Practitioner Equivalence Guidance for Applicants

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Introduction

This document contains guidance on the process for making an application for the Academy for Healthcare Science (AHCS) Certificate of Equivalence Practitioner Training Programme [PTP]). It should be read in conjunction with the PTP Equivalence Programme Handbook, which gives further details on the concept of equivalence.

Applications for the Certificate of Equivalence (PTP) are considered in stages, the preliminary (screening) application, preparing the portfolio and the portfolio assessment stage. In some cases an interview may also be required. In the preliminary stage, the applicant's basic qualifications and experience are reviewed; the applicant should ensure that they have the appropriate background to proceed to portfolio submission. Once applicants have been approved for portfolio submission, a portfolio must be submitted within six months of the approval date, unless the candidate can demonstrate an exceptional circumstance e.g. illness. Applicants who wish to extend the deadline must contact the AHCS administrative office at the earliest opportunity.

The fee for the entire equivalence assessment is £175, and must accompany the preliminary application.

The Certificate of Equivalence (PTP) is an approved programme providing eligibility to apply for AHCS registration (Practitioner).

All applicants must ensure that they have read and understood this document before submitting their application. If you have a disability that you feel might affect your equivalence process please contact the AHCS office. If there are any questions, please contact the AHCS office before submission. Please note the monitoring date we collect is to analyse the Equivalence outcomes and to review our processes and procedures.

If you have any queries, please contact: equivalence@ahcs.ac.uk

Stage 1 - The Preliminary Application

Applications must be made online via the AHCS website, and must be accompanied by:

- the full application fee
- a copy of a proof of identity (passport or Government-issued photo ID e.g. driving licence)
- a passport-sized photograph,
- a valid DBS check (see below)
- a summary of professional experience (see below)
- copies of relevant qualifications
- two professional references (see below)
- applicants from outside the European Economic Area are also required to provide evidence of English language skills with a minimum International English Language Testing System (IELTS) score of 7.0 with no element less than 6.5 or a Test of English as a Foreign Language (TOEFL) Internet Based Test (IBT) Minimum score of 100/120.

To be eligible for PTP equivalence, an applicant must demonstrate that there has been an adequate period of supervised clinical training in the duties and responsibilities of a Healthcare Science Practitioner (HCSP). The AHCS do not prescribe a specific length of training to confer equivalence, although applicants should note that graduates from the PTP programme will complete three years of Bachelors level education including integrated workplace training, and it is unlikely that periods of experience substantially less than 3 years will be deemed adequate for an application for equivalence. The summary of professional experience should not exceed 1000 words, and should contain a description of the previous experience and duties undertaken by the applicant. Two professional references will be required to support the application. At least one should be from your supervisor/manager and at least one should be registered e.g. HCPC, GMC, NMC.

The summary gives the applicant an opportunity to demonstrate that their professional experience and qualifications are commensurate with that of a HCSP before proceeding to the portfolio stage.

Applicants are required to submit a valid Disclosure and Barring Services (DBS) check; this was previously known as the Criminal Record Bureau (CRB) check. Applications that are not submitted with at least a Basic level version will not be processed. If your employer does not currently retain a valid DBS check on your behalf, you can request a basic disclosure from Disclosure Scotland (http://www.disclosurescotland.co.uk/basicdisclosureonline/index.htm). Please note that you do not have to be a Scottish national to do so.

Applicants from Northern Ireland should consult the Access NI website, available here http://www.nidirect.gov.uk/accessni-criminal-record-checks. International Applicants who are unable to provide a DBS check will need to contact the AHCS.

Health and immunisation

Applicants must be aware that healthcare workers have a duty of care towards their patients to ensure that health conditions and disabilities do not affect your fitness to practise. Many people who have a health condition or a disability can practise their profession safely and effectively throughout their career. Occupational Health has a role in working with healthcare workers to ensure that they can manage their health conditions and disability. Most healthcare organisations will require you to have an occupational health screening as a condition of employment, where they will check your health, disability and immunisations prior to taking up employment. Throughout your working life you may make use of Occupational Health services and your employer may refer you to the service if they consider it necessary.

Applicants are required to complete an online health declaration to state that you do not have any physical or mental health condition that would impair your fitness to practise as a clinical scientist.

