

ADDENDUM 2004-2005

Faculty of Science

*List of new programs and programs for which the requirements were modified this year.
For details please see below.*

General Science

BSc General Science

Biochemistry, Microbiology and Immunology

Honours BSc in Biochemistry

General Science

BSc General Science

102 cr.

Suggested course stream for full-time students

Requirements of the first year:

A minimum of 30 credits from the following list of compulsory and elective courses with a maximum of eight credits in CSI: 30

Fall

Compulsory courses:

MAT1320 Calculus I 3

PHY1101 Fundamentals of Physics I 3

or

PHY1301 Principles of Physics I 3

Electives:

BIO1120 Introduction to Organismal Biology 4

CHM1310 Principles of Chemistry 4

CSI1100 * Introduction to Computer Science I 4

CSI1301 * Computing Concepts for Business 4

CSI1303 Introduction to Computing Concepts 4

CSI1390 Introduction to Computers 3

GEO1115 Introduction to Earth Materials 3

PHY1201 Physics Laboratory 3

(This course runs from September to April)

Winter:

Compulsory courses:

MAT1323 Calculus and Matrix Algebra 3

or

MAT1322 Calculus II 3

and

MAT1341 * Introduction to Linear Algebra 3

PHY1102 Fundamentals of Physics II 3

or

PHY1302 Principles of Physics II 3

Electives:

BIO1110 Introduction to Cell Biology 4

CHM1320 Organic Chemistry I 4

CSI1101 Introduction to Computer Science II 4

CSI1102 Fundamentals of Software Design 4

EVS1101 Introduction to Environmental Science 3

GEO1111 Introduction to Earth Systems 3

MAT1361 Logic and Discrete Mathematics 3

Minimum of 30 credits of 2000-level or higher courses in BCH, BIO, CHM, EVS, GEO, MAT, PHY 30

Minimum of 30 credits of 3000- or 4000-level courses in BCH, BIO, BPS, CHM, EVS, GEO, MAT, PHY 30

Other compulsory courses to be taken during the second and/or third year	12
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ENG1100 *Workshop in Essay Writing	3
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or	
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ENG1112 *Technical Report Writing	3
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PHI2396 Bioethics	3
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or	
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PHI2398 Environmental Ethics	3
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Six credits of non-science electives	6
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* Courses offered in both semesters

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Biochemistry, Microbiology and Immunology

Honours BSc in Biochemistry

133 cr.

The schedule for the first three years is identical to that of the BSc with concentration in Biochemistry.

During the fourth year of the BSc with honours in Biochemistry, the student must either do a research project (BCH4040), or take nine additional credits of science electives**. The research project is highly recommended for students who intend to pursue a career in research, but a CGPA of 6.0 is required to be eligible to the project.

Suggested course stream for full-time students

Compulsory courses in first year: 34

Fall:

BIO1120	Introduction to Organismal Biology	4
CHM1310	Principles of Chemistry	4
MAT1320	Calculus I	3
PHY1201	Physics Laboratory	3
(This course runs from September to April)		
PHY1301	Principles of Physics I	3

Winter:

BIO1110	Introduction to Cell Biology	4
CHM1320	Organic Chemistry I	4
MAT1323	Calculus and Matrix Algebra	3
PHY1302	Principles of Physics II	3

Fall, Winter or Summer, preferably during the first year:

ENG1100	Workshop in Essay Writing	3
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Compulsory courses in second year: 25

Fall:

CHM2120	Organic Chemistry II	3
CHM2126	Laboratory of Organic Chemistry II	2
CHM2132	Physical Chemistry for the Life Sciences	3
CHM2154	Analytical Chemistry	3
MAT2378	Probability and Statistics for the Natural Sciences	3
It is recommended to add one elective course* to this session.		

Winter:

BCH2140	Introduction to Biochemistry	3
BCH2336	Biochemistry Laboratory I	2
BIO2123	Genetics	4
CHM2118	Laboratory of Analytical Chemistry	2
It is recommended to add two elective courses* to this session.		

Compulsory courses in third year: 21

Fall:

BCH3170	Molecular Biology	3
BCH3356	Molecular Biology Laboratory	3
CHM3120	Intermediate Organic Chemistry	3
CHM3122	Applications of Spectroscopy in Chemistry	3
It is recommended to add two elective courses* to this session.		

Winter:

BCH3120 General Intermediary Metabolism	3
BCH3125 Protein Structure and Function	3
BCH3346 Biochemistry Laboratory II	3
It is recommended to add three elective courses* to this session.	

* Elective courses

These courses must be added to the compulsory courses to complete the formation. Some of these courses can be taken during the summer. Courses in engineering, physiology and pharmacology are also accepted as science electives.

Fifteen credits of science electives including at least six credits at the 3000-level	15
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Nine credits of non-science electives	9
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Compulsory courses in fourth year with a research project: 20

Fall:

BCH4032 Séminaire de biochimie%%Biochemistry Seminar	2
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(This course runs from September to April)

BCH4040 *Projet de recherche - biochimie%%Honours Research - Biochemistry	9
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(This course runs from September to April)

BCH4122 Macromolecules	3
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It is recommended to add two elective courses** to this session.

BPS3101 Genomics	3
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(This course can be replaced by BPS4101, offered in the winter term)

Winter:

BCH4125 Cellular Regulation and Control	3
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BPS4101 Human Genome Structure and Function	3
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(This course can be replaced by BPS3101, offered in the fall term)

It is recommended to add one elective course** to this session.

** Elective courses

Nine additional credits from the 3000- or 4000-level courses in biochemistry, biology, biopharmaceutical sciences, cellular and molecular medicine, chemistry, pharmacology, physiology, or from the 5000-level courses in microbiology or immunology.	9
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*** Students who do not register to BCH4040 must take 18 credits (instead of nine) of the above elective courses** to complete the requirements for the fourth year of the Honours program in Biochemistry.

