



Guidelines for Higher Education Institutions in England commissioned to provide new MSc Degree Programmes in Clinical Science

DELIVERING THE NEW
MODERNISING SCIENTIFIC CAREERS
HEALTHCARE SCIENCE
SCIENTIST TRAINING PROGRAMME

Revised in January 2016

Developing people for health and healthcare



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INTRODUCTION

This guide is intended to help clarify for Higher Education Institutions (HEIs) and their National Health Service (NHS) partners including Local Education and Training Boards (LETB) the requirements for delivery of MSc degree programmes in Clinical Science, which are accredited as meeting the requirements of *Modernising Scientific Careers: The UK Way Forward* which sets out the four UK Health Departments' agreed policy.

The Scientist Training Programme (STP) comprises an academic award (MSc in Clinical Science) and work-based training defined in a Learning Guide. The latest MSc curricula and STP Learning Guides can be found on the NHS Networks website by following the link: http://www.networks.nhs.uk/nhs-networks/msc-framework-curricula.

The first period of training commences with an induction period in the work-base and an initial academic block at the HEI. This is followed by four rotations of approximately 3-months working within the constituent specialisms of an STP theme namely;

Life Sciences

- Blood Sciences
 - Clinical Biochemistry, Haematology and Transfusion Science, Clinical Immunology, Clinical Immunology (Histocompatibility & Immunogenetics)
- Cellular Sciences
 - Histopathology, Cytopathology, Reproductive Science
- Infection Sciences
 - Clinical Microbiology
- Genetic Sciences
 - Genetics

Physiological Sciences

- Cardiac, Vascular, Respiratory and Sleep Sciences
 - o Cardiac Science, Vascular Science, Respiratory and Sleep Sciences
- Gastrointestinal Physiology and Urodynamic Science
 - o Gastrointestinal Physiology, Urodynamic Science,
- Neurosensory Sciences
 - Audiology, Neurophysiology, Ophthalmic and Vision Science

Physical Sciences and Biomedical Engineering

- Clinical Engineering
 - Rehabilitation Engineering, Clinical Measurement and Development, Device Risk Management and Governance
- Medical Physics
 - Radiotherapy Physics, Radiation Safety, Imaging with Ionising Radiation, Imaging with Non-Ionising Radiation
- Clinical Pharmaceutical Sciences
 - Clinical Pharmaceutical Sciences
- Reconstructive Sciences

Reconstructive Sciences

Informatics

- Clinical Informatics
- Health Informatics

In each rotation the trainees are required to achieve a series of learning outcomes in each specialism followed by an 'elective' clinical placement of 4 to 6 weeks. The remainder of the 3 years is then spent in work-base training in their final qualifying specialism. Throughout STP training, the MSc is followed in part-time mode and such on-site attendance as is specified by the HEI is mandatory. Completion of the STP programme requires the trainee to successfully complete the MSc and the work-based training.

In England, MSc degrees in Clinical Science which deliver the Modernising Scientific Careers (MSC) Healthcare Scientist programme (STP) curriculum involve a partnership approach between the Higher Education (HE) sector and the NHS (Lead Education Commissioner, LETB and Placement Providers). Integral to this approach is the recognition that HEIs are autonomous institutions, but in this case working within an NHS contract to deliver MSC approved and commissioned programmes. In order to achieve accreditation as meeting the requirements of MSC and as fit for NHS purpose, there are key principles and criteria which the new MSc programmes need to demonstrate are fulfilled.

The Education Outcomes Framework has set out clear outcomes for the education and training system and has enabled the allocation of education and training resources to be linked to quantifiable, quality outcomes. The framework has set expectations across the whole education and training system. LETBs and HEE use the Education Outcomes Framework as the basis for developing the operating model and working arrangements with partners (Reference - Liberating the NHS: Developing the Healthcare workforce).

The MSc delivers the underpinning academic learning to support the scientist trainee in their work-base training and to support their eventual role as a Healthcare Scientist. The HEI is not responsible for the procurement or monitoring of the work-base training and rotations, but is nevertheless responsible for ensuring that the delivery of the academic element is aligned with and supports the knowledge, skills and experience for the training and rotations, ideally prior to the rotations and the specialist training which follows them. It will also be important for the HEI to work closely in partnership with the work-base supervisors.

In developing this guide, it is recognised that the education and training landscape within the NHS is in a period of significant change. The HE sector too is experiencing significant changes, with changes to student fees bringing to the fore a greater focus on employability and return on fee paying students' investment.

This guide should be read in conjunction with the relevant MSc curricula and STP Trainee Learning Guides; the latest versions can be found on NHS Networks by following the link: http://www.networks.nhs.uk/nhs-networks/msc-framework-

<u>curricula</u>. Guidance for users on using the Online Assessment and Personal Management system can be obtained by emailing <u>NSHCS@wm.hee.nhs.uk</u>.

HEIs are encouraged to join NHS Networks to receive automatic alerts when any changes are made to curriculum documents or new material is added.

READERSHIP

This guide has been written for use in England and is intended to be used by:

- Academic staff within Higher Education Institutions
- Administrative staff within Higher Education Institutions
- External examiners
- Expert reviewers and those involved in NSHCS MSC accreditation events and reviews
- Local Education and Training Boards
- Commissioners and planners of healthcare science education and training
- Directors of training of healthcare science in the work-base
- Work-base trainers, coordinators, supervisors and trainees
- Managers of services in the NHS that employ healthcare science staff and the healthcare science workforce
- Patients, carers and members of the public
- Professional Bodies, National School of Healthcare Science and the Academy for Healthcare Science
- Regulatory Bodies i.e. Health Care Professions Council.

BACKGROUND

The UK Modernising Scientific Careers (MSC) programme has introduced an education, training and career framework for the NHS scientific workforce that puts the quality and safety of patient care at the centre, and recognises changing healthcare needs and advances in science and technology. Each stage of the healthcare science training pathway is supported by an appropriate academic award that provides the underpinning knowledge, skills and experience.

