BIOCHEMISTRY (THESIS): CHEMICAL BIOLOGY (M.SC.) (45 CREDITS)

Offered by: Biochemistry (Faculty of Medicine and Health Sciences)
Degree: Master of Science
Program credit weight: 45

Program Description

The M.Sc. in Biochemistry; Chemical Biology is overseen by the Chemical Biology Thematic Group, and it engages in a diverse range of research topics, which span structural biology, enzymology, nucleic acid research, signalling pathways, single molecule biophysics, biophysical chemistry of living tissues, and new chemistry and physics from biological systems to develop pharmaceutical applications. The thesis must focus on chemical biology related to biochemistry.

Note: For information about Fall 2025 and Winter 2026 course offerings, please check back on May 8, 2025. Until then, the "Terms offered" field will appear blank for most courses while the class schedule is being finalized.

Thesis Courses (33 credits)

Expand allContract all

Course	Title	Credits
BIOC 695	Thesis Research 1 (Chemical - Biology).	6
BIOC 698	Thesis Research 2.	12
BIOC 699	Thesis Research 3.	15

Required Course (6 credits)

Expand allContract all

Course	Title	Credits
BIOC 610	Seminars in Chemical Biology 1.	1.5
BIOC 611	Seminars in Chemical Biology 2	1.5
BIOC 696D1	Seminars in Biochemistry.[1]	1.5
BIOC 696D2	Seminars in Biochemistry.[1]	1.5
BIOC 696N1	Seminars in Biochemistry.[1]	1.5
BIOC 696N2	Seminars in Biochemistry.[1]	1.5

[1] Students choose either BIOC 696D1/D2 or BIOC 696N1/N2.

Complementary Courses[1] (6 credits)

[1] Complementary courses are chosen in consultation with the Research Director.

3 credits from the following:

Expand allContract all

Course	Title	Credits
CHEM 502	Advanced Bio-Organic Chemistry.	3
CHEM 503	Drug Discovery.	3
PHAR 503	Drug Discovery and Development 1.	3

3 credits from the following:

Expand allContract all

Course	Title	Credits
BIOC 600	Advanced Strategies in Genetics and Genomics.	3
BIOC 603	Genomics and Gene Expression.	3
BIOC 604	Macromolecular Structure.	3
BIOC 605	Protein Biology and Proteomics.	3
BIOC 670	Biochemistry of Lipoproteins.	3
CHEM 522	Stereochemistry.	3
CHEM 582	Supramolecular Chemistry.	3
CHEM 591	Bioinorganic Chemistry.	3
CHEM 621	Reaction Mechanisms in Organic Chemistry.	5
CHEM 629	Organic Synthesis.	5
EXMD 510	Bioanalytical Separation Methods.	3
EXMD 602	Techniques in Molecular Genetics.	3
EXMD 615	Essentials of Glycobiology.	3
EXMD 635D1	Experimental/Clinical Oncology.	3
EXMD 635D2	Experimental/Clinical Oncology.	3
PHAR 504	Drug Discovery and Development 2.	3
PHAR 562	Neuropharmacology.	3
PHAR 563	Endocrine Pharmacology.	3
PHAR 707	Topics in Pharmacology 6.	3

The Graduate Advisory Committee may stipulate additional coursework depending on the background of the candidate. BIOC 450 Protein Structure and Function. and BIOC 454 Nucleic Acids. are additional requirements for those who have not previously completed equivalent courses in their prior training. These additional courses are not counted towards the credits for this program.