1.0 OBJECTIVES

1.1 To maintain a system in the use of laboratories for the students to do experiments in their Science, Technology, Engineering and Mathematics (STEM) subjects and STEM research.

1.2 To ensure safety of the users of the laboratories thru the proper use of the facilities and equipment.

1.3 To lengthen the serviceable life of laboratory equipment thru preventive and corrective maintenance.

1.4 To maintain a sufficient supply of laboratory consumables.

1.5 To guarantee that accuracy and efficiency of laboratory equipment thru calibration on a regular basis.

1.6 To ensure compliance with existing standards on handling and disposal of laboratory waste.

2.0 SCOPE

This procedure covers the following activities and the controls in managing the use of laboratories:

- Laboratory Equipment and Supplies for STEM classes
- Laboratory Use in Independent Research
- Preventive and Corrective Maintenance of Laboratory Equipment
- Calibration of Laboratory Instruments
- Inventory of Laboratory Consumables
- Laboratory Waste Management

3.0 POLICIES

3.1 Borrowing, Returning and Disposal

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3.1.1 Faculty members and students shall accomplish a request form to use laboratory facilities and equipment.

3.1.2 The Science Research Specialist (SRS)/Science Research Assistant (SRA) shall act on the request, schedule it appropriately, and prepare the laboratory, and the necessary equipment, and supplies.

3.1.3 The SRS/SRA shall ensure that the laboratory is clean, orderly and safe.

3.1.4 Bringing of laboratory equipment or materials outside the school campus shall be strictly prohibited except for authorized activities outside the campus.

3.1.5 Laboratory equipment or material shall be properly checked upon return by the borrower.

3.1.6 Faculty members and students shall be held responsible for any damage or loss of laboratory equipment loaned to them if found due to negligence or mishandling.

3.1.7 The SRS/SRA shall regularly conduct an annual inventory of all laboratory equipment, and quarterly inventory of supplies. Any identified defective laboratory equipment shall be requested for repair or replacement if needed.

3.1.8 Stock records shall be maintained for consumables to monitor the movement of stocks.

3.1.9 “First-In, First-Out (FIFO)” or “First to Expire, First-Out (FEFO)” shall be practiced for consumable items.

3.1.10 Expired and damaged items shall be segregated, properly labeled.

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3.1.11 For chemicals, Safety Data Sheet (SDS) shall be available for each chemical being maintained. Expiration dates of the chemicals, if applicable, shall also be indicated.

3.1.12 The SRS/SRA shall implement proper disposal of laboratory waste.

3.2 Laboratory Safety

3.2.1 The designated Pollution Control Officer (PCO), in coordination with the Academic Unit Heads (STEM), shall determine the Laboratory Safety Procedures appropriate to their respective laboratories.

3.2.2 The SRS/SRAs shall ensure that the Laboratory Safety Procedures are posted in conspicuous areas in all the laboratories.

3.2.3 The faculty member/Science Research Specialist/ Science Research Assistant shall conduct an orientation on Laboratory Safety Procedures to students.

3.2.4 Faculty members and students shall follow the Laboratory Safety Procedures.

3.2.5 Appropriate safety attire shall be worn during conduct of experiments.

3.2.6 The Science Research Specialist/Science Research Assistant shall ensure the availability of medical supplies in the First-Aid Kit at all times.

3.2.7 The faculty-in-charge shall supervise the activity inside the laboratory in its entire duration.

3.2.8 Playing, eating, drinking, smoking, use of earphones or any form of distraction are strictly prohibited inside the laboratory.

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3.2.9 Gas outlets and lights shall be shut off when the laboratory room is not in use.

3.2.10 Pathways to an exit or service door, safety equipment, safety shower or fire extinguisher shall be free from any form of blockage.

3.3 Preventive Maintenance

3.3.1 The SRS/SRAs shall conduct preventive maintenance activities for the laboratory equipment based on the Preventive Maintenance Schedule to ensure that they are properly maintained.

3.3.2 Laboratory Equipment Repair/Service Form shall be maintained per equipment.

3.4 Corrective Maintenance

3.4.1 Only trained personnel shall be assigned to repair the machine/equipment.

3.4.2 The personnel performing any work shall observe all applicable safety regulations.

3.4.3 Appropriate tags or signage for machines/equipment under repair shall be placed at all times.

3.4.4 Laboratory Equipment Repair/Service Form shall be maintained and updated per machine/equipment.

3.5 Calibration

3.5.1 A Calibration Schedule for Laboratory Equipment shall be prepared annually for the identified instruments.

3.5.2 Instruments to be used for research purposes or public consumption shall be subject to calibration.

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3.5.3 Calibration sticker shall be placed on the calibrated instrument indicating the identification of the instrument, date calibrated and due date. In the absence of calibration sticker, calibration certification will suffice.

