MEDLAB BASICS · STUDY SHEET

ASCP MLS Exam Guide

The Medical Laboratory Scientist exam: format, content areas, eligibility, renewal and a 6-week study plan

12 sources + more detail
medlabbasics.com/sheets/guide-ascp-mls.html
checked Nov 2026

1 The exam at a glance

FEATURE	DETAIL
Items	100 multiple choice, four options (A to D), one best answer; includes unscored field-test items (number not published)
Time	2 hours 30 minutes, about 90 seconds per item
Format	Computer adaptive at a fixed length: every candidate answers all 100
Navigation	No skipping; flag items and review or change answers if time remains after the last item
Calculator	On-screen calculator provided
Scoring	Scaled score 100 to 999; 400 to pass. Based on the pattern of responses, not a percent correct
Results	Preliminary pass or fail on screen; score report within 4 business days. Failing reports show a breakdown by area
Where	Pearson VUE test centers
Fee	$260 application fee, non-refundable
Retakes	Up to 5 attempts per eligibility route; next attempt no sooner than 30 days after the last; new application and fee each time

The adaptive engine starts near the passing standard, gives a slightly harder item after a correct answer and a slightly easier one after a miss, and aims for about a 50% chance of a correct answer on each item. Areas are mixed throughout, not given in blocks.

EXAM TIP Field-test items look exactly like scored ones. Give every item full effort, and do not read a run of hard items as a sign you are failing: an adaptive exam is meant to feel hard.

2 What is on it

MLS(ASCP) and MLS(ASCPi) Examination Content Guideline, revised June 9, 2026. The app's mock uses each range's midpoint, scaled to 100 items.

CONTENT AREA	GUIDELINE RANGE	APP MOCK ITEMS
Blood Banking	17 to 22%	19
Urinalysis and Other Body Fluids	5 to 10%	8
Chemistry	17 to 22%	19
Hematology (includes hemostasis)	17 to 22%	19
Immunology	5 to 10%	8
Microbiology	17 to 22%	19
Laboratory Operations (includes basic management and education principles)	5 to 10%	8

Items test three levels: knowledge, comprehension, and application or analysis. Regulatory questions use U.S. sources (AABB, FDA, CLIA), and donor eligibility questions follow the regulations in force as of June 2026. Results on the exam are shown in both conventional and SI units.

The app's Mock Exam is a fixed 100-item form with a 150-minute limit and the counts above. It is not adaptive and scores as a percent, not a scaled score, so treat the result as practice, not a prediction.

3 Ranges and calculations to learn

The guideline publishes composite reference ranges for chemistry, blood gases, hematology, CSF, semen and urine. They are not shown during the exam, and every matching value on the exam can be read against them; other ranges are given when needed. ASCP says they are for exam purposes only, not clinical use. The full tables are on the Reference Ranges the Exam Uses page. A few to start with:

ASCP BOC composite reference ranges, MLS content guideline, June 9, 2026

TEST	CONVENTIONAL	SI
Sodium	136 to 145 mmol/L	136 to 145 mmol/L
Potassium	3.5 to 5.1 mmol/L	3.5 to 5.1 mmol/L
Glucose, fasting	74 to 100 mg/dL	4.1 to 5.6 mmol/L
WBC	3.6 to 10.6 x 10^3/µL	3.6 to 10.6 x 10^9/L
Platelets	150 to 450 x 10^3/µL	150 to 450 x 10^9/L
MCV	76 to 100 fL	76 to 100 fL