Higher Education Institutions (HEIs) are asked to note the national drivers presently impacting upon healthcare science education. HEIs should clearly demonstrate a commitment to (and processes for) ensuring that patient care, patient safety, and the patient perspective is central to the development, delivery and evaluation of the new MSc programmes. In developing programmes in response to calls to tender, HEIs may wish to refer to a range of contemporary policy documents, including:

Modernising Scientific Carers: The UK Way Forward (DH, 2010) http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_113275

Modernising Scientific Careers: The England Action Plan (DH, 2010)

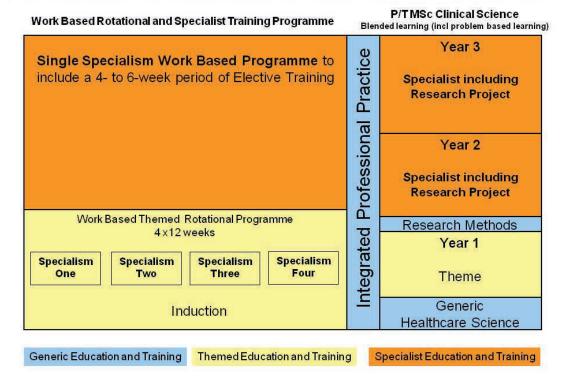
http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_115143

Liberating the NHS (White Paper: Equity and Excellence (DH, 2010) http://www.dh.gov.uk/en/Healthcare/LiberatingtheNHS/index.htm

The Scientist Training Programme (STP) includes a taught Masters degree in Clinical Science that underpins the 3-year work-base training programme. Across the academic programme and work-base training, STP combines and integrates a generic curriculum in professional practice, healthcare science, and research methods with specialist learning. Figure 1 depicts the broad framework around which all MSc degree programmes must be structured.

Figure 1: HIGH LEVEL FRAMEWORK MSc IN CLINICAL SCIENCE

Modernising Scientific Careers: Scientist Training Programme (STP): Diagrammatic representation of employment-based, 3 year NHS commissioned pre-registration education and training programme



PROGRAMME REQUIREMENTS

NSHCS Accreditation

An accreditation process has been developed to confirm that a MSc in Clinical Science delivered by an HEI meets the requirements of the MSC Scientist Training Programme outlined in *Modernising Scientific Careers: the UK Way Forward,* (DH, 2010). This accreditation process is currently the responsibility of the NSHCS

Accreditation Unit, with advice given by the Health Education England Healthcare Science Implementation Network group (HEE HCSING) and its Education and Training Scrutiny Group (HEE ETSG) on the Accreditation Unit's recommendations as to whether specific degree programmes should be accredited.

Aims and Objectives of Accreditation

The overall aim of accreditation is to establish and maintain a high quality academic experience for STP trainees who, on graduation and on successful completion of the work-base training, will be able to fulfill the role of a Healthcare Scientist in the NHS and meet the needs of patients and the public.

The objectives of accreditation are to ensure that each degree programme:

- i. meets the requirements of MSC and its framework;
- ii. involves NHS staff, patients and the public;
- iii. has sufficient high quality input from academic staff, clinical experts and appropriate teaching resources;
- iv. Will continue to develop and evolve in response to NHS developments, curriculum changes and feedback from employers, students, lay people and other partners.

Principles Underpinning Accreditation

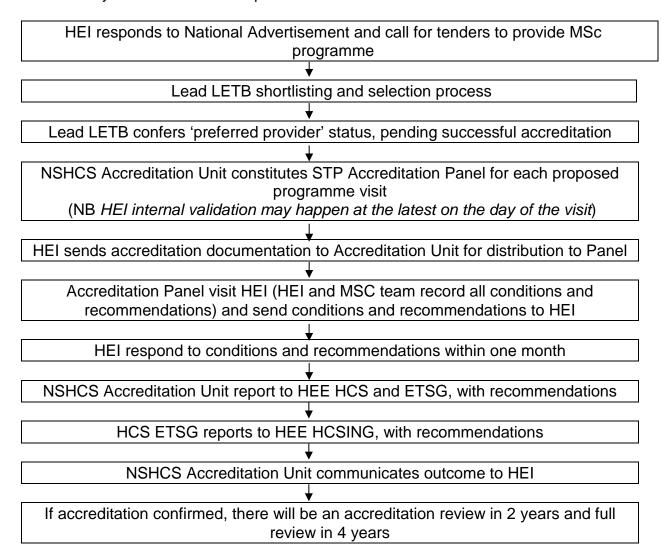
The general principles underpinning the accreditation of programmes include a requirement for the HEI to ensure that:

- delivery of the MSc conforms to the Education Outcome Framework as set out by HEE
- the curriculum is consistent with the MSC model and the educational approach is innovative in design, delivery and assessment including interprofessional, blended, distance, problem based learning using an approach that ensures accessibility to the geographical spread of trainees;
- teaching is research-informed from a research-rich environment in all areas;
- the development of critical thinking skills and a record of addressing ethical and professional issue in healthcare, including an understanding of the NHS, NHS values and clinical leadership are central to the programme;
- patient and lay advice and input has been sought in the design, delivery, assessment and development of the MSc, STP programme;
- details of the assessment policy and procedures are provided and are valid, reliable, consistent and equitable;
- record keeping and registration of trainees is robust;
- professional body links are established as appropriate to each HCS Division and specialism offered;
- patients will benefit from the education and training received by the Clinical Scientists who have completed the programme;

- there is a plan in place to proactively monitor the programme and to rapidly address any problems which may occur that are within the remit of the HEI the programme;
- there is a commitment to ensuring continued compatibility with the evolving MSC strategy and curriculum.

Overview of Accreditation Process

A summary of the accreditation process is shown below:



If ETSG's advice is that a programme should be approved for accreditation as meeting the requirements of *Modernising Scientific Careers: the UK Way Forward,* that decision is reported to Health Education England through its Healthcare Science Implementation Network Group and advice is provided to the four UK Health Departments.

