



## GSC Equipment Catalog 2019

### MICROBIOLOGY LABORATORY



The Microbiology & Molecular Biology laboratory has facilities to work with different types of biological samples for clinical, microbiological and genetic studies.

It has three main areas: Conventional Microbiology, Clinics, and Molecular Biology.






In the microbiology area, researchers can isolate microorganisms such as fungi and bacteria from different kind of samples. In the clinic area, investigators can process blood samples, feces, urine and organs from various animal species and humans for research or health purposes. Finally, in the Molecular Biology area, scientists can extract DNA or RNA from a variety of samples (biological, environmental, etc.). In addition, they can perform basic molecular techniques such as polymerase chain reaction (PCR).

**Major equipment:** Thermocycler, Gel documentation system, Nanodrop, Biological Safety Cabinet IIAZ, Electrophoresis chamber & power supply, Micropipettes, and Analytic balance.




### Equipment Catalog

Equipment	Number of units	Function	Picture
Water Distiller	1	Allows obtaining DI water from potable water-extracting metals and ions from it.	
Incubator	2	Incubation of microbiological cultures and different kind of samples from 20° C to 50° C.	




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Quantity Tray Sealer	1	Seals microbiological water samples for Colilert Kits.	
Analytical balance	1	Allows measuring samples and materials with a precision of 5 digits.	
Microwave oven	1	Heating samples and solutions for diverse experiments.	
Sand Bath	1	Regulate incubation of samples until 400°C.	
Block heater	1	Incubation of samples for DNA and RNA extraction from 5°C to 130°C.	




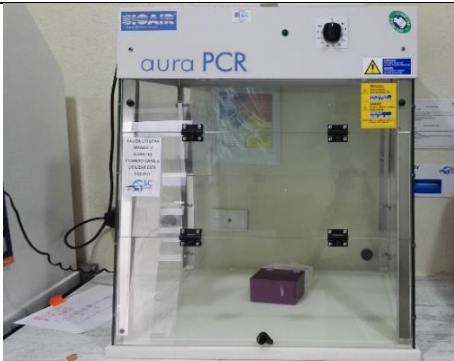
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<p>Micropipettes</p>	<p>8 units            (2 from 100 to 1000 ul)            (2 from 0.5 to 10 ul)            (2 from 20 to 200 ul)            (2 from 2 to 20 ul)</p>	<p>Measure different volumes of samples or solutions from 0 ul through 1000 ul.</p>	
<p>Electrophoresis chamber and Power supply</p>	<p>1</p>	<p>Allows electrophoretic separation of DNA or RNA for its visualization.</p>	
<p>Vacuum Pump</p>	<p>1</p>	<p>Pumps air or water out of a sealed container to make a vacuum.</p>	




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<p style="text-align: center;">Gel Documentation System BIO-RAD</p>	1	<p style="text-align: center;">Visualization of DNA or RNA after electrophoresis.</p>	
<p style="text-align: center;">NanoDrop 2000</p>	1	<p style="text-align: center;">Measures the concentration and quality of DNA.</p>	
<p style="text-align: center;">Qubit Fluorimeter</p>	1	<p style="text-align: center;">Measures DNA concentration and quality for sequencing.</p>	




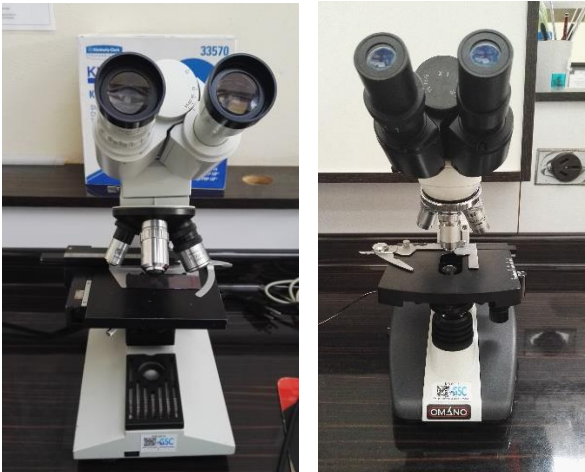
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<p>Microplate reader ELX808</p>	<p style="text-align: center;">1</p>	<p>Performs as a spectrophotometer, which measures intensity as a function of the color or more specifically the wavelength of light. Principally for ELISAs.</p>	
<p>Centrifuge</p>	<p style="text-align: center;">3units (1 for tubes from 5ml trough 50 ml) (2 for tubes of 1.5ml)</p>	<p>Allows separation of samples due to centipede force.</p>	
<p>Mini Bead Beater</p>	<p style="text-align: center;">1</p>	<p>Disrupts material for DNA or RNA extraction.</p>	
<p>DNA Carry over Blocking Cabinet</p>	<p style="text-align: center;">1</p>	<p>Prevents cross-contamination inside the working chamber that is used to prepare PCR Mater mix.</p>	

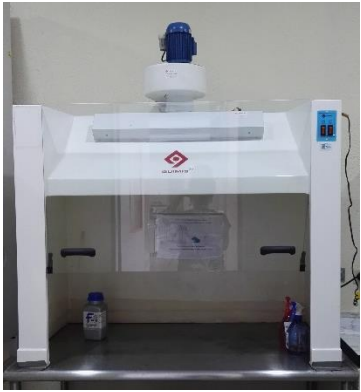
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<p>Water Bath GEMMY</p>	<p style="text-align: center;">1</p>	<p style="text-align: center;">Incubation of samples from 25°C to 90° C.</p>	
<p>Vortex-Genie</p>	<p style="text-align: center;">2</p>	<p style="text-align: center;">Mix samples easily.</p>	
<p>Biological Safety Cabinet IIAZ</p>	<p style="text-align: center;">1</p>	<p style="text-align: center;">Provides environmental and personnel protection for performing biological cultures.</p>	

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<p>Thermal Cycler Biometra</p>	<p style="text-align: center;">1</p>	<p>Amplifies DNA and RNA due to PCR reaction.</p>	
<p>pH Metter Toledo</p>	<p style="text-align: center;">1</p>	<p>Electric device used to measure hydrogen-ion activity (acidity or alkalinity) in solution.</p>	
<p>Tissue homogenizer</p>	<p style="text-align: center;">1</p>	<p>Allows homogenization of various materials such as tissue, plant, food, soil, etc.</p>	
<p>Compound Microscope</p>	<p style="text-align: center;">1</p>	<p>Uses lenses and light to enlarge images.</p>	

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<p>Fume hood</p>	<p>1</p>	<p>Limits exposure to hazardous or toxic fumes, vapors or dust.</p>	
<p>Vet Test 8008 IDEXX</p>	<p>1</p>	<p>Spectrophotometer that determines biological metabolite values like glucose, creatinine, urea, etc. Exclusively for veterinary use.</p>	