



Science Council

Laboratory technician

LEARNING GUIDE

Optional route – Biomedical

This document contains content knowledge that should be delivered as part of a high quality laboratory technician apprenticeship within the biomedical sciences.

This document should be used in conjunction with the core.

Topic/Subject	Links to KSB's	Overview of Coverage	Suggested learning hours
Specimen preparation & processing	K16, K21, S6	Unpacking, booking in test requests, carry out specimen preparation techniques. Specimen processing techniques. Storage of specimens pre and post analysis.	10
Use & maintenance of automation/equipment	K21, K22, S7	How to switch on (if required), set up and run automation/equipment, carry out maintenance (daily, weekly, monthly), prepare for servicing/repair. Understand the role of equipment calibration	15
Development of scientific skills, follow SOPs	K5, K14, K15, K21, S2, S5	Knowledge of internal regulations required for the work place e.g. Good lab practice. Theoretical and practical knowledge of relevant scientific subject.	10
Physiology of human body systems	K21	Knowledge of the physical and chemical systems of the body, how the systems function and what occurs when disease or dysfunction affects the systems.	15

Biomedical science	K16, K21, S6, S7	<p>Understand the principles of haematology and its use in medical diagnosis.</p> <p>Examine the use of Histopathology and Cytology in medicine.</p> <p>Examine the use of urinalysis as an analytical and diagnostic tool.</p>	20 (+ 10 for Histopath pathway)
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Applicable to infection science pathway

Diseases and infection	K21	<p>Investigate different types of diseases and infections that affect humans.</p> <p>Examine transmission of disease and how this can be prevented, how infectious diseases can be treated and managed, understand how the human body responds to diseases and infections.</p>	15
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Microbiology and microbiological techniques	K16, K21, S6, S7	<p>Understand the importance of microbial classification in medicine and Industry.</p> <p>Undertake microscopy for specimen examination in laboratories.</p> <p>Undertake aseptic techniques to culture micro organisms.</p> <p>Explore factors controlling microbial growth in industrial, medical and domestic applications.</p>	15
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Applicable to histopath and blood sciences pathways

Human regulation and reproduction	K21	Understand how homeostasis maintains a stable environment within the body for the nervous, cardiovascular, respiratory, endocrine and reproductive systems. Opportunities to investigate homeostatic dysfunction.	20
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Applicable to blood sciences pathway

Biological molecules and metabolic pathways	K21	Knowledge of biological molecules and their function at a molecular level in living organisms and the effect of disruption on the structure and function e.g. respiratory, photosynthesis	10
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