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**Portfolio Development Plan**

**for the**

**Certificate of Competence by Equivalence**

**(biomedical scientist)**

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| **Applicant Name** |  |
| **Employment Address** |  |
| **Mentor Name** |  |

**INTRODUCTION**

This Portfolio Development Plan will form the basis of your training and evidence collection to allow you to successfully complete your equivalence portfolio. It enables you to identify which HCPC standards of proficiency you demonstrate by evidencing previous experience and / or your current work, possibly through secondments to other laboratory areas. Any such secondments will be identified by you and the laboratories must possess IBMS Pre-Registration Training Approval.

The purpose of this document is to introduce you to the HCPC standards of proficiency and the requirements of the equivalence portfolio. Familiarising yourself with the HCPC standards of proficiency will allow you to appreciate the work involved in producing suitable portfolio evidence and any areas that may require further training. Completing this portfolio development plan will also allow us to make an informed judgement about the amount of supplementary experience required for you to meet the standards and whether this is achievable.

The IBMS Certificate of Competence by Equivalence Portfolio is based on the standards of proficiency for biomedical scientists that the HCPC published in December 2014. 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. You will be required to map your evidence to each section and module in your equivalence portfolio. The modules in the equivalence route portfolio are as follows:

**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

In this portfolio development plan, we require you to identify relevant and suitable evidence to demonstrate all HCPC standards of proficiency in each module of the equivalence portfolio. Please work closely with your identified mentor to complete this Portfolio Development Plan mapping document, as it can then be used to guide your development and training as you complete your equivalence portfolio.

Some examples of relevant evidence are given in Table 1 below against academic content, professional conduct and professional skills and standards to generate ideas of the types of evidence you might want to consider using in your application.

**Please note:** We strongly encourage you to use a single piece of evidence to map to several HCPC standards of proficiency within each module of the portfolio. Within each piece of evidence you can indicate the HCPC SoPs that have been demonstrated. Examples of Evidence that could be used are shown in Appendix 1.

**Certificate of Competence by Equivalence Portfolio Section 1: Professional Conduct**

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| 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 |

**Section 1: Professional Conduct**

**Module 1: Personal Responsibility and Development**

Completion of this module requires an understanding of the contractual responsibilities and expected behaviour of a biomedical scientist. The HCPC standards of performance, conduct and ethics and the Institute of Biomedical Science ‘Code of Conduct’ and ‘Guide to Good Professional Practice’ should be used as reference points, together with other relevant organisational and national/international standards.

As a registered biomedical scientist, you must be able to recognise the responsibilities you have for your own professional behaviour and its impact on others. You must be able to work safely and effectively within your scope of practice and personal competence, recognising that these will change and evolve as you develop your professional expertise. You should also demonstrate your engagement in continuous professional development (CPD) to maintain and develop your own knowledge, understanding and skills and to ensure an up to date, high quality service for patients.

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

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

**Please complete the 2nd column in the table to indicate the types of evidence you plan to include to demonstrate that you have met the required standards of proficiency (column 1).**

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| **At the point of registration, biomedical scientists must be able to:** | **Potential type and source of evidence to demonstrate several SoPs** |
| identify the limits of their practice and when to seek advice or refer to another professional or service (HCPC SoP 1.1) |  |
| keep their skills and knowledge up to date and understand the importance of continuing professional development throughout their career (HCPC SoP 1.3) |  |
| maintain high standards of personal and professional conduct (HCPC SoP 2.1) |  |
| promote and protect the service user’s interests at all times (HCPC SoP 2.2) |  |
| understand what is required of them by the Health and Care Professions Council, including but not limited to the Standards of conduct, performance and ethics (HCPC SoP 2.4) |  |
| understand the importance of capacity in the context of delivering care and treatment (HCPC SoP 2.8) |  |
| understand the scope of a professional duty of care and exercise that duty (HCPC SoP2.9) |  |
| understand and apply legislation, policies and guidance relevant to their profession and scope of practice (HCPC SoP2.10) |  |
| demonstrate awareness of the British, European and International Standards that govern and affect pathology laboratory practice (HCPC SoP 2.12) |  |
| recognise that they are personally responsible for and must be able to justify their decisions and actions (HCPC SoP 4.1) |  |
| exercise personal initiative (HCPC SoP 4.5) |  |
| Understand the value of reflective practice and the need to record the outcome of such reflection to support continuous improvement (HCPC SoP 10.1) |  |