Accreditation Standards

Domain 1:

S.1 PROGRAMME CONTENT

- S.1.1 The learning outcomes for each module and their relative credit rating, map to the MSC STP curriculum specification
- S.1.2 Admissions mechanisms are in place to recognise prior Learning.
- S.1.3 The commissioned specialist routes within the MSC theme are delivered by the programme.
- S.1.4 Prior to each rotation commencing the trainees to gain the relevant academic knowledge and understanding to undertake the rotation
- S.1.5 HCPC Standards of Education and Training and the professional standards of Good Scientific Practice professional standards are met
- S.1.6 The degree programme content reflects the rights, (responsibilities) and pledges of the NHS Constitution, placing the patient at the heart of education and training
- S.1.7 Key delivery staff are currently research-active in the relevant specialist scientific areas.

Domain 2:

S.2 PROGRAMME DELIVERY AND ENVIRONMENT

- S.2.1 The programme is delivered across 3 academic years using an approach that ensures accessibility to the geographical spread of trainees
- S.2.2 The programme provides trainees with effective academic and pastoral support
- S.2.3 Mechanisms for Quality Assurance are in place
- S.2.4 Award and Exit titles follow MSC recommendations
- S.2.5 All assessment policies and procedures are valid, reliable, consistent and equitable utilising a spread of assessments; clear module mark descriptors, assessment criteria, credit weightings, module mark, determination, deferrals, reassessments, failures and exit routes
- S.2.6 The majority of teaching in the specialist modules is undertaken by clinically practicing experts who are members of the relevant professional register

S.2.7 Professional practice and clinical leadership are taught and assessed in the introductory module and clearly integrated into the rest of the programme.

Domain 3:

S.3 PUBLIC, PATIENT AND SERVICE USER INVOLVEMENT

- S.3.1 The programme offers trainees appropriate engagement with patients, and involves patients in its delivery and review strategies
- S.3.2 Mechanisms are in place to ensure a close relationship between the Programme and key partners such as the Employers, the Education Commissioner, Patient/Carer Groups

Domain 4:

S.4 LIAISON WITH OTHER HEALTHCARE SCIENCE AGENCIES

S.4.1 Mechanisms are in place to ensure a close working relationship with a appropriate healthcare science agencies including Professional Bodies, the Academy for Healthcare Science, School of Healthcare Science and the Council for Healthcare Science In Higher Education Special Interest Group

Additionally the programme must have HEI Validation at the point of accreditation. Whenever possible, the NSHCS MSC Accreditation Visit will be arranged to coincide with the HEI Validation event. An example agenda can be found in Appendix 1.

Programme Delivery Requirements

- It is expected that the programme should be an integral part of the faculty/school and that opportunities for inter-professional learning are maximised:
- ii. There should be an appropriate balance between academic staff and visiting specialist staff to ensure teaching reflects current NHS practice;
- iii. Brief summary CVs should be provided for all academic and NHS teaching staff and should include:
 - a. Name and Title
 - b. Present Post
 - c. Areas of specialist expertise
 - d. Contribution to the programme
 - e. Contribution to other HEI programmes
 - f. Academic Qualifications
 - g. Professional Qualifications and Experience
 - h. Teaching Qualifications and Experience
 - i. Research profile, recent publications and other academic activities
 - j. Membership of Professional bodies
 - k. Continuing Professional Development Activities
- iv. There should be a written staff development plan for all staff involved in delivering the programme;

v. Academic and pastoral mentoring/support systems must provide on-going and urgent student support with strong links to the work-base in case of a trainee experiencing difficulty with academic issues during work-base placements. These arrangements should link to university student support services and all academic and NHS staff should be fully aware of the support systems in place within the university.

Accreditation Process

i. NSHCS Accreditation Unit will appoint an accreditation visiting panel chair and the following panel members will normally be included on each panel:

Member	Key Role
Accreditation Visiting Panel Chair	Leads the review of the submission prior to the visit, identifying any areas where information has not been provided and flagging up any major concerns. Leads the visit and approves the visit notes. The Chair also leads the review of the evidence to meet any conditions and attends the MSC STP Accreditation Panel meeting to present the visit findings. The Chair may also contribute to the proportionate touch review/on-going monitoring.
Professional Advisor	Provides advice with respect to alignment of the programme to the MSC division and specialism curricula frameworks and learning outcomes. Link with the professional body representatives.
Patient/Lay Representative	Advises on programme design, delivery, development and quality assurance and patient/lay involvement at all levels of the programme.
Professional Advisor from the National School of Healthcare Science (England only)	Advises on alignment with national workforce planning and work-based training including quality assurance of work-based training.
Representative from the Academy for Healthcare Science	Advises on Education and Training quality and standards.
Professional Body/ies representative	Provides specialist advice.

- ii. The Chair of the visiting panel will lead an initial review of the submission to ascertain if the submission is complete and identify any further information needed prior to the visit. This will usually happen within two weeks of submission. If necessary a teleconference with the panel will be convened. The visit will be deferred if the submission is inadequate or incomplete.
- iii. The accreditation visit agenda will be agreed between the Accreditation Unit and HEI, and if appropriate can be combined with the HEI validation agenda.

- It should provide time for discussions between the accreditation visit panel and HEI senior management, programme leaders and teams, external lecturers, work-based placement providers, lay/patient advisors and students.
- iv. The University Registrar must provide a member of staff to take formal meeting notes of the visit.

Accreditation Visit Outcomes

The possible outcomes are:

- Accreditation without conditions
- Accreditation subject to meeting conditions
- Accreditation declined

Accreditation is for a period of 4 years, with an accreditation review, normally after 2 years. If the HEI changes the programme during the period of accreditation, the MSC Accreditation Team must be informed via msc.accreditation@wm.hee.nhs.uk

If the Accreditation Unit become aware of a failure by the HEI to maintain compliance with the criteria for accreditation this will trigger a review by the Accreditation Unit that may result in the accreditation being withdrawn.

Costs of Accreditation and Charges

The Accreditation Unit will make the arrangements for travel and accommodation for the panel for the visit, but will reclaim these costs from the HEI following the visit. If any conditions need reviewing following reimbursement of the visit costs, there may be an additional charge.

