

## **Double Honours Biochemistry - Physics Degree Program**

### Year 1:

BIOL 1020 BIOL 1030	Biology 1: Principles and Themes Biology 2: Biological Diversity, Function and Interactions
CHEM 1300 CHEM 1310	Univ. 1 Chemistry: Structure and Modelling in Chem. Univ. 1 Chemistry: An Intro. to Physical Chemistry
PHYS 1050 / PHYSICS 1020 (B+) PHYS 1070	Physics 1: Mechanics / General Physics 1 Physics 2: Waves and Modern Physics
MATH 1500 MATH 1700	Introduction to Calculus Calculus 2

### Year 2:

CHEM 2210 CHEM 2360 CHEM 2370	Intro. Organic Chemistry 1: Structure and Function Biochemistry 1 Biochemistry 2
MBIO 2100 MBIO 2110	General Microbiology A General Microbiology B
PHYS 2380 PHYS 2390 PHYS 2490 PHYS 2600	Quantum Physics 1 Theoretical Physics 1 Theoretical Physics 2 Electromagnetic Field Theory
MATH 1300	Vector Geometry and Linear Algebra

### Year 3:

CHEM 2280 CHEM 2290 CHEM 2380 CHEM 2470	Physical Chem.: Microscopic Descriptions of Matter Chemical Energetics and Dynamics Chemistry of the Main Group Elements Intro. Analytical Chemistry1
MBIO 3460	Membrane and Cellular Biochemistry2
PHYS 2260 PHYS 2650 PHYS 3380 PHYS 3630 PHYS 3640	Optics Classical Mechanics 1 Quantum Physics 2 Electro- and Magnetostatic Theory Electro- and Magnetodynamics and Special Relativity

### Year 4:

CHEM 2220 CHEM 4630 CHEM 4700	Intro. Organic Chem. 2: Reactivity and Synthesis Biochemistry of Proteins Advanced Biochemistry Laboratory
PHYS 3650 PHYS 3670	Classical Mechanics 2 Classical Thermodynamics

PHYS 3680  
PHYS 4380

Statistical Mechanics  
Quantum Physics 3

CHEM 4360 / MBIO 3410 / MBIO 3450

Signaling and Regulation of Gene Expression /  
Molecular Biology /  
Regulation of Biochemical Processes

CHEM 4620 / MBIO 4540

Biochemistry of Nucleic Acids /  
Biological Energy Transduction

Although they are not required courses in the Physics programs, MATH 2720, MATH 2730, MATH 2800, and MATH 3700 are highly recommended.

Students must achieve a minimum grade of "C" in all Physics and Astronomy courses that are either required in the program or required as prerequisites to other Physics and Astronomy courses taken in the Honours program.