Stage 2 – Preparing the portfolio

All applications for equivalence are made against the AHCS Standards of Proficiency (SoP) regardless of the specialism or role. Applicants must present and map their evidence against the SoP but must also consider the specialist and role specific requirements set out in the relevant and current PTP curriculum and learning outcomes documents. The up-to-date curricula and learning guides can be downloaded from https://www.nshcs.hee.nhs.uk/curricula

Applicants should familiarise themselves with the relevant documents to ensure their qualifications and experience are equivalent.

Please note that applicants are not required to map their evidence to the outcomes of the PTP curricula, however, the content and level of the PTP outcomes should be used to guide and inform the evidence supplied for all components of the mapping template.

For PTP equivalence, the AHCS assessors will be considering the evidence presented in the portfolio in the context of the PTP specialist curricula to ensure that applicants are able to meet the stated learning outcomes. The portfolio 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 relevant PTP curriculum carefully, and ensure that their training and experience covers the range of outcomes contained therein.

The applicant must satisfy the assessors that they have the appropriate qualifications, experience and level of competence, and that their training programme and current practice has enabled the applicant to achieve an equivalent level of knowledge, skill and professional practice to meet the AHCS SoP.

The portfolio must begin with a summary of the applicant's training and experience to date. This must be written in the style of a covering report, and must not exceed 5000 words. The report must clearly indicate how competence has been developed, and both the report and the accompanying supporting evidence must be cross referenced to the AHCS SoP.

Table 1 sets out some additional guidance on the types of evidence that may be submitted to support an equivalence application. Please note, this is for guidance purposes, and applicants may submit more or less information in different formats for each SoP.

The Good Scientific Practice Portfolio Mapping Template, Table 2 at the back of this document, is an integral part of the portfolio as it will demonstrate how the portfolio evidence supports each SoP. The applicant must demonstrate that each standard and sub-standards have been evidenced, and there are no gaps or blank areas. One piece of evidence can be used in support of more than one standard or substandard.

The portfolio should contain a contents list, the covering report explaining how the AHCS SoPs are demonstrated, the mapping template and the supporting evidence. The supporting evidence must be clearly indexed and cross-referenced to the covering report and mapping template. Where reports are submitted, they must address the specific SoP and should be concise and well-structured.

The portfolio is the applicant's opportunity to demonstrate experience gained and competences achieved. The layout should be clear and the content should be well chosen, explicit and concise – quality is more important than quantity.

Statements of attendance or participation in meetings or training are on their own insufficient, and must be supported by personal reflection and a concise description of how the experience helped in achieving a particular competence. Evidence of ‘hands- on ’experience under appropriate supervision is important. Supervisors must be appropriately qualified and professionally registered (where appropriate), and must confirm their supervision as part of the portfolio record.

The portfolio 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-organised material.

The portfolio should NOT include a detailed, day-to-day training diary or logbook, the full text of any case studies, theses, projects or essays – summaries should be provided. It should not include certificates of attendance for every meeting – only those that have demonstrable benefit towards the AHCS SoP.

Each page in the portfolio should be numbered. Portfolios should NOT be longer than 100 pages, and any portfolio exceeding these limits will be rejected on receipt and returned to the applicant for abbreviation. Font size for text should not be smaller than 12 point. Certificates or other evidence should not be photo-reduced to fit more than one to a page. Assessors are looking for well-selected, high quality evidence. However, as a guide, portfolios less than 20 pages are unlikely to contain sufficient evidence for adequate assessment.

If any part of the evidence is not in English, certified translations must be provided.

Plagiarism

Plagiarism is defined as 'The practice of taking someone else's work or ideas and passing them off as one's own '(English Oxford Dictionary). This might take the form of: submitting someone else's work, word-for-word, as their own; taking significant portions of text from a single source without alterations; changing key words and phrases but retaining the essential content of the source (Turnitin 2018). The AHCS views plagiarism as both unethical and unprofessional.

While the Academy recognises that applicants might follow a similar structure for a portfolio, any part of the application which requires original comment or thought by the applicant, such as the personal statement, summary report and evidence submitted, must be their own work.

