Biochemistry in Memorial University of Newfoundland

[www.mun.ca/biochem](http://www.mun.ca/biochem)

The following undergraduate programs were formerly offered in the Department:

1. [Biochemistry and Cell Biology Joint Honours](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/10/2/#d.en.303988)
2. [Biochemistry and Chemistry Joint Honours](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/10/2/#d.en.304000)
3. [Biochemistry and Physics Joint Honours](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/10/2/#d.en.304004)
4. [Biochemistry and Psychology (Behavioural Neuroscience) Joint Honours](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/10/2/#d.en.303987)
5. [Biochemistry (Nutrition) and Psychology (Behavioural Neuroscience) Joint Honours](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/10/2/#d.en.303991)
6. [Major](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/#d.en.304135) or [Honours](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/#d.en.304127) in Biochemistry
7. [Major](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/#d.en.304131) or [Honours](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/#d.en.304134) in Nutrition
8. [Minor](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/#d.en.304138) in Biochemistry

\*\*Admission to Major in Biochemistry\*\*

-Required Courses:

1. Six credit hours in [Critical Reading and Writing (CRW)](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-humanities-and-social-sciences/6/1/#d.en.307242) courses, including at least 3 credit hours in English courses.
2. Chemistry [1050](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) and [1051](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) (or [1200](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) and [1001](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/))
3. Mathematics [1000](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [1001](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) (or Mathematics [1090](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [1000](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), or Mathematics [109A/B](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [1000](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/))
4. Physics [1050](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) (or [1020](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/)), [1051](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) (or [1021](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/)), or Biology [1001](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [1002](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/)

\*\*Admission to the Honours Degree in Biochemistry\*\*

-Requirements:

1. at least 70% in each of Biochemistry [2200](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) (or the former 2100) and Biochemistry [2201](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) (or the former 2101) and Chemistry [2400](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [2401](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/).

\*\* Admission to the Major in Nutrition\*\*

-Required Course:

1. Six credit hours in [Critical Reading and Writing (CRW)](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-humanities-and-social-sciences/6/1/#d.en.307242) courses, including at least 3 credit hours in English courses.
2. Chemistry [1050](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [1051](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) (or Chemistry [1010](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [1050](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) or Chemistry [1200](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [1001](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/))
3. Mathematics [1090](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [1000](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) (or Mathematics [109A/B](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [1000](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), or Mathematics [1000](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) and one elective)
4. Biology [1001](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [1002](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) or Physics [1020](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [1021](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) (or [1050 1051](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/))

\*\*Admission to the Honours Degree in Biochemistry (Nutrition)\*\*

-Requirements:

1. at least 70% in each of their required 2000 level Biochemistry and Chemistry courses.

\*\*Major in Biochemistry\*\*  
-Required Courses:

1. Six credit hours in [Critical Reading and Writing (CRW)](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-humanities-and-social-sciences/6/1/#d.en.307242) courses, including at least 3 credit hours in English courses.
2. Biology [1001](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) and [1002](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/); Mathematics [1000](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [1001](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/); Physics [1050](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) (or [1020](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/)), [1051](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) (or [1021](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/)); Chemistry [1050](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [1051](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) (or Chemistry [1200](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) and [1001](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/)).
3. Biochemistry [2200](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) (or [2100](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/)), [2201](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [2901](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3105](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3108](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3206](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3207](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), and [3906](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) or [3907](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/).
4. At least 9 credit hours in courses from Biochemistry [4002](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4101](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4103](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4104](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4105](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4200](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4201](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4230](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4231](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4232](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/)-[4239](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/).
5. Six additional credit hours chosen from: Medicine [310A/B](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), Biochemistry [2600](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), Biology [2060](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3050](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), Chemistry [4201](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4701](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) or Biochemistry courses at the 3000 or 4000 level.
6. Chemistry [2301](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) or Physics [2053](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), Chemistry [2400](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [2401](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/).
7. One of Chemistry [2100](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), Environmental Sciences [3210](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/).
8. A sufficient number of elective courses to bring the total Science courses up to at least 78 credit hours and the degree total up to 120 credit hours.

