

SUGGESTED COURSE SEQUENCE MEDICAL PHYSICS FALL 2017 CALENDAR

Honours Physics (Medical Physics)

Degree Requirements

Total courses: 40 (44 for co-op option)

(a) 64-140, 64-141, 64-151, 64-220, 64-222, 64-250, 64-310, 64-311, 64-320, 64-323, 64-350, 64-370, 64-431, 64-450, 64-470, 64-471 and two more courses in Physics at the 300 or 400 level.

(b) 55-141, 59-140, 59-141, 59-230, 59-240, 59-261, 60-140, 60-141, 62-120 (or 62-125), 62-140 (or 62-139), 62-141, 62-215, 62-216, 62-360, 85-234.

(c) two of Arts, Humanities and/or Social Sciences (01-/02-).

(d) five courses from any area.

For co-op option, in addition:

(e) four co-op terms: 64-198, 64-298, 64-398, 64-498, (oral and written reports required). Students must maintain major and cumulative averages of 65% or better to qualify for co-op placements.



University
of Windsor

MEDICAL PHYSICS-2017
Required courses are in bold font.

Fall term	Year 1	Winter term	Sum
62-140 (or 62-139) Differential calculus	62-141 Integral calculus		
64-140 Physics I	64-141 Physics II		NOTE 1
59-140 Chemistry I	59-141 Chemistry II		
62-120 (or 62-125) Linear algebra	64-151 From Symmetry to Chaos in the Universe: An Introduction to Theoretical Methods in Contemporary Physics		
60-140 Introduction to Algorithms I	60-141 Introduction to Algorithms II		
Year 2			
62-215 Vector Calculus	64-250 Mechanics		
62-216 Differential Equations	option 1		NOTE 2
64-220 EM Fields and Photons	62-360 Special Functions		
64-222 Optics	64-370 Introduction to Medical Physics		
55-141 Cell Biology	59-230 Introductory Organic Chemistry		
Year 3			
option 2	NOTE 2	64-310 Quantum Physics and Chemistry	
85-234 Electrical and Computing Fundamentals		64-323 Electromagnetic Waves	
64-350 Classical Mechanics I		59-261 Organic Chemistry of Biomolecules	
64-320 Electromagnetic Theory		option 3 (recommend 60-340 C++)	NOTE 2
59-240 Introductory Physical Chemistry I		option 4	NOTE 2
Year 4			
64-311 Atomic and Molecular Spectra		64-450 Quantum Mechanics I	
64-470 Radiological Physics		64-431 Introduction to Statistical Mechanics	
REQUIRED 300/400 PHYSICS OPTION 1		64-471 Introduction to Medical Imaging	
option 5		REQUIRED 300/400 PHYSICS OPTION 2	
option 6		option 7	

NOTE 1: Students who wish to “get ahead” on their schedule are advised to enrol in “62-215 Vector Calculus” and/or “62-216 Differential Equations” which are both offered in the summer prior to their second year of classes. Taking these important pre-requisites will free up slots during the second year.

NOTE 2: Students have great flexibility in choosing their options, the following courses are suggestions only. Students should choose courses that are in an area of interest: more mathematics or statistics (as shown), more computer science, more chemistry, or business administration. For a physics degree, as much mathematics, statistics and computer science as possible is recommended. The following options are listed in an appropriate order to satisfy prerequisites and include a mixture of mathematics, computer science, and physics.

OTHER POSSIBLE OPTION 1/2

60-212 Object-Oriented Programming Using Java	62-190 Mathematical Foundations
55-140 Biological Diversity (select to satisfy the pre-requisites for a class to be chosen in option 2)	

OTHER POSSIBLE OPTION 3/4

59-362 Metabolism I (fall only)	62-380 Numerical Methods (winter only)
62-318 Complex Variables	65-250 Introduction to Probability (fall only)
55-204 Human Physiology I (fall only)	55-202 Human Anatomy

REQUIRED 300/400 PHYSICS OPTIONS

64-484 Design / Application of Lasers (Fall)	64-496 Technical Communication Skills (Winter)
64-464 Special Techniques in Health Physics (Fall)	64-460 Condensed Matter Physics (Winter)

MEDICAL PHYSICS WITH CO-OP-2017
Required courses are in bold font.
Medical physics courses are in gold font
Co-op courses are in aqua font.

Fall term	Year 1	Winter term	Sum
62-140 (or 62-139) Differential calculus	62-141 Integral calculus		
64-140 Physics I	64-141 Physics II		NOTE 1
59-140 Chemistry I	59-141 Chemistry II		
62-120 (or 62-125) Linear algebra	64-151 From Symmetry to Chaos in the Universe: An Introduction to Theoretical Methods in Contemporary Physics		
60-140 Introduction to Algorithms I	60-141 Introduction to Algorithms II		
Year 2			
62-215 Vector Calculus	64-250 Mechanics		
62-216 Differential Equations	Option 1	NOTE 2	64-198
64-220 EM Fields and Photons	62-360 Special Functions		Co-op
64-222 Optics	64-370 Introduction to Medical Physics		Work
55-141 Cell Biology	59-230 Introductory Organic Chemistry		term 1
Year 3			
option 2	NOTE 2	64-310 Quantum Physics and Chemistry	
85-234 Electrical and Computing Fundamentals		64-323 Electromagnetic Waves	64-298
64-350 Classical Mechanics I		59-261 Organic Chemistry of Biomolecules	Co-op
64-320 Electromagnetic Theory	option 3 (recommend 60-340 C++)	NOTE 2	Work
59-240 Introductory Physical Chemistry I	option 4	NOTE 2	term 2
Year 4			
64-398 Co-op Work term 3		64-498 Co-op Work term 4	
Year 5			
64-311 Atomic and Molecular Spectra		64-450 Quantum Mechanics I	
64-470 Radiological Physics		64-431 Introduction to Statistical Mechanics	
REQUIRED 300/400 PHYSICS OPTION 1		64-471 Introduction to Medical Imaging	
option 5		REQUIRED 300/400 PHYSICS OPTION 2	
option 6		option 7	