MALAYSIAN MEDICAL COUNCIL

SPECIALTY-SPECIFIC REQUIREMENTS (SSR) (HAEMATOLOGY)

Prepared By:

Specialty Education Subcommittee (SEC)

of the Medical Education Committee (MEC),

Malaysian Medical Council

Approved by the Malaysian Medical Council:

20th May 2025

Preface

1. The Specialty-Specific Requirements (SSR) pertain to requirements within each specialty and specify the minimum requirements pertaining to the training curriculum, trainers, educational resources and head of programme.

2. The Specialty-Specific Requirements (SSR) are intricately linked to the MMC Malaysian Standards for Medical Specialist Training 2019, and the Standards and SSR must be read and applied together.

Attachment 2

Specialty-Specific Minimum Requirements for Training Curriculum (Based on Area 1.2.4 of Malaysian Standards for Medical Specialist Training) -

Haematology

<table>
<tr><th>Specialty-Specific Requirements

(Reference Standard)</th><th>Criteria</th></tr>
<tr><td>1) Minimum entry requirements for postgraduate training

(Standard 3.1.)</td><td>1. Fully registered with the Malaysian Medical Council with a current annual practicing certificate.

2. Successful entry evaluation to programme.</td></tr>
<tr><td>2) Minimum duration of training programme

(Standard 1.2.4 - Table 2)</td><td>Completion of a minimum of 48 months of specialised training in the specialty program.</td></tr>
<tr><td>3) Structure of training (rotation/module)

(Standard 1.2.4 - Table 3 & Table 4)

Training overview</td><td>The programme should have a clear pathway encompassing phases of training which shall include the basic and advanced components in Haematology and Blood Transfusion

<table>
<tr><th>Areas</th><th>Minimum Duration (Months)</th></tr>
<tr><td>Basic haematology training with/without additional training in areas that supplement or add value to Haematology training such as, but not limited to, Medical</td><td>12</td></tr>
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<td>Training rotation/modules and case mix</td>
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<tr><td>Microbiology, Chemical Pathology and Anatomical Pathology.</td><td></td></tr>
<tr><td>Diagnostic haematology in core and advanced haematology.</td><td>30</td></tr>
<tr><td>Blood transfusion</td><td>6</td></tr>
</table>
*Duration of training per year is 48 weeks
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<td>4) Assessments

(Standard 2.2.1)</td>
<td>Assessments should
i. Employ appropriate methods and levels that are well-aligned with learning outcomes. These include a variety of methods and tools such as written assessments, clinical assessments, supervisor’s report, logbook, attendance, training attended, practice diary, and research report.
ii. Include methods appropriate to assess communication skills, ethics and professionalism
iii. Include formative and summative assessments throughout each rotation, semester, or year of study.
iv. Include clear criteria for progression to next year of study.
v. Include an exit evaluation/assessment</td>
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<td>5) Additional requirements for completion of training

(Standard 1.2.4)</td>
<td>i. Completion of graduate-level research or clinical audit project.</td>
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6) List of competencies to be acquired upon completion of training (Standard 1.1.4)	**Generic competencies** Able to i. Diagnose, investigate and manage common Haematology cases whilst considering health economics aspects. ii. Manage laboratory diagnostic services. iii. Work independently and in teams competently and professionally. iv. Practice good ethical conduct. v. Practice good communication skills. vi. Perform critical review, plan and conduct scientific research. vii. Exemplify self-advancement through continuous academic and/or professional development. viii. Apply evidence-based medicine in the field of Haematology. ix. Demonstrate exemplary leadership qualities in the multi-disciplinary team management of Haematology cases. x. Demonstrate an entrepreneurial mindset, creative problem-solving and resilience. **Specialty Specific Competencies** Able to i. Perform Peripheral Blood Film Reporting. ii. Perform Bone Marrow and Trephine Biopsy reporting. iii. Perform specialised Haematology tests results reporting, including Immuno-haematology. iv. Perform quality management of the Haematology and Blood Transfusion Laboratory services.

Note : These criteria represent the minimum standards. Each educational programme provider may exercise their autonomy to state criteria above and beyond these minimum standards.

Attachment 4

Specialty-Specific Minimum Requirements for Training Centres and Head of Programme (Based on Areas 3-6 of Malaysian Standards for Medical Specialist Training) -

Haematology

Item No	Specialty-Specific Requirements (Reference Standard)	Criteria
4	Trainer-to-trainee ratio (Standard 3.1.3)	1:4
5	Minimum qualifications and experience of trainers (Standard 4.1.2)	i. Registered with National Specialist Register ii. Completed Training-of-Trainer course/equivalent
6	Minimum requirements for educational resources (Standard 5.1.1)	The diagnostic facilities and equipment requirement of the programme training centres must **collectively** be able to accommodate the following minimum requirements: i. Physical facilities: a) Seminar/ tutorial rooms b) Trainee workspace c) Computer room with internet facilities d) Library of reference books or journals (physical and/or virtual) ii. Service Areas The laboratories must be accepted or approved by relevant bodies for diagnostic Haematology laboratory or equivalent services. **Service Areas** <u>Routine haematology tests</u> Full Blood Count (Manual or Automated Cell Counting),

