

Healthcare Engineering Student Internship

Introduction & Background

West Park Healthcare Centre is building a new Hospital on its 27-acre park-like site, beside the Humber River Valley in Toronto. The new hospital comprises about 730,000 square feet of space, which is close to 3 times the size of the current building. In the future, all of the Hospital's programs and services will have new and much larger facilities in which to operate. In addition, there are several instances in which new service delivery models will be introduced in clinical and non-clinical areas requiring a change to current operational practices. The performance of the much larger new Hospital requires the organization to examine and streamline current operational practices to ensure effective and efficient operations in the future space.

Engineers have always tackled significant and challenging problems facing society. We are in the midst of a big data revolution in healthcare, which enables engineers to develop data-driven, quantitative and evidence-based solutions to problems related to health systems performance improvement. West Park Healthcare Centre is seeking an internship in Healthcare Engineering from the Centre for Healthcare Engineering (CHE), at the University of Toronto. West Park sees opportunities for students to learn at West Park by applying industrial engineering methods to real life operational challenges that must be addressed to successfully operate in the new building.

Possible Projects

1) Investigating the Cost/Benefit of Porters

A hospital porter moves patients, equipment and numerous other medical paraphernalia between the various areas of a hospital. Hospital porters also have the important job of moving vital, often extremely costly, equipment between the different departments of a hospital. They may also distribute mail, files and specimens.

Currently there is not a centralized porter management system at West Park. In the future, this service may be required due to the:

- Large footprint of the new building.
- West Park's rehabilitative and complex continuing care patient population, many of whom have mobility issues.
- Extensive travel distances for patients and staff between departments, which can exceed 250 feet.

Patient and equipment transport will be an important function in the new Hospital, and it will be important to design, implement and manage a process that is cost-effective and efficient. The purpose of this project will be to investigate the cost/benefit and feasibility of introducing porters in the new Hospital.

2) Optimizing the Supply Chain for Supply Cupboard on the Inpatient Units

In the new Hospital there will be an alcove for storage supply associated with each of the 314 inpatient bedrooms, located outside of the patient bedroom but immediately adjacent to the entrance. These storage supply alcoves are designed to reduce the waste which results from excess supplies being stored inside patient rooms, requiring disposal upon patient discharge due to possible contamination.

The purpose of this project will be to define an efficient and effective solution to streamline the supply management and replenishment process and reduce inefficiencies.

Preceptor Team

The student will be supervised by a Preceptor Team including the following Executive Sponsor and Preceptors:

- Executive Sponsor: Anne-Marie Malek, President and CEO
- Preceptors:
 - Martha Harvey, Director, Operational Readiness and Planning – Inpatient Services
 - Susan MacDonald, Director, Operational Readiness and Planning - Outpatient Services

Duration

The duration of the Internship will be determined according to the University's academic requirements, the Student's schedule and the Hospital's project timelines.

Stipend

A student stipend will be provided.