\*\*Honors Degree in Biochemistry\*\*

-Required Courses:

1. Six credit hours in [Critical Reading and Writing (CRW)](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-humanities-and-social-sciences/6/1/#d.en.307242) courses, including at least 3 credit hours in English courses.
2. Biology [1001](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) and [1002](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/); Mathematics [1001](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/); Physics [1050](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) (or [1020](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/)), [1051](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) (or [1021](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/)); Chemistry [1050](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [1051](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) (or Chemistry [1200](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) and [1001](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/)).
3. Biochemistry [2200](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) (or [2100](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/)), [2201](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [2901](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3105](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3108](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3206](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3207](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3906](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3907](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4102](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [499A](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [499B](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), Medicine [310A/B](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) and either Biochemistry [4210](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) or [4211](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/).
4. Nine credit hours in courses from Biochemistry [4002](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4101](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4103](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4104](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4105](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4200](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4201](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4230](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4231](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4232](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/)-[4239](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/).
5. At least 6 credit hours chosen from Biochemistry [2600](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), Biology [3050](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), Chemistry [4201](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4701](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) or Biochemistry courses at the 3000 or 4000 level.
6. Chemistry [2301](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) or Physics [2053](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), Chemistry [2400](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [2401](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/).
7. One of Chemistry [2100](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), Environmental Sciences [3210](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/).
8. Statistics [2550](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) or equivalent.
9. A sufficient number of elective courses to bring the total for the degree up to 120 credit hours.

-Requirements:

1. Average above 75%

\*\*Minor in Biochemistry\*\*

-Required Courses:

1. Six credit hours in [Critical Reading and Writing (CRW)](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-humanities-and-social-sciences/6/1/#d.en.307242) courses, including at least 3 credit hours in English courses.
2. Biology [1001](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) and [1002](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/); Mathematics [1000](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), Physics [1020](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) and [1021](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) (or Physics [1050](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) and [1051](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/)); Chemistry [1050](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [1051](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) (or Chemistry [1200](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) and [1001](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/)).
3. Biochemistry [2005](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [2200](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) (or [2100](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/)), [2201](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [2600](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [2901](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3203](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3206](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3906](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4300](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4301](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), Medicine [310A/B](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/).
4. Six credit hours in courses from Biochemistry [3052](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3108](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3207](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3402](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3600](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3907](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4002](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4105](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4200](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4230](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4231](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4240](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4241](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/)-[4249](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), Biology [3050](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/).
5. Chemistry [2400](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/).
6. Statistics [2550](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) or equivalent.
7. A sufficient number of elective courses to bring the total Science courses up to at least 78 credit hours and the total for the degree up 120 credit hours.

\*\*Honors Degree in Nutrition\*\*

-Required Courses:

1. Six credit hours in [Critical Reading and Writing (CRW)](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-humanities-and-social-sciences/6/1/#d.en.307242) courses, including at least 3 credit hours in English courses.
2. Biology [1001](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) and [1002](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/); Mathematics [1000](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), Physics [1020](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) (or [1050](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/)) and [1021](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) (or [1051](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/)); Chemistry [1050](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [1051](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) (or Chemistry [1200](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) and [1001](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/)).
3. Biochemistry [2005](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [2200](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/) (or [2100](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/)), [2201](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [2600](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [2901](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3203](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3206](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3207](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3906](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4300](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4301](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4502](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [499A](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [499B](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), Medicine [310A/B](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/).
4. Nine additional credit hours chosen from Biochemistry [3052](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3108](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3402](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3600](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [3907](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4002](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4105](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4200](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4201](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4230](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4231](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4240](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), [4241](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/)-[4249](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/), Biology [3050](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/).
5. Chemistry [2400](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/)
6. Statistics [2550](https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/11/1/)

-Requirements:

1. Average above 75%

\*\*Course Title:\*\* BIOC 1430 Biochemistry for Nurses

\*\*Course Information:\*\* An introduction to the chemistry and structure-function relationships of carbohydrates, lipids, and proteins. The course examines the basic metabolism of carbohydrates and fats, emphasizing biochemical fluctuations in human health and disease. It includes a brief introduction to molecular genetics.

