Fluorescence microscope

Company name – ZEISS AxioScope.A1
Objective lenses – 5x, 10x, 40x, 100x (oil)
Filters Specifications–

Filters	Excitation range	Emission range
1.	Bright Field (BF)	
2.	330nm – 400nm	400nm – 530nm
3.	430nm – 510nm	495nm – 680nm
4.	520nm – 640nm	560nm – 640nm

Lamp – HBO 50 lamp (High pressure, mercury vapor, arc-discharge, 50 W reflector illumination lamp)
Imaging system –
Camera company name – ProgRes® C_3 Jenoptik
Software for Camera – ProgRes® Capture Pro
Camera specification –

Image sensor	1/1.8˝ CCD
Color / Monochrome	Color
Sensor resolution [max]	2080 x 1542 pixel [3.2 Mpix]
Active sensor size [H x V]	7.58 mm x 6.54 mm
Pixel size	3.45 µm²
A / D conversion	12 bit
Pixel clock	12 MHz
Exposure times	270 µs ... 180 s
Analog gain	1x ... 12x (SDK)
Max. frame rate [image size]	6 fps [2080 x 1542 pixel] 12 fps [1040 x 770 pixel]
Imageresolution Binning: Progr. scan:	2x ... 5x (SDK) 692 x 516 pixel
Digital interface	FireWire a

1. Provide already prepared samples (slides) in dark conditions.
2. Only slides can be used for imaging (plates or dishes cannot be acquired).
3. Sample height of 380 mm and maximum specimen thicknesses of 110 mm.
4. Samples should preferably be fixed, mounted with anti-fading agent and with sealed coverslips.
5. Images will only be given on CD at the same time of slot allotted. Please bring your own CD.
6. Images will be provided in Bitmap image (.bmp) and if required Axiovision (.zvi) or Tagged image file (.tif) or JPEG compressed (.jpg).
7. Only 3 images per sample will be given.

Gas Chromatograph (GC)

Actual model/version of the instruments: Shimadzu GC-2014 (Serial No. C114845)

Columns available	: CBPL-525, RTX5, Stabilwax, RTX- Biodiesel TG, StabilWaxDA, RT2560, Chirodox- GTA, Lipodex A
Detectors	: FID-2014 and ECD-2014 detectors
Amount of sample required	: 200-300 µl
Type of sample can be process	: Organic samples dissolved in a solvent will be processed.
Time	: 10- 40min (depending on the nature of samples).
Kind of experiments can be performed	: Detection of biodiesel, fatty acid derivatives.

Rotary Evaporators

1. **Name**: Rotary Evaporator
   Uses: standard distillation, product concentration, powder drying and separation of one or several solvents
   Make: Heidolph Instruments, Germany
   Instrumentation: 1 unit each of vacuum pump, rotation unit, water bath. Condenser water circulating pump (of local make)
   Type: Heizbad Hei-VAP (No. 577-61000-00-0)
   AC230 V, 50-60 Hz, 1300 W, 20-210°C
   Service 0800-5889708 (+49)-9122992068

2. Name: Rotary Evaporator
Uses: Standard distillation, product concentration, powder drying and separation of one or several solvents
Make: Büchi Labortechnik AG, Switzerland
Contents: 1 unit each of vacuum pump, rotation unit, water bath. Condenser water circulating pump (of local make)
Instrumentation:
1. **Rotation Unit**: Type: R-210; Fabr. 070007915; 100-240 V AC, 50-60 Hz, 60 W
2. **Water bath**: Type: B-491; Fabr. 0700006784; 220-240 V AC, 50-60 Hz, 1700 W
3. **Vacuum pump**: Type: V-700; SN 1000107797; 100-240 V AC, 50-60 Hz, 210 W,

High Performance Liquid Chromatography (HPLC):

Model/version of instrument: Shimadzu HPLC system of CBM 20A Version.

HPLC pump: Shimadzu Version- LC6AD

Its binary pump with maximum flow rate 20 ml/min

HPLC Detectors:

- SPD - M 20 A (Diode array detector)

  Wavelength can be set from 190nm to 800nm and more than one wavelength can be set at a time.
- RID - 20 A (Refractive index detector)
- RF- 20A (Fluorescence detector)

  Wavelength can be set from 200nm to 900nm using emission as well as excitation mode.