If instances of plagiarism are suspected or identified, they will be investigated formally by the AHCS and may lead to a rejection of the application.

Stage 3 – The Assessment

The assessment process begins once an applicant submits a completed portfolio online. The evidence is submitted and is checked by administrators for completeness and accessibility. Any omissions will result in the application being sent back to the applicant for completion.

Once the portfolio has been accepted by the AHCS, the applicant will be informed and the assessment panel will be selected. Assessors are invited from the pool of professional, Lay and academic experts making up the AHCS professional and lay assessors. The panel comprises one professional assessor from the relevant specialism and one lay assessor. Assessors are also asked to declare any conflicts of interest they may have in relation to each assessment.

By assessing the portfolio the assessors make judgements on whether or not the applicant meets the requirements of the AHCS SoPs in the context of the relevant and current PTP curriculum.

Assessors make recommendations that require ratification by the AHCS before they become official. If the ratification panel accepts the recommendation the report is finalised and an outcome is then provided to the applicant.

If a Certificate of Equivalence is not granted, a report will outline areas where further evidence is required. The applicant can use this report to gain further education, training and professional experience and resubmit an application.

Assessors will be able to make the following summary recommendations:

- Outcome 1: Applicant has demonstrated full equivalence and can be awarded the Certificate of Equivalence (PTP).
- Outcome 2: Applicant has demonstrated partial equivalence, and should be advised to undertake training to address specific outcomes and then resubmit the application.
- Outcome 3: Applicant has not demonstrated equivalence and should be advised to undertake a full training programme or another form of comprehensive training to achieve the same outcomes.

Applicants receive a letter stating the result of the assessment and, if all the necessary outcomes have been met, a Certificate of Equivalence.

Candidates have the right to appeal. Appeals must be made in writing within 28 days of receipt of the report from the AHCS. Appeals can be made based on procedural matters related to the Equivalence process. Appeals against judgements of Assessors or the ratification panel will not be accepted. For further information see the AHCS Appeals policy which can be found on the AHCS website.

Appeals will be considered by the AHCS Appeals Panel and if necessary the Panel may undertake an investigation, including receiving written statements or conducting interviews.

Example Evidence for inclusion in the Portfolio of Evidence

The AHCS standards of proficiency set out the minimum standard that a person must meet to register as a Healthcare Science Practitioner with the AHCS. In terms of equivalence, the standards are used to determine if an individual's education, training and professional practice are 'equivalent 'to that of a Healthcare Science Practitioner. The standards cover three main areas:

- Professional autonomy and accountability
- Skills required for practice as a Healthcare Science Practitioner
- Knowledge of Healthcare Science

To achieve equivalence, applicants must provide a portfolio of quality evidence that has been comprehensively mapped against each of the 17 standards (and sub standards) of the AHCS SoPs. The evidence will be mapped using the mapping template contained within this guidance document, and will be presented to allow the assessors to locate specific pieces of evidence easily.

Below are some examples of how different types of evidence might be used to demonstrate a particular standard. Please note, they are for guidance only, and by no means constitute an exhaustive list. Applicants are encouraged to incorporate novel examples of evidence and may submit more or less information for each standard.

Any one piece of evidence can be used in support of more than one standard or substandard, but it is expected that more than one piece of evidence will be submitted per standard.

Table 1:

Education, Qualifications and Experience	
Education, Qualifications and Experience	**Examples of Evidence**
Subject, type of course taken, date qualified and curriculum	Relevance against specialism – professional judgements
Current knowledge	Examples of how applicant has maintained theoretical knowledge
Qualifications and credits	Copies of qualifications Copy of NARIC certificate for applicants whose qualifications were obtained outside the UK
Employment	CV and employment history Statements of supervision from appropriately qualified supervisors Employer's reference

