

Biochemistry and Life Sciences

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Professor, Biomedical and Molecular Sciences & Environmental Studies

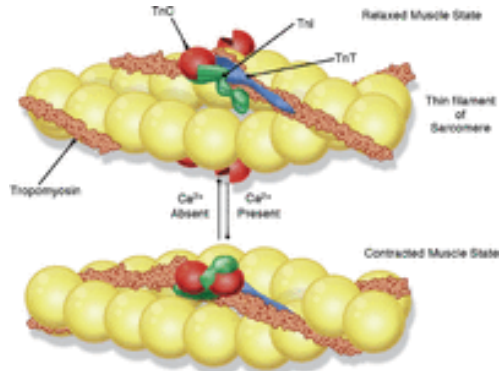
What is “Life Sciences” at Queen’s?

This is a highly sought after undergraduate program that offers students both lecture instruction and laboratory opportunities to learn about human life. With courses ranging from the anatomy and physiology of the organs in our bodies to the bacteria and viruses that compromise organ functions to the cells that give rise to carcinomas to the drugs used to cure us of infection and disease.

What is “Biochemistry” at Queen’s?

This undergraduate program offers students a unique opportunity to learn about the machinery in cells that governs their shape, movement, and functional importance, as well as how this machinery is altered in response to injury and disease.

Biochemistry and Life Sciences

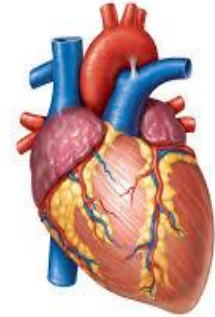


1. Cardiac Output

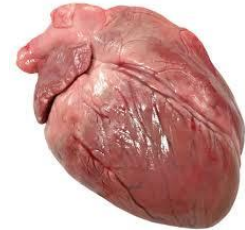
VISIBLE BODY®



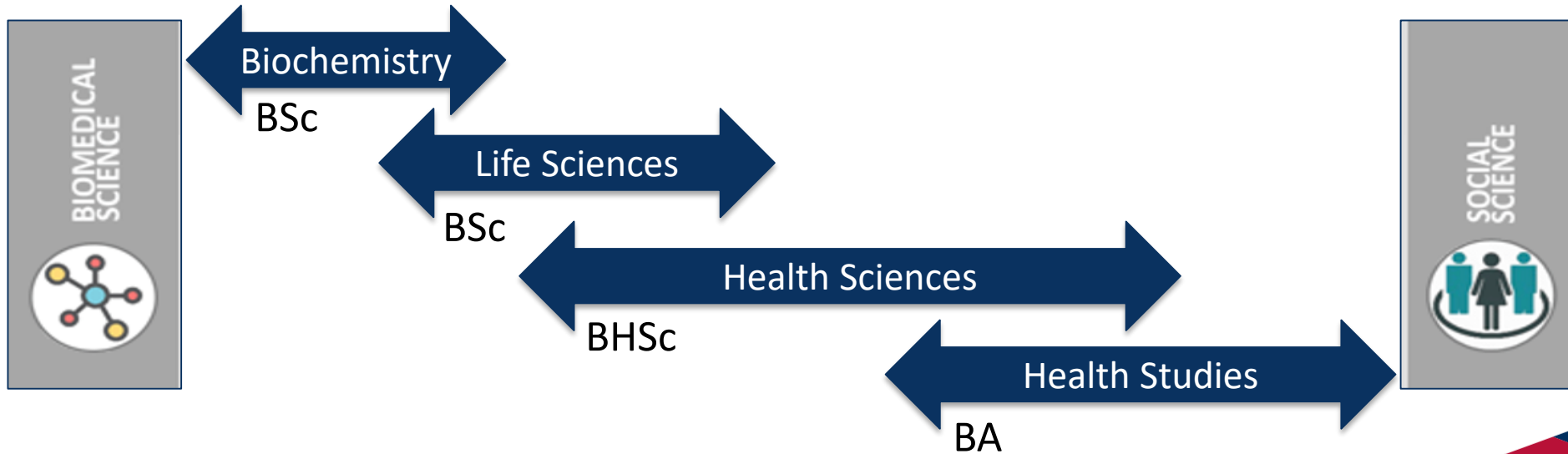
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Distinguishing Programs



Biochemistry and Life Sciences

CONTENT DISTINCTION

Biochemistry



Learn about cellular machinery that govern:

- Shape
- Movement
- Functional importance

Emphasis on these aspects in health and disease.