Post-Visit Process

- i. The HEI will receive a formal letter and report from the Chair detailing the outcome of the accreditation interview
 - a. In the event of the HEI needing to meet Conditions, they will be asked to provide a response with the supporting evidence within one month of receipt of the outcome.
 - b. In the event of accreditation being declined the HEI will be offered the opportunity to re-submit within 2 months and will be supplied with clear details of why their submission fell short of the accreditation criteria/standards which has resulted in accreditation being denied/declined
- ii. The Chair of the Accreditation Visit Panel will review the HEI's response and confer with Panel members as necessary.
- iii. The HEI will be notified of the decision;
- iv. Any appeals to the outcome must be made in writing and submitted to msc.accreditation@wm.hee.nhs.uk within one month of notification of the outcome;

v. A report of all HEI Accreditation outcomes will be forwarded to Health Education England through its Healthcare Science Implementation Network Group for ratification.

On-going Review

There will be an accreditation review during the period of accreditation. This will normally be by the end of the second year of the accreditation period but could, on the advice on the Accreditation Panel, be earlier.

The review is proportionate in that the depth and breadth of the activity will depend upon the evidence provided since the degree was last accredited. If the documentation and data described below support the view that the programme is delivering to a high standard, then the accreditation review visit will be focused on verification and recognition of good practice. If the documentation and data including student feedback indicate that there are concerns and difficulties, the review visit will then focus on how the HEI has dealt with such issues and whether they have been resolved.

This review will be proportionate and comprise a paper-based review of documentation and evidence followed by a visit that centres on the HEI's quality data.

The aim of this review is to:

- Receive and review: annual monitoring reports, student feedback, assessor/supervisor feedback, and patient/lay feedback and progress to implement the action plan for patient/lay involvement
- ii. Meet with HEI students and staff
- iii. Meet with NHS trainers in the work-base
- iv. Meet with LETB staff
- v. Confirm that the programme continues to meet the accreditation criteria.

The proforma will be forwarded to the HEI allowing 6 weeks for completion and submission. The date of the accreditation review will be agreed with the HEI and will normally take place 6 weeks after receipt of the HEI's documentation.

The NSHCS Accreditation visiting team will *usually* comprise:

- Chair
- Lay representative
- Professional Adviser
- National School for Healthcare Science representative
- Academy of Healthcare Science representative

The outcome of the review will be:

- Accredited status continues
- Accredited status continues subject to meeting conditions.

The HEI will be notified of the outcome and additional advice or recommendations shared with them.

The NSHCS Accreditation Unit reserves the right to undertake any further accreditation activity it deems necessary. Accreditation will automatically be withdrawn if the programme loses validation for any reason, for example QAA review.

In the event of failure to meet the conditions set, a planned process of accreditation withdrawal will commence considering the best interests of the trainee at all times.

ACCREDITATION OF PRIOR LEARNING

HEIs should follow the Quality Assurance Agency guidelines. Learning should only be accredited if it is verified as valid, relevant, current and applicable to the particular programme to which the individual has applied. Good practice supports the view that such prior learning should only be used once, double counting is not recommended.

ASSESSMENT

Each HEI is responsible for the assessment strategy within its degree programme and for ensuring that its assessment policies and procedures are valid, reliable, consistent and equitable. HEIs should liaise with the National School of Healthcare Science to enable the HEI to understand the format and time-table for work-base assessment and to ensure alignment across the MSc and work-base training.

COLLABORATIVE DELIVERY

NHS contracts for provision of each MSc in Clinical Science will be with a single party. Collaborations between HEIs are welcomed as long as each collaboration has a "lead provider". It is the responsibility of the lead provider to establish and manage subsequent agreements between all partners and to formalise any franchising arrangements.

COMPENSATION/CONDONMENT

No condonment/compensation of modules and no aggregation of marks are permitted. Students must pass all modules to be eligible for the award of the MSC accredited MSc in Clinical Science.

CURRICULUM

The HEI should clearly structure its MSc degree programme and map its curriculum against the learning outcomes, indicative content and balance of learning and credits specified in the MSC STP curriculum framework documents for the relevant MSc in Clinical Science. This should include the proportion of learning and credits set out in the generic, division/theme and specialism curriculum content. It is for HEIs to deliver those learning outcomes and indicative content in a way that suits their local

arrangements (including credits awarded per module and sharing of modules with other trainees as appropriate/efficient).

Curriculum Approval for Modernising Scientific Careers

The current process for approving nationally agreed MSc curricula in England begins with the Education and Training Scrutiny Group (ETSG) of the Health Education England (HEE) Healthcare Science Implementation Network Group (HCSING). The ETSG reviews indicative curricula to ensure that programmes meet the requirements of *Modernising Scientific Careers: The UK Way Forward.* The decisions of ETSG are reported to Health Education England through the Healthcare Science Implementation Network Group and advice is provided to the four UK Health Departments. A process will be agreed for approval of curricula in the other UK countries and the overall strategic approach is considered at the UK MSC scrutiny group.

Current versions of the curricula for each MSc in Clinical Science and the associated Scientist Trainee Learning Guides can be found on NHS Networks at: http://www.networks.nhs.uk/nhs-networks/msc-framework-curricula.

Curriculum revisions will be posted onto this website. Updating and long term storage arrangements for the curricula are under discussion.

CURRICULUM DELIVERY

The Masters degree should be delivered within a three-year period in a part-time mode for the NHS MSC commissions, and include an introductory block at the beginning of the training. It is expected that the underpinning knowledge required to support each of the four rotations that occur in the first year of the STP training programme across the theme will usually be delivered before each of the rotations occurs. HEIs will need to liaise with the work-based supervisors and National School of Healthcare Science to ensure that as far as possible this happens.

The MSc must be awarded before the July of the trainees' third year (in the circumstances of normal trainee progression).