Example 1: Professional Autonomy and Accountability

1. PROFESSIONAL AUTONOMY AND ACCOUNTABILITY	
Standard 1: Understand your role in Healthcare science and its contribution to the delivery of high quality healthcare	
1.1 Understand your first concern is always the service user and the public	Personal reflection Personal Development Plan Minutes demonstrating participation in team meetings Witness statements (signed by a senior professional) Related CPD courses/meetings
1.2 Understand the need to respect and uphold the rights, dignity, confidentiality and autonomy of service users, including your role in the testing, investigation, diagnosis, treatment and therapy process, and in maintaining health and wellbeing	
1.3 Are able to maintain the highest standards of care and service, treating every individual with compassion, dignity and respect	
1.4 Understand the need to take responsibility not only for the care that you personally provide (whether or not your role involves direct service user/patient contact), but also for your wider contribution to the aims of your team and the healthcare system as a whole	
1.5 Understand the current structure and function of Health and Social Care services in the UK	
1.6 Are able to actively contribute to sustainably improving services by working in partnership with service users, colleagues, local communities and the public	
Standard 2: Are able to practice safely and effectively within your scope of practice	
2.1 Understand the need to work within the limits of your personal competence	Employer reference Reflective practice Evidence that training has been delivered Feedback from training assessors
2.2 Understand the need to work within your agreed scope of practice for lawful, safe and effective Healthcare Science	
2.3 Know the limits of your practice and when to seek advice or refer to another professional	

Example 2: Skills Required for Practice as a Healthcare Science Practitioner

2. SKILLS REQUIRED FOR PRACTICE AS A HEALTHCARE SCIENCE PRACTITIONER	
Standard 16: Understand the need to establish and maintain a safe environment in which healthcare is delivered	
16.1 Understand the need to take reasonable care of health and safety at work for yourself, other members of your team and others, and to co-operate with employers to ensure compliance with health and safety requirements	Health reference Case studies Evidence of risk assessment in the workplace (signed by supervisor/professional) Appropriate training (online courses/seminars etc.) Training log
16.2 are able to identify and manage sources of risk in the workplace, including manual handling, specimens, raw materials, needle stick injuries, clinical and special waste, equipment, radiation and electricity	
16.3 Understand the need to apply correct methods of disinfection, sterilisation and decontamination and deal with waste and spillages accordingly	

Example 3: Knowledge of Healthcare Science

3. KNOWLEDGE OF HEALTHCARE SCIENCE	
Standard 17: Understand the key concepts of the knowledge base relevant to Healthcare Science	
17.1 Understand the structure and function of the human body, together with knowledge of health, disease, disorder and dysfunction relevant to Healthcare Science	Previous study/qualifications Reviewed work/assignments Reflective practice Review of GSP Case studies Evidence of presentations/posters Participation in scientific meetings
17.2 Understand the scientific principles upon which the practice of Healthcare Science is based	
17.3 Understand the underpinning knowledge of anatomy, physiology, pharmacology, pathology, biochemistry, immunology, epidemiology, public health medicine, genetics, microbiology and the psychosocial dimensions of health to provide the foundations for study in any of the three divisions of Healthcare Science – namely Physical Sciences and Biomedical Engineering, Life and Pathology Sciences, and Physiological Sciences	

Table 2: Evidence Map, AHCS Standards of Proficiency

AHCS Standards of Proficiency	Location of Evidence in Portfolio
1. PROFESSIONAL AUTONOMY AND ACCOUNTABILITY	
Standard 1: Understand your role in Healthcare science and its contribution to the delivery of high quality healthcare	
1.1 Understand your first concern is always the service user and the public	
1.2 Understand the need to respect and uphold the rights, dignity, confidentiality and autonomy of service users, including your role in the testing, investigation, diagnosis, treatment and therapy process, and in maintaining health and wellbeing	
1.3 Are able to maintain the highest standards of care and service, treating every individual with compassion, dignity and respect	
1.4 Understand the need to take responsibility not only for the care that you personally provide (whether or not your role involves direct service user/patient contact), but also for your wider contribution to the aims of your team and the healthcare system as a whole	
1.5 Understand the current structure and function of Health and Social Care services in the UK	
1.6 Are able to actively contribute to sustainably improving services by working in partnership with service users, colleagues, local communities and the public	
Standard 2: Are able to practice safely and effectively within your scope of practice	
2.1 Understand the need to work within the limits of your personal competence	
2.2 Understand the need to work within your agreed scope of practice for lawful, safe and effective Healthcare Science	
2.3 Know the limits of your practice and when to seek advice or refer to another professional	
Standard 3: Are able to practice within the legal and ethical boundaries of your profession as a Healthcare science Practitioner	

