

Life Sciences and Biochemistry - Major vs Spec Night

What comes next in your degree?

**Life Sciences and
Biochemistry**

**MAJOR VS SPEC
INFO NIGHT**

MARCH 9TH FROM 6-8PM

**ROOM I32A - BRITTON SMITH LECTURE THEATRE +
DAVID WALKER ATRIUM
15 ARCH STREET - SCHOOL OF MEDICINE**

An illustration of two scientists, a woman and a man, in a laboratory. The woman on the left is wearing a white lab coat over a red shirt and blue gloves, holding a clipboard and a yellow folder. The man on the right is wearing a white lab coat over a red shirt, safety goggles, and blue gloves, holding a pipette. They are standing behind a lab bench with various pieces of equipment: a rack of test tubes with colored liquids (yellow, orange, red), a flask with green liquid, a flask with yellow liquid, and a stand with a flask containing yellow liquid. The background is light blue with various scientific icons like a DNA helix, a microscope, a flask, and a molecular structure.



Acknowledgement of Territory

Queen's University is situated on traditional Anishinaabe and Haudenosaunee Territory. To acknowledge this traditional territory is to recognize its longer history, one predating the establishment of the earliest European colonies. It is also to acknowledge this territory's significance for the Indigenous peoples who lived, and continue to live, upon it – people whose practices and spiritualities were tied to the land and continue to develop in relationship to the territory and its other inhabitants today.

The Kingston Indigenous community continues to reflect the area's Anishinaabek and Haudenosaunee roots. There is also a significant Métis community and there are First Peoples from other Nations across Turtle Island present here today.

Life Sciences and Biochemistry

Plan Selection Seminar

March 9, 2026



Dr. Laura van Staalduinen,
Director of Biochemistry



Dr. Jeanne Mulder,
Director of Life Sciences

Biomedical and Molecular Sciences

Important Dates



May 18-29	Plan Selection Period
July 14	Students can access their Student Centre to view enrolment appointment times and begin loading courses to their shopping cart in SOLUS
July 21-29	Finish enrolling in your classes in SOLUS according to your appt time
July 28	Program specific restriction on 1 st year classes will change at noon to allow any 1 st year ASC student into 1 st year classes. These classes will remain closed to upper year students until July 29th
July 30	Registration pause day. No enrolment, academic advising open
July 31 – Aug 3	Second enrolment appointment begins at 8am, 15 units per term limit enforced
Aug 14 - 17	Registration hiatus
Aug 18	Open enrolment begins (students may add 18 units)

<https://www.queensu.ca/artsci/undergraduate/current-students/course-enrolment>

What is Plan Selection?

After completing 24 units or more ALL students select their area of study (Plan)

- Between May 18 – May 29
- Log into SOLUS and select your plan
- Once you are accepted you will receive a message in SOLUS
- Your plan will be recorded on your SOLUS and your Transcript

Direct entry students need to choose:

- Biochemistry or Life Sciences or other program you are eligible
- Major or Specialization (SSP)
- Be sure to choose Honours (4-year program)

<https://www.queensu.ca/artsci/undergraduate/first-year-students/plan-selection>

Information for 1st year Direct Entry students going into 2nd year

- Direct entry students will be automatically accepted into either Biochemistry or Life Sciences – the choice is yours!
 - If you choose a different plan, you may not be automatically accepted
- Life Sciences students will have core 2nd year courses pre-loaded in SOLUS – you will add options and electives
 - Except STATS – will need to choose fall, winter, or summer offering
- Biochemistry students will self-enrol in all courses

Biochemistry

Discipline-focused degree plan offered through the Faculty of Arts and Sciences

Students receive in depth training in a wide range of essential topics related to fundamental cellular processes including:

- Cellular metabolism
- Movement
- Replication
- Repair
- Communication
- Molecular and chemical basis of infection and disease



WHAT ARE THE DEGREE PLAN CHOICES?

Biochemistry Major

1st year

- Chemistry
- Biology
- Physics
- Calculus
- PATH/BCHM
- CISC

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

BCHM 218

CHEM 211, 212, 222, 223

BIOL 243 (Statistics)

12 U electives

WHAT ARE THE DEGREE PLAN CHOICES?

