The four year Biotechnology (BTEC) degree plan is a Specialization Plan with a focus on this highly active and rapidly changing area of applied research. The plan balances conceptual and practical learning experiences at a broad range of scales of biological organization — from microbes to ecosystems — embracing the diversity of life forms that can be used to improve agriculture, medicine and the environment, among other things.

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**TOP 5 REASONS to study BIOLOGY**

1. SWEP jobs provide students with true research opportunities, and start after first year.
2. QUBS: an off-site field station that provides students with opportunities to learn hands-on from their environment.
3. Courses are focused on cutting-edge topics in biology.
4. Interact closely with professors in class and during our many events held throughout the year.
5. Apply for an internship, with specific jobs for all types of biological study and research.

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**ALUMNI JOBS**

- 10% of alumni work in **GOVERNMENT & NON-PROFIT**
- 13% of alumni work in **BUSINESS & LAW**
- 16% of alumni work in **HEALTH CARE**
- 35% of alumni work in **EDUCATION**

**alumni STORY**

“The Queen’s Biology program was very well-rounded and definitely played a major role in helping to get where I am today. Not only did I learn a lot from the courses, but I also had the opportunity to do an independent research project and spend a summer doing fieldwork at Queen’s University Biological Station.”

- Sharon Zhang, BScH ’13

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**2018-19 thresholds**

**1.9 cGPA**  PENDING LIST

**NO AUTOMATIC ACCEPTANCE**

*Thresholds are made on a competitive basis and are updated annually. For the latest information please visit: QUartsci.com*
BIOTECHNOLOGY SPECIALIZATION MAP

### GET THE COURSES YOU NEED

**1ST YEAR**

In first year you will have the chance to explore the foundations of Biology in biology, chemistry, geography and geology along with some electives. See the back page for specific courses to consider. Attend Majors Night in the Winter term to learn more about Plan options.

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**2ND YEAR**

Start going deeper into the discipline of Biology, while considering a minor and/or certificate such as French for Professionals. Attend Degree + in the Fall term to learn more about Certificates and Internship options. Want to make sure your academics are where you want them to be? Visit SASS (Student Academic Support Services) and the Writing Centre for some help.

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**3RD YEAR**

A chance to start grouping courses in areas of interest, or to keep it more general and explore many areas of Biology. Meet with an Academic Advisor to make sure you are on track and have planned out your courses for next year — for some ideas, see the back page.

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**4TH OR FINAL YEAR**

In fourth year you will have the chance to participate in research-based courses that can lead to Graduate School or to your future career path. Make sure to finish up all your courses for your degree and your optional certificate(s).

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**GET RELEVANT EXPERIENCE**

Join teams or clubs on campus such as Queen’s First Aid, the Queen’s Association for Technology in Medicine and Biology (QSTM), the Queen’s Genetically Engineered Machine Team (QGEM) and the Queen’s Synthetic Biology Organization (QSYNBO). See the AMS Clubs Directory or the Queen’s Get Involved page for more ideas.

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**GET CONNECTED WITH THE COMMUNITY**

Volunteer on or off-campus with different community organizations, such as Queen’s Health Outreach, Let’s Talk Science, and Women in Science & Engineering at Queen’s University (WISE).

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**GET THINKING GLOBALLY**

Prepare for work or study in a multi-cultural environment by taking QUIP’s Intercultural Competency Certificate, and research possible immigration regulations. Speak to a QUIP advisor to get involved in their programs, events, and training opportunities.

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**GET READY FOR LIFE AFTER GRADUATION**

Grappling with program decisions? Go to Majors Night or get some help considering career options from Career Services. Build your transferable skills in time management, problem-solving, writing and more with Student Academic Success Services.

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**CONSIDER A 12-16 MONTH QUIP INTERNSHIP**

Investigate requirements for full-time jobs or other opportunities related to careers of interest. Assess what experience you’re lacking and fill in gaps with volunteering, clubs, or internships – check out the Career Services skills workshop for help. Participate in Inquiry @ Queen’s undergraduate student conference.

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**What will I learn?**

A degree in Biology can equip you with valuable and versatile skills, such as:

- Develop knowledge of biological functions
- Use laboratory equipment and instruments
- Gain hands-on experience studying biology in the field
- Comply with quality control and safety regulations
- Collect and preserve organisms
- Design experimental studies
- Present literature and research findings in posters and seminars
- Observe and make measurements
- Write, review, and summarize reports/scientific writing
- Analyze and evaluate information
- Statistical analysis of biological data
- Solve quantitative problems

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**Where can I go?**

A degree in Biology can take your career in many directions. Many students choose to continue their academic inquiry with a Master’s. Our students are equipped with a strong foundation for careers in:

- Agricultural Sciences
- Agrobiotechnology
- Bioeconomics
- Bioethics
- Bioinformatics
- Fisheries science
- Government regulators
- Medical research
- Medical technology
- Patent agents
- Pharmaceutical sales
- Pharmacology
- Technology analysts
- Translational research

Taking time to explore career options, build experience and network can help you have a smooth transition to the world of work after graduation.
Sample Year by Year

1ST YEAR
- BIOL 102/3.0
- BIOL 103/3.0
- CHEM 112/6.0
- MATH 121/6.0 or MATH 120/6.0 or (MATH 123/3.0 and MATH 124/3.0)
- 12.0 units of electives

2ND YEAR
- BIOL 205/3.0
- BIOL 206/3.0
- BCHM 218/3.0
- BIOL 243/3.0 or STAT 269/3.0
- 6.0 units from CHEM at the 200 level or above; BIOL
- 334/3.0, BIOL 201/3.0 and BIOL 202/3.0 or 6.0 units from
  BCHM270/3.0, MICR 221/3.0, MICR 270/3.0, PHAR 270/3.0,
  PHGY 215/3.0, PHGY 216/3.0
- 6.0 units of electives

3RD YEAR
- 6.0 units from BIOL 339/3.0, BIOL 334/3.0, BIOL 341/3.0
- BIOL 330/3.0
- BIOL 401/3.0 or BIOL 402/3.0
- BIOL 403/3.0 or BIOL 404/3.0
- 12.0 units of BTEC options
- 3.0 units of electives

4TH YEAR
- 3.0 units from BIOL 360/3.0, BIOL 503/3.0, BIOL 507/3.0, BCHM 441/3.0
- 12.0 units of BTEC options or BIOL 537/12.0 or BIOL 541/12.0
- 6.0 units of BTEC options
- 9.0 units of electives

Note that degree requirements are revised regularly. The most current requirements, including course lists and options, are available in the Academic Calendar at: QUartsci.com/academic-calendar