnostic procedures, HCPC SoP 14.15)*

Evidence for this module is expected to come from the following sources:

Evidence based statements on work experiences.

Participation of approved training programmes.
 Formal training and competence assessment records at local or national.
 Practical training and assessment of junior staff.
 Employer statement on scope of practice.

Section 2: Professional Practice

Module 5: Research and Development

The overall aim of this module is to ensure that you have the knowledge, skills and experience of the role of research, development and innovation in the NHS in improving patient care, including prevention, diagnostics, treatment and service delivery

You must demonstrate you have applied your knowledge and understanding of disease processes in the context of the study/investigation of those processes.

You should be able to generate ideas; assess, plan, conduct, evaluate, interpret and report research and innovation projects, which includes original research; and disseminate the findings and, where appropriate, the adoption of the findings. You should also be able to use research to improve practice by applying your knowledge and understanding from a professional, evidence-based approach to research into the pathogenesis and origins of disease processes, and the diagnosis and monitoring of disease.

Knowledge Registered clinical scientists must:
1. Recognise the value of research to the critical evaluation of practice (HCPC 14.18)
2. Be aware of a range of research technologies (HCPC 14.19)

Competence Registered clinical scientists must be able to:
a) Evaluate research and other evidence to inform their own practice (HCPC SoP 14.20)
b) Conduct fundamental research (HCPC SoP 14.21)
c) Search and appraise scientific literature and other sources of information critically (HCPC SoP 14.23)
d) Develop the aims and objectives associated with a project (HCPC SoP 14.24)
e) Develop an experiential protocol to meet the aims and objectives in a way that provides objective and reliable data, free from bias (HCPC SoP 14.25)
f) Perform the required experimental work and be able to produce and present the results of statistical analysis (HCPC SoP 14.26)

g)	Interpret results in the light of existing knowledge and the hypothesis developments and be able to formulate further research questions (HCPC SoP 14.27)
h)	Present data and a critical appraisal of it to peers in an appropriate form (HCPC SoP 14.28)
i)	Use information and communication technologies appropriate to their practice (HCPC SoP 14.29)

The candidate is required to provide evidence to show how they meet the HCPC standards of proficiency for this module. The basis for producing this evidence is that the candidate is able to:

- i) Demonstrate the ability to design, plan, conduct and report on investigations which may bring new techniques into the laboratory. (HCPC SoP 14.21)*
- ii) Discuss and justify the research, audit and innovation process from idea generation to dissemination/implementation, including patient/user. (HCPC SoP 14.21, 14.26)*
- iii) Explain and justify current UK ethical and governance frameworks and processes spanning the conduct of human and animal research, innovation and audit. (HCPC SoP 14.21)*
- iv) Critically evaluate the literature/evidence base in the light of existing knowledge to identify a research question and create a new approach or technique to improve patient care or service delivery. (HCPC SoP 14.20, 14.23, 14.27)*
- v) Demonstrate the ability to conduct experimental work, produce and present result of statistical analysis, give a clear and accurate account of a subject, marshal arguments, and engage in debate and dialogue both with specialists and non-specialists. (HCPC SoP 14.18, 14.19, 14.24, 14.25, 14.26)*
- vi) Demonstrate the ability to present outcomes of research or development work at a standard suitable for presentation. (HCPC SoP 14.28)*
- vii) Discuss and critically evaluate the context within which research, development, innovation and audit are undertaken to improve patient care, promote innovation and improve service delivery. (HCPC 14.29)*

Evidence for this module is expected to come from the following sources:

Critical evaluation of literature to identify research question.

Grant applications.

Supervised or collaborative research project (abstract only required).

Examples of participation on research and development projects.

Peer reviewed papers, posters/presentations.

Evidenced based participation in local research meetings

Additional Resources and Reference Documents available on the Institute of Biomedical Science website (www.ibms.org)

1. **<https://www.ibms.org/go/registration/become-hcpc-registered>**
Details of all the Institute routes and processes supporting individuals seeking HCPC registration. *To note: this will be updated following the outcome of the HCPC approval visit for the Certificate of Competence by Equivalence (Clinical Scientist)*
2. **Institute's Code of Conduct**
The Code consists of principles, which Institute members are expected to observe in the interests of patients care and in order to promote confidence in the profession of clinical science.
3. **Institute's CPD scheme**
The IBMS CPD scheme encourages members to maintain, improve and extend their knowledge, skills and practice for the purpose of maintaining Continuing Professional Development (CPD).
4. **IBMS Clinical Scientist Certificate of Attainment (Experiential Route) documents:**
 - Programme Specification
 - Programme Handbook
 - Guidance for Candidates
 - Portfolio of Evidence Mapping Document

About this document

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