Biochemistry Specialization

1st year

- Chemistry
- Biology
- Physics
- Calculus
- PATH/BCHM
- CISC

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**

BCHM 218

CHEM 211, 212, 222, 223

BIOL 243 (Statistics)

12 U electives

Life Sciences

Interdisciplinary degree plan offered through the Faculty of Arts and 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



Life Sciences Major

1st year

- Chemistry
- Biology
- Physics
- Calculus
- PATH/BCHM
- CISC

2nd year

- Molecular Biology (BCHM 218)
- Organic Chemistry (CHEM 281/282)
- Microbiology (MICR 271 or 221)
- Physiology (PHGY 215/216)
- Statistics (BIOL 243/STAT 263/STAM 200)

3rd year

- No Core Courses

LISC_List_A

- 3 units at 400-level or above
- 15 units at 300-level or above
- 3 units at 200-level or above
- 6 more units

4th year

- No Core Courses

No more than 15.00 units chosen from LISC_List_A may be in BIOL or PSYC.

LISC List A		
ANAT ¹		
BCHM ¹		
BIOL 205	Mendelian and Molecular Genetics	3.00
BIOL 321	Animal Behaviour	3.00
BIOL 322	Environmental Physiology of Animals	3.00
BIOL 330	Cell Biology	3.00
BIOL 331	Analytical Genomics	3.00
BIOL 334	Comparative Biochemistry	3.00
BIOL 339	Animal Physiology	3.00
BIOL 350	Evolution and Human Affairs	3.00
BIOL 369	Sex and Evolution	3.00
BIOL 401	Experimental Approaches to Animal Physiology	3.00
BIOL 403	Experimental Techniques in Biology	3.00
BIOL 404	Techniques in Molecular Biology	3.00
BIOL 430	Molecular Genetics of Development	3.00
BIOL 441	Molecular Genetics	3.00
CANC ¹		
CHEM 213	Introduction to Chemical Analysis	3.00
CHEM 221	Material, Solutions, and Interfaces	3.00
CHEM 222	Methods of Structure Determination	3.00
CISC 271	Linear Methods for Artificial Intelligence	3.00
CRSS ¹		
DDHT ¹		
DISC ¹		
EPID ¹		
HLTH 323	Epidemiology	3.00
HSCI 270	Fundamentals of Health Research Methodology	3.00

HSCI 383	Advanced Research Methodologies	3.00
HSCI 483	Applied Qualitative Methods for Health Research	3.00
LISC ¹		
MATH 221	Vector Calculus	3.00
MATH 225	Ordinary Differential Equations	3.00
MATH 228	Complex Analysis	3.00
MATH 300	Modeling Techniques in Biology	3.00
MICR ¹		
NSCI ¹		
PATH ¹		
PHAR ¹		
PHGY ¹		
PHYS 206	Dynamics	3.00
PHYS 216	Introduction to Astrophysics	3.00
PHYS 242	Relativity and Quanta	3.00
PSYC 100	Principles of Psychology	6.00
PSYC 236	Introduction to Clinical Psychology	3.00
PSYC 251	Developmental Psychology	3.00
PSYC 271	Brain and Behaviour I	3.00
PSYC 305	Introduction to Comparative Cognition	3.00
PSYC 323	Laboratory in Attention	3.00
PSYC 333	Human Sexuality	3.00
PSYC 353	Atypical Development	3.00
PSYC 355	Comparative Cognition: Cognitive Origins Laboratory	3.00
PSYC 360	The Neurobiology and Psychology of Sleep	3.00
PSYC 370	Brain and Behaviour II	3.00