**Section 1: Professional Conduct**

**Module 2: Equality, Diversity and Inclusion**

Completion of this module requires you to demonstrate a good understanding of equality legislation and apply it to your practice. This includes the Equality Act 2010 that defines protected characteristics as age, disability, gender reassignment, race, religion or belief, sex, sexual orientation, marriage and civil partnership and pregnancy and maternity. Equivalent equality legislation in Northern Ireland protects age, disability, gender, race, religion or belief and sexual orientation.

You will demonstrate that you recognise the potential impact of your own values, beliefs and personal biases (which may be unconscious) on your practice. You will evidence how you take personal action to ensure all service users and carers are treated with appropriate dignity and respect. You will demonstrate that you consider equality, diversity and inclusion in your application of all HCPC standards, across all areas of your practice.

**Please complete the 2nd column in the table to indicate the types of evidence you plan to include to demonstrate that you have met the required standards (column 1).**

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| **At the point of registration, biomedical scientists must be able to:** | **Potential type and source of evidence to demonstrate several SoPs** |
| understand the importance of safeguarding by actively looking for signs of abuse, demonstrating understanding of relevant safeguarding processes, and engaging in these processes where necessary (HCPC SoP 2.3) |  |
| respect and uphold the rights, dignity, values, and autonomy of service users, including their role in the assessment, diagnostic, treatment and / or therapeutic process (HCPC SoP 2.5) |  |
| recognise that relationships with service users, carers and others should be based on mutual respect and trust, maintaining high standards of care in all circumstances (HCPC SoP 2.6) |  |
| recognise the power imbalance which comes with being a health care professional, and ensure they do not abuse this for personal gain (HCPC SoP 2.11) |  |
| respond appropriately to the needs of all different groups and individuals in practice, recognising that this can be affected by difference of any kind including, but not limited to, protected characteristics[1](#_bookmark0), intersectional experiences and cultural differences (HCPC SoP 5.1) |  |
| understand equality legislation and apply it to their practice (HCPC SoP 5.2) |  |
| recognise the potential impact of their own values, beliefs and personal biases (which may be unconscious) on practice and take personal action to ensure all service users and carers are treated appropriately with respect and dignity (HCPC SoP 5.3) |  |
| understand the duty to make reasonable adjustments in practice and be able to make and support reasonable adjustments in theirs and others’ practice (HCPC SoP 5.4) |  |
| recognise the characteristics and consequences of barriers to inclusion, including for socially isolated groups (HCPC SoP 5.5) |  |
| actively challenge these barriers, supporting the implementation of change wherever possible (HCPC SoP 5.6) |  |
| recognise that regard to equality, diversity and inclusion needs to be embedded in the application of all HCPC standards, across all areas of practice (HCPC SoP 5.7) |  |
| work with service users and / or their carers to facilitate the service user’s preferred role in decision-making, and provide service users and carers with the information they may need where appropriate (HCPC SoP 7.4) |  |
| identify their own leadership qualities, behaviours and approaches, taking into account the importance of equality, diversity and inclusion (HCPC SoP 8.8) |  |

**Section 1: Professional Conduct**

**Module 3: Communication**

To complete this module, you must be able to demonstrate that you communicate information professionally, clearly and effectively, within your scope of practice. You will evidence how you ensure both you and the colleagues you communicated with accurately record and understand the information, and that it is acted upon appropriately. You will also demonstrate how you use effective verbal and non-verbal skills to communicate with service users, carers, colleagues and others. You will evidence your ability to listen carefully to patients, carers and other healthcare professionals, to ensure you understand their requirements. You will demonstrate that you have the appropriate English language proficiency and communication skills for service delivery and patient care in the UK (equivalent to level 7 of the International English Language Testing System, with no element below 6.5). You will also demonstrate how you effectively use information, communication and digital technologies appropriate to your practice to keep accurate records, ensuring you comply with local and/or legal requirements.

