# MLT - Competencies That can be Simulated

A maximum limit for simulation of 70% per competency section, excluding section 7, can be used for assessment.

#### **Category 1: Safe Work Practices**

Practice I simulation	Can simulation be used for assessment?	
1.01	Applies the principles of routine practices	Yes
1.02	Uses personal protective equipment, e.g. gloves, gowns, mask, face shields, aprons	Yes
1.03	Applies laboratory hygiene and infection control practices	Yes
1.04	Minimizes possible dangers from biological specimens, laboratory supplies and equipment	Yes
1.05	Uses laboratory safety devices, e.g. biological safety cabinet, fume hood, laminar flow cabinet, safety pipetting device, safety container and carrier, safety shower, eye wash station	Yes
1.06	Labels, dates, handles, stores and disposes chemicals, dyes, reagents and solutions according to legislation, e.g. WHMIS	Yes
1.07	Handles and disposes sharps	Yes
1.08	Stores, handles, transports and disposes biological and other hazardous materials according to legislation	Yes
1.09	Uses disinfection and sterilization methods	Yes
1.10	Minimizes potential hazards related to disinfection/sterilization methods	Yes
1.13	Applies measures in response to laboratory accidents/incidents	Yes

1.12	Applies spill containment and clean up procedures for biological and other hazardous material	Yes
1.13	Responds appropriately to workplace emergencies	Yes
1.14	Reports and documents all incidents related to safety and personal injury	Yes
1.15	Applies proper ergonomic principles to minimize risk of injury	Yes

### Category 2: Data and Specimen Collection and Handling

Practice [ for assessi	Domain: ≤ 70% of curriculum can use for simulation ment.	Can simulation be used for assessment?
2.01	Verifies relevant information is provided for test request	Yes
2.02	Provides information to the client on specimen collection, transportation and storage	Yes
2.04	Performs sample collection and chain of custody procedures relating to specimens with legal implications	Yes
2.05	Adheres to established protocols for labeling and traceability of specimens	Yes
2.07	Assesses specimen suitability for testing	Yes
2.08	Verifies that the pertinent data on the specimen and requisition correspond	Yes
2.09	Accessions specimens into laboratory information systems	Yes
2.11	Prepares specimens for analysis	Yes
2.12	Identifies, documents and initiates corrective action for pre-examination (preanalytical) errors	Yes

# Category 3: Analytical Processes

Practice Domain: ≤ 70% of curriculum can use for simulation for				Can	
asses	assessment.				
				be used for	
				assessment?	
3.01	Applies the			Yes	
	principles of				
	microscopy: bright				
	field, fluorescence,				
	polarizing, inverted				
3.02	Applies the physical			Yes	
	and chemical				
	principles of staining				
		3.02.01	Assesses the quality of staining and initiates corrective action	Yes	
3.03	Applies principles of			Yes	
	light measuring				
	systems used in				
	common				
		3.03.01	Assesses results, identifies	Yes	
			sources of interference and		
2.04			initiates corrective action	Vee	
3.04	Applies principles of			Ies	
	systems used in				
	common instruments.				
	ion selective				
	electrodes.				
	conductance				
	electrodes				
		3.04.01	Assesses results, identifies	Yes	
			sources of interference and		
			initiates corrective action		
3.05	Applies principles of			Yes	
	electrophoresis and				
	chromatography				
		3.05.01	Assesses results, identifies	Yes	
			sources of interference and		
0.00			initiates corrective action		
3.06	osmometry			res	
		3.06.01	Assesses results, identifies	Yes	
			sources of interference and		
			initiates corrective action		
3.07	Applies principles of			Yes	
	immunoassays	1			

		3.07.01	Assesses results, identifies	Yes
			sources of interference and	
			initiates corrective action	
3.08	Demonstrates			Yes
	knowledge of			
	principles of mass			
	spectrometry			
		3.08.01	Assesses results, identifies	Yes
			sources of interference and	
			initiates corrective action	
3.09	Applies principles of			Yes
	particle analysis used			
	in common			
	hematology			
	instrumentation	2 00 01		<b>N</b>
		3.09.01	Assesses results, identifies	Ies
			initiates corrective action and/or	
			follow up testing	
		3.09.02	Performs manual counting	Yes
		•••••	procedures	
3.10	Demonstrates the		•	Yes
	knowledge of			
	principles of flow			
	cytometry			
		3.10.01	Assesses results, identifies	Yes
			sources of interference and	
			initiates corrective action	
3.11	Applies the			Yes
	principles of			
	nemostasis to			
	testing			
	lesting	3 11 01	Assesses results identifies	Vos
		0.11.01	sources of interference and	169
			initiates corrective action and/or	
			follow up testing	
3.12	Performs qualitative			Yes
	and quantitative			
	biochemical analyses			
		3.12.01	Assesses results, identifies	Yes
			sources of interference and	
			initiates corrective action and/or	
	<b></b>		follow up testing	
3.13	Prepares blood, body			Yes
	lluids and other			
	clinical specimens for			
	microscopic			
	examination			

