



جامعة القاهرة
CAIRO UNIVERSITY

Advanced Laboratory Techniques in Molecular Biology and Electron Microscopy

Coordinators:

Dr. Hebatullah Effat

Dr. Esraa Ali

Dr. Salma Mahmoud

Fees Registration

Researchers: 1500 EGP

Undergraduates

Students: 1200 EGP

**09TH - 12TH NOVEMBER
2025**

**CANCER BIOLOGY
DEPARTMENT-MEDICAL
BIOCHEMISTRY AND
MOLECULAR BIOLOGY UNIT**

Sunday
19-10
2025

Day 1 – Tissue Culture Techniques

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- Introduction to principles of cell culture
- Sterile techniques and aseptic handling
- Media preparation and cell line maintenance

Monday
20-10
2025

Day 2 – Molecular Biology Techniques

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- DNA/RNA extraction, isolation and purification
- Quantification of nucleic acids using Nanodrop
- Gel electrophoresis and visualization

Thursday
21-10
2025

Day 3 – Molecular Biology Applications

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- Fundamentals of Real-Time PCR (qPCR)
- Complementary DNA synthesis (cDNA)
- Hands-on qPCR experiment
- Data interpretation and troubleshooting

Wednesday
22-10
2025

Day 4 – Electron Microscopy Techniques

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- Basics of electron microscopy
- Sample preparation and sectioning
- Imaging techniques
- Guided lab demonstration