***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 (HCPC SoP 7.2)***

**Please complete the 2nd column in the table to indicate the types of evidence you plan to include to demonstrate that you have met the required standards (column 1).**

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| **At the point of registration, biomedical scientists must be able to:** | **Potential type and source of evidence to demonstrate several SoPs** |
| understand the importance of and obtain valid consent, which is voluntary and informed, has due regard to capacity, is proportionate to the circumstances and is appropriately documented (HCPC SoP 2.7) |  |
| use effective and appropriate verbal and non-verbal skills to communicate with service users, carers, colleagues and others (HCPC SoP 7.1) |  |
| communicate in English to the required standard for their profession (equivalent to level 7 of the International English Language Testing System, with no element below 6.5) (HCPC SoP 7.2) |  |
| understand the characteristics and consequences of verbal and non-verbal communication and recognise how these can be affected by difference of any kind including, but not limited to, protected characteristics, intersectional experiences and cultural differences (HCPC SoP 7.3) |  |
| modify their own means of communication to address the individual communication needs and preferences of service users and carers, and remove any barriers to communication where possible (HCPC SoP 7.5) |  |
| understand the need to support the communication needs of service users and carers, such as through the use of an appropriate interpreter (HCPC SoP 7.6) |  |
| use information, communication and digital technologies appropriate to their practice (HCPC SoP 7.7) |  |
| understand the need to provide service users or people acting on their behalf with the information necessary in accessible formats to enable them to make informed decisions (HCPC SoP 7.8) |  |
| communicate the outcomes of biomedical procedures (HCPC SoP 7.9) |  |

**Section 1: Professional Conduct**

**Module 4: Patient Records and Data Handling**

To complete this module, you must be able to demonstrate that you have 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 biomedical scientist. You must maintain patient confidentiality and only communicate personal/clinical information to appropriate healthcare professionals. You must demonstrate your ability to maintain the confidentiality of patients, employer, and service users with an understanding that disclosure can be permitted if it is by law and justified in the patient’s interest. You must also demonstrate your understanding of your local policies, national guidelines and current legislation, including the legislation concerning storage and use of individual identifiable data (General Data Protection Regulations, 2018 (GDPR)) and any subsequent legislation.

**Please complete the 2nd column in the table to indicate the types of evidence you plan to include to demonstrate that you have met the required standards (column 1).**

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| **At the point of registration, biomedical scientists must be able to:** | **Potential type and source of evidence to demonstrate several SoPs** |
| adhere to the professional duty of confidentiality and understand when disclosure may be required (HCPC SoP 6.1) |  |
| understand the principles of information and data governance and be aware of the safe and effective use of health, social care and other relevant information (HCPC SoP 6.2) |  |
| recognise and respond in a timely manner to situations where it is necessary to share information to safeguard service users, carers and / or the wider public (HCPC SoP 6.3) |  |
| understand the need to ensure confidentiality is maintained in all situations in which service users rely on additional communication support (such as interpreters or translators) (HCPC SoP 6.4) |  |
| recognise that the concepts of confidentiality and informed consent extend to all mediums, including illustrative clinical records such as photography, video and audio recordings and digital platforms (HCPC SoP 6.5) |  |
| keep full, clear and accurate records in accordance with applicable legislation, protocols and guidelines (HCPC SoP 9.1) |  |
| manage records and all other information in accordance with applicable legislation, protocols and guidelines (HCPC SoP 9.2) |  |
| use digital record keeping tools, where required (HCPC SoP 9.3) |  |
| recognise, communicate and understand the risks and possible serious consequences of errors and omissions in both requests for, and results of, laboratory investigations (HCPC SoP 9.4) |  |
| use systems for the accurate and correct identification of service users and laboratory specimens (HCPC SoP 9.5) |  |
| understand the need to adhere to protocols of specimen identification, including bar coding and electronic tag systems (HCPC SoP 9.6) |  |
| understand the importance of backup storage of electronic data (HCPC SoP 9.7) |  |

**Section 1: Professional Conduct**

**Module 5: Professional Relationships**

To complete this module, you must demonstrate how you create and sustain work relationships in the context of the role of a biomedical scientist to achieve the best results for service users. You will demonstrate how you work effectively in partnership and cooperation with service users, carers, colleagues and others, for the benefit of the patient and service. You will demonstrate your understanding of the principles and practices of other health and care professionals and systems and how they interact with your profession.