In terms of delivering the curriculum, key principles for HEIs include:

- good relationships between the HEI and the lead and/or local education commissioners must be in place and maintained over time
- programmes must meet current NHS quality metrics for non medical education and the equivalent of current Health Care Professions Council Standards of Education and Training and professional standards of Good Scientific Practice professional standards
- programmes must deliver the MSC learning outcomes and indicative content, which the HEE HCSING Education and Training Working Group has advised meets the requirements of *Modernising Scientific Careers: the UK Way Forward*

- the involvement of employers, patients and the public in the design, implementation, delivery and review of each course with each programme addressing the perspectives and experience of patients and local communities
- clarity about where and how the generic curriculum is delivered, including all underpinning theory
- an assessment programme that is fair, valid and reliable and clearly articulated for all modules
- a robust student support and mentoring system
- opportunities for shared learning, across healthcare science and with other health professions
- curricula must address equality and diversity issues
- the delivery, wherever possible, of the principles and knowledge underpinning practice before the specialist application and practice-based modules
- innovative methods of teaching and learning are encouraged
- clear statements with respect to teaching and learning methods
- suitable teaching and learning facilities with appropriate access to learning in clinical skills centres/simulation centres/teaching/research laboratories as appropriate.
- Research-active staff with a track record of undertaking high quality research
 of national and international standing relevant to the practice of healthcare
 science and the NHS.

Independent Learning

The design and delivery of programmes should promote student-centered, independent learning. Students need to gain the skills necessary to manage their own learning and to exercise initiative, personal and professional responsibility.

Inter-professional Learning

Opportunities to enable inter-professional and interdisciplinary learning, within and outside healthcare science should be a fundamental part of each programme. Depending on the HEI's overall curriculum offer, this may involve collaboration with other HEIs. HEIs are advised to consult section 2 of the QAA Code of Practice for the Assurance of Academic Quality and Standards in Higher Education.

Generic Curriculum

A generic curriculum underpins all MSC training programmes across the entire Career Framework. HEIs should ensure that the learning outcomes from the generic curriculum are clearly visible across the years of the programme with evidence of how they will be delivered. The relevant theory underpinning different aspects of the generic curriculum should be taught at the appropriate academic level.

Staff Experience and Qualifications

- Staff delivering the MSc in Clinical Science must have appropriate qualifications and demonstrate a commitment to their own continuing professional development. They must also be aware of the role of the Healthcare Science workforce and current priorities in the NHS;
- Teachers of all curricula must have the requisite knowledge, skills and experience including those teaching the specialist curriculum. This teaching should be delivered using up-to-date teaching and learning methods;
- Clinical teaching staff delivering specialist modules should be a member of the relevant professional register and have access to CPD opportunities relevant to the practice of teaching;
- Academic staff delivering the new MSC programmes must be qualified to do so as evidenced by appropriate academic and teaching and learning qualifications and/or experience in higher education;
- Recent experience in a relevant clinical area is considered to be a substitute for a formal teaching and learning qualification if the experience is accompanied by evidence of recent CPD aligned to current teaching, learning and assessment methods and research evidence;
- Each HEI must have a robust staff Continuing Professional Development (CPD) strategy and implementation plan in place for all staff delivering MSC accredited programmes and staff should keep a record of their activities in this regard;
- Each HEI is expected to establish strong communications with the National School of Healthcare Science and the work-base training providers/trainers;
- All HEI staff contributing to the MSc degree programme need to be aware of the requirements of the new MSC programmes and understand the fundamental differences between these new programmes and previous programmes. This will include an appreciation of the current and future role of the healthcare science workforce and the contribution this workforce can make to research, innovation and quality within the NHS.

Themed Work-base Rotations in Year One

In order for NHS partners to be able to manage the placement capacity required to support workplace rotations in Year One, all trainees in a theme will not normally be able to rotate through the same specialisms at the same time. Management of the order of rotations, and ensuring that the requisite academic material is available, needs to be a partnership approach between the HEI and the National School of Healthcare Science.

EQUALITY AND DIVERSITY

All degree programmes (both HEI and the work-based environments) should reference and be able to demonstrate evidence of adherence to the Disability Discrimination Act 1995 (DDA) which was extended to education in September 2002, following amendments introduced by the Special Educational Needs and Disability

Act (SENDA) 2001. Additionally, evidence should be demonstrated to show adherence to the Disability Discrimination Act (2005) which includes the Disability Equality Duty and the QAA Code of Practice on Students with Disabilities should be available. All degree programmes should also include evidence of adherence to the 2010 Equality Act and any superseding legislation with respect to equality.

FITNESS TO PRACTISE

In partnership with the National School of Healthcare Science all programmes must contain explicit details of the requirements of professional practice in their admissions process. The HEI must have a clear policy with respect to Fitness to Practise which must clearly articulate how staff and students are made aware of the policy and how the policy is implemented. Alongside this must be a clear policy on how student whistleblowers are supported. Breaches of professional practice and behaviour identified by the HEI or during HEI activities must be reported and investigated in accordance with this Fitness to Practice policy and accurate records maintained within the HEI.

HEALTH CARE PROFESSIONS COUNCIL (HCPC) STANDARDS OF EDUCATION AND TRAINING

HEIs must ensure and provide evidence that their programme meets the equivalent of the relevant Health Care Professions Council Standards of Education and Training.

LEAD EDUCATION COMMISSIONER FOR MSC

The Lead Education Commissioning role will be part of the transition to the new arrangements for commissioning education and training. The Lead Education Commissioner (Health Education West Midlands) will provide assurance that there is a consistent and coherent approach to the delivery of MSC programmes. It will focus on the delivery of high quality learning outcomes and ensure collaboration and the sharing of good practice between those involved in delivery. It will:

- Commission academic masters programmes on behalf of other LETBs using the tender specification framework.
- Collate HCS training and education plans from all LETBs and work with Health Education England to ensure collated plans are subject to analysis and review.
- Maintain an oversight of the quality of delivery of the Masters degree including oversight and amelioration of any failures of quality.
- Performance management of commissioned programmes.
- Input into standards relating to workplace training for inclusion in Learning and Development Agreements to ensure governance and accountability where commissioning on behalf of other LETBs.

