



MARIANO MARCOS STATE UNIVERSITY

Bids and Awards Committee

BID BULLETIN No. 2021-034

**Project: Procurement of Biology Laboratory Equipment and Facilities for research Engagement and academic Learning of the University
ABC: P11,240,000.00**

Subject: Clarification of the Details in the Bidding Documents

Notice is hereby given to all interested bidders of the following clarifications:

Delivery Period	As Published 60 days	As Corrected 90 days
Technical Specifications 1	BINOCULAR TRANSMITTED LIGHT MICROSCOPE, Technical data: Finite optical system (DIN) 4-fold lens revolving unit Siedentopf 30° inclined, 360° rotatable Dioptre compensation one-sided (for binocular and trinocular models) Overall dimensions WxDxH 320x180x365 mm OBE 112 The fully equipped all-round compound microscope for schools, training and laboratories Construction Colour temperature: 6000 K Dimensions (WxDxH): 320 mm x 180 mm x 365 mm Eye distance (max): 75 Eye distance (min): 50 Optical system: Finite Rotation of tube 360°: yes Tube: Binocular Tube angle: 30° Illumination: 3W LED (transmitted) Incident Illumination: None Transmitting illumination: LED Power supply Input voltage: 100 - 240 V Mains adapter/adaptor included: EURO Field of View: 1,800 cm Field width: HWF Magnification: 10 Objective: 4 x / 10 x / 40 x / 100 x (With 1 year warranty)	BINOCULAR TRANSMITTED LIGHT MICROSCOPE, Technical data: Finite optical system (DIN) 4-fold lens revolving unit Siedentopf 30° inclined, 360° rotatable Dioptre compensation one-sided (for binocular and trinocular models) The fully equipped all-round compound microscope for schools, training and laboratories Construction Colour temperature: 6000 K Dimensions (WxDxH): 320 mm x 180 mm x 365 mm Eye distance (max): 75 Eye distance (min): 50 Optical system: Finite Rotation of tube 360°: yes Tube: Binocular Tube angle: 30° Illumination: LED (transmitted) Incident Illumination: None Transmitting illumination: LED Power supply Input voltage: 100 - 240 V Mains adapter/adaptor included: EURO Field of View: 1,800 cm Field width: HWF Magnification: 10 Objective: 4 x / 10 x / 40 x / 100 x (With at least 1 year warranty, preventive maintenance and calibration)
2	DIGITAL MICROSCOPE WITH 5MP CAMERA, Technical data Microscope OBL-1 Infinity optical system 4-fold lens revolving unit Siedentopf 30° inclined, 360° rotatable Dioptre compensation one-sided Overall dimensions WxDxH 394x185x377 mm Net weight approx. 6,188 kg Okulare: HWF 10x20 mm Objective quality:	DIGITAL MICROSCOPE WITH 5MP CAMERA, Technical data Microscope OBL-1 Infinity optical system 4-fold lens revolving unit Siedentopf 30° inclined, 360° rotatable Dioptre compensation one-sided, Okulare: HWF 10x20 mm Objective quality: Infinity E-Plan Objectives: 4x/10x/40x/100x Illumination: LED (transmitted light)