You will also demonstrate your understanding of the need to build and sustain professional relationships, as both an autonomous practitioner, and collaboratively as a member of a team. You should evidence your contribution to multi-disciplinary and/or multi-professional teams. You will evidence that you recognise that leadership is a skill that all professionals can demonstrate and demonstrate your own leadership behaviours, appropriate to your practice, for example acting as a role model for others.

**Please note -** One of the three pieces of evidence for this section must be a reflective statement on how engagement with service users, plus learning with and from professionals and learners in other relevant professions has contributed positively to the candidate’s professional development (HCPC SoPs 8.1, 8.12 and 8.13).

**Please complete the 2nd column in the table to indicate the types of evidence you plan to include to demonstrate that you have met the required standards (column 1).**

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| **At the point of registration, biomedical scientists must be able to:** | **Potential type and source of evidence to demonstrate several SoPs** |
| understand the need for active participation in training, supervision and mentoring in supporting high standards of practice, and personal and professional conduct, and the importance of demonstrating this in practice (HCPC SoP 4.8) |  |
| work in partnership with service users, carers, colleagues and others (HCPC SoP 8.1) |  |
| recognise the principles and practices of other health and care professionals and systems and how they interact with their profession (HCPC SoP 8.2) |  |
| understand the need to build and sustain professional relationships as both an autonomous practitioner and collaboratively as a member of a team (HCPC SoP 8.3) |  |
| Contribute effectively to work undertaken as part of a multi-disciplinary team (HCPC SoP 8.4) |  |
| identify anxiety and stress in service users, carers and colleagues, adapting their practice and providing support where appropriate (HCPC SoP 8.5) |  |
| understand the qualities, behaviours and benefits of leadership (HCPC SoP 8.6) |  |
| recognise that leadership is a skill all professionals can demonstrate (HCPC SoP 8.7) |  |
| demonstrate leadership behaviours appropriate to their practice (HCPC SoP 8.9) |  |
| act as a role model for others (HCPC SoP 8.10) |  |
| promote and engage in the learning of others (HCPC SoP 8.11) |  |
| understand the need to engage service users and carers in planning and evaluating diagnostics and assessment outcomes to meet their needs and goals (HCPC SoP 8.12) |  |
| demonstrate awareness of the impact of pathology services on the service user care pathway (HCPC SoP 8.13) |  |
| recognise the value of multi-disciplinary reviews, case conferences and other methods of review (HCPC SoP 10.2) |  |
| recognise the role(s) of other professions in health and social care and understand how they may relate to the role of biomedical scientist (HCPC SoP 12.3) |  |
| understand the structure and function of health and social care systems and services in the UK (HCPC SoP 12.4) |  |

**IMPORTANT All applicants are required to produce a reflective statement on how their engagement with service users and with learners from other professions has contributed positively to their professional development as part of their portfolio evidence.**

This reflective statement could be a single reflection on going on a ward round, maybe working with POCT and talking about what you learned and how this contributed to your development, or it could be a reflective statement that talks about multiple examples of how your interactions with service users have improved your development. You could include answering patient queries and clinicians queries and reflect on how this has improved your communication. Speaking to clinicians using biomedical terminology but also being able to talk to patients (where applicable, e.g. instructions on collecting urine samples) show your ability to communicate with different people and use different language to communicate most effectively.

You can discuss how service users adding on tests and querying sample requirements has improved your awareness of the tests the lab does, what tests are done by other departments, what specimen requirements are for tests you don’t do very often (this could be a reflection on a mixture of specific and general tests). Finally, you might have had to give results which helped your awareness of reference ranges, or you might have queried results with clinicians or discussed staining, all of these activities involve interactions with service users outside of pathology and all contribute to the individual’s professional development.