LIBRARY RESOURCES/READING LISTS

There should be an adequate stock of up-to-date learning resources to support each MSc degree programme. Given the potential geographical spread of students/trainees, online and digitised material will be important. Up-to-date and appropriate reading lists for all modules, including the specialist modules need to be available.

LINKS TO MSC STRATEGY

HEIs should ensure there is a commitment to continued compatibility of their programmes with the evolving MSC strategy.

MONITORING AND FEEDBACK

A monitoring and feedback system should be in place that enables HEI staff, students, SHAs and NHS work-base trainers, supervisors, assessors, patients and lay people to provide constructive feedback about the MSc programme to the course organisers. An effective system to monitor the effective implementation of the programme and which addresses any problems in a timely manner must also be in place.

The feedback and response documents would normally be available for review at accreditation visits, subject to issues of data protection and confidentiality where these may apply.

NATIONAL SCHOOL OF HEALTHCARE SCIENCE

The National School of Healthcare Science (NSHCS) has been established within Health Education West Midlands. It works on behalf of all LETBs to provide national coordination for the delivery of MSC programmes.

For STP the School has Professional Advisers within each of the 4 divisions of Healthcare Science (Life Sciences, Physical Sciences and Biomedical Engineering and Physiological Sciences and Informatics).

There is a professional adviser who leads across all of the Practitioner Programmes.

Briefly the functions of NSHCS are to:

- provide oversight and co-ordination of the work-based training programmes;
- support the training departments in the organisation of rotational and specialist placements;
- provide support for supervisors, training managers and trainees;
- monitor quality assessment of work-based training:
- undertake accreditation visits to HEIs delivering MSC approved BSc and Masters programmes;

- oversee the national assessment programme and trainee performance including the management of the online assessment tool and end of programme exit assessments for scientists;
- support the integration of academic and work-base learning;
- manage national recruitment for scientist training programmes;
- monitor educational and training outcomes and maintenance of standards;
- work in partnership with stakeholders in particular the professional bodies;
- monitor and enable the delivery of the programme through the organisation of Themed Boards, run in partnership with the professional bodies and the HEIs;
- deliver the 'Train the Trainer' programmes.

For further information please contact: <u>NSHCS@wm.hee.nhs.uk</u>

PATIENT AND PUBLIC INVOLVEMENT

The HEI programme team should have mechanisms in place to ensure that there is patient and public involvement in the design, delivery, development and quality assurance of each programme. It is expected that patients will be represented on course committees at all levels.

Descriptions of MSC degree programmes need to make clear and explicit links to new models of service delivery, care and patient pathways. The delivery of high quality, patient centered care should be an integral part of each degree programme, with the emphasis on the contribution of the healthcare science workforce. The responsibility of all staff in the NHS to maximise quality and productivity and efficiency and to continually strive to improve services should be stressed. Equally important is the ability of graduates from the STP training programmes to communicate with the general public with respect to healthcare science, leading to a better educated public which is encouraged to take responsibility for its own health and well-being and has a greater understanding of the role that science plays in society.

PROFESSIONAL BODY LINKS

It is expected that the HEI will have established links with the relevant members of each profession/specialism for which the MSc programme is delivered and where appropriate have engaged the professional body in the design, delivery and development of all programmes.

PROGRAMME TITLES

The title of the degree programme should be consistent with MSC terminology. The award titles are:

MSc Clinical Science (Cardiac, Critical Care, Vascular, Respiratory & Sleep Sciences)

MSc Clinical Science (Neurosensory Sciences)

MSc Clinical Science (Infection Sciences)

MSc Clinical Science (Blood Sciences)

MSc Clinical Science (Cellular Sciences)

MSc Clinical Science (Medical Physics)

MSc Clinical Science (Clinical Engineering)

MSc Clinical Science (Gastrointestinal Physiology and Urodynamic Science)

MSc Clinical Science (Genetics)

MSc Clinical Science (Clinical Bioinformatics)

MSc Clinical Science (Informatics)

In accordance with their own discretion and regulations, HEIs may also be able to give an indication of "specialising in,,,,,,," to those titles for individual graduates.

RECORD KEEPING AND REGISTRATION

HEIs will have a robust and accurate system in place with respect to student registration, progress, graduation and attrition and record keeping that complies with the current Data Protection Act.

RECRUITMENT AND ADMISSION

The Healthcare Scientist trainees are recruited through a National Recruitment Process to ensure consistency and equity. The national recruitment strategy is designed to attract the very best science graduates, many of whom will already have a Masters qualification and some, Doctorates. Applicants undergo a competitive assessment process to ensure their suitability for the training posts on offer, in centralised Assessment Centres for each of the specialisms. Successful applicants are employed by Providers of NHS services on three-year, fixed term training contracts. The Assessment Centre system also provides for the assessment of inservice trainees who are undertaking the STP whilst in a substantive post, in order to progress from their current role to Healthcare Scientist. HEIs are autonomous institutions and admission processes must ensure trainees meet the Quality Assurance processes of the HEI.

English Language

Figure 2 overleaf shows the recognised English Language qualifications that International students whose first language is not English are usually required to have to be eligible for admission to the new MSc programmes alongside the HEl's academic requirements for entry. Admissions tutors are also advised to check current regulation/registration requirements.

Figure 2: Recognised English Language qualifications for International students whose first language is not English

Qualification	Level required
IELTS (International English Language Testing Score)	7.0 with no less than 6 in each element
Paper-based TOEFL (Test of English as a foreign language)	600 with a TWE (test of written English) of 4.5
Computer based TOEFL (Test of English as a Foreign language)	250 with no less than 4.5 in essay writing
IBT TOEFL (Test of English of a foreign language)	88 with no less than 19 in each element

RECRUITMENT OF NON-NHS STUDENTS

HEIs can recruit non-NHS students onto the MSc degrees but this would be outside of the NHS contract and students will not be able to access the work-base training element of the STP programme.

