

JOINT MAJOR IN COMPUTING SCIENCE AND MOLECULAR BIOLOGY AND BIOCHEMISTRY

PROGRAM REQUIREMENTS

Lower Division Requirements

- Students must complete one of
- CMPT 126 Intro to Cmpt Sci & Programming
- or both of
- CMPT 120-3 Intro to Cmpt Sci & Program I
- CMPT 125-3 Intro to Cmpt Sci & Program II

Students must complete all of

- BISC 101-4 General Biology
- BISC 102-4 General Biology
- BISC 202-3 Genetics
- CHEM 121-4 General Chem and Lab I
- CHEM 122-2 General Chem and Lab II
- CHEM 281-4 Organic Chemistry I
- CHEM 282-2 Organic Chemistry II or CHEM 283-3
- MBB 222-3 Molecular Biol and Biochemistry
- MBB 231-3 Cell Biology and Biochemistry
- CMPT 150-3 Intro to Cmpt Design
- CMPT 225-3 Data Structures & Programming
- CMPT 275-4 Software Engineering
- MACM 101-3 Discrete Mathematics I
- MACM 201-3 Discrete Mathematics II
- MATH 151-3 Calculus I or MATH 150-4
- MATH 152-3 Calculus II
- STAT 270-3 Intro to Probability and Statistics

- Plus one of
- PHYS 101-3 Physics for the Life Sciences I
- PHYS 120-3 Mechanics and Modern Phys
- PHYS 125-3 Mech and Special Relativity
- PHYS 140-4 Studio Phys-Mech & Modern Phys

- Plus one of
- PHYS 102-3 Physics for the Life Sciences II
- PHYS 121-3 Optics, Electricity and Magnetism
- PHYS 126-3 Electricity, Magnetism and Light
- PHYS 141-4 Studio Physics-Optics, Electricity & Magnetism

Upper Division Requirements

Students must complete all of

- STAT 302-3 Analysis of Experimental and Observational Data
- MBB 308-3 Molecular Biology Lab
- MBB 331-3 Molecular Biology
- MBB 342-3 Intro to Genomics & Bioinformatics
- CMPT 307-3 Data Structures and Algorithms
- CMPT 320-3 Soc Implic of a Cmpt Society
- CMPT 354-3 Database Systems & Structure
- CMPT 441-3 Intro to Computational Biology

- Plus one of
- MBB 309W-4 Biochemistry Lab
- CMPT 376W-3 Technical Writing & Group Dynamics

- Plus at least 2 additional courses chosen from
- CMPT 305-3 Computer Simulation and Modeling
- CMPT 310-3 Artificial Intelligence Survey
- CMPT 340-3 Biomedical Computing
- CMPT 361-3 Intro to Computer Graphics
- MACM 316-3 Numerical analysis
- MBB 321-3 Intermediary Metabolism

- And at least three additional courses chosen from
- CMPT 405-3 Dsgn & Anlys of Cmpt Algorithms
- CMPT 413-3 Computational Linguistics
- CMPT 419-3 ST in Artificial Intelligence
- CMPT 454-3 Database Systems II
- MBB 438-3 Human Molecular Genetics
- MBB 441-3 Bioinformatics
- MBB 442-3 Proteomics
- MBB 461-3 Comparative Genomics
- MBB 462-3 Human Genomics

Students must take a minimum of 45 upper division credits for graduation.

Students are encouraged to enroll in the co-operative education program.

HONORS: To enter, students must meet the honors program admission requirements as specified by both departments, including seeking permission from the School of Computing Science. In addition to the major program requirements, students also complete six 400 division computing science units beyond those required for the joint major, and six research-related MBB units, which are fulfilled by completing MBB 496. 03/16/2015