\*\*Credit Hours (CR):\*\* the former BIOC 2430

\*\*Entry Requirements (EQ):\*\* Human Biosciences 1430

\*\*Lecture Hours (LH):\*\* 4

\*\*Prerequisites (PR):\*\* Level 3 Chemistry or Chemistry 1010 or Chemistry 1810 or equivalent, and acceptance to the Bachelor of Science in Nursing (Collaborative) Program.

\*\*Course Title:\*\* BIOC 1600 Food, Drugs, and Your Body

\*\*Course Information:\*\* Examines the impact of substances on cellular physiology and metabolism. Emphasis on current trends, covering the concepts of foods and drugs, their metabolism by the body, and their influence on overall health.

\*\*Entry Requirements (EQ):\*\* Human Biosciences 1001

\*\*Course Title:\*\* BIOC 2005 Food, Food Safety, and Health

\*\*Course Information:\*\* Introduces the composition of foods, the effects of food processing on sensory appeal, shelf life, and nutrient composition. Covers common food and water-borne illnesses, food biotechnologies, including genetically modified organisms, nutraceuticals, and the development of functional foods.

\*\*Course Title:\*\* BIOC 2100 Introduction to Molecular Biology and Genetics

\*\*Course Information:\*\* Covers the heritability of simple traits, discovery of DNA, structure and function of DNA, genetic code elucidation, and manipulation of DNA for recombinant DNA technology. Lab hours included.

\*\*Co-requisites (CO):\*\* the former BIOC 2101, Chemistry 2401, Physics 1021 or 1051. Students may replace the co-requisite Chemistry 2401 with Chemistry 2440 as a prerequisite.

\*\*Credit Hours (CR):\*\* BIOC 2200, Biology 2250

\*\*Prerequisites (PR):\*\* the former BIOC 2101, Chemistry 2401, Physics 1021 or 1051, Science 1807, and Science 1808.

\*\*Course Title:\*\* BIOC 2200 Introduction to Molecular Biology and Genetics

\*\*Course Information:\*\* Covers the heritability of simple traits, DNA as the molecule of heredity, structure and function of DNA, manipulation of DNA for recombinant DNA technology, and pharmacogenetics.

\*\*Co-requisites (CO):\*\* Chemistry 2400

\*\*Credit Hours (CR):\*\* BIOC 2100, Biology 2250

\*\*Prerequisites (PR):\*\* Chemistry 1001 or Chemistry 1051

\*\*Course Title:\*\* BIOC 2201 Introduction to Biochemistry

\*\*Course Information:\*\* Introduction to major organic substances of living organisms, proteins, carbohydrates, and lipids. Topics include enzymes, biochemistry of membranes, and biochemistry of selected differentiated cells.

\*\*Co-requisites (CO):\*\* Physics 1021 or 1051

\*\*Credit Hours (CR):\*\* Pharmacy 2004, or the former Pharmacy 3110

\*\*Entry Requirements (EQ):\*\* the former BIOC 2101

\*\*Prerequisites (PR):\*\* Chemistry 1001 or Chemistry 1051, Chemistry 2400, and Physics 1020 or 1050

\*\*Course Title:\*\* BIOC 2600 Introduction to Human Nutrition

\*\*Course Information:\*\* Provides an overview of human nutrition, emphasizing health maintenance across the lifespan. Topics include nutrition during pregnancy, nutrition for infants, Canadian Recommended Nutrient Intakes/Dietary Reference Intakes, weight loss, weight gain, nutraceuticals, and ergogenic aids.