RESEARCH AND INNOVATION

HEIs will ensure that all teaching and learning is current and informed by research to ensure that at graduation the Healthcare Scientists meet the Framework for Higher Education Qualifications (FHEQ) descriptor at level 7 (http://www.qaa.ac.uk/. By undertaking a substantive research project[s] bearing 60 credits, students should become aware of the potential contribution of Healthcare Scientists as leaders in research and innovation.

Research Project

The MSc research project is a key component of the degree. It must link to the practice of healthcare science in the NHS and help students develop their awareness of and adherence to current ethical and research governance guidelines and legislation. The research project should enable students to apply the methods and techniques that they have learned to review, consolidate, extend and apply their knowledge and understanding by initiating, undertaking and disseminating the output from their research project. It is expected that many students will undertake their research project wholly or in part in the work-base within a strong research group with a track record of publication and grant income.

TRAINEE TRAVEL AND ACCOMMODATION

The costs of travel and accommodation for trainees will be determined at LETB level.

TRAINEE SUPPORT

Each HEI should have in place robust processes by which they will support trainees whilst in attendance at the HEI and with respect to academic issues related to the MSc whilst they are in the work-base to help minimise attrition from the MSc and to ensure, wherever possible, that trainees complete the degree within the timescale of three years. This should include:

- processes to identify trainees in need of academic support, and mechanism to put in place individual learning plans to ameliorate any difficulties;
- resources allocated to the provision of additional academic which may, if necessary, include 1:1 support;
- processes to flag concerns about trainees to the employer within the boundaries of confidentiality;
- processes to address concerns raised by trainees or work-base supervisors in respect of teaching or teaching support.

CONCLUSION AND FEEDBACK

This guide provides an overview of the key underpinning principles for the delivery of the new Modernising Scientific Careers MSc degree programmes in Clinical Science.

If you identify any errors or omissions, or would like to suggest additional information that could usefully be included, please email: msc.accreditation@nhs.net

This guide will be subject to regular review, modification and updating.

21st February 2012 - Dr Gillian Manning, Suzie Normanton, Professor Maggie Pearson

Reviewed and Revised 2nd April 2013 - Dr Sharon Harrison

Reviewed and Revised 05 June 2014 - Nicky Fleming and Catherine Mc Closkey

Reviewed and Revised 22nd July 2014 - Andrew Williams

Reviewed and Revised 20 February 2015 - Grace Hodgetts

Reviewed and Revised 27 January 2016 – Grace Hodgetts

Appendix 1 Typical Agenda for Accreditation Visit

Meeting title:	: XX University MSc Clinical Science (XXXX) Modernising Scientific Careers Accreditation Visit	
Date:	Time:	
Location:		

Please note the MSC team require a private room, separate to the main meeting room for the duration of the visit

Agenda items:

1.	Private Meeting of the HSHCS MSC accreditation team – This assumes the MSC team have been able to meet the evening before	09.00 -09.30	Locations	NSHCS MSC Accreditation Team
2.	Welcome and Introductions	09.30 - 09.45		Chair and Panel
3.	Brief presentation of the programme	09.45 -10.00		Programme Director
4.	Open agenda discussion, questions and answers with the University senior management team	10.00 – 10.30		Chair, Panel, University Senior Management
5.	Open agenda discussion, questions and answers with the programme team including programme director, module leaders, subject/programme librarian	10.30 -11.15		Chair, Panel, Programme Team
	COFFEE	11.15 -11.30		ALL
6.	Open agenda discussion, questions and answers with the programme team including programme director, module leaders, subject/programme librarian	11.15 -12.30		Chair, Panel, Programme Team
7.	Meeting with current students	12.30 – 13.00		MSC Panel and current students

	LUNCH	13.00-13.45	The MSC team require a separate room for a private discussion over lunch
8.	Meeting with NHS Trust/Workplace Supervisors and LETB colleagues	13.45-14.30	Chair, Panel, Programme Team, NHS and LETB colleagues
8.	Final question and answer session with programme team – if required	14.30 – 15.00	Chair, Panel, Programme Team
9.	MSC accreditation panel feedback	15.00 -15.15	MSC Accreditation Panel

^{*}The panel may also wish to visit the teaching and learning facilities.

Appendix 2 NSHCS MSC Accreditation Standards Proforma

* Aligned to Liberating the NHS: Developing the Healthcare Workforce: Education Outcomes Framework

Key Domains	Excellent	Competent and Capable	Adaptable and flexible	NHS values and	Widening participation
	Education = 1	Staff = 2	workforce = 3	behaviours =4	=5

MSc Healthcare science				
Domain	Accreditation Standard	Documentary Evidence Required	*EOF Domain(s)	
Domain 1	: S.1 PROGRAMME CONTENT	EVIDENCE REQUIRED		
	S.1.1 The learning outcomes for each module and their relative credit rating, map to the MSC STP curriculum specification.	 A high level map clearly showing how the programme maps to the MSC framework A clear delivery plan that demonstrates the timing of module delivery and shows that the underpinning knowledge is delivered before practice Programme specification All module specifications Programme, module and student handbooks Plan for research projects including location, research topic areas, research environments Up-to-date reading list 	Competent and capable staff (2)	
	S.1.2 Admissions mechanisms are in place to recognise Prior Learning.	 The process for Accreditation of Prior Learning (APL) must be defined by each HEI provider. Details of Prior Learning / Experiential achievements credit exemptions guidance 	Competent and capable staff (2)	
	S.1.3 The commissioned specialist routes within the MSC theme are delivered by the programme.	Documentary evidence to show how the commissioned specialist routes with the MSC theme are delivered by the programme	Competent and capable staff (2)	
	S.1.4 Prior to each rotation commencing the trainees to gain the relevant academic knowledge and understanding to undertake the rotation	Timetable of how the programme will be delivered and assessed	Competent and capable staff (2)	
			Adaptable and flexible	