**Certificate of Competence by Equivalence Portfolio Section 2: Professional Practice**

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| 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 |

**Section 2: Professional Practice**

**Module 1: Application of Professional Knowledge**

To complete this module, you must demonstrate your detailed and relevant subject knowledge of biomedical science that underpins the skills needed to perform a range of core laboratory investigations. You will evidence how you integrate your academic knowledge of the key clinical disciplines with your understanding of the study, investigation, diagnosis and monitoring of human health and disease, plus the therapeutic strategies available. You are encouraged to use case studies, plus data analysis and evaluation in this module to demonstrate how you apply your knowledge to laboratory-based investigations and patient outcomes.

**Please complete the 2nd column in the table to indicate the types of evidence you plan to include to demonstrate that you have met the required standards (column 1).**

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| **At the point of registration, biomedical scientists must be able to:** | **Potential type and source of evidence to demonstrate several SoPs** |
| understand the structure and function of the human body, together with knowledge of physical and mental health, disease, disorder and dysfunction relevant to their profession HCPC SoP 12.1) |  |
| demonstrate knowledge of the underpinning scientific principles of investigations provided by clinical laboratory services (HCPC SoP 12.6) |  |
| understand the role of the following specialisms in the diagnosis, treatment and management of disease: cellular science, blood science, infection science, molecular and genetic science and reproductive science (HCPC SoP 12.7) |  |
| investigate and monitor disease processes and normal states (HCPC SoP 13.27) |  |

**Section 2: Professional Practice**

**Module 2: Health and Safety and Wellbeing**

To complete this module, you must demonstrate how you take responsibility for yourself and others, in accordance with national legislation and organisational policies for health and safety. You will also evidence your contribution to the evaluation and improvement of relevant health and safety procedures. This might include being able to guide others in the correct use of health and safety signage, personal protective equipment, the correct handling of specimens and hazardous chemicals, and being able to deal with incidents. Your evidence should demonstrate your understanding of the need to maintain the safety of yourself and others, including service users, carers and colleagues.

You will also demonstrate how you look after your own health and wellbeing and seek appropriate support where necessary. This should include evidence of how you develop and adopt clear strategies for physical and mental self-care and self-awareness, which allow you to maintain a high standard of professional effectiveness and safe working environment.

**Please complete the 2nd column in the table to indicate the types of evidence you plan to include to demonstrate that you have met the required standards (column 1).**

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| **At the point of registration, biomedical scientists must be able to:** | **Potential type and source of evidence to demonstrate several SoPs** |
| identify anxiety and stress in themselves and recognise the potential impact on their practice (HCPC SoP 3.1) |  |
| understand the importance of their own mental and physical health and wellbeing strategies in maintaining fitness to practise (HCPC SoP 3.2) |  |
| understand how to take appropriate action if their health may affect their ability to practise safely and effectively, including seeking help and support when necessary (HCPC SoP 3.3) |  |
| develop and adopt clear strategies for physical and mental self-care and self-awareness, to maintain a high standard of professional effectiveness and a safe working environment (HCPC SoP 3.4) |  |
| understand the biological hazards groups and associated containment levels (HCPC SoP 12.10) |  |
| understand the need to maintain the safety of themself and others, including service users, carers and colleagues (HCPC SoP 14.1) |  |
| demonstrate awareness of relevant health and safety legislation and comply with all local operational procedures and policies (HCPC SoP 14.2) |  |
| 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 14.3) |  |
| select appropriate personal protective equipment and use it correctly (HCPC SoP 14.4) |  |
| establish safe environments for practice, which appropriately manages risk (HCPC SoP 14.5) |  |
| understand the application of principles of good laboratory practice (HCPC SoP 14.6) |  |
| understand the role of their profession in health promotion, health education and preventing ill health (HCPC SoP 15.1) |  |
| understand how social, economic and environmental factors (wider determinants of health) can influence a person’s health and well-being (HCPC SoP 15.2) |  |
| empower and enable individuals (including service users and colleagues) to play a part in managing their own health (HCPC SoP 15.3) |  |
| engage in occupational health, including being aware of immunisation requirements (HCPC SoP 15.4) |  |

**Section 2: Professional Practice**

**Module 3: Quality**

To complete this module, you must demonstrate how and why you select and apply relevant quality control (QC) procedures. You must evidence how you work with accuracy and precision to maintain effective quality management / quality assurance (QA) processes and work towards continual improvement.