CALCULATION THE GUIDELINE EXPECTS	WHERE TO PRACTICE IT
Transferrin saturation, UIBC, TIBC	Electrolytes, Acid-Base and Blood Gases page
Unconjugated (indirect) bilirubin	Clinical Chemistry: Analytes and Disease Patterns page
LDL by Friedewald; non-HDL cholesterol	LDL Friedewald calculator
A/G ratio	Clinical Chemistry: Analytes and Disease Patterns page
Timed urine; creatinine clearance	Measured Creatinine Clearance calculator
Beer's law	Beer's Law calculator
WBC corrected when more than 10 nRBCs are present	WBC Corrected for nRBCs calculator
Manual hemocytometer counts	Manual Cell Count calculator
RBC indices (MCV, MCH, MCHC)	Red Cell Indices calculator
Absolute counts from relative values (WBCs, reticulocytes)	ANC and Reticulocyte Count calculators

EXAM TIP Learn the composite ranges cold: the exam will not show them, and a question often turns on whether a value is high, low or normal by these numbers rather than your own lab's.

4 How to study: 6 weeks

1. Week 1: read the content guideline, take a timed Mock Exam as a baseline, then study the Reference Ranges the Exam Uses page and work each calculator in the table above.
2. Week 2, Blood Banking: ABO, H and Rh Typing; Antibody Screen and Identification; Compatibility Testing and Blood Components; Transfusion Reactions and HDFN. Practice Blood Banking questions daily.
3. Week 3, Hematology: Red Cell Morphology and the Anemias; CBC, Analyzers and Spurious Results; White Cells, Leukemia and Lymphoma; Hemostasis and Coagulation Testing.
4. Week 4, Chemistry: Clinical Chemistry: Analytes and Disease Patterns; Electrolytes, Acid-Base and Blood Gases; Endocrinology, Drug Monitoring and Toxicology; Chemistry Methods and Instrumentation. Take a second Mock Exam at the end of the week.
5. Week 5, Microbiology and Immunology: Gram Stain and Bacterial Identification; Specimens, Cultures and Susceptibility Testing; Mycobacteria, Fungi, Parasites and Viruses; Immunology and Serology. Practice Microbiology and Immunology questions daily, and read the rationale of every miss.
6. Week 6, the smaller areas and review: Urinalysis; Body Fluids; Quality Control, Validation and Regulation; Laboratory Safety and Biosafety; Laboratory Mathematics. Practice Urinalysis and Other Body Fluids and Laboratory Operations questions. Take a final Mock Exam, then work your Missed Questions and Trouble Questions.
7. Every day: Daily Review. Twice a week: a Weakest Subject set.

EXAM TIP The four large areas carry 68 to 88% of the exam between them (76 items in the app's mock), but the three small areas still hold 15 to 30% (24 items in the mock). Do not skip Laboratory Operations: QC rules, safety and lab math are quick points.

Morphology-heavy topics (smears, Gram stains, sediment, parasites) are taught here in words and tables. Pair them with a bench atlas or your program's slides so you can recognize the cells and organisms you can describe.

5 Test-day tips

- Pace at about 90 seconds per item, and check the clock at items 25, 50 and 75.
- You must answer each item before moving on. If unsure, pick your best answer, flag it, and come back if time remains.
- Use the on-screen calculator for every multi-step calculation, and keep to one unit system: results are shown in both conventional and SI units.
- Read for the one best answer: the three wrong options are written to be plausible.
- Schedule directly with Pearson VUE, and reschedule at least one full business day ahead if you must.
- Test within the eligibility period on your Admission Notification; it is not extended, and missing it means a new application and fee.

6 Official resources

- MLS credential page (eligibility routes, fee, content guideline): ascp.org/boc, Explore Credentials, MLS
- MLS(ASCP) and MLS(ASCPi) Examination Content Guideline, revised June 9, 2026 (PDF, linked from the MLS page)
- About the Examination, and After the Examination: ascp.org/boc, Earn a Credential, Examination Process
- Credential Maintenance Program for MLS: ascp.org/boc, Maintain Your Credentials
- Examination statistics: ascp.org/boc, Value of ASCP BOC Credentials, Examination Insights & Analytics

ASCP also sells its own prep products, including the BOC Study Guide and the BOC Interactive Practice Examinations, listed on its Examination Readiness Resources page.

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