JOB DESCRIPTION

JOB TITLE: **Lab Engineer, Chemical Engineering Laboratories.**
DEPARTMENT: **Mechanical Engineering**
SECTION: **Laboratories**
DIVISION: **Faculty of Engineering and Architecture**

1. BASIC FUNCTIONS

Manages and supports the proper functioning and development of the Chemical Engineering Laboratories comprising the fluid dynamic lab, the reaction engineering lab and the mass transfer operation lab. Directs the preparation of lab experiments as advised by the course professor, coordinates the set-up of required tools, and ensures calibration and proper functioning of equipment. Instructs and demonstrates to students the proper techniques in lab safety, and use and operation of lab equipment. Assists faculty and graduate student in conducting research experiments, and helps undergraduate students in doing their course and final-year projects. Trains and directs the work of students who work in the laboratories as "student employment". Takes initiatives to design new experiments or find inexpensive solutions for getting robust test results. Prepares annual lab report.

2. DUTIES PERFORMED

a. Manages and directs the activities of assigned personnel in the Chemical Engineering Laboratories. Performs supervisory functions as established by management for this job.
b. Schedules the lab sessions and assigns the proper graduate assistants in coordination with the Chemical Engineering program coordinator.
c. Liaises with the professors concerned to receive advice regarding course and final- year projects intended for students. Studies projects and ensures that all requirements are met. Coordinates the preparation of appropriate work areas for students, sets up the required tools, equipment, materials, and protocols of experiments and tests and calibrates equipment to ensure proper functioning.
d. Participates with faculty members and students carrying out research work. Contributes technical knowledge to the design, upgrade, and revision of experiments.
e. Liaises with faculty members to prepare orders for updating equipment to meet educational standards.
f. Responsible for planning and introducing new experiments in mass transfer and reaction engineering in coordination with faculty members.
g. Contributes to the formulation and modification of administrative and technical procedures adopted in the laboratories, and ensures such procedures are followed. Includes preparations for laboratory sessions, dispensing tools, equipment, components, materials etc., to students; regulating student access to manuals and data books.
h. Performs other related duties such as maintaining and updating a data base on equipment catalogs, manuals, data books, protocols of experiments, ensuring observance by subordinates of fire and safety regulations and the practice of good housekeeping, salvaging tools and materials where possible, etc.
i. Prepares the Chemical Engineering Laboratories Annual Report.

3. WORK CONTACT

Frequent contact with faculty members up to Chairperson level and with lab supervisor and lab technicians. Occasional contact with outside suppliers and contractors when performing equipment maintenance and repair and when ordering equipment and/or parts.

4. INDEPENDENCE OF OPERATION

Reports to Chemical Engineering program coordinator. Works according to established procedures and determines work methods in accordance with accepted technical standards under general supervision. Supervisor keeps advised of work progress and checks completed work.

5. PHYSICAL EFFORT

Slight physical effort

Involving walking, standing, bending and the operation of equipment for approximately 60% of the working time.

6. WORK CONDITIONS

Clean and pleasant (90%) slight exposure to chemicals.

7. MINIMUM REQUIREMENTS

a. Master of Engineering degree in chemical engineering or closely related field.
b. Two years previous experience in the theoretical and practical application of chemical/mechanical engineering laboratory techniques.
c. Good knowledge of English.
d. Good knowledge of Windows, Word, Excel, and some programming languages.
e. Ability to work with schematics, calibrate equipment, and deal with sensors, etc.