You should demonstrate how you perform calibration and quality control checks. You should also evidence that you are able to monitor the quality of your work, know what to do if it deviates from performance standards and how to verify that results are within acceptance limits. You must demonstrate that you follow procedures to address QC failures and participate in QC/QA performance reviews and resolve non-compliance issues, appropriate to your scope of practice.

**Please complete the 2nd column in the table to indicate the types of evidence you plan to include to demonstrate that you have met the required standards (column 1).**

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| **At the point of registration, biomedical scientists must be able to:** | **Potential type and source of evidence to demonstrate several SoPs** |
| engage in evidence-based practice (HCPC SoP 11.1) |  |
| gather and use feedback and information, including qualitative and quantitative data, to evaluate the response~~s~~ of service users to their care (HCPC SoP 11.2) |  |
| monitor and systematically evaluate the quality of practice, and maintain an effective quality management and quality assurance process working towards continual improvement (HCPC SoP 11.3) |  |
| participate in quality management, including quality control, quality assurance, clinical governance and the use of appropriate outcome measures (HCPC SoP 11.4) |  |
| evaluate care plans or intervention plans using recognised and appropriate outcome measures, in conjunction with the service user where possible, and revise the plans as necessary (HCPC SoP 11.5) |  |
| recognise the value of gathering and using data for quality assurance and improvement programmes (HCPC SoP 11.6) |  |
| select and apply quality and process control measures (HCPC SoP 11.7) |  |
| identify and respond appropriately to abnormal outcomes from quality indicators (HCPC SoP 11.8) |  |
| work with accuracy and precision (HCPC SoP 13.19) |  |
| perform calibration and quality control checks (HCPC SoP 13.20) |  |
| formulate specific and appropriate management plans including the setting of timescales (HCPC SoP 13.24) |  |

**Section 2: Professional Practice**

**Module 4: Performing Standard Investigations**

To complete this module, you must demonstrate how you work safely and effectively within your scope of practice and personal competence, recognising that these will change and evolve as you develop your professional expertise. You must demonstrate competence in your application and utilisation of all samples, clinical specimens, equipment and reagents required to competently perform a range of core laboratory investigations. You must evidence that you follow standard operating procedures to the required quality standard.

The standard investigations evidenced in this module should be focussed on routine laboratory work and standard operating procedures that are applicable to the scope of practice of a newly registered biomedical scientist in one or more disciplines.

**Please complete the 2nd column in the table to indicate the types of evidence you plan to include to demonstrate that you have met the required standards (column 1).**