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	<p>Infinity E-Plan Objectives: 4x/10x/40x/100x Illumination (OBL 135): 6V/20-halogen (transmitted light) Technical data:OBL 135T241 The digital laboratory assistant with infinity optical system and fixed, pre-centred illumination Construction Dimensions (WxDxH): 394 mm x 185 mm x 377 mm Eye distance (max): 75 Eye distance (min): 50 Optical system: Infinity Rotation of tube 360°: yes Tube: Trinocular Tube angle: 30° Illumination Incident Illumination: None Transmitting illumination: Halogen Power supply Input voltage: 100 - 240 V Optics Field of View: 2 cm Field width: HWF Magnification: 10 (With 2 years warranty)</p>	<p>Technical data: OBL 135T241 The digital laboratory assistant with infinity optical system and fixed, pre-centred illumination Construction Dimensions (WxDxH): 394 mm x 185 mm x 377 mm Eye distance (max): 75 Eye distance (min): 50 Optical system: Infinity Rotation of tube 360°: yes Tube: Trinocular Tube angle: 30° Illumination Incident Illumination: None Transmitting illumination: Halogen Power supply Input voltage: 100 - 240 V Optics Field of View: 2 cm Field width: HWF Magnification: 10 (With at least 1 year warranty) preventive maintenance and calibration)</p>
<p>3</p>	<p>UV VIS SPECTROPHOTOMETER, perform routine measurements for quality control or teaching in the chemistry classroom and research, 50 UV-Visible a Spectrophotometer. With a single cell configuration, these instruments are designed with a sloping surface to shed spills and a washable sampling compartment for easy clean up. A 7-inch touchscreen interface, local control software (no PC needed) and optional Wi-Fi networking Dual Silicon Photodiodes Detector Type Display 7-inch color touchscreen, fixed, high definition, 800 x 1280 pixels Photometric ±0.002A at 0.5A Accuracy ±0.004A at 1.0A Instrument ±0.008A at 2.0A Printer Snap-on printer available Wavelength Accuracy ±0.5 nm Baseline Flatness ±0.002A Compartment s Accessible from top, front or side Able to accommodate cells up to 100 mm cells Available accessory for test-tubes up to 25 mm diameter and 150 mm height Removable, washable sample compartment liner with magnetic placement and hold-down Connections Single USB-A supports flash memory devices for method and data storage Duplex USB-A on side supports connection to a Windows™ computer running optional remote-control software, keyboard, mouse Export data to network or PC (With 2 years warranty and demo upon delivery)</p>	<p>UV VIS SPECTROPHOTOMETER, perform routine measurements for quality control or teaching in the chemistry classroom and research, 50 UV-Visible a Spectrophotometer. With a single cell configuration, these instruments are designed with a sloping surface to shed spills and a washable sampling compartment for easy clean up. Touchscreen interface, local control software, including PC and optional Wi-Fi networking Dual Silicon Photodiodes Detector Type Display color touchscreen, fixed, high definition, 800 x 1280 pixels Photometric ±0.002A at 0.5A Accuracy ±0.004A at 1.0A Instrument ±0.008A at 2.0A Printer Snap-on printer available Wavelength Accuracy ±0.5 nm Baseline Flatness ±0.002A Compartment s Accessible from top, front or side Able to accommodate cells up to 100 mm cells Available accessory for test-tubes up to 25 mm diameter and 150 mm height Removable, washable sample compartment liner with magnetic placement and hold-down Connections Single USB-A supports flash memory devices for method and data storage Duplex USB-A on side supports connection to a Windows™ computer running optional remote-control software, keyboard, mouse Export data to network or PC, with test tube holder</p>