3.1 Are able to exercise a professional duty of care	
3.2 Understand the standards of proficiency, conduct and continuing professional development expected of you by the Academy for Healthcare Science	
3.3 Know about, and be able to meet the current legislation and policy applicable to your work	
3.4 Understand the need, where appropriate, to hold indemnity insurance	
Standard 4: Are able to maintain fitness to practice	
4.1 Understand the importance of maintaining your own health	
4.2 Understand the need to maintain high standards of personal, professional and business conduct	
4.3 Understand the need to maintain, develop and update your knowledge and skills once registered	
Standard 5: Are able to practice as an autonomous health professional, exercising your own professional judgment	
5.1 Are able to draw on appropriate skills and knowledge in order to make professional judgments	
5.2 Are able to assess a situation, determine the nature and severity of the problem and call upon the required knowledge and experience to deal with the problem	
5.3 Know the limits of your patience and when to seek advice or refer to another professional	
5.4 Recognise that you are personally responsible for, and must be able to justify your decisions	

Standard 6: Are aware of the impact of culture, equality and diversity on practice	
6.1 Understand the requirement to adapt practice to meet the diverse needs of service users	
6.2 Understand the need to take account of a service user's individual physical, psychological, religious and cultural needs when delivering healthcare	
6.3 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)	
6.4 Understand the need to address issues of inequality of service provision for all communities	
Standard 7: Are able to practice in a non-discriminatory manner	
7.0 Are able to practice in a non-discriminatory manner	
Standard 8: Understand the need for openness and transparency in the management and delivery of healthcare	
8.1 Understand the need to protect service users from risk or harm presented by another person's conduct, performance or health and to act appropriately when concerns are identified or raised	
8.2 Understand the duty of candor you owe to service users/patients and the public, and know how to act accordingly	
8.3 Understand how to share information as appropriate with service users/patients/carers, colleagues and other services to support the quality of care in line with published guidance and legal requirements, taking into account data protection and confidentiality	
8.4 Understand that your conduct should at all times justify the trust of service users/patients, carers, colleagues and the public in the scientific profession	

Standard 9: Understand the importance of and be able to maintain confidentiality	
9.1 Understand the need, when appropriate to obtain informed consent	
9.2 Understand the need to maintain the confidentiality of service user's information and records in line with published guidance, legal requirements and the wishes of the service user	
9.3 Understand that the requirements of confidentiality and informed consent extends to (for example) test results, recordings, digital images and illustrations	
Standard 10: Are able to maintain records appropriately	
10.1 Understand the need to maintain a complete record including all relevant information related to tests, investigations and treatment	
10.2 Are able to keep accurate, comprehensive and comprehensible records in accordance with applicable legislation, protocols and guidelines	
10.3 Are able to provide clear reports using appropriate methods of analysing, summarising and displaying information in ways that are accessible and understandable by non-scientific professionals	
Standard 11: Are able to communicate effectively	
11.1 Understand how communication skills affect the provision of Healthcare Science and how the means of communication should be modified to address and take account of sensory or cognitive impairments	

11.2 Are able to demonstrate effective and appropriate skills in communicating information, advice, instruction and professional opinion to colleagues, service users, their relatives and carers: • Are able to gather information, including qualitative and quantitativedata, that helps to evaluate the responses of service users to their care • Are able to evaluate intervention plans using recognized outcome measures and revise the plans as necessary in conjunction with service users • Recognise the need to monitor and evaluate the quality of practice andthe value of contributing to the generation of data for quality assurance and improvement programmes • Are able to make reasoned decisions to initiate, continue, modify or cease investigation, treatment or the use of techniques or procedures, andrecord the decisions and reasoning appropriately • Are able to select and apply quality control and quality assurance techniques in accordance with standard operating procedures, national and international guidelines • Are able to identify and respond appropriately to abnormal outcomes	
Standard 12: Are able to work appropriately with others	
12.1 Understand the need to work with other professionals, support staff, service users, carers and relatives in the ways that best serve the interests of individual service users and the public	
12.2 Understand the need to work effectively as a member of a multi-disciplinary team	
12.3 Understand the need to consult an take advice from colleagues where appropriate	
12.4 Understand the needs to respect the skills and contributions of your colleagues	
12.5 Understand the need to share information with colleagues to protect the health, safety and well-being of service users and the public	
12.6 Understand the need to maintain responsibility when delegating to others and provide support when necessary	