\*\*Credit Hours (CR):\*\* the former Kinesiology 2600

\*\*Entry Requirements (EQ):\*\* Human Biosciences 2002, Human Kinetics 2600

\*\*Course Title:\*\* BIOC 2901 Biochemistry Laboratory

\*\*Course Information:\*\* Develops basic biochemistry lab skills in the context of a biotechnology project. Covers safety, pipetting, buffer calculations, protein bioinformatics, enzyme kinetics, teamwork, critical analysis, and presentation of results.

\*\*Attendance Requirement (AR):\*\* Attendance is required in the laboratory component of this course.

\*\*Co-requisites (CO):\*\* Chemistry 2400

\*\*Entry Requirements (EQ):\*\* Human Biosciences 2901

\*\*Lecture Hours (LH):\*\* 3

\*\*Prerequisites (PR):\*\* Chemistry 1051, Science 1807, and Science 1808

\*\*Course Title:\*\* BIOC 3052 Food Microbiology

\*\*Course Information:\*\* Studies the microbiology of water and food, emphasizing the roles of microorganisms in food, fermentations, food spoilage, and foodborne vectors of human disease.

\*\*Entry Requirements (EQ):\*\* Biology 3052, Human Biosciences 3052

\*\*Lecture Hours (LH):\*\* 3

\*\*Prerequisites (PR):\*\* Biology 3050, Science 1807, and Science 1808

\*\*Course Title:\*\* BIOC 3105 Physical Biochemistry

\*\*Course Information:\*\* Examines intermolecular forces in biomolecules, folding of biomolecules, pH, buffers, ionization, thermodynamics, size and shape of biomolecules, isotopes in biochemistry, and spectroscopy of biomolecules.

\*\*Entry Requirements (EQ):\*\* Human Biosciences 3105

\*\*Prerequisites (PR):\*\* BIOC 2201 or the former 2101; and the former Chemistry 2300 or 2301 or Physics 2053

\*\*Course Title:\*\* BIOC 3106 Metabolism

\*\*Course Information:\*\* Examines catabolism of carbohydrates, lipids, and amino acids. Topics include mitochondria, chloroplasts, ATP synthesis, biosynthesis of carbohydrates and lipids, and integration of metabolism.

\*\*Credit Hours (CR):\*\* BIOC 3206, the former BIOC 3102 or Pharmacy 3111

\*\*Lecture Hours (LH):\*\* One three-hour laboratory or one-hour tutorial per week

\*\*Prerequisites (PR):\*\* BIOC 2201 or the former 2101, Science 1807, and Science 1808

\*\*Course Title:\*\* BIOC 3107 Nucleic Acid Biochemistry and Molecular Biology

\*\*Course Information:\*\* Covers the structure, function, and biochemistry of DNA and RNA, including processes like replication, transcription, splicing, and protein synthesis. Introductory level gene expression regulation is included.

\*\*Credit Hours (CR):\*\* BIOC 3207

\*\*Lecture Hours (LH):\*\* Up to four hours per week, including one three-hour laboratory period plus one additional hour on the following day.

\*\*Prerequisites (PR):\*\* BIOC 2201 or the former 2101; and one of BIOC 2100, 2200, or Biology 2250, Science 1807, and Science 1808

\*\*Course Title:\*\* BIOC 3108 Molecular Biochemistry of the Cell

\*\*Course Information:\*\* Focuses on the molecular biochemistry of intracellular regulation, including signal transduction, apoptosis, cancer, protein processing, sorting, cyclins,

G-protein structure, cell adhesion molecules, and extracellular matrix structure.

\*\*Prerequisites (PR):\*\* BIOC 2100 or 2200, or Biology 2250; and BIOC 2201 or the former 2101