



# Department of biology



## ***Department of Biology***

**2025-2026**

**((Analytical Chemistry))**

**Stage (-First Year -)**

**Instruments and Equipment Used in an Analytical Chemistry Laboratory**

**By**

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# First: Glassware in the Analytical Chemistry Laboratory

### **1- Volumetric Flask**

Use: Preparation of standard solutions with high accuracy.

### **2- Burette**

Use: Accurate delivery of solutions during titration.

### **3- Volumetric Pipette**

Use: Transfer of a fixed volume with high precision.

### **4- Graduated Pipette**

Use: Transfer of variable volumes with moderate accuracy.

### **5- Beaker**

Use: Mixing, heating, and holding solutions.

### **6- Erlenmeyer Flask**

Use: Performing titrations without spillage.

### **7- Graduated Cylinder**

Use: Measuring liquid volumes with moderate accuracy.



# Second: Instruments in the Analytical Chemistry Laboratory

## **1- Analytical Balance**

Use: Highly accurate measurement of mass.

## **2- pH Meter**

Use: Precise measurement of solution acidity or alkalinity.

## **3- UV–Visible Spectrophotometer**

Use: Determination of concentration based on light absorbance.

## **4- Conductivity Meter**

Use: Measurement of ionic concentration in solutions.

## **5- Magnetic Stirrer**

Use: Homogeneous mixing of solutions.

## **6- Water Bath**

Use: Heating samples at a constant temperature.