




ETHICS IN LABORATORY TECHNIQUES and MANAGEMENT.


by

Professor Peter I. Aziba, Ph.D, FNIST, FRSB Uk.
Igbinedion University Okada.


OUTLINE OF PRESENTATION.

- ▶ TITLE
 - ▶ OBJECTIVES
 - ▶ PREAMBLE
 - ▶ PROFESSIONAL ETHICS
 - ▶ LABORATORIES
 - ▶ TECHNIQUES
 - ▶ MAINTENANCE
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OBJECTIVES:

- ▶ Focus on our laboratories
 - ▶ To remind users in basic ethics in the use of laboratory.
 - ▶ Safety of Personel , Materials and Equipment.
 - ▶ Maintenace of Ouality/ , Standards
 - ▶ Regulations
 - ▶ meeting standards
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PREAMBLE:


- ▶ This presentation is focused on laboratory Management and ethics involved in the various techniques in running practicals for Teaching and Research. As Professionals , it is imperative that certain moral codes (ETHICS) are to be adhered strictly in preventing abuse, misuse of materials in our laboratories.
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PROFESSIONAL ETHICS.

- ▶ **PROFESSIONAL ETHICS:** Is the moral bond that links a Profession, the people it serves and the Society. Ethical issues expected to science and practices in Chemical, biological and Physical Laboratories .
- ▶ In general ethics give precise guidance and direction for action in concrete situation and require ethical reasoning too. Talking about reasoning you cant afford to do anything without reasoning because it helps you to have better practice of what you are dealing with and why you are doing so.



ENVIRONMENT:

- ▶ Requirement varies from each laboratory,
 - ▶ that is broadly classified as Biological, Chemical, physical. and Language Laboratories
 - ▶ Regular supply of power, Constant water supply.
 - ▶ Provision of Bathrooms,
 - ▶ Appropriate safety gadgets eg in radiation lab etc.
 - ▶ Safety materials. Such as fire exstinguishers,lab coat, goggle, face mask etc.
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LABORATORY 1 .

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- ▶ **LABORATORY/ ANIMAL HOUSE MANAGEMENT.**
- ▶ A Laboratory by all its intent and purposes is a place or building equipped for scientific experiments or practical in Teaching and Research. This is not only in the Sciences but also Humanities and Management based Disciplines for example, Language/Linguistic Laboratory. The use and management of laboratories therefore is imperative for proper conduct of experiments and enhance quality in teaching and Learning. In Biomedical Sciences for examples, the use of laboratory animals are inevitable, hence the use and management of Laboratories and animals (LABAM) are twin subjects of this proposal. In addition, the animal house will be a focus for development and uplift of both physical facilities to enhance proper management of the various species of rodents needed for experimental work (SEE ANNEXURE 1).
- ▶ The LAM will therefore need competent hands to manage its activities in terms of personnel and equipment. The laboratory being a special unit in the University attaches importance to quality of its staff and qualified staff trained in the appropriate specialties ditto the animal house staff.
- ▶ **TECHNIQUES:**

LABORATORY 2.


- ▶ **.Running a laboratory poses many Challenges,including managing people , projects, and finances and establishing workplace practices that encourages productivity, safety ethics and high employee morale. Lab safety and ethics are two of the most aspects of running a lab.but too often they receive even less attention than those basic lab management skills ,it is essential to work hard to create a laboratory culture where safety is taken very seriously.**



CHEMICAL LABORATORY:

- ▶ CHEMICAL LABORATORY: The main focus in Chemical laboratory is related to CHEMICALS & SOLUTIONS and preparation with required concentrations in terms of percentages, normalities, molarities, purity test which are carried out as Qualitative and quantitative analysis. As you have different aspects of chemistry so its techniques and knowledge of meeting these requirements are imperative. For example it can be divided into sub units such as ANALYTICAL, INDUSTRIAL, COMPLEXES, ORGANIC, INORGANIC etc
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- ▶ Care of laboratory glass wares, equipment, instruments Reagent bottles chemicals
- ▶ (ALL PROPERLY LABELLED WITH DATES),

