



should also tie back long hair, which can be pulled sometimes in chemicals or Exposed to open flames.



Fig. 2 health and safety sign tools

### 2.3 Safety showers

Are required in serious areas in the undergraduate biological labs. Safety showers give a strong means of first treatment in chemical injuries of the skin or clothing. The shower location should be easily attainable for everyone.

### 2.4 Eye washer

It is required in undergraduate biological labs where dangerous materials are used. It should be easily attainable also for everyone and using hands must not be required to activate and maintain the water flow.

### 2.5 First aid

First aid kits should be easily accessible to all students and staff, and the drawer must be labeled (First-Aid Kit) ,or having it a specific sign. First aid box must be orderly checked and recharged when it needs.

### 2.6 Fire extinguishers

Students and staff must know the locations of all fire extinguishers in the undergraduate biological labs. Also, they should be orderly checked, and easily attainable also for everyone.

### 2.7 Fire blankets

Because they are easy to use, fire blankets are recommended in all undergraduate biological labs that use flammable materials. They should be easily attainable.

### 2.8 Biological safety cabinets

Biological safety cabinet has been widely used in biological labs and they designed to supply protection from dangerous objectives. This safety cabinet can be class I, II, or III, based on some specific points in the systems. Undergraduate biological labs should be having the class I, II, and sometimes class III.

### 2.9 Lab colors

Lab students and staff spend a long time working in a laboratory environment. It is in the best interest that their time is spent profitably, and stays hustler, and careful as in figure 3. From this point, technical must by providing an environmental

lab which is aesthetically joyful using neutral colored. Research has shown that the environment can have a good effect on the students and staff psychologically, physically, and emotionally. Introducing color into biological labs can improve the aesthetics of a space and may give a portion of creative.



Fig. 3 lab colores

### 2.10 Lab temperature

Biological labs should keep their labs at 50% relative humidity and temperature to 23 – 24 °C. Anytime the lab conditions go below, there is an increase in the chance of having contaminations and the environment may become dangerous to chemicals and equipment's which could be harmful to students, technical and lecturers.

### 2.11 Lab Ventilation

Controlling the ventilation in the laboratory is a hard mission when planning for a good scientific environment. Sometimes, ventilation may have an immediate effect on the students in the laboratory. There are two types of ventilation used in undergraduate biological labs: natural ventilation and mechanical ventilation which helping to reduce containments.

### 2.12 General cleaning

Cleaning plays a major function in biological labs for greater safety and good results.

### 2.13 Students safety deposit boxes

Students safety deposit boxes should be available for each student in the laboratory to securely store their valuables.

### 2.14 Other additives

Stones, plants and trees are a great way to increase the good mood and add positive energy to the biological lab. Many students enjoy these plants, sometimes maybe for creating energy or mood that makes the students, staff or visitors feel comfortable and connected to the lab as in figure 4a, 4b, 4c and 4d.

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Fig. 4a plants and trees in biological labs



Fig. 4c plants and trees in biological labs



Fig. 4b plants and trees in biological labs

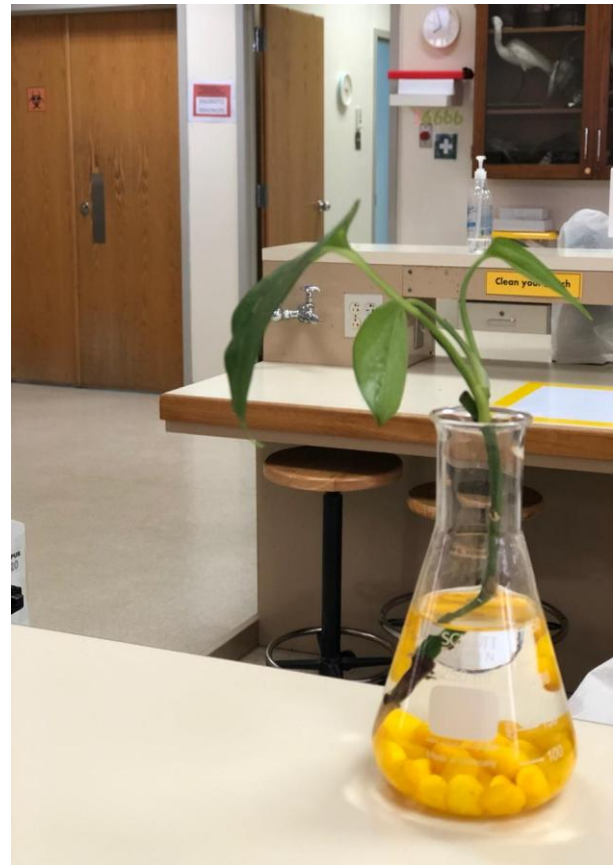


Fig. 4d plants and trees in biological labs

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