Introduction to Big Data for Health is an elective course intended to introduce students to the many types of data and analytical methods now available that will enhance our ability to investigate and explain the health of communities. These include data that are relevant to measurement of the social economic and genetic determinants of health, the quality and outcomes of healthcare programs and healthcare interventions. The quantity and variety of relevant data have increased substantially in the last decade and now include data from: healthcare administration, electronic medical records, diagnostic laboratories, censuses, vital statistics, environmental exposures, disease and device registries, research data-bases and bio-repositories. To this may be added relevant information extracted from social services, taxation records, education, justice and corrections services. This is a rapidly changing field. The aims of the course are to introduce students to the different types of data, to provide an overview of the different analytical approaches and to assess the potential value of these big datasets by examining a number of examples of their use.

Objectives:

The aims of the course are to provide students with an overview of the different types of data, the different analytical approaches and to assess the potential value of these big datasets by examining a number of examples of their use.

- Taxonomy of health data, characteristics of structured and unstructured health data.
- The value of individually linked data.
- Different analytic approaches to ‘wide’ and ‘deep’ data.
• Data security and privacy, data sharing, de-identification and governance.
• Working with distributed data networks.
• Examples of the use of big data in health and healthcare.
• Examples of the use of big data in policy evaluation.

Qualifications:

• A PhD or Masters level education with experience in health informatics, preferably in the areas of data analytics, data management and data governance.
• A robust understanding of existing datasets in healthcare, administrative, financial, supply chain and clinical
• Experience with current data analytics approaches, including artificial intelligence, machine learning, natural language processing, expert systems, speech recognition, robotics and image processing.
• Knowledge of existing big data projects being conducted in Canada and globally
• Sound academic knowledge of big data approaches being used in healthcare, including hypothesis testing and algorithm validation
• Sound academic knowledge of how to ethically evaluate AI algorithms
• Past teaching experience related to health informatics, preferably at the graduate level;
• Prior experience in curriculum development and adult teaching-learning methods;
• Comfortable with electronic teaching tools such as Learning Management Systems (e.g., Quercus), PowerPoint, as well as on-line collaboration tools (Blogs, Wikis, Discussion Boards, Webinars, or Video-conferencing).

Class schedule: Modular
Estimated enrolment: 30
Estimated TA support: based on enrolment - None

Duties:

• Course instructor for a professional graduate course using competency-based learning and assessment methods.
• Must be accessible to students outside of classroom hours.
• Available evenings and weekends.

Salary: Commensurate with experience
How to submit an application: Please send your CV and cover letter, outlining additional value you will bring to teaching the course via e-mail to ihpme.appointments@utoronto.ca and ihpme.mhi.program@utoronto.ca.

Closing date: June 7, 2022

This job is posted in accordance with the CUPE 3902 Unit 3 Collective Agreement. It is understood that some announcements of vacancies are tentative, pending final course determinations and enrolment. Should rates stipulated in the collective agreement vary from rates stated in this posting, the rates stated in the collective agreement shall prevail.

Preference in hiring is given to qualified individuals advanced to the rank of Sessional Lecturer II or Sessional Lecturer III in accordance with Article 14:12 of the CUPE 3902 Unit 3 collective agreement.

Please Note: Undergraduate or graduate students and postdoctoral fellows of the University of Toronto are covered by the CUPE 3902 Unit 1 collective agreement rather than the Unit 3 collective agreement, and should not apply for positions posted under the Unit 3 collective agreement.