		workforce(3)
		NHS values and behaviours (4)
S.1.5 HCPC Standards of Education and Training and the professional standards of Good Scientific Practice professional standards are met	Standards which reflect the Health and Care Professions Council Standards of Education and Training Map showing alignment with relevant QAA subject statements Map showing alignment to Good Scientific Practice professional standards	Excellent education (1)
S.1.6 The degree programme content reflects the rights, (responsibilities) and pledges of the NHS Constitution, placing the patient at the heart of education and training	map and migranian at programme demand to me night and	NHS values and behaviours (4)
S.1.7 Key delivery staff are currently research-active in the relevant specialist scientific areas.	· · · · · · · · · · · · · · · · · · ·	Competent and capable staff (2)
Domain 2: S.2 PROGRAMME DELIVERY AND ENVIRONMENT	EVIDENCE REQUIRED	
S.2.1 The programme is delivered across 3 academic years using an approach that ensures accessibility to the geographical spread of trainees	Details of the infrastructure supporting the programme	Adaptable and flexible workforce (3) Widening participation (5)
S.2.2 The programme provides trainees with effective academic and pastoral support	 Information about academic and student support mechanisms Student support services Training of mentors/personal tutors student support and mentoring processes including information on the links between the HEI and work-base 	Excellent education (1) Widening participation (5) (admissions procedures, APL/APEL)
S.2.3 Mechanisms for Quality Assurance are in place	· ,	Excellent education (1)

	 attendance monitoring trainee support trainee progression staff development (HEI, NHS specialist teachers internal and external annual monitoring reports should be provided (not applicable to new programmes) collection of, and response to, trainee feedback including staff/trainee consultative committees and trainee representation on programme and faculty committees evidence of patient participation in quality assurance employer liaison meeting minutes (with membership list and terms of reference) disability policies equal opportunity policies university academic regulations covering progression, appeals and award programme evaluation reports 	Widening Participation (5) (admissions procedures, APL/APEL)
S.2.4 Award and Exit titles follow MSC recommendations	A statement listing proposed award titles	Excellent education (1)
S.2.5 All assessment policies and procedures are valid, reliable, consistent and equitable utilising a spread of assessments; clear module mark descriptors, assessment criteria, credit weightings, module mark, determination, deferrals, reassessments, failures and exit routes	 School/Faculty overarching assessment strategy Summary of the assessment programme for the degree Details of each assessment within each module Mapping of assessments against learning outcomes Details of external examiner(s) and their role A statement that there will be no condonment/compensation of modules and that aggregation of marks will not be allowed in any module Details of reassessment/ deferral/exit routes 	Excellent education (1)
S.2.6 The majority of teaching in the specialist modules is undertaken by clinically practicing experts who are members of the relevant professional register	 Complete list of all staff contributing to the programme including a brief summary of their contribution CVs of all staff including all those who are named in module specifications including specialist contributors Evidence of NHS and University staff having appropriate training and/or qualifications in teaching, learning and assessment CVs of all NHS specialist teaching staff contributing to the programme including details of their specialist area of expertise 	Excellent education (1)

S.2.7 Professional practice and clinical leadership are taught and assessed in the introductory module and clearly integrated into the rest of the programme. Domain 3: S.3 PUBLIC, PATIENT AND SERVICE USER INVOLVEMENT	 and teaching qualifications Refer to the relevant section of this guide for further details of the required content of the CVs Evidence of staff CPD A short summary (500 words max) to illustrate how the initial teaching and later integration is achieved An example of an assessment including marking scheme EVIDENCE REQUIRED	NHS Values and behaviours (4) Competent and capable staff (2)
S.3.1 The programme offers trainees appropriate engagement with patients, and involves patients in its delivery and review strategies S.3.2 Mechanisms are in place to ensure a close relationship between the Programme and key partners such as the Employers, the Education Commissioner, Patient/Carer Groups	 A well designed patient engagement plan that involves patients and lay people in all aspects of the programme This plan should be drawn up with the patient/lay person representatives and should have clear time lines by which activities will be achieved and a formal review process Development plans Confirmation that the programme leaders have an on-going relationship with key partners, employers, commissioner, patient/carer groups Evidence of meetings 	NHS Values and behaviours (4) Adaptable and flexible workforce (3) NHS Values and behaviours (4) Adaptable and flexible workforce (3)
Domain 4: S.4 LIAISON WITH OTHER HEALTHCARE SCIENCE AGENCIES	EVIDENCE REQUIRED	
S.4.1 Mechanisms are in place to ensure a close working relationship with a appropriate healthcare science agencies including Professional Bodies, the Academy for Healthcare Science, School of Healthcare Science and the Council for Healthcare Science In Higher Education Special Interest Group	 Confirmation that the programme leaders have an on-going relationship with the professional body relevant to each specialism Evidence of working relationship with Academy of Healthcare Science and the School of Healthcare Science Evidence of attendance and active participation at the Council for Healthcare Science In Higher Education Special Interest Group 	Excellent education (1) Competent and capable staff (2)

Appendix 3

Principles Underpinning MSC Accreditation

The general principles underpinning the MSC accreditation of Masters programmes include requirements for the HEI to ensure that:

- delivery of the Masters programme informs the Education Outcome Framework as set out by HEE;
- the curriculum is consistent with the MSC model and the educational approach is innovative in design, delivery and assessment including inter-professional, blended, distance, problem-based learning using an approach that ensures accessibility to the geographical spread of trainees;
- teaching is research-informed from a research-rich environment in all areas;
- the development of critical thinking skills and a record of addressing ethical and professional issue in healthcare, including an understanding of the NHS, NHS values and clinical leadership are central to the programme;
- patient and lay advice and input has been sought in the design, delivery, assessment and development of the MSc/STP programme;
- details of the assessment policy and procedures are provided and are valid, reliable, consistent and equitable;
- record-keeping and registration of trainees is robust;
- professional body links are established as appropriate to each HCS Division and specialism offered;
- patients will benefit from the education and training received by the Clinical Scientists who have completed the programme;
- there is a plan in place to proactively monitor the programme and to rapidly address any problems which may occur that are within the remit of the HEI the programme;
- there is a commitment to ensuring continued compatibility with the evolving MSC strategy and curriculum.