PSYC 398	Selected Topics in Psychology I	3.00
PSYC 420	Advanced Topics in Cognitive Psychology	3.00
PSYC 422	Advanced Topics in Attention	3.00
PSYC 435	Advanced Topics in Clinical Psychology	3.00
PSYC 470	Advanced Topics in Behavioural Neuroscience	3.00
PSYC 471	Behavioural Pharmacology	3.00
PSYC 473	Neurobiology of Psychiatric Disorders	3.00
REPD ¹		
<p>¹ The following courses cannot be used towards an Option requirement: ANAT 270/3.0*, BCHM 270/3.0, MICR 270/3.0, PHAR 270/3.0*, PHGY 170/3.0, and any course numbered 499. To view all courses under these subject codes, please navigate to the Courses of Instruction.</p>		

- Long list to choose from
- CANC¹ means you can take any course that starts with CANC in their code
- Applies to all like this in the list

Life Sciences Specialization

1st year

- Chemistry
- Biology
- Physics
- Calculus
- PATH/BCHM
- CISC

2nd year

- Anatomy (ANAT215/216)
- Molecular Biology (BCHM 218)
- Organic Chemistry (CHEM 281/282)
- Microbiology (MICR 221 or MICR 271)
- Physiology (PHGY 215/216)
- Statistics (BIOL243/STAT263/STAM200)

3rd year

- Biochemistry (BCHM 315/316)
- Immunology (MICR at 300- level)
- Pharmacology (PHAR 370)

4th year

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

***Specialization Plans :**

- Cancer Biology
- Cardiorespiratory
- Neurosciences
- Biomedical Discovery
- Drug Development and Human Toxicology
- Biomedical Sciences

Familiarize yourself with the Academic Calendar

Academic Calendar 2025-2026

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Queen's University Academic Calendar

Calendar Navigation

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Familiarize yourself with the Academic Calendar

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Fine Art >

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- Computing
- Drama and Music
- Economics
- Employment Relations
- English
- Environmental Studies
- Film and Media
- Fine Art
- French Studies
- Gender Studies
- Geography and Planning
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Familiarize yourself with the Academic Calendar

Life Sciences

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Program Notes

Subject Code for Anatomy: **ANAT**

Subject Code for Biochemistry: **BCHM**

Subject Code for Cancer Research: **CANC**

Subject Code for Cardiorespiratory Science: **CRSS**

Subject Code for Drug Discovery and Human Toxicology: **DDHT**

Subject Code for Life Sciences: **LISC**

Subject Code for Microbiology and Immunology: **MICR**

Subject Code for Neuroscience: **NSCI**

Subject Code for Pathology and Molecular Medicine: **PATH**

Subject Code for Pharmacology and Toxicology: **PHAR**

Subject Code for Physiology: **PHGY**

Subject Code for Community Health and Epidemiology: **EPID**

Subject Code for Reproduction and Development: **REPD**

World Wide Web Address: www.healthsci.queensu.ca/liscbchm/life_sciences

Associate Dean of Life Sciences, Biochemistry, and Health Sciences: TBD

Director of Life Sciences: [Jeanne Mulder](#)

Biochemistry

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Biochemistry – General (Science) – Bachelor of Science

Biochemistry – Minor (Science)

Biology >

Chemistry >

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Specialization

- [Biochemistry – Specialization \(Science\) – Bachelor of Science \(Honours\)](#)

Major

- [Biochemistry – Major \(Science\) – Bachelor of Science \(Honours\)](#)

General

- [Biochemistry – General \(Science\) – Bachelor of Science](#)

Minor

- [Biochemistry – Minor \(Science\)](#)

WHAT WILL I CHOOSE AS A PLAN?

SSP:

Recommended (but not necessary) if your career plans include:

- research (i.e., graduate school)
- heavy emphasis on hands-on laboratory/research experience
- **Meets the needs of most professional schools (check with each school)

MAJ:

Recommended if your career plans are:

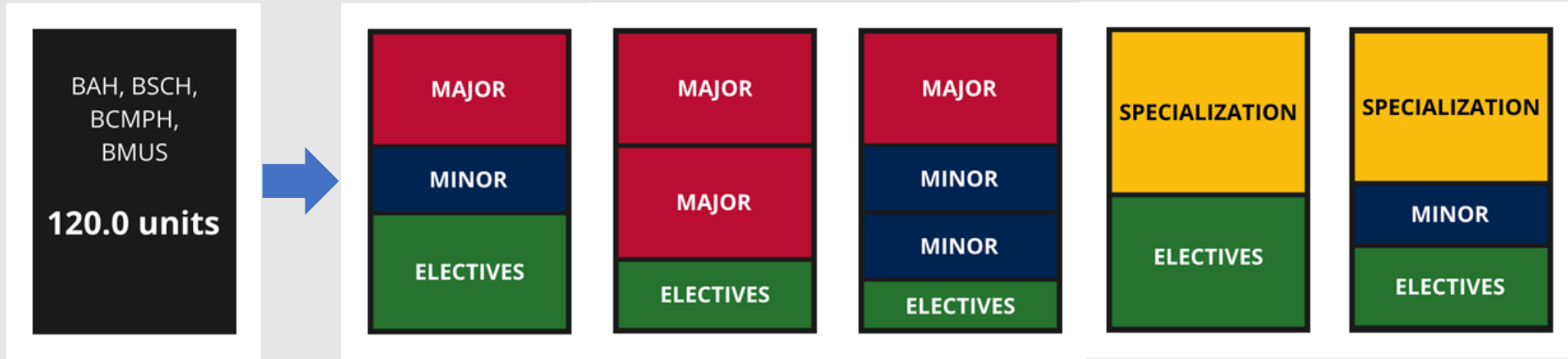
- using your biomedical training to pursue a non-research career
- pursuing other professional programs (medical, dental, business, law or other postgraduate school)
- less core credits and more electives allows for tailoring to specific career need
- **Meets the needs of most professional schools

MINOR:

Can opt to add a Minor with Major or SSP Plans

How could I combine different Plans?

BScH Degree options for combining Plans



We call this the **Modular Plan framework**

* For LISC and BCHM if you do a double major or SSP + minor you will likely be required to take more than 120 units.

LISC SSP Sub-Plans:

- **CANC** – 4th year research in the field of cancer
- **CRSS** – 4th year research in the field of cardiovascular and respiratory sciences
- **DDHT** – 4th year research in the field of drug discovery and development as well as toxicology
- **NSCI** – 4th year research in the field of neurosciences
- **Biomedical Discovery** – 4th year research in one of a variety health areas (CANC, CRSS, DDHT, NSCI, GLPH, MICR, REPD, PATH, PHGY, EPID, IDIS, BCHM, BMED, DISC)
- **Biomedical Sciences** – **no** 4th year research project but rather hands on lab courses, provides more flexibility, can take more advanced courses

Non-Arts and Sciences courses

- Only 6 units of non-Arts and Sciences courses can be used towards your degree
 - i.e. LAW, Commerce courses
- Exception – can take courses offered by the Faculty of Health Sciences (if they are courses that have been approved by FAS)
- For example GLPH and IDIS courses are accepted by FAS and do not count towards the limit above

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, requires SSP plan

<https://dbms.queensu.ca/graduate/programs/combined-bschmsc-program>

Need Help?

Contact a Peer Academic Support Service Advisor

here: <https://www.queensu.ca/artsci/undergraduate/first-year-students/pass-advising>

First-year Hotline: Call 613-533-6708 for assistance.

May 11 to June 5: weekdays, 9:00 am-noon and 1:00-4:00 pm

Contact the Life Sciences and Biochemistry Office:

- Jojo Wang – LISC lifesci@queensu.ca; BCHM biochem@queensu.ca

Use your Queen's email and provide your student #

RAAMEEN JAWAID



BIOCHEM MAJOR

MINOR: Gender studies

My name is Raameen, and I'm a fourth-year Biochemistry major with a Gender Studies minor at Queen's University. I'm currently the Head of Marketing for the Biochemistry DSC and Co-Chair of Queer Space, where I work to build community and create inclusive spaces on campus. I'm also a Research Assistant in the Hesp Lab in the Department of Chemistry.

I'm really passionate about Biochemistry and especially interested in the intersections between science, identity, and community. I love exploring how scientific research connects to broader social contexts, and I'm excited to share my experience in the BCHM major!