Life Sciences



Learn about the following fields in the biomedical sciences:

- Biochemistry
- Cellular and Tissue Physiology
- Anatomy and Reproduction
- Drug Discovery and Human Toxicology
- Microbiology and Immunology
- Cancer Biology and Pathology
- Neurosciences

Biochemistry and Life Sciences

WHAT WILL MY DEGREE LOOK LIKE?

WHAT WILL MY CORE DEGREE PLAN BE?

Biochemistry Major

2nd year

- Molecular Biology
- Organic Chemistry
- Inorganic Chemistry
- Statistics

3rd year

- Physical Biochemistry
- Proteins, Enzymes, Metabolism
- Biochemistry Laboratory

4th year

- Current Topics in Biochemistry
- 2 of:
 - Advanced Molecular Biology
 - Protein Structure and Function
 - Molecular Basis of Cell Function

GPA greater than 2.5 (automatic GPA \geq 2.9)

Pass in 1st year Chemistry

No less than 27 unit load

WHAT WILL MY CORE DEGREE PLAN BE?

Biochemistry Specialization

2nd year

- Molecular Biology
- Organic Chemistry
- Inorganic Chemistry
- Statistics

3rd year

- Physical Biochemistry
- Proteins, Enzymes, Metabolism
- Biochemistry Laboratory

4th year

- Current Topics in Biochemistry
- Advanced Molecular Biology
- Protein Structure and Function
- Molecular Basis of Cell Function
- **Research project**

WHAT WILL MY CORE DEGREE PLAN BE?

Life Sciences Major

2nd year

- Molecular Biology
- Organic Chemistry
- Microbiology
- Physiology

3rd year

- No Core Courses

4th year

- No Core Courses

GPA greater than 2.0 (automatic if GPA \geq 3.2)

Pass in 1st year Chemistry

No less than 27.0 unit (9 course) load

WHAT WILL MY CORE DEGREE PLAN BE?

Life Sciences Specialization

2nd year

- Anatomy
- Molecular Biology
- Organic Chemistry
- Microbiology
- Physiology
- Statistics

3rd year

- Biochemistry
- Immunology
- Pharmacology

4th year

- No Core Courses
- Topic-specialized courses with research opportunity*

*Specialization Plans include: Cancer Biology, Cardiorespiratory, Drug Development and Human Toxicology, Neurosciences, Biomedical Discovery/Sciences

Combined BSc/MSc

- Life Sciences and Biochemistry offer a combined program
- “Accelerated” path to graduate school
- Apply in the 2nd term of 3rd year
- Take up to 6 units of graduate courses during 4th year
- Continue 4th year research project

Exit Strategy

If you get an acceptance to medical school in your 3rd year...

Life Sciences & Biochemistry –
General Bachelor of Science

Honours routes: Major or
Specialization

Health Sciences– General Bachelor
of Health Sciences

Honours route: Major

Facilities: Both Programs



Left:

- Botterell Hall
(offices and
research labs)

Right:

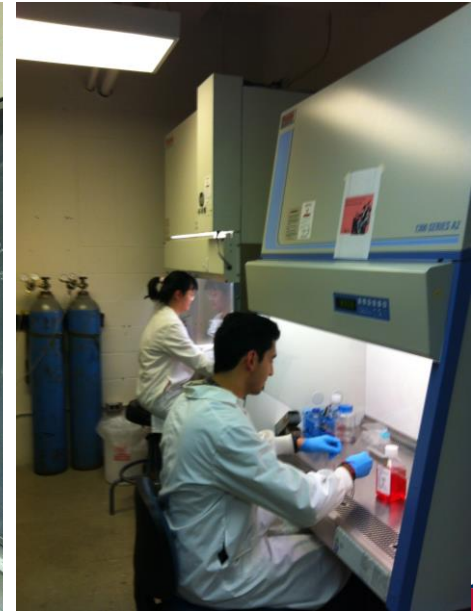
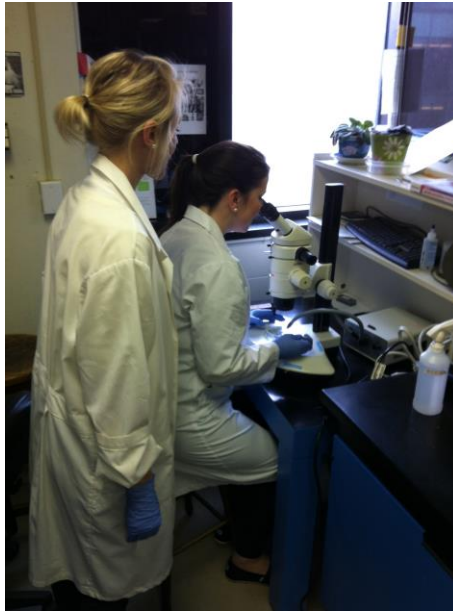
- New Medical
Building (teaching
labs)



World class
teaching labs

(School of
Medicine Tours
running all day!)