3.5.4 Instruments, whose calibration status exceeded the due date should be identified and not to be used.

3.5.5 Devices subject to calibration shall be calibrated by an approved external provider, or by trained PSHS employees.

3.5.6 Third party calibration laboratories should be accredited to ISO 17025 whenever possible, as this provides the best control of calibration activities, and traceability to national/international standards.

3.5.7 Any device failing to meet calibration standards will immediately be taken out of service. The device may then be returned to Supply and Property Management Unit for disposal of assets in accordance to Audit Guidelines on the Divestment or Disposal of government property or sent out for repair. Repaired devices must be calibrated before being returned to service.

3.5.8 Measuring & monitoring devices must be stored and handled in a manner that does not invalidate their calibration or ability to function without error.

3.5.9 Where a device cannot be calibrated against traceable standards, it must be verified against some known-good object or method. This may be done by comparing the part against another part or tool which has been evaluated and validated and proven as acceptable.

3.5.10 Records of calibration shall be maintained.

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4.0 PROCEDURES

4.1 Use of Laboratory Facilities, Equipment and Supplies

Responsibility	Activity
SRS/SRA Faculty-in-charge	1. Plots the schedule of fixed laboratory classes based on the class schedule of students
	2. Accomplishes a Laboratory Reservation Form to request the use of laboratory facilities and equipment. For independent research, endorses the request of the student
SRS/SRA	3. Acts on the request by scheduling the laboratory activity, preparing the laboratory and the necessary equipment and supplies
	4. Issues a Laboratory Request and Equipment Accountability Form/ Reagent Request Form to the faculty member prior to releasing the equipment and supplies
Faculty-in-charge	5. Supervises the laboratory activity in its entire duration
	6. Accounts for equipment and supplies used after the laboratory activity
SRS/SRA	7. Checks the quantity and quality of equipment and supplies returned by the faculty member and decides on what needs to be replaced or refurbished
	8. Indicates on the Laboratory Request and Equipment Accountability Form whether equipment needs to be repaired or replaced

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9. Manages the proper disposal of laboratory waste

4.2 Preventive Maintenance

Responsibility	Activity
SRS/SRA	1. Identifies equipment that requires preventive maintenance and includes in the Preventive Maintenance Schedule
	2. Performs preventive maintenance based on the schedule or coordinates with external provider
	3. Updates Preventive Maintenance Schedule or receives Service Report from external provider
	4. Reviews and evaluates preventive maintenance performed
	5. Updates Laboratory Equipment Repair/Service Form
	6. Files the Preventive Maintenance Schedule, Laboratory Equipment Repair/Service Forms, and Service Report

4.3 Corrective Maintenance

Responsibility	Activity
SRS/SRA	1. Prepares Work Request Form for damaged equipment and facilities
	2. Analyzes the problem and applies immediate corrective measures, or coordinates with external provider

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	3. Updates Work Request Form and receives Service Report if from external provider
	4. Reviews and evaluates the repair done
SRS/SRA	5. Updates Laboratory Equipment Repair/Service Form
	6. Files the Work Request Form, Laboratory Equipment Repair/Service Form, and Service Report

4.4 Calibration

Responsibility	Activity
SRS/SRA	1. Identifies instruments that require calibration
	2. Prepares Calibration Schedule for Laboratory Equipment and submits to Academic Unit Head/CID Chief
Academic Unit Head/CID Chief	3. Approves Calibration Schedule for Laboratory Equipment
SRS/SRA	4. Once approved, monitors the due dates for calibration
	5. Coordinates with external provider on the required calibration
	6. Checks if calibration sticker is attached to the instrument
	7. Files the Calibration Certificates from the external provider

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5.0 LIST OF FORMS AND REPORTS

5.1 Forms

- 5.1.1 Laboratory Reservation Form
- 5.1.2 Laboratory Request and Equipment Accountability Form
- 5.1.3 Reagent Request Form
- 5.1.4 Work Request Form
- 5.1.5 Preventive Maintenance Schedule
- 5.1.6 Calibration Schedule for Laboratory Equipment
- 5.1.7 Laboratory Equipment Repair/Service Form
- 5.1.8 Stock Record

5.2 Reports

- 5.2.1 Inventory Report

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