CONESTOGA

Bachelor of Applied
Health Information Science

Capstone Project

Connecting Life and Learning.

What is the Bachelor of Applied Health Information Science (BAHIS) Program?

The Bachelor of Applied Health Information Science (Honours) degree is an innovative four-year program focusing on health informatics and health information management technologies. BAHIS is Canada's only program to be accredited by the Canadian Health Information Management Association (CHIMA).

What is the Capstone Project?

The Capstone Project is an opportunity for our graduating 4th year students to showcase the skills they've developed throughout the BAHIS program by taking on a focused project or initiative with a healthcare provider or innovation organization.

The capstone is an unpaid project **that runs from** May - August, 2023. Students can work independently or as a team, and will each dedicate 100 hours (equivalent to ~8 hours per week) to the project. This is an excellent opportunity to leverage the skills and knowledge of our students to explore a new concept or advance a project that requires additional resources or focused attention at no cost!

The Capstone is an unpaid project that runs from May - August. During this time highly skilled students dedicate 100 hours (~1 day per week) to a focused initiative or deliverable at **no cost to their preceptor organizations**.

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What skills do BAHIS students offer?

Leveraging integrated clinical, technical, and health information management skills developed both in-class and hands-on with industry, our graduates enable person-centred, safe, high-quality, and sustainable healthcare through the development and use of innovative technologies that support evidence-based decision making and problem solving:

Skills & Experience

Clinical	Technical	Management	Practical
• Clinical informatics and health information management • Biomedical concepts • Epidemiology, population and public health • Healthcare workflow analysis and optimization • Healthcare quality improvement	• Software development (python) • Data analysis (SQL/noSQL, PowerBI) • Interoperability (HL7/FHIR, DICOM/DICOMweb, RESTful APIs) • Information technology (IT) management • Data privacy and security in healthcare • EMR (Telus Practice Suite Solutions, OSCAR)	• Healthcare governance • Project and change management • User training and adult education • Technology planning and procurement in healthcare • Research methods in health sciences	• 1-month field-placement practicum • 8-month co-op • Participation in annual Public Health and Informatics (PHIS) Symposium • Design competition (facilitating patient engagement in orthopedic surgery) • Analytics dashboard competition • ONC/Digital Charter Implementation Act live debate

A full program description, including a list of courses, can be found here

Sample Projects

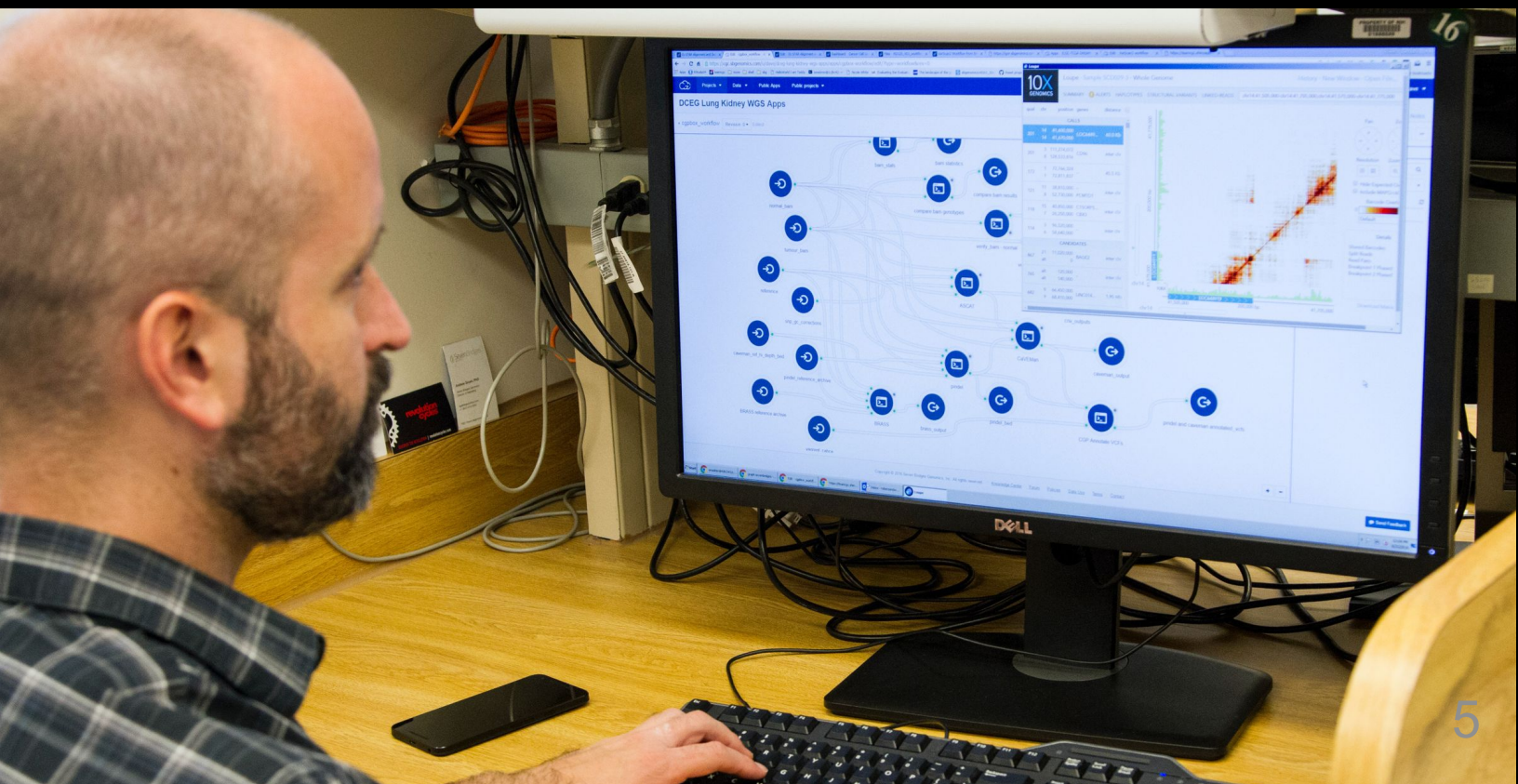
Each year our students take on a wide variety of exciting and rewarding projects, including but not limited to:

