

Biomedical Informatics

GDip, MBI

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 (Mid May - Mid August; 3 Months):

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
- **BMIF 804*** - Medical Imaging Informatics

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 Aldrige, Past Executive Director of the Centre for Advanced Computing & Senior Advisor of Advanced Computing and Data Analytics



GRADUATE STUDIES AND POSTDOCTORAL AFFAIRS

Graduate Studies FAQs

How do I make the most of my time at Queen's?

Use the Grad Map to plan for success in five overlapping areas of your career and academic life. Everyone's journey is different - the ideas on the maps are just suggestions to help you explore possibilities. For more support with your professional development, take advantage of the SGSPA professional development framework and the new [Individual Development Plan \(IDP\)](#) process to set customized goals to help you get career ready when you graduate.

Where can I get help?

Queen's provides you with a broad range of support services from your first point of contact with the university through to graduation. Ranging from help with academics and careers, to physical, emotional, or spiritual resources – our welcoming environment offers the programs and services you need to be successful, both academically and personally. Check out the [SGSPA website](#) for available resources.

What is the Queen's graduate community like?

At Queen's, graduate students from all disciplines learn and discover in a close-knit intellectual community. You will find friends, peers and support among the graduate students enrolled in Queen's more than 130 graduate programs within 50+ departments & research centres. With the world's best scholars, prize-winning professional development opportunities, excellent funding packages and life in the affordable, historic waterfront city of Kingston, Queen's offers a wonderful environment for graduate studies. Queen's is an integral part of the Kingston community, with the campus nestled in the core of the city, only a 10-minute walk to downtown with its shopping, dining and waterfront. For more about Kingston's history and culture, see Queen's University's [Discover Kingston](#) page.

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, 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: March 1

