Why a **GRADUATE DIPLOMA** or **DEGREE** in **BIOMEDICAL INFORMATICS**?

Transforming how health care is approached and delivered through big data is the goal of our two new professional programs: a Graduate Diploma and Professional Master’s in Biomedical Informatics.

Students can take the 4 month graduate diploma, with the option to continue on to complete a one-year masters. Skills gained in these programs will provide hands-on training in data science that will form the foundation for successful careers in health care and biomedical research. Knowledge and experience in data analytics is in high demand among health care professionals and researchers. Whether you are interested in pursuing careers in genetics, pharmaceuticals, medicine, or biomedical research, understanding how to manipulate and use large datasets is essential for translating data into knowledge in health care.

**Why QUEEN’S?**

Offered in partnership by the School of Computing and the Department of Biomedical and Molecular Sciences (DBMS), students will succeed through the hands-on and applied nature of the program. These programs are focused on training future data scientists who have a foundation in biology, life sciences, biochemistry, medical sciences and related disciplines in methods for database design and management, statistical analysis, data mining, and image analysis.

Queen’s offers its students a perfect balance of engagement with rigorous academic programs and access to first class practitioners and learning facilities. Both the Graduate Diploma and Professional Master’s programs are cross-disciplinary -- taught by a combination of instructors from the School of Computing and the Faculty of Health Sciences.

**Program STRUCTURE**

**Graduate Diploma** (May - July; 3 Months):
The diploma consists of courses including a final paper for CISC-897. The courses are:
- BMIF-801* – Programming Skills and Tools for Processing of Biomedical Data
- BMIF-802* – Biomedical Data Analysis
- BMIF-803* – Biomedical Data Mining and Applications
- CISC-897* – Research Methods in Computer Science

**Master’s Program (MBI)** (May - April; 12 Months)
The program will consist of:
- The 4 courses from the Graduate Diploma
- Master’s Project - equivalent in weight to two courses. A biomedical informatics project is undertaken under the supervision of a School member. The presentation of a seminar to describe the project is required.
- Two additional courses from a list of elective courses.

“Never in the history of mankind have we had access to so much medical data – electronic health records, medical imaging, “omic” data – the challenge now is turning this data deluge into meaningful insights. This is where data scientists step in. The demand for biomedical informatics specialists far exceeds supply. We are witnessing the largest transformation of healthcare ever – bioinformatics specialists will be the rock stars of tomorrow.”

- Don Aldridge, Executive Director of the Centre for Advanced Computing & Senior Advisor of Advanced Computing and Data Analytics
Application FAQs

What do I need to know to APPLY?

To be considered for admission to the Graduate Diploma or the MBI, an applicant must hold a minimum of a BSc (Honours) degree in biology, life sciences, biochemistry, medical sciences, computer science, biostatistics, engineering, and related disciplines, who are interested in designing and implementing quantitative and computational methods that solve challenging problems across the entire spectrum of biology and medicine, and who wish to develop the skills required for a range of exciting careers in medicine, research and development, or industry. The minimum acceptable average for admissions to these programs is B+ in the third and fourth years of the student's undergraduate program (all courses considered).

Students applying from outside of North America whose native language is not English are required to submit TOEFL scores. Although the program is aimed at recent graduates from undergraduate programs, applicants from professional programs such as medicine and nursing are also welcome.

DEADLINES

- Deadline to Apply (for both programs): February 1
- Final Decisions will be Communicated: April 1