Clinically Focused Projects

- Conduct a clinical workflow analysis and process re-engineering to support paperless workflow in an in-patient acute care setting
- Develop a dynamic operational model for a cardiovascular care clinic that models space, equipment, and resource requirements to support patient population growth and service line expansion
- Development of a platform and digital tools for the management of mental health and wellness
- Develop processes that adhere to PHIPA and other social worker best practices to protect client personal health information for a mental health digital therapist matching service
- Design and develop dashboards to support radiology practice management for practices across Canada and the US

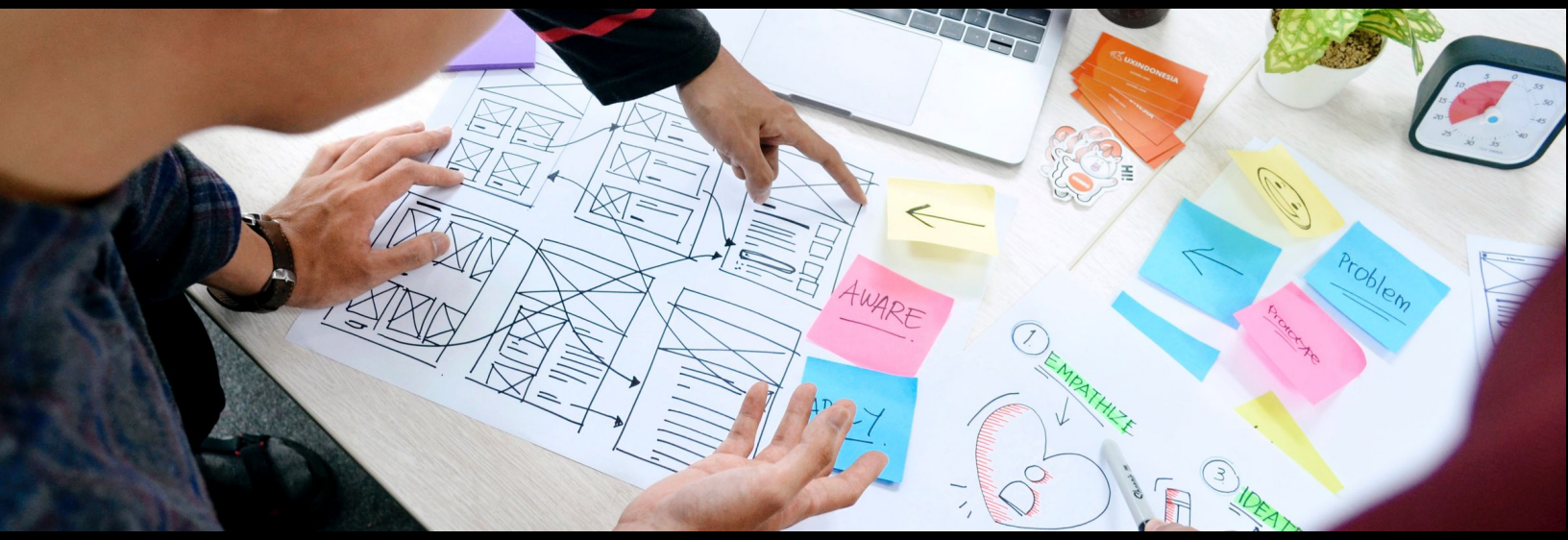
Technically Focused Projects

- Research and develop for FHIR/HL7 interoperability requirements for integration and authentication between EHR and patient engagement systems
- Produce architecture, sequence diagrams, and data flow diagrams to support the development and implementation of an integrated clinical decision support (CDS) solution
- Establish a data analytics program to measure key quality indicators for the assessment and management of chronic pain in alignment with Health Quality Ontario's (HQO) requirements
- Create a curated dataset of histopathology images for the development of AI-based image classification algorithms
- Design a database to capture general information about the infection prevention, outbreaks, and inspections within congregate living settings (Long Term Care Homes, Retirement homes, group homes, etc.)



Research Focused Projects

- Research and prototype a set of microservices and apps for a next-generation EHR, or 'health metaverse'
- Perform an environmental scan and formulate recommendations for Ontario Health Team (OHT) digital health and security requirements
- Define and document the process and requirements for healthcare facility qualification as an American College of Radiology (ACR) Diagnostic Imaging Center of Excellence, including collection and reporting to the General Radiology Improvement Database (GRID)
- Conduct a cross-industry research study to identify comparative and generic benchmarks and develop recommendations for KPIs and BI dashboards that support the management of a group of long-term care facilities
- Applied research in the field of Type 2 Diabetes management and shared decision making, including data modelling, UX/UI design, and prototype validation



Are you interested in working with one of our highly skilled BAHIS graduates this spring/summer? If so, contact Professor Laurie Lafleur to learn more: llafleur@conestogac.on.ca