

# STUDENTS ENTERING IN FALL 2025

## HONOURS MEDICAL PHYSICS

Required courses are in **bold font** and Medical Physics courses are in *purple font*.

Fall term	Winter term
<b>Year 1</b>	
<b>PHYS 1400</b> Introductory Physics I	<b>PHYS 1410</b> Introductory Physics II
<b>MATH 1720/MATH 1760</b> Differential calculus	<b>MATH 1730</b> Integral calculus <span style="float: right;">NOTE 1</span>
<b>CHEM 1100</b> Chemistry I	<b>CHEM 1110</b> Chemistry II
<b>MATH 1250/MATH 1260</b> Linear algebra	<b>PHYS 1500</b> From Symmetry to Chaos in the Universe
<b>COMP 1400</b> Introduction to Algorithms I	<b>COMP 1410</b> Introduction to Algorithms II
<b>Year 2</b>	
<b>PHYS 2200</b> Waves and Oscillations	<b>PHYS-2210</b> Modern Physics
<b>MATH 2780</b> Vector Calculus	<b>PHYS 2500</b> Classical Mechanics I
<b>MATH 2790</b> Differential Equations	<b>MATH 3550</b> Introduction to Fourier Series and Special Functions
<b>CHEM 2400</b> Introductory Physical Chemistry I	<b>PHYS 3700</b> Introduction to Medical Physics
<b>BIOL 1101</b> Cell Biology	Option 1
<b>Year 3</b>	
<b>PHYS 3200</b> Electricity and Magnetism I	<b>PHYS 3210</b> Electricity and Magnetism II
<b>PHYS 3900</b> Experimental Physics Laboratory I	<b>BIOC 2010 or 2015</b> Organic Chemistry of Biomolecules
<b>CHEM 2300 or 2305</b> Introductory Organic Chemistry I <span style="float: right;">NOTE 2</span>	Physics 3XXX or 4XXX <span style="float: right;">NOTE 3</span>
<b>PHYS 4700</b> Radiological Physics	Physics 3XXX or 4XXX
Option 2	Option 3
<b>Year 4</b>	
<b>PHYS 3100</b> Quantum Mechanics I	<b>PHYS 4100</b> Quantum Mechanics II
<b>PHYS 3500</b> Classical Mechanics II	<b>PHYS 4130</b> Introduction to Statistical Mechanics
<b>PHYS 4710</b> Medical Imaging	Physics 3XXX or 4XXX
Option 4	Option 6
Option 5	Option 7
<b>CHEM 2300 or 2305</b> Introductory Organic Chemistry can be taken in year 4 – students can take an “Option” class in year 3 if they wish instead (there may be a very interesting or unusual elective physics course being offered that term, for example)	<b>BIOC 2010 or 2015</b> Organic Chemistry of Biomolecules can be taken in year 4 – students can take an “Option” class in year 3 if they wish instead (there may be a very interesting or unusual elective physics course being offered that term, for example)

**NOTE 1:** Students who wish to “get ahead” on their schedule are advised to enrol in “MATH 2780 Vector Calculus” and/or “MATH 2790 Differential Equations” which are both offered in the summer prior to their second year of classes. CHEM-2300 can be taken in the Summer prior to their third year of classes.

**NOTE 2:** For a career in medical physics, taking the “without lab” versions of CHEM 2300 and BIOC2010 is completely acceptable. However, candidates utilizing this option should be aware of two things. (i) The Dept. of Chemistry and Biochemistry always recommends that students enrol in the “with lab” version as their knowledge of the subject is expected to be deeper and more comprehensive. (ii) Any medical professional school will almost certainly want to see a “with lab” class on a transcript, so students interested in pursuing some other career in medicine are advised to take the versions of the class “with lab.”

**NOTE 3:** The sequence of a “PHYS 3XXX or 4XXX course is not obligatory. Wherever it says PHYS 3XXX or 4XXX, a student may wish to take an option in its place; and the reverse is also true. Wherever it says “option” students may wish to instead take a PHYS 3XXX or 4XXX class in its place if there is a particularly relevant or interesting elective being offered that term. Consult your advisor for the scheduling of these elective classes.