

HSST: Physical Sciences Programme Structure

Year 1	Module A1: Professionalism and Professional Development in the Healthcare Environment (30 credits)		Module A2: Theoretical Foundations of Leadership (20 credits)	Specialist Units (30 credits) MP = B1 (10), B2 (10), B3a OR B3b (10) CBE = B1 (10), B2 (10) and B3 (10)			
Year 2	Module A3: Personal and Professional Development to Enhance Performance (30 credits)		Module A4: Leadership and Quality Improvement in the Clinical and Scientific Environment (20 credits)	Module A5: Research and Innovation in Health and Social Care (20 credits)	Module B5: Contemporary Issues in Healthcare Science (20 credits) [Physiological Science and Physical Science]	Specialist Units (30) MP = B4 (10), B6 (10), B8 (10)	
					Specialist Units (40) CBE = B4 (20) and B6 (20)		
Year 3	Specialist Units MP = B9 (20)		Module B7: Teaching Learning and Assessment (20 credits) [Physiological Science and Physical Science]	Module C1: Doctoral Research and Innovation in Clinical Science (70 credits)			
	CBE = B8 (10)						
Year 4	Specialist Units (30 credits) MP = B10 (30) CBE = B9 (10) and B10 (20)		Module C2: Research Project (200 credits over Years 4 and 5)				
Year 5	Module C2: Research Project (200 credits over Years 4 and 5)						

Module Titles

Section A: Leadership and Professional Development (120 credits)

All Clinical Scientists in HSST will complete these generic units together at the Manchester Business School, University of Manchester. Those students who are not completing the full professional doctorate could exit, after completing these modules, with a Diploma in Leadership and Professionalism for Healthcare Sciences.

Module	Title	Year	Credit Rating
Module A1	Professionalism and Professional Development in the Healthcare Environment	1	30
Module A2	Theoretical Foundations of Leadership	1	20
Module A3	Personal and Professional Development to Enhance Performance	2	30
Module A4	Leadership and Quality Improvement in the Clinical and Scientific Environment	2	20
Module A5	Research and Innovation in Health and Social Care	2	20

Section B: Specialist Scientific Clinical Programme (150 credits)

These are specialist specific modules relevant to the specialism the Student is completing. Some of these modules will be available as stand-alone CPPD units.

Shared Modules

The following modules are shared across themes:

Module	Title	Year	Credits	Shared with
Module B5	Contemporary Issues in Healthcare Science (including Bioinformatics, Genomics and Personalised Medicine and Patient and Public Involvement)	2	20	Physical Sciences and Physiological Sciences
Module B7	Teaching Learning & Assessment	3	20	Physical Sciences and Physiological Sciences

Clinical Biomedical Engineering (CBE)

Module	Title	Year	Credits
Module B1	Clinical Practice for Clinical Biomedical Engineers	1	10
Module B2	Systems Engineering	1	10
Module B3	Clinical Computing	1	10
Module B4	Health Economics/ Health Technology Assessment	2	20
Module B6	Modelling and Simulation (5 credits moved from B3)	2	20
Module B8	Specialist Clinical Biomedical Engineering Practice	3	10
Module B9	Specialist Clinical Biomedical Engineering Skills	4	10
Module B10	Leading CBE Services	4	20

Medical Physics (MP)

Module	Title	Year	Credits
Module B1	Medical Equipment Management (MPE)	1	10
Module B2	Clinical and Scientific Computing	1	10
Students will take either B3a or B3b depending on their career path			
Module B3a	Dosimetry (MPE)	1	10

Module	Title	Year	Credits
Module B3b	Non-ionising Radiation Bioeffects and Safety	1	10
Module B4	Optimisation in Imaging or Radiotherapy (MPE)	2	10
Module B6	Medical Statistics for Medical Physics	2	10
Module B8	Health Technology Assessment (HTA)	2	10
Module B9	Clinical Applications in Radiotherapy Physics or Imaging	3	20
Module B10	Specialist Practice in Radiotherapy Physics or Imaging	4	30

Section C: Research, Development and Innovation (270 credits)

The research project will be carried out at the Student's base hospital with academic supervision by an appropriate expert in the field. The aim of the project is to improve health and health outcomes and may include scientific, clinical, service transformation, innovation, leadership, policy, education or educational research. It is split into two units:

- **Module C1: Doctoral Research and Innovation in Clinical Science (70 credits):** the purpose of this module is to assess each trainee's ability to conceive an innovation in healthcare science and critically reflect on the relevant literature as well as any barriers to the implementation of the innovation (there is no requirement for primary research).
- **Module C2: Research Project (200 credits):** this is a substantial research project undertaken in years 4 and 5 which may be, but does not have to be, based on the innovation project planned in C1.