3.14	Identifies and			Yes
	evaluates the			
	cellular and non-			
	cellular elements in			
	microscopic			
	preparations	3 14 01	Differentiates between clinically	Vos
		5.14.01	significant and insignificant	169
			findings	
		3.14.02	Assesses results, identifies	Yes
			sources of interference and	
			initiates corrective action and/or	
3 15	Applies principles of		follow up testing	Yes
0.10	immunology to the			105
	detection of antigens			
	and antibodies			
3.16	Performs testing to			Yes
	Identify common red			
	and antibodies			
		3.16.01	Interprets results to determine	Yes
			phenotype/genotype	
		3.16.02	Differentiates between clinically	Yes
			significant and insignificant	
		3.16.03	Performs compatibility analyses	Yes
		3.16.04	Assesses results, identifies	Yes
			sources of interference and	
			initiates corrective action and/or	
			follow up testing	
		3,17,02	Ensures proper storage of blood	Yes
			products	
		3.17.03	Evaluates the quality of blood	Yes
		0.17.04	products	
		3.17.04	Evaluates the appropriateness of the blood product for the	Yes
			patient's clinical situation	
3.18	Describes and		· · · · · · · · · · · · · · · · · · ·	Yes
	investigates the			
	adverse effects of			
	to established			
	protocol and initiates			
	follow-up action			
3.19	Performs analyses to			Yes
	detect and identify			

	common clinically			
	organisms			
	5	3.19.01	Selects appropriate culture	Yes
			media and environment for	
			isolation	
		3.19.02	Describes common clinically	Yes
			significant micro-organisms	
			according to body site	
		3.19.03	Confirms identification using	Yes
			staining techniques,	
			biochemical, serological and	
			automated testing methods	
		3.19.04	Applies the principles of	Yes
			instrumentation to the detection	
			of micro-organisms	
3.20	Performs			Yes
	antimicrobial			
	susceptibility			
	anaryses	2 20 01	Accesso regulta identifica	Vez
		3.20.01	Assesses results, identifies	ies
			corrective action and/or follow	
			up testing	
3.21	Applies molecular			Yes
0	diagnostic principles			-05
	to identify nucleic			
	acid sequences			
		3.21.01	Assesses results, identifies	Yes
			sources of interference/errors,	
			initiates corrective action and/or	
			follow up testing	
3.22	Performs tissue			Yes
	preparation			
	techniques: Grossing,			
	Processing,			
	Embedding,			
	Sectioning (parallin			
		3.22.01	Assesses quality of the	Yes
		5.22.01	preparation and initiates	100
			corrective action and/or follow	
			up	
3.23	Performs techniques		▲	Yes
	to demonstrate			
	cellular and non-			
	cellular components			
	in tissue and body			
	fluids			

		3.23.01	Assesses quality of the technique and initiates corrective action and/or follow up	Yes
3.24	Operates and maintains standard laboratory			Yes
		3.24.01	Prepares reagents, calibrators, standards and quality control materials	Yes
3.25	Describes the role of the laboratory in point-of-care testing			Yes
		3.25.01	Performs point-of-care techniques, assesses results, identifies sources of interference and initiates corrective action	Yes

# Category 4: Interpretation and Reporting of Results

Pract asses	Can simulation be used for assessment?	
4.02	Reports results that meet quality control criteria	Yes
4.03	Identifies unexpected or implausible results and takes appropriate action prior to reporting	Yes
4.04	Recognizes and acts on critical values	Yes
4.05	Documents results accurately	Yes
4.06	Accounts for all tests requested	Yes

### Category 5: Quality Management

Pract asses	tice Domain: ≤ 70% of curriculum can use for simulation for ssment.	Can simulation be used for assessment?
5.01	Demonstrates knowledge of quality systems essentials (QSE)	Yes
5.02	Follows established protocols as defined in policy, process and procedure manuals	Yes
5.03	Assesses quality control data and calibration data	Yes
5.04	Uses statistics to monitor and track the acceptability of quality control results	Yes
5.05	Identifies, documents and reports deficiencies that may affect the quality of testing	Yes
5.06	Performs and documents preventative maintenance according to established protocols	Yes
5.09	Demonstrates knowledge of risk management	Yes
5.11	Demonstrates knowledge of inventory maintenance	Yes
5.12	Demonstrates information management skills, e.g. computer, laboratory information systems and related technology	Yes

### Category 6: Critical Thinking

Practice Domain: ≤ 70% of curriculum can use for simulation for assessment.		Can simulation be used for assessment?
6.02	Recognizes that change initiated in one area may impact other areas of health care services	Yes
6.03	Engages in reflective practice; stops and thinks about practice, consciously analyzes decision making and draws conclusions to improve future practice	Yes

6.04	Organizes work to accommodate priorities	Yes
6.05	Maximizes efficient use of resources, e.g. time, equipment, personnel	Yes
6.06	Demonstrates effective problem solving/trouble-shooting strategies and initiates appropriate follow up	Yes
6.07	Contributes to implementation strategies that integrate timelines, resource management and communication related to projects or research/studies	Yes
6.08	Practices evidence-based decision-making skills such as literature review, data analysis and research methodologies/studies	Yes

# Category 8: Professional Practice

Practice Domain: ≤ 70% of curriculum can use for simulation for assessment.		Can simulation be used for assessment?
8.04	Obtains informed consent prior to procedure and respects a patient's right to refuse	Yes
8.07	Recognizes the need for and participates in continuing education and training	Yes
8.09	Recognizes how ethical issues in the health care environment affect the medical laboratory technologist and clients	Yes
8.10	Demonstrates knowledge of the health care system, professional laboratory organizations and their responsibilities	Yes
8.11	Demonstrates knowledge of the determinants of health and their implications for the laboratory system	Yes