BIOLOGICAL LABORATORIES:

- ▶ Biological laboratories are divided into specialties and sub specialties.
 - ▶ Medical , biomedical, and non medical
 - ▶ Samples and specimen are often materials in use.
 - ▶ These are to be prepared and stored in appropriate medium.
 - ▶ Micro, parasitology, virology, etc.
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INSTRUMENTATION:PHYSICAL LABORATORY.

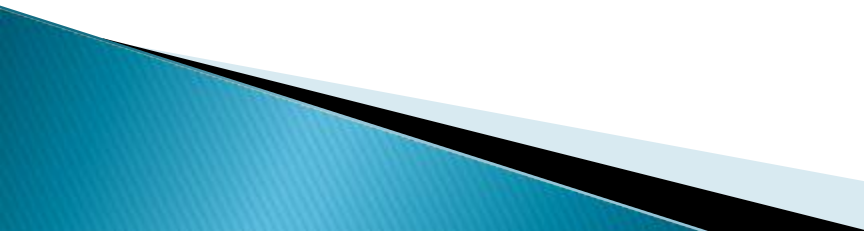
The various instrument used are to be well maintained and properly stored.

Need expert to service periodically these instruments


A proper environment, Provision for A/Cs, proper ventilation .

Instrument placed on concrete non vibrational stand.


STORE and WEIGHING ROOM.

- ▶ Laboratories must maintain a Store where materials are kept
 - ▶ Appropriate inventories are taken, noting date, time and proper labellings of contents.
 - ▶ A record is kept in and out of materials issued to users.
 - ▶ A concrete bench wall are constructed for weighing balances, this is to prevent vibrations.
 - ▶ Appropriate weighing materials are used based on characteristics of object in use.
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MAINTENANCE OF LABORATORY.

- ▶ Lab cleanliness is one of the easiest, most affordable and most obvious way to keep lab in great shape.
 - ▶ Surprisingly it is overlooked.
 - ▶ Carry out daily wipe of all equipment exterior
 - ▶ Carry weekly deep cleaning of all equipment
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RESEARCH LABORATORY.

- ▶ A research laboratory is usually established with conditions and standard of research focus.
 - ▶ Special environment, equipment and materials
 - ▶ Skilled personnel , specializations.
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TECHNIQUES:

- ▶ A trained personnel needed to overlook activities.
 - ▶ Professionals ,trained laboratory personnel(TECHNOLOGIST)
 - ▶ Various Methods and skill to meet the need of the Laboratory.
 - ▶ Some of these techniques var form biological, chemical, Physical laboratories. For examples in biological laboratories you have optioons microbiology, parasitology, virology, bacteriology ect.
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ETHICAL REQUIREMENT:

- ▶ Non teaching activities in the Lab must be coordinated by a qualified Technologist
 - ▶ Technologist should be posted to the area of expertise
 - ▶ Refresher courses and update knowledge of new innovations.
 - ▶ Record books and information under lock and key.
 - ▶ No eating or social interactions in the laboratory.
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ANIMAL HANDLING

- ▶ The technique used to handle small animals vary slightly with each specie,
 - ▶ However many of the general principles are the same.
 - ▶ When handling small mammals , a firm but gentle approach is advisable
 - ▶ Animal should be approached calmly in a confident manner, avoid sudden movement such as waving of the hands and arms.
 - ▶ The adoption of this technique will help to minimise stress and reduce the risk of bite injury.
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- ▶ REFERENCE
- ▶ Restraints and handling of Animals
- ▶ <http://www.ahc.edu.rar/handling.html>

▶ THANK YOU.

APPRECIATIONS

- ▶ THANK YOU ALL,FKOR YOUR KIND ATTENTION.