MICHAEL AMBRA



BIOCHEM SPECIALIZATION

Hi everyone! My name is Michael, and I'm a fourth-year Biochemistry Specialization student. I have always been interested in learning about the world at a molecular level, and the biochemistry program has given me the opportunity to explore that! I'm currently doing my fourth-year thesis project in the Davies lab studying adhesins: proteins that allow bacteria to attach to other organisms, abiotic surfaces, and to each other to form biofilms.

Outside of the lab I love staying active and playing music! I currently play guitar in Queen's Players and in a band with my friends called Duck Pond. I'm also one of the Fourth-Year Representatives on the Biochem DSC this year. I'm excited to share my experience in the Biochemistry Specialization with you all!

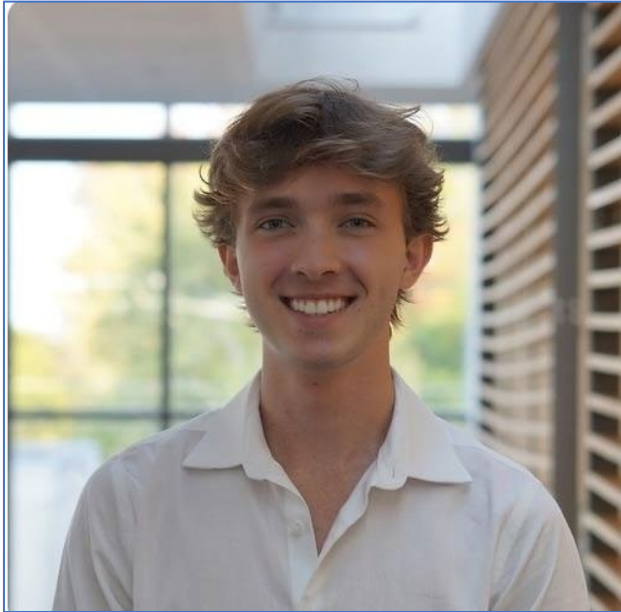
MICHAELA MACGILLIVRAY

LIFE SCI SPECIALIZATION - Biomedical Discovery

Project name Economic Evaluation of a Mindfulness Course for Undergraduate University Students

Michaela is a fourth-year Life Sciences student in the Biomedical Discovery Specialization. Through the specialization program, she's had the chance to take unique upper-year courses, gain hands-on lab experience, and build strong connections with both peers and professors. Michaela is currently working on a project titled "Economic Evaluation of a Mindfulness Course for Undergraduate University Students." Outside the classroom, she stays busy as the Life Sciences DSC Socials Co-Director, Co-President of the Queen's Figure Skating Club, and a member of the Queen's Dance Club. She has also helped initiate a research project on breast health with Halton Healthcare, combining her interests in research, health, and community impact.

JUSTIN SKINNER



LIFE SCI MAJOR

Minor: Music

Justin Skinner is a fourth-year Life Sciences major with a minor in Music. During his time at Queen's, he spent the winter semester of his third year studying abroad at the University of Glasgow in Scotland, gaining international academic experience. Justin is also highly involved in performance-based extracurriculars, including Queen's Musical Theatre, Queen's Players, and the Vogue Charity Fashion Show. In addition to his studies, he is pursuing arts-based research through the Dan School of Drama and Music, combining his interests in science and the arts

TAITE MARSDEN



LIFE SCI MAJOR

Taite Marsden is a fourth-year Life Sciences major who chose the major plan to keep her academic options open and explore a wide range of scientific interests. She values the flexibility of the program, which allows her to take diverse upper-year courses without being restricted by many required classes. Throughout her time at Queen's, Taite has been actively involved across campus, including with the Queen's Children's Healthcare Association (QUCHA), Arts and Science Orientation, Queen's Dance Club, Relay for Life, and the Life Sciences Student Council. She has also volunteered with the AMS Food Bank and Kingston General Hospital, and worked as an undergraduate teaching assistant helping develop course resources for CHEM 281/282. Through her involvement in Life Sciences and the broader Faculty of Arts and Science community, Taite has connected with students from many different programs and perspectives.