			Routine Coagulation (Prothrombin Time/ International Normalized Ratio, Activated Partial Thromboplastin Time), Serum Fibrinogen, Thrombin Time, D-Dimer, Reticulocyte, and Erythrocyte Sedimentation Rate	
			Blood film preparation and staining	
			Bone Marrow Aspirate and Trephine Biopsy preparation and staining.	
			<u>Specialised Haematology Tests</u> Haemoglobin analysis, Staining for Inclusion Bodies, Glucose-6-phosphate dehydrogenase screen and assay, Keilhauer test, Urine Haemosiderin, Serum Folate, Serum Vitamin B12, Serum Iron, Total Iron Binding Capacity, Transferrin Saturation, Serum Ferritin, Flow Cytometry for Immunophenotyping, Cerebrospinal Fluid Cytospin, Serum and Urine Protein Electrophoresis, Immune Fixation and Serum Immunoglobulin, Specialised Haemostasis and Thrombosis Tests (Coagulation Factor Assay, Inhibitor Screening Assay, Platelet Function Testing, Von Willebrand Assay and tests for Thrombophilia work-up), Blood grouping facilities, Cross Matching facilities, Antibody Screening, Antibody Identification, Blood Donor Facilities, Blood Component Preparation, Specialized Immunohematology Tests (Elution Test, Auto-Adsorption Test, Antibody Titration, Apheresis Technique, Platelet Antibodies Testing, Platelet Cross Matching), Microbiological Screening and confirmation tests for donors (Hepatitis B, Hepatitis C, Human Immunodeficiency Virus (HIV) and Syphilis)	
			Stem Cell collection, processing and Cryopreservation, Human Leukocyte Antigen Typing and CD34 Enumeration	

Cytogenetics (Karyotyping, Fluorescence In Situ Hybridization - FISH)
Molecular tests - Polymerase Chain Reaction (PCR)-based techniques for molecular diagnostics
Facilities for both Adult and Paediatric Clinical Haematology Services.

iii. Equipment

Location	Equipment
Diagnostic laboratories	Haematology Analyser with 5-part differential count
	Coagulation Analyser
	Water Bath for Clotting Screen
	Haemoglobin Analysis Apparatus
	Ultraviolet (UV) viewer
	Incubator
	Spectrophotometer
	Microscopes
	Flow Cytometer
	Thermocycler
	Refrigerator for Specimen/Reagent Storage
	Centrifuges
	pH Meter Balance
	Blood Bank Refrigerators
	Plasma Freezer

Blood transfusion laboratories	Refrigerated Centrifuge
	Water Baths
	Serofuge
	Microscopes
	Column Agglutination Technology
	Platelet Agitator
	Plasma Extractor
Teaching facilities	Dual-Viewing or Multi-Headed Microscopes
	Computers with Internet Facility
	Microscope-Linked or Digital Image Projection for Multidisciplinary Team Discussions

iv. Clinical Samples

a) The minimum clinical samples per year for the training centre shall be:
   - 2400 Full Blood Pictures (5 parts Haematology Analyser + blood film)
   - 180 Bone Marrow Aspirate and Trephine Biopsy
   - 1800 Prothrombin Time (PT)
   - 1800 Activate Partial Thromboplastin Time (APTT),
   - 9600 ABO & Rh D grouping,
   - 4800 Antibody Screening,
   - 4800 Crossmatching and
   - 240 Haemoglobin Analysis.

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<td>v. Case Load (Case Mix)

The case load of the programme training centre(s) must collectively be able to accommodate the following minimum requirements:

a) Case mix shall include both Non-Malignant and Malignant Haematological disorders such as:

<table>
<tr><th>Areas</th><th>Details</th><th>Minimum Quantity (cases/ trainee/year)</th></tr>
<tr><td>Red Cells Disorders</td><td>Inherited and Acquired Anaemias</td><td>500</td></tr>
<tr><td>White Cell Disorders</td><td>Benign and Malignant White Cell Disorders</td><td>250</td></tr>
<tr><td>Bleeding Disorders</td><td>Acquired and Inherited Bleeding Disorders</td><td>60</td></tr>
<tr><td>Transfusion Medicine</td><td>Vein to Vein Transfusion Managements</td><td>50</td></tr>
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<tr>
<td>7</td>
<td>Minimum qualifications and experience of Head of Programme

(Standard 6.2.2)</td>
<td>i. 5 years or more of working experience after national specialist registration

ii. Experience in administration and/or academic management</td>
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</table>

Note : These criteria represent the minimum standards. Each educational programme provider (ETP) may exercise their autonomy to state criteria above and beyond these standards.

Glossary for Lab Based

*Relevant body(ies) refers to Department of Standards Malaysia, SIRIM and etc.

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