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| **At the point of registration, biomedical scientists must be able to:** | **Potential type and source of evidence to demonstrate several SoPs** |
| recognise the need to manage their own workload and resources safely and effectively, including managing the emotional burden that comes with working in a pressured environment (HCPC SoP 1.2) |  |
| use their skills, knowledge and experience, and the information available to them, to make informed decisions and / or take action where necessary (HCPC SoP 4.2) |  |
| make reasoned decisions to initiate, continue, modify or cease treatment or the use of techniques or procedures, and record the decisions and reasoning appropriately (HCPC SoP 4.3) |  |
| make and receive appropriate referrals, where necessary (HCPC SoP 4.4) |  |
| understand the theoretical basis of, and the variety of approaches to, assessment and intervention (HCPC SoP 12.5) |  |
| be able to evaluate analyses using qualitative and quantitative methods to aid the diagnosis, screening and monitoring of health and disorders (HCPC SoP 12.8) |  |
| understand the techniques and associated instrumentation used in the practice of biomedical science (HCPC SoP 12.9) |  |
| gather appropriate information (HCPC SoP 13.2) |  |
| analyse and critically evaluate the information collected (HCPC SoP 13.3) |  |
| select and use appropriate assessment techniques and equipment (HCPC SoP 13.4) |  |
| undertake and record a thorough, sensitive and detailed assessment (HCPC SoP 13.5) |  |
| undertake or arrange investigations as appropriate (HCPC SoP 13.6) |  |
| conduct appropriate assessment or monitoring procedures, treatment, therapy or other actions safely and effectively (HCPC SoP 13.7) |  |
| perform and supervise procedures in clinical laboratory investigations to reproducible standards HCPC SoP 13.12) |  |
| operate and utilise specialist equipment according to their discipline (HCPC SoP 13.13) |  |
| validate scientific and technical data and observations according to pre- determined quality standards (HCPC SoP 13.14) |  |
| demonstrate proficiency in practical skills in cellular science, blood science, infection science, molecular and genetic science and reproductive science, where appropriate to the discipline (HCPC SoP 13.15) |  |
| demonstrate practical skills in the processing and analysis of specimens including specimen identification, the effect of storage on specimens and the safe retrieval of specimens (HCPC SoP 13.16) |  |
| demonstrate practical skills in the investigation of disease processes (HCPC SoP 13.17) |  |
| work in conformance with standard operating procedures and conditions (HCPC SoP 13.18) |  |
| demonstrate operational management of laboratory equipment to check that equipment is functioning within its specifications and to respond appropriately to abnormalities (HCPC SoP 13.21) |  |
| understand the implications of non-analytical errors (HCPC SoP 13.22) |  |
| know the extent of the role and responsibility of the laboratory with respect to the quality management of hospital, primary care and community based laboratory services for near- service user testing and non-invasive techniques (HCPC SoP 13.23) |  |
| select suitable specimens and procedures relevant to service users’ clinical needs, including collection and preparation of specimens as and when appropriate (HCPC SoP 13.25) |  |
| demonstrate awareness of the need to assess and evaluate new procedures prior to routine use (HCPC SoP 13.26) |  |
| use standard operating procedures for analyses including point of care in vitro diagnostic devices (HCPC SoP 13.28) |  |
| safely interpret and authorise service user results (HCPC SoP 13.31) |  |

**Section 2: Professional Practice**

**Module 5: Research and Development**

To complete this module, you must demonstrate your knowledge and understanding of the complexity and diversity of research into human health and disease. By applying a professional, evidence-based approach, you will demonstrate your ability to think independently, work autonomously and solve problems. You will evidence your acquisition of coherent and detailed knowledge through the creation and completion of an evidence-based research project.

You will successfully apply a variety of methods to study, investigate, record and analyse material. You will also evidence your ability to manage autonomous learning and use scholarly reviews and primary sources (including published journal articles and clinical guidelines) to devise and inform your research hypothesis. You will demonstrate your ability to design and carry out experiments, analyse data, present findings and critically evaluate results. These important research skills and attributes form the basis for statutory regulation as a biomedical scientist.

**Please complete the 2nd column in the table to indicate the types of evidence you plan to include to demonstrate that you have met the required standards (column 1).**

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| **At the point of registration, biomedical scientists must be able to:** | **Potential type and source of evidence to demonstrate several SoPs** |
| demonstrate a logical and systematic approach to problem solving (HCPC SoP 4.6) |  |
| use research, reasoning and problem-solving skills when determining appropriate actions (HCPC SoP 4.7) |  |
| demonstrate awareness of the principles and applications of scientific enquiry, including the evaluation of treatment efficacy and the research process (HCPC SoP 12.2) |  |
| change their practice as needed to take account of new developments, technologies and changing contexts (HCPC SoP 13.1) |  |
| recognise a range of research methodologies relevant to their role (HCPC SoP 13.8) |  |
| recognise the value of research to the critical evaluation of practice (HCPC SoP 13.9) |  |
| critically evaluate research and other evidence to inform their own practice (HCPC SoP 13.10) |  |
| engage service users in research as appropriate (HCPC SoP 13.11) |  |
| use statistical packages and present data in an appropriate format (HCPC SoP 13.29) |  |
| design experiments, report, interpret and present data using scientific convention, including application of SI units and other units used in biomedical science (HCPC SoP 13.30 |  |

**Appendix 1. Example Evidence Types**

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| **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. |

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