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		(With at least 1 year warranty and demo upon delivery) preventive maintenance and calibration)
4	<p>USB, Ethernet, or Wi-Fi USB adaptor, available Print via USB, Ethernet or Wi-Fi USB adaptor available</p> <p>Description 50 UV-Vis Spectrophotometer Dimensions (L x W) 35.5 x 38.5 x 19.5 cm Drift (At 500 nm after 1 hour warmup) <0.0005A/Hr Electrical Requirements External AC to DC converter. Voltage and Frequency (Hz) selected automatically, 100-240 volts, 50-60 Hz. Keypad Touchscreen Lamp Flash Lamp (>5 years typical, 3 years guaranteed) Noise (RMS at 500 nm 60 consecutive measurements) ≤0.00020A at 0A at 260 and 500 nm ≤0.00030A at 1A at 260 and 500 nm ≤0.00040A at 2A at 260 and 500 nm Optical Design Dual beam Photometric Display -3A to +5A Photometric Range -2A to +3.5A Photometric Repeatability ±0.001A at 1A measured at 1.0A at 546 nm Spectral Bandwidth 2 nm Stray Light < 1.0%T 198 nm (KCl) , <0.05%T at 220 nm (NaI), <0.03%T at 340 nm (NaNO₂) Wavelength Data Interval 0.2 nm, 0.5 nm, 1 nm, 2 nm, 5 nm Wavelength Range 190 nm - 1100 nm Wavelength Repeatability < ±0.2 nm Wavelength Scan Speed Slow, medium and fast - up to 1600 nm/min Weight (Metric) 7.5 kg Includes: (2 pcs) 5-100mm Path Cylindrical Cell Holder for GENESYS 50 ~ Holds one cylindrical longpath cell 5 - 100mm pathlength ~ Comes assembled in a removable sample compartment liner</p> <p>(With 2 years warranty)</p>	<p>USB, Ethernet, or Wi-Fi USB adaptor, available Print via USB, Ethernet or Wi-Fi USB adaptor available</p> <p>Description 50 UV-Vis,Drift (At 500 nm after 1 hour warmup) <0.0005A/Hr Electrical Requirements External AC to DC converter. Voltage and Frequency (Hz) selected automatically, 100-240 volts, 50-60 Hz. Keypad Touchscreen Lamp Flash Lamp (>5 years typical, 3 years guaranteed) Noise (RMS at 500 nm 60 consecutive measurements) ≤0.00020A at 0A at 260 and 500 nm ≤0.00030A at 1A at 260 and 500 nm ≤0.00040A at 2A at 260 and 500 nm Optical Design Dual beam Photometric Display -3A to +5A Photometric Range -2A to +3.5A Photometric Repeatability ±0.001A at 1A measured at 1.0A at 546 nm Spectral Bandwidth 2 nm Stray Light < 1.0%T 198 nm (KCl) , <0.05%T at 220 nm (NaI), <0.03%T at 340 nm (NaNO₂) Wavelength Data Interval 0.2 nm, 0.5 nm, 1 nm, 2 nm, 5 nm Wavelength Range 190 nm - 1100 nm Wavelength Repeatability < ±0.2 nm Wavelength Scan Speed Slow, medium and fast - up to 1600 nm/min Weight (Metric) 7.5 kg Includes: (2 pcs) 5-100mm Path Cylindrical Cell Holder. Holds one cylindrical longpath cell 5 - 100mm pathlength ~ Comes assembled in a removable sample compartment liner</p> <p>(With at least 1 year warranty) preventive maintenance and calibration)</p>
7	<p>ANALYTICAL BALANCE, Construction Dimensions draft shield (WxDxH): 201 mm x 220 mm x 256 mm Dimensions housing (WxDxH): 214 mm x 340 mm x 330 mm Level indicator: yes Material weighing plate: stainless steel Revolving screw feet: yes Weighing space</p>	<p>ANALYTICAL BALANCE, Level indicator: yes Material weighing plate: stainless steel Revolving screw feet: yes</p> <p>Technical data about verification Minimum load [Min]: 10 mg Periodic Verification for Italy: 969-112 Verification approval</p>



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	<p>(WxDxH): 174 mm x 162 mm x 227 mm Weighing surface (d): 91 mm Display Display digit height: 14 mm Technical data about verification Minimum load [Min]: 10 mg Periodic Verification for Italy: 969-112 Verification approval conforming to 2014/31/EU: yes Verification by KERN possible: yes Verification class: I Verification value [e]: 1 mg Power supply Input voltage: 110 V - 230 V AC Mains adapter: Mains adapter external Mains adapter/adapter included: CH EURO UK US Functions Counting function: yes Function to save totals: yes Percentage determination: yes Standby function: yes Weighing with tolerance range: yes Measuring system Adjustment options: Internal calibration (auto) Internal calibration (manual) Linearity: 0,300 mg Minimum weight (USP): 400 mg Readability [d]: 0,100 mg Repeatability: 0,200 mg Resolution: 2.200.000 Stabilisation time under laboratory conditions: 3 s Warm up time: 8 h Weighing capacity [Max]: 20 g Weighing units: ct g mg Environmental conditions Maximum humidity: 85 % Maximum operating temperature: 30 °C Minimum ambient temperature: 10 °C Minimum humidity: 20 % (With 2 years warranty)</p>	<p>conforming to 2014/31/EU: yes Verification by KERN possible: yes Verification class: I Verification value [e]: 1 mg Power supply Input voltage: 110 V - 230 V AC Mains adapter: Mains adapter external Mains adapter/adapter included: CH EURO UK US Functions Counting function: yes Function to save totals: yes Percentage determination: yes Standby function: yes Weighing with tolerance range: yes Measuring system Adjustment options: Internal calibration (auto) Internal calibration (manual) Linearity: 0,300 mg Minimum weight (USP): 400 mg Readability [d]: 0,100 mg Repeatability: 0,200 mg Resolution: 2.200.000 Stabilisation time under laboratory conditions: 3 s Warm up time: 8 h Weighing capacity [Max]: 120 g Weighing units: ct g mg Environmental conditions Maximum humidity: 85 % Maximum operating temperature: 30 °C Minimum ambient temperature: 10 °C Minimum humidity: 20 % (With 1 year warranty)</p>
<p>14</p>	<p>MICRO VOLUME SPECTROPHOTOMETER, Technical Details Display None 5.7"• colour capacitive touchscreen Minimum Volume (dsDNA) 0.5 µLL Maximum Concentration (dsDNA) 2,500 ng/µLL Detection Limit (dsDNA) 1ng Detector 1024 element CCD array Light Source Pulsed lamp with 3 year warranty Spectral Bandwidth 5 nm Wavelength Range 190 - 1100 nm Wavelength Accuracy ± 2 nm Wavelength Reproducibility ± 1 nm Stray Light <0.5%T at 220 nm and 340 nm using NaNO2 Absorbance Range - 0.3A to 2.5A, 0 to 199%T Absorbance Accuracy ±0.005A or 1% of the reading, whichever is the greater at 546 nm Absorbance Reproducibility ±0.003A (0 to 0.5A), ±0.007A (0.5 - 1.0A) Noise 0.005A peak to peak 0.002A RMS Output USB port for USB memory stick</p>	<p>MICRO VOLUME SPECTROPHOTOMETER, Colour capacitive touchscreen Minimum Volume (dsDNA) 0.5 µLL Maximum Concentration (dsDNA) 2,500 ng/µLL Detection Limit (dsDNA) 1ng Detector 1024 element CCD array Light Source Pulsed lamp with 3 year warranty Spectral Bandwidth 1 nm Wavelength Range 190 - 1100 nm Wavelength Accuracy ± 2 nm Wavelength Reproducibility ± 1 nm Stray Light <0.5%T at 220 nm and 340 nm using NaNO2 Absorbance Range - 0.3A to 2.5A, 0 to 199%T Absorbance Accuracy ±0.005A or 1% of the reading, whichever is the greater at 546 nm Absorbance Reproducibility ±0.003A (0 to 0.5A), ±0.007A (0.5 - 1.0A) Noise 0.005A peak to peak 0.002A RMS Output USB port for USB memory stick USB port for PC</p>