Research In Action



STUDENTS

- ▶ Looking for a Job?
- ▶ Wondering about Career Options?
- ▶ Thinking about Grad School?
- ▶ Want to Build Experience?
- ▶ Tipsheets & Career Resources
- ▼ Services for Students
 - Graduate and Professional Students
 - ▼ Employment Programs
 - M.Eng. Industrial Internship Program
 - **QUIP**
 - SWEP
 - Work Study Program
 - Drop-in Career Advising
 - Events, Fairs, & Information Sessions
 - Career Advising & Resource Area
 - ▶ Workshops
 - ▶ Appointments
- It All Adds Up
- LinkedIn at Queen's

Queen's Undergraduate Internship Program (QUIP)

The Queen's Undergraduate Internship Program (QUIP) provides students with a 12-16 month work experience. QUIP internships are paid, professionally supervised, career-related positions designed to offer second or third year students the opportunity to learn about current advances, practices and technologies in business and industry. The program is open to students in the Faculty of Engineering and Applied Science (domestic and international), Faculty of Arts and Science (domestic and international), School of Computing (domestic and international) and the School of Business (domestic only; not for credit). Due to the longer work term (compared to a 4-month co-op), employers are highly motivated to maximize their time and investment. This means that Internship students are offered the opportunity to manage more extensive and significant projects.

[Search QUIP job postings](#)

[Contact QUIP coordinator](#)



Got Questions? Come and see the QUIP Coordinator during QUIP Drop-in Advising Hour – no appointment necessary!

QUIP Drop-in Advising: Every Tuesday and Thursday from 11-12 in the [Career Advising and Resources Area](#) (Sept-April)

– Eligibility

The program is open to students in the Faculty of Engineering and Applied Science (domestic and international), Faculty of Arts and Science (domestic and international), School of Computing (domestic and international) and the School of Business (domestic only - please see an academic advisor in the School of Business before registering).

- Queen's students can participate in QUIP after their 2nd or 3rd year of studies and must be returning to complete their final academic term after the internship.
- Students must have a minimum GPA of 1.9 and the permission of your undergraduate chair to register in QUIP.



LSO Networking Night

Please join the LSO members, Board and other Industry individuals for the November Networking Night

LSO's Networking Nights event series provides a forum for LSO members and non-members to build connections with the life sciences community in a social setting.

On average we have 100 -120 confirmed attendees per event, with our most popular event drawing 140 people. One third of attendees represented SME companies, 33% were researchers/students, with the remainder being consultants, lawyers, investors, accelerators, multinationals, and government delegates.

If you are looking to raise your profile within the Life Sciences community, Sponsorship Opportunities are available. For more information, please contact the LSO Office (admin@lifesciencesontario.ca)

When: Tuesday, November 7th

Where: Marché Restaurant's **MUVBAR** - Brookfield Place Street Level



42 Yonge Street, Toronto, ON

Canadians Studying Medicine Abroad

November 5, 2018 - B139



Queen's
UNIVERSITY

Speakers:

Dr. James MacKinnon, PGY 1 Family Medicine, Queen's
BSc (Biology, Mount Allison University); MSc (Global Health and
Public Policy, University of Edinburgh); MD/MSc (Saba University
School of Medicine)

Dr. Shadé Miller, PGY 1 Psychiatry, Queen's
BSc (Psychology, Western University); MD (Saba University School
of Medicine)

Dr. Arjun Kundra, PGY 1 Internal Medicine, Queen's
BSc, Biomedical Sciences (York University); M.D., American
University of Integrative Sciences School of Medicine

Dr. Nimsha Singaram, PGY1 Psychiatry, Queen's
MB, BCh, BAO, (Royal College of Surgeons Ireland)

Career Opportunities

Medicine

**Biomedical
Research**

Law

**Healthcare Policy and/or
Administration**

Industry

Pharmacy

Veterinary Medicine

Education

**Physiotherapy and
Occupational Therapy**

Dentistry

What extracurricular activities are available?

Biochemistry and Life Science students both have an active, elected student council that organize sports, social and academic related activities for their students, including an annual banquet, BBQ's, book and clothing sales. Life Science students also have their research publication "QSURJ".

FORMALS



Contact Us



By email:

Life Sciences – lifesci@queensu.ca (Katherine Rudder)

Biochemistry – biochem@queensu.ca (Alana Korczynski)