COMPUTER SCIENCE (THESIS): BIOINFORMATICS (M.SC.) (45 CREDITS)

Offered by: Computer Science (Faculty of Science)
Degree: Master of Science
Program credit weight: 45

Program Description

The Master of Science (M.Sc.) in Computer Science; Bioinformatics provides training in this interdisciplinary field, which lies at the intersection of biological/medical sciences and mathematics/computer science/engineering. The program includes the development of strategies for experimental design, the construction of tools to analyze datasets, the application of modelling techniques, the creation of tools for manipulating bioinformatics data, the integration of biological databases, and the use of algorithms, artificial intelligence, and statistics. The thesis must focus on bioinformatics in relation to computer science.

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 (24 credits)

22 credits selected from:

Expand allContract all

Course	Title	Credits
COMP 691	Thesis Research 1.	3
COMP 696	Thesis Research 2.	3
COMP 697	Thesis Research 3.	4
COMP 698	Thesis Research 4.	10
COMP 699	Thesis Research 5.	12

Required Courses (3 credits)

Expand allContract all

Course	Title	Credits
COMP 616D1	Bioinformatics Seminar.	1.5
COMP 616D2	Bioinformatics Seminar.	1.5

Required Course

Expand allContract all

Course	Title	Credits
COMP 601	Thesis Literature Review.	2

Complementary Courses (18 credits)

6 credits chosen from the following courses:

Expand allContract all

Course	Title	Credits
BINF 621	Bioinformatics: Molecular Biology.	3
BMDE 652	Bioinformatics: Proteomics.	3
BTEC 555	Structural Bioinformatics.	3
COMP 618	Bioinformatics: Functional Genomics.	3
PHGY 603	Systems Biology and Biophysics.	3

12 credits of 4-credit courses chosen from 500-, 600-, or 700-level Computer Science courses in consultation with the candidate's supervisor.

Note: Students with an appropriate background can substitute 4 credits by COMP 697 Thesis Research 3..