HPLC Columns:

- Phenomenex column

  C18 analytical column

  250 mm × 4.0 mm; 5 micron
- Supelco column

  C18 Preparativecolumn

  250 mm × 21.2 mm

Ultra centrifuge:	**Company:** **Model:**	Beckmen Coulter OptimaXE-100Ultracenrifuge
	Rotor: **1. Ti55:** **(max speed= 55,000 rpm)** **Gradient used:** **Tubes used:**	 Made up of titanium. 5- 20% sucrose gradient 1.Ultra clear (13 x 51 mm diameter = 5 ml capacity) 2.Thin Clear (13 x51mm diameter = 5ml capacity) 3. Optiseal ball top polyallomer (13 x 33 mm diameter= 3.3 ml). This tube is for one time use only.
	2. Ti 70: **(max speed= 70,000 rpm)** **Tubes used:**	Made up of Titanium. Polycarbonate bottle cap assembly (25 x 89 mm diameter= 26.3 ml capacity)
	3. Ti100: **(max speed= 1,00,000 rpm)** **Tubes used:**	Made up of Titanium Quick seal polyallomer bell top (13 x 57mm diameter= 6.oml capacity). This tube is for one time use only.

Thermo Multiskan Model 355 EX – Plate Reader

Technical specifications

Optical

Spectral range: 400-750 nm
linear measurement range up to 3.5 absorbance units
Measurement range: 0-2.5 at 405 nm

General specifications

Reading speed: 5 seconds, 96-well plates ONLY
Interface connections:
serial interface (Multiskan EX)
RS-232 parallel interface (Multiskan EX)
Shaking: Linear shaking, 3 speed

Internal softwares
Allows end point and kinetic reading modes
The extended memory holds up to 64 assay protocols
Flexible cut-off calculations and curve fit algorithms

PC control
Is controlled by PC and has an onboard printer

Note:

- The user has to bring their own 96-well plate containing the sample (a flat bottom 96-well plate of NEST, BD Falcon, Tarson make).

- Please communicate with the person in-charge prior to getting your samples for analysis..

SpectraMax M5 Microplate Reader (Serial No. SPM500-16495-ODVD)

The **SpectraMax M5 microplate reader** (Molecular Devices) is a dual-monochromator, multidetection instrument with a single-cuvette port and 96-well microplate reading capability.

Specifications

The built-in cuvette port can be used for absorbance, fluorescence and luminescence readings. Dual monochromators allow selection of any absorbance wavelength between 200 nm and 1000 nm, and any excitation wavelength between 250 nm and 850 nm for readings in fluorescence intensity, time-resolved fluorescence or wavelength-selectable luminescence modes, and 400–750 nm for readings in fluorescence polarization mode.

Endpoint, kinetic, spectrum, and multi-point well-scanning applications combining absorbance and fluorescence in 96-well microplates, as well as endpoint, kinetic, and spectrum applications in absorbance and fluorescence using cuvettes, can be run.

The instrument is controlled by a PC containing the SoftMax® Pro software for data acquisition and analysis.

Typical **applications of the instrument** include ELISA, nucleic acid, protein, enzymatic type homogeneous and heterogeneous assays, microbial growth and endotoxin testing.

Amount of sample required: 2-5ml for cuvette and 100- 200µl for 96 well plate

Sample type: liquid

Note:

- The user has to bring their own 96-well plate containing the sample (a flat bottom 96-well plate of NEST, BD Falcon, Tarson make).
- Please communicate with the person in-charge prior to getting your samples for analysis.

Lyophilizer

Name of the instrument: Martine Christ Freeze dryer and Speed vac.

Model name
Freeze dryer Alpha 2-4 LD plus
SpeedVac RVC 2-18

Sample preperation
Kindly contact the operator before preparing the sample

Sample description:-

Sample type: - Chemical/Biochemical/Microbiological

Solvent type: - Aqueous

Container: - Kindly contact the operator

No. of Container: - Kindly contact the operator

Special conditional requirement: - Kindly contact the operator. (If the Sample is hazardous, Infections, carcinogenic, corrosive, inflammable or pathogenic)