

MEDICAL TECHNICAL OFFICER**NATURE OF WORK**

This is skilled technical work in the design, construction, modification, testing and installation of scientific apparatus and related equipment within the Faculty of Medicine.

The employee of this class is responsible for the design, fabrication and modification of instructional, experimental and research apparatus and equipment for the Division of Basic Medical Sciences in the Faculty of Medicine. Work involves liaison with faculty, research support staff, students and departmental personnel in the technical phases of experimental design and in the testing and adaptation of experimental techniques; preparing schematic drawings and/ or specifications; ordering supplies and parts; maintaining various related reference materials; and providing technical assistance and illustration of workshop equipment operation to faculty and students. The employee is required to exercise a considerable degree of initiative and independent judgement in evaluating techniques and methods. Work is reviewed through discussion, conferences and by evaluation of results obtained.

ILLUSTRATIVE EXAMPLES OF WORK

Maintains liaison with faculty members and research staff; discusses and evaluates technical equipment needs; determines the availability of equipment and apparatus from external suppliers; obtains information regarding suppliers, specifications and price; discusses data with faculty members and recommends purchase, as appropriate; modifies equipment as required.

Reviews research literature regarding equipment design and specification; constructs equipment or apparatus based upon information available; modifies design as required.

Determines equipment/ apparatus needs based upon oral and/ or written proposals; designs and constructs varied scientific apparatus and equipment; maintains liaison with Technical Services staff regarding fabrication as required.

Assists with the testing of models for instructional and research purposes; discusses modifications necessary to ensure needs are met; performs modifications as required.

Maintains water filtration system; ensures that the system is maintained in an appropriate manner; recommends major maintenance or renovation as required.

Provides technical advice to faculty members regarding the layout of scientific and research laboratory facilities; prepares plans of facilities and recommends equipment and apparatus purchase.

Monitors and tests filtering systems, air flow levels, and motor and related electrical functions of biological safety cabinets for various departments; decontaminates and certifies units to meet established safety standards; performs installations and regular maintenance as required.

Illustrates methods of apparatus fabrication to faculty members and students; explains and oversees operation of workshop equipment; ensures that safety procedures are followed.

Operates and maintains tools and equipment related to fabrication work and applies workshop methods, procedures and special techniques.

Maintains work area in a neat and orderly condition.

Performs related work as required.

REQUIREMENTS OF WORK

Considerable experience at a skilled level in the design and fabrication of scientific or experimental equipment, preferably in a medical environment; graduation from high school supplemented by the successful completion of courses in bio-medical technology from a recognized institution of technology or trades school; or any equivalent combination of experience and training which provides the following knowledge, abilities and skills:

Considerable knowledge of the standard practices and methods, materials, tools, processes and procedures used in research or experimental laboratory work.

Considerable knowledge of the mechanical equipment and tools used in the fabrication and modification of specialized apparatus and equipment.

Considerable knowledge of the maintenance and repair of shop tools and equipment.

Considerable knowledge of the hazards and safety precautions involved in the work.

Ability to acquire specialized knowledge independently and adapt it to new situations.

Ability to understand and follow complex oral and written instructions.

Ability to work from plans, sketches, models and oral and written instructions and to exercise judgement in determining the techniques and methods.

Ability to design, plan construction and fabricate apparatus and equipment and to carry work through to completion.

Ability to locate and identify malfunctions or defects in equipment or apparatus.

Ability to establish and maintain effective working relationships with faculty members, staff, students and research personnel.

Skill in the care and use of tools and equipment common to workshop environment.

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