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	<p>USB port for PC connection Power input 90-250 V, 50/60 Hz, Max 30 VA Dimensions 420 x 260 x 185 mm Weight approx. 3 kg Life Science PC Software DNA, RNA, oligo, dye labelling, Tm calculation, direct UV and colorimetric protein methods (with AVR and 2 yrs warranty and demo upon delivery)</p>	<p>connection Power input 90-250 V, 50/60 Hz, Max 30 VA Dimensions 420 x 260 x 185 mm Weight approx. 3 kg Life Science PC Software DNA, RNA, oligo, dye labelling, Tm calculation, direct UV and colorimetric protein methods (with AVR and at least 1 year warranty and demo upon delivery) preventive maintenance and calibration)</p>
16	<p>INVERTED MICROSCOPE, Inverted tissue culture microscope with camera, digital camera; Condenser type: 40 mm, 4 P/S40, Magnification: 4 objectives (N plan 5X PHO, Hi Plan10X PH1, 20X PH1, 40X PH1) Specifications Optical system • Infinity corrected (HCS) Power • Input: 100 - 240V AC, 50 / 60Hz • Output: 5V DC Contrast methods • Transmitted light: Brightfield, Phase Contrast Transmitted light axis • Integrated 5W LED Illumination manual adjustment of - Brightness - Aperture diaphragm - Automatic power shutoff (adjustable) Tube • With fixed eyepieces FOV 18 • For exchangeable eyepieces FOV 20 Focus • Coarse and fine focusing, travel range 9 mm, min. adjustment: 2 µm Objective nosepiece • Manual, 4 position, for objectives with M25 thread Stage • Fixed stage: (L x W) 262 mm x 212 mm • Attachable object guide for fixed stage (option) Condenser • S80 / 0.30 condenser or • S40 / 0.45 condenser (interchangeable) Phase contrast slider • 2 position slider (BF / PH1) for S40 or for S80 condenser • 4 position slider (BF / PH0 / PH1 / PH2) for S40 or for S80 condenser Camera • Leica MC120 (2.5 megapixels) • MC170 (5.0 megapixels) (With 2 years warranty and demo upon delivery)</p>	<p>INVERTED MICROSCOPE, Inverted tissue culture microscope with camera, digital camera; 5 mega pixels or higher Condenser type: 40 mm, 4 P/S40, Magnification: 4 objectives (N plan 5X PHO, Hi Plan10X PH1, 20X PH1, 40X PH1) Specifications Optical system • Infinity corrected (HCS) Power • Input: 100 - 240V AC, 50 / 60Hz • Output: 5V DC Contrast methods • Transmitted light: Brightfield, Phase Contrast Transmitted light axis • Integrated 5W LED Illumination manual adjustment of - Brightness - Aperture diaphragm - Automatic power shutoff (adjustable) Tube • With fixed eyepieces FOV 18 • For exchangeable eyepieces FOV 20 Focus • Coarse and fine focusing, travel range 9 mm, min. adjustment: 2 µm Objective nosepiece • Manual, 4 position, for objectives with M25 thread Stage • Attachable object guide for fixed stage (option) Condenser • S80 / 0.30 condenser or • S40 / 0.45 condenser (interchangeable) Phase contrast slider • 2 position slider (BF / PH1) for S40 or for S80 condenser • 4 position slider (BF / PH0 / PH1 / PH2) for S40 or for S80 condenser Camera • Leica MC120 (2.5 megapixels) • MC170 (5.0 megapixels) (With at least 1 year warranty and demo upon delivery) preventive maintenance and calibration)</p>
20	<p>LAMINAR FLOW CABINET, Microprocessor Controller displays all safety information on one screen. Spill-retaining worktop design will ensure containment of accidental liquid spills. Powder Coat (silver-impregnated) that inhibits microbial growth to improve safety. Nominal Size 0.9 m (3 ft.) External Dimensions (W x D x H) 1035 x 784 x 1270 mm (40.8" x 30.8" x 50.0") Internal Work Area (W x D x H) 965 x 739 x 689 mm (38.0" x 29.1 x 27.1") Airflow Velocity 0.45 m/s (90 fpm) at initial set point (With 2 years warranty)</p>	<p>LAMINAR FLOW CABINET, Microprocessor Controller displays all safety information on one screen. Spill-retaining worktop design will ensure containment of accidental liquid spills. Powder Coat (silver-impregnated) that inhibits microbial growth to improve safety. Nominal Size 0.9 m (3 ft.) Airflow Velocity 0.45 m/s (90 fpm) at initial set point, horizontal (With at least 1year warranty)</p>