2. SKILLS REQUIRED FOR PRACTICE AS A HEALTHCARE SCIENCE PRACTITIONER	
Standard 13: Are able to draw on appropriate Healthcare Science knowledge and skills required for safe and effective practice	
13.1 Are able to identify and assess the Healthcare Science needs of service users	
13.2 Are able to gather appropriate information within the context of Healthcare Science and its application in Healthcare	
13.3 Are able to select and use appropriate standardised and non-standardised assessment techniques, including (where appropriate): • Are able to undertake and record a thorough, sensitive and detailed assessment, using appropriate techniques and equipment • Are able to demonstrate practical skills in the essentials of measurement, data generation and analysis • Are able to validate routine scientific and technical data and demonstrate compliance with pre-defined quality standards • Are aware of the need to assess and evaluate new equipment, methods and procedures prior to routine use • Are able to undertake and arrange investigations or assessments as appropriate using protocols to select standard healthcare science procedures	
13.4 Are able to conduct appropriate healthcare science procedures including: • Understand the need to maintain the safety of both service users and those involved in their care • Are able to use equipment, methods and other technology in routine clinical investigations in accordance with standard operating procedures, national and international guidelines • Are able to perform standard healthcare science procedures, including working directly with patients (where appropriate) to reproducible and measurable quality standards	

• Are able to validate standard scientific and technical data and observations from service users according to pre-determined quality standards	
13.5 Are able to analyse and critically evaluate the information collected, including: • Are able to contribute to the investigation and monitoring of disease processes and normal states • Are able to evaluate the performance of equipment and take corrective action where appropriate • Are able to use standard operating procedures to analyse data • Are able to participate in the audit of scientific and technical data • Are able to evaluate risks and their implications • Are able to produce a technical report on data collected and analysis undertaken • Are able to undertake or arrange investigations as appropriate and in accordance with standard protocols	
13.6 Are able to report on information collected, analysis undertaken and findings/results identified	
13.7 Are able to formulate and deliver specific and appropriate plans and strategies for meeting the Healthcare Science needs of service users, including setting of timescales	

13.8 Are able to use research, reasoning and problem-solving skills to determine appropriate actions, including: • Are able to recognise the value of research to the critical evaluation of practice • Are able to engage in evidence-based practice, evaluate practice systematically, and participate in audit procedures • Are aware of a range of research methodologies • Are able to demonstrate a logical and systematic approach to problem solving • Are able to perform scheduled experimental work and to produce and present results • Re able to present data in an appropriate form	
13.9 Are able to monitor and review the ongoing effectiveness of planned activity and modify it accordingly, including: • Are able to gather information, including qualitative and quantitative data, that helps to evaluate the responses of service users to their care • Are able to evaluate intervention plans using recognized outcome measures and revise the plans as necessary in conjunction with service users • 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 • Are able to make reasoned decisions to initiate, continue, modify or cease investigation, treatment or the use of techniques or procedures, and record the decisions and reasoning appropriately • Are able to select and apply quality control and quality assurance techniques in accordance with standard operating procedures, national and international guidelines • Are able to identify and respond appropriately to abnormal outcomes	
Standard 14: Are able to reflect on, evaluate and review practice	

