

# DClinSci: Physical Sciences Programme Overview

Year 1	<b>Module A1: Professionalism and Professional Development in the Healthcare Environment</b> (30 credits)	<b>Module A2: Theoretical Foundations of Leadership</b> (20 credits)	<b>Specialist Units (40 credits)</b> MP = B1 (10), B2 (10), B3a OR B3b (10), B6 (10) CBE = B1 (10), B2 (10) and B3 (10), B4a (10)			
Year 2	<b>Module A3: Personal and Professional Development to Enhance Performance</b> (20 credits)	<b>Module A4: Leadership and Quality Improvement in the Clinical and Scientific Environment</b> (30 credits)	<b>Module A5: Research and Innovation in Health and Social Care</b> (20 credits)	<b>Module B5: Contemporary Issues in Healthcare Science</b> (20 credits)	<b>Specialist Units (20)</b> MP = B4 (10), B8 (10)	
					<b>Specialist Units (30)</b> CBE = B4b (10) and B6 (20)	
Year 3	<b>Specialist Units</b> MP = B9 (20)	<b>Module B7: Teaching Learning and Assessment</b> (20 credits)	<b>Section C: Research, Development and Innovation</b> (270 credits over Years 3-5)			
	CBE = B8 (10)					
Year 4	<b>Specialist Units (30 credits) MP = B10 (30)</b> CBE = B9 (10) and B10 (20)	<b>Section C: Research, Development and Innovation</b> (270 credits over Years 3-5)				
Year 5	<b>Section C: Research, Development and Innovation</b> (270 credits over Years 3-5)					

# DClinSci: Physical Sciences Module Titles

## Section A: Leadership and Professional Development (120 credits)

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

Module	Title	Year	Semester	Credits
Module A1	Professionalism and Professional Development in the Healthcare Environment	1	1	30
Module A2	Theoretical Foundations of Leadership	1	2	20
Module A3	Personal and Professional Development to Enhance Performance	2	1	20
Module A4	Leadership and Quality Improvement in the Clinical and Scientific Environment	2	both	30
Module A5	Research and Innovation in Health and Social Care	2	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	Semester	Credits	Themes	Location
Module B5	Contemporary Issues in Healthcare Science (including Bioinformatics, Genomics and Personalised Medicine and Patient and Public Involvement)	2	2	20	Physical Sciences and Physiological Sciences	UoM
Module B7	Teaching Learning & Assessment	3	2	20	Clinical Bioinformatics, Physical Sciences and Physiological Sciences	UoM

## Clinical Biomedical Engineering (CBE)

Module	Title	Year	Semester	Credits
Module B1	Clinical Practice for Clinical Biomedical Engineers	1	Both	10
Module B2	Systems Engineering	1	Both	10
Module B3	Clinical Computing	1	2	10
Module B4	Health Economics/ Health Technology Assessment	1&2	Both	20

Module	Title	Year	Semester	Credits
Module B6	Modelling and Simulation	2	2	20
Module B8	Specialist Clinical Biomedical Engineering Practice	3	Both	10
Module B9	Specialist Clinical Biomedical Engineering Skills	4	Both	10
Module B10	Leading CBE Services	4	TBC	20

### Medical Physics (MP)

Module	Title	Year	Semester	Credits
Module B1	Medical Equipment Management (MPE)	1	2	10
Module B2	Clinical and Scientific Computing	1	2	10
Module B3	Dosimetry (Radiotherapy and Ionising Radiation)	1	2	10
Module B4	Optimisation in Imaging or Radiotherapy (MPE)	2	2	10
Module B6	Medical Statistics for Medical Physics	1	1	10
Module B8	Health Technology Assessment (HTA)	2	2	10
Module B9	Clinical Applications in Radiotherapy Physics or Imaging	3	1	20
Module B10	<p>Specialist Practice in Radiotherapy Physics or Imaging</p> <p>Trainees choose 3 x 10 credit modules from the following (some modules are compulsory for either Radiotherapy or Imaging trainees) modules may include:</p> <ul style="list-style-type: none"> <li>• B10a Advanced Radiobiology Related to Radiotherapy</li> <li>• B10b Assessment of Image Quality</li> <li>• B10c Novel and Specialised External Beam Radiotherapy</li> <li>• B10d Advanced Brachytherapy Techniques</li> <li>• B10e Novel Imaging Techniques</li> <li>• B10f Radiation Protection Advice</li> <li>• B10g Radioactive Materials, Waste and Transport Advice</li> <li>• B10h Laser, Ultra-violet and Artificial Optical Radiation Protection Advice</li> <li>• B10i Ionising Radiations Instrumentation Specialisation</li> <li>• B10j Mathematical Techniques in Medical Imaging</li> <li>• B10k Radiopharmaceuticals and Radiopharmacy</li> <li>• B10l Targeted Radionuclide Therapy</li> <li>• B10m Advanced Computing Techniques</li> </ul>	4	Both	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.

Please note: These overviews are a guide only; the semesters modules are taught in may be changed over time. The most accurate information will come from your programme team.