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21	LABORATORY MICROCENTRIFUGE, Description Refrigerated High Speed Micro Centrifuge for micro tubes and PCR tubes with rotor speed up to 17,000rpm (106,814.2 rad.min ⁻¹). Supplied with 24 x 1.5/2.0ml autoclavable corrosion free rotor with snap fit cover, anti-vibration running and auto-lid lock with auto-lid release once rotor stops. Teflon PTFE coated centrifuge bowl for corrosion free chamber. Fast cooling function to 4°C in 5 minutes for fast cooling of samples. The refrigeration compressor switches off when the lid is opened saving energy and excessive frosting. Wipe clean easy to use touch button controls for speed and time setting, time mode can be selected to start at set speed, lid opening, pulse for quick spins, acceleration and deceleration and start/stop function.; 220V (With AVR and 2 years warranty and demo upon delivery)	LABORATORY MICROCENTRIFUGE, Description Refrigerated High Speed Micro Centrifuge for micro tubes and PCR tubes with rotor speed up to 15,000-17,000rpm (106,814.2 rad.min ⁻¹). Supplied with 24 x 1.5/2.0ml autoclavable corrosion free rotor with snap fit cover, anti-vibration running and auto-lid lock with auto-lid release once rotor stops. Teflon PTFE coated centrifuge bowl for corrosion free chamber. Fast cooling function to 4°C in 5 minutes for fast cooling of samples. The refrigeration compressor switches off when the lid is opened saving energy and excessive frosting. Wipe clean easy to use touch button controls for speed and time setting, time mode can be selected to start at set speed, lid opening, pulse for quick spins, acceleration and deceleration and start/stop function.; 220V (With AVR, demo upon delivery, and at least 1 year warranty and preventive maintenance and calibration)
23	GEL ELECTROPHORESIS, Horizontal electrophoresis system includes 15 - and 20- well combs, 15x10cm (WxL), UV transparent tray; base buffer volume ~1000ml (With 2 years warranty)	GEL ELECTROPHORESIS, Horizontal electrophoresis system includes 15 - and 20- well combs, 15x10cm (WxL), UV transparent tray; base buffer volume ~ 500ml-1000ml, power supply: 220V (With at least 1 year warranty and preventive maintenance and calibration)

For the guidance and information of all concerned.

November 2, 2021


NATHANIEL R. ALIBUYOG
Bac Chair