14.1 Are able to critically reflect on their performance or situations and understand the need to record the actions they will put in place and the outcome of such reflection	
14.2 Understand the need to keep their professional, scientific, technical knowledge and skills up to date	
Standard 15: Are able to assure the quality of your practice	
15.1 Understand your role in assuring the quality of healthcare delivered to patients/service users	
15.2 Are able to engage in evidence-based practice	
15.3 Understand the need to plan, take part in, and act on the outcome of regular and systematic audits	
15.4 Understand the need to respond constructively to the outcome of audits, appraisals and performance reviews, undertaking further training where necessary	
Standard 16: Understand the need to establish and maintain a safe environment in which healthcare is delivered	
16.1 Understand the need to take reasonable care of health and safety at work for yourself, other members of your team and others, and to co-operate with employers to ensure compliance with health and safety requirements	
16.2 are able to identify and manage sources of risk in the workplace, including manual handling, specimens, raw materials, needlestick injuries, clinical and special waste, equipment, radiation and electricity	
16.3 Understand the need to apply correct methods of disinfection, sterilisation and decontamination and deal with waste and spillages accordingly	
3. KNOWLEDGE OF HEALTHCARE SCIENCE	
Standard 17: Understand the key concepts of the knowledge base relevant to Healthcare Science	
17.1 Understand the structure and function of the human body, together with knowledge of health, disease, disorder and dysfunction relevant to Healthcare Science	

17.2 Understand the scientific principles upon which the practice of Healthcare Science is based	
17.3 Understand the underpinning knowledge of anatomy, physiology, pharmacology, pathology, biochemistry, immunology, epidemiology, public health medicine, genetics, microbiology and the psychosocial dimensions of health to provide the foundations for study in any of the three divisions of Healthcare Science – namely Physical Sciences and Biomedical Engineering, Life and Pathology Sciences, and Physiological Sciences	
17.4 Are aware of the principles and applications of scientific enquiry, including the evaluation of treatment efficacy and the research process	
17.5 Recognise the role of other professions in Health and Social Care	
17.6 Understand the theoretical basis of, and the variety of approaches to assessment and intervention 17.7 Know the basic science underpinning the discipline in which the registrant practices and be able to put it into the clinical context	
17.8 Know the main clinical applications of the technology used in the discipline and the importance of decisions arising from the results of standard Healthcare Science procedures	
17.9 Understand the principles and practice of instruments, equipment and methodology used in the discipline	
17.10 Know the standards of practice and performance expected from the correct use of relevant equipment, methods and other technology and how to seek advice when confronted with non-standard data	

17.11 Healthcare Science Practitioners in medical physics and clinicalengineering must: • Know the physics and engineering principles and clinical applicationof clinical, scientific or technical procedures relevant to thespecialism • Know and understand the performance of a range of clinical, scientificor technical procedures relevant to the specialism including measurement principles, indications, contra-indications and limitations • Understand the quality assurance processes for a range of clinical, scientific or technical procedures relevant to the specialisms and to maintaining patient safety including calibration, action levels andinfection control • Understand the equipment lifecycle including specification, procurement, commissioning, preventative maintenance, fault finding and repair, calibration, safety testing and decommissioning for equipment relevantto the specialism • Understand the analysis and reporting of data from a range of clinical, scientific and technical procedures relevant to the specialism and theuse and limitations of reference ranges, action levels and normal values	
17.12 Healthcare Science Practitioners in physiological science must: • Know the pathophysiology of common conditions affecting patients referred for investigation • Know and understand the underpinning performance of a range of physiological (and where appropriate psychophysical) measurement investigations including measurement principles, indications, contra-indications and limitations • Know the quality assurance processes to assure the quality of a range of physiological measurement investigations relevant to the specialism and patient safety including calibration and infection control • Know the range of physiological measurement investigations undertakenin a paediatric setting including consent, child protection, embryology, child development investigative techniques and treatment options appropriate to the specialism • Know the therapeutic options including medication, non-pharmacological treatments, rehabilitation and stress management appropriate to the specialism	

• Know frameworks for analysis and reporting of data from a range of physiological measurement investigations relevant to the specialism and the use and limitations of reference ranges/normal values	
17.13 Healthcare Science Practitioners in laboratory sciences must: • Know the pathology of common conditions affecting patients referred for investigation relevant to the specialism and undertake or arrange investigations as appropriate • Know and understand the underpinning performance of a range of investigations relevant to the specialism including principles, indications, contra indications and limitations • Know the quality assurance processes to assure the quality of a range of life science investigations relevant to the specialism including equipment and infection control, and understand the need to establish and maintain a safe practice environment • Know the range of life science investigations undertaken in routine and specialist cases and the development of relevant investigative techniques appropriate to the specialism • Know frameworks for analysis and reporting of data from a range of life science investigations relevant to the specialism